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Singapore and the Silk Road of the Sea 1300-1800

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SINGAPORE &
THE SILK ROAD
OF THE SEA
1300–1800

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FOREWORD

This publication, *Singapore and the Silk Road of the Sea, 1300–1800*, by Dr. John N. Miksic is the outcome of a partnership between the National Museum of Singapore (NMS) and the National University of Singapore Press (NUS Press). The NMS has been actively involved in supporting archaeological excavations undertaken in Singapore in recent decades. Some artefacts excavated with support from the NMS are on permanent display in the NMS' Singapore History Gallery.

In retrospect, the singular contribution of archaeology in the Singapore context has been to establish the fact that Singapore's history does not begin with the arrival of the British in 1819; it was preceded by a precolonial past. Dr. Miksic has brought that past into the open with a definitive account of the period, supported by wide-ranging research and meticulous documentation. As a result, we now have a deeper understanding of the precolonial history of Singapore particularly during the period 1300–1800. New perspectives emerge in this publication, foremost among which is an understanding of Singapore's historic position and role in the aptly-named "Silk Road of the Sea". This perspective containing a *longue durée* narrative has the potential to contribute to the incorporation of the precolonial period with the full extent of Singapore's history.

Singapore and the Silk Road of the Sea also demonstrates that the archaeological encounter with Singapore's precolonial past can indeed be a stimulating and thought-provoking venture into the texture of the island's palimpsest. The "Silk Road of the Sea" as a world category may well indicate that the time has come to return to the spirit of Fernand Braudel, to a vision of the past not as a foreign country but as a mobile and well-connected world with a resonance echoing into the present.

Iskander Mydin
August 2013
Deputy Director (Curation & Collections)
National Museum of Singapore



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ACKNOWLEDGEMENTS

I would like to acknowledge many people who have contributed to archaeological research in Singapore since 1984, and apologize that I cannot name all of them here. In total, about 1,000 volunteers have contributed to the accumulation of data summarized in this book. I have chosen a few specific names to represent the whole community of Singapore archaeological workers.

In particular, I would like to acknowledge Ms. Lise Young Lai, who was the backbone of my fieldwork for years. I would not have been able to manage the tasks of organizing the early excavations without her constant support, encouragement, and advice. She deserves a special place in the annals of Singapore archaeology.

The Parks and Recreation Department (P&R) and its successor organization, the National Parks Board (NParks), have gone out of their way to facilitate my research. I am particularly grateful for the laboratory facilities that they have provided. Mr. Lee Sing Kong, Dr. Tan Wee Kiat, Mr. Koh Poo Kiong, Ms. Kalthom Abdul Latiff, Mr. Rahmat, and other staff members have been constant supporters of my research. P&R and NParks provided funds for several years to hire a historical research team, members of which included Ms. Rajwant Kaur, Ms. Uma Devi, Ms. Aziani, Dr. Saroja Devi, Ms. Lucille Yap, Mr. Shah Alam, and Ms. Tan Teng Teng. The Asia Research Institute and American Express provided funding that enabled me to compensate the labours of Mr. Roeland Stulemeijer, Mr. Lim Chen Sian, Mr. Andrew Cowan, and Mr. Richard Gibson. Many other students and teachers from NUS and other Singapore institutions of learning, from primary schools to junior colleges, have made significant contributions to Singapore archaeology; I hope they have benefited too. In 2011 the Archaeology Unit of the Nalanda-Sriwijaya Centre, Institute of Southeast Asian Studies, was inaugurated. This institution will be instrumental in writing the future chapters in the archaeology of Singapore and Southeast Asia. I wish to express my gratitude to Ambassador K. Kesavapany, director of ISEAS; Prof. Tansen Sen, head of the Nalanda-Sriwijaya Centre; and Mr. Lim Chen Sian and Mrs. Foo Shu Tieng, my co-workers in the Archaeology Unit, for their continuing contributions to the field of Singapore archaeology.

The Southeast Asian Ceramic Society has been another principal source of support for Singapore archaeology. Among the many members of the Society who have helped, I would like to mention in Mrs. Marjorie Chu and Mr. Alvin Chia, past Presidents of the Society, and the late Dr. Earl Lu, whose good offices enabled me to obtain several grants from the Lee Foundation, to which I would

also like to express my sincere gratitude. The National Heritage Board has been another important supporter of archaeological research. Mr. Ng Ching Hwei of the National Museum of Singapore has inspired many volunteers from Singapore's Chinese-speaking community. Ms. Cheryl-Ann Low Mei Gek worked for years to whip this book into shape; her imprint is to be found on every page of this work. Ms. Lee Chor Lin, former head of the National Museum; Mr. Iskander Mydin, Senior Curator; and Dr. Kenson Kwok, former head of the Asian Civilisations Museum, also deserve my gratitude.

Mrs. Constance Sheares and Mr. Kwa Chong Guan of the former National Museum invited me to come to Singapore in 1984 for the first expedition to Fort Canning, which was sponsored by Royal Dutch Shell. Mr. Lam Pin Foo was instrumental in convincing the company to support the first excavation. Messrs. Kwa and Lam have been major sources of support for Singapore archaeology ever since 1984. Singaporeans owe a debt of gratitude to their vision and initiative.

The Friends of the National Museum have provided indispensable support over the years. My talks to the Friends have been a small price to pay for the thousands of hours of assistance that the members of this organization have provided. Other names that deserve to be recorded for their service in making this book possible include Mrs. Julia Oh and the late Mrs. Sue Hixson, who took leading roles in several early excavations. Mr. Marvin Hixson and his company, AMKCO Process Equipment Pte Ltd, Singapore, loaned me a particle separator in 2000 that made it possible to sieve through about 30 tons of dirt and recover several thousand beads and other small artifacts. That contribution was greatly appreciated.

Officers of the Urban Redevelopment Authority have also been kind supporters through the years. I would especially like to acknowledge the assistance of Mr. Nelson Chia, Mr. Michael Lee, and Mr. Kelvin Ang. Other organizations who are owed major debts of gratitude for facilitating specific research projects include St. Andrew's Cathedral, the Secretary of Parliament, Singapore Management University, and the Tanjong Pagar Community Centre.

Other scholars who have very kindly shared their knowledge with me include Dr. Yolanda Crowe on Islamic ceramics, and Dr. Ivo Vasiljev who discussed the fourteenth-century Vietnamese reference to Temasik with me. Finally, I would like to mention Dr. Geoff Wade, who discussed the *DIZL* exhaustively with me, and Mrs. Erika Lambsdorff, who contributed drawings of artifacts. Dr. Goh Geok Yian, assistant professor at Nanyang Technological University has participated in many excavations in Singapore since 1991, including directing several of them; translated several Chinese documents, drew many of the artifact illustrations, maps, and diagrams in this book, and supervised volunteers from the Friends of the Museum and students from numerous institutions. Her assistance has likewise been invaluable in the development of Singapore archaeology.



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of The Bute Collection at Mount Stuart.



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— INTRODUCTION —

THE ARCHAEOLOGY OF SINGAPORE: FORGOTTEN HINTS

If the Indian Ocean, the South China Sea, and the Java Sea are the arteries of Asian sea trade, the Straits of Melaka is its heart. Commerce has flowed steadily through these arteries for more than 2,000 years. This introduction will show how an ancient maritime trade network evolved in Southeast Asia and gradually spread westward to India and eastward to China, forming an immense network linking millions of people spread along a coastline measuring more than 10,000 kilometres. This sea route is over 2,000 years old.

Several names have been suggested for this seaborne network. In this book, the name “Silk Road of the Sea” has been chosen. The term “Silk Road” has long been used to refer to the overland trade route from the Mediterranean across central Asia to China. Most who hear the term easily conjure up images of strings of heavily-laden camels, empty deserts, isolated caravanserais, constant threats of banditry, and doughty merchants willing to undergo immense hardships in order to reach the great civilization of China and return with precious luxuries to make themselves rich for life. The commodity that symbolizes this trade is silk: light, delicate, durable, and worth its weight in gold in western lands (Warmington 1928: 175).

Historical sources tell us that silk was also shipped to the West by sea by the first century AD (Warmington 1928). Few pieces of ancient silk have survived on land; none in the ocean. It was not one of the original commodities traded in south coastal Asia; nevertheless, desire for silk was one of the main forces that led to the great expansion of the network beginning in the seventh century. The combination of the familiar term “silk road” with “the sea” underlines the notion that, despite the fact that the overland route was much better known, in ancient times much of the trade and communication between East and West occurred over water.

This book enables readers to appreciate the importance of another route that was much more important—from both commercial and cultural points of view—than the overland road, fabled though it was. Replace the camel with the ship, change the dusty dry deserts to an immensity of water; instead of the caravanserai, imagine a chain of seaports on the edge of the great Asian landmass; instead of nomadic robbers, think of pirates. Most of all, instead of small stocks of lightweight items like cloth, envision shipping 50,000 ceramic bowls, glass

bottles of perfume, and hundreds of passengers all in one vessel, and you will begin to understand why the Silk Road of the Sea deserves more attention than it has received.

The famous Silk Road that ran across central Asia has received a great deal of attention. The Silk Road of the Sea, by contrast, has been almost completely ignored. This illustrates the ignorance that until recently characterized the field of early seaborne commerce in Asia. As part of a long process of evolution, ancient Singapore played a role in the overall development of maritime trade in Asia. Only when readers are equipped with an understanding of the development of shipping and ports in early Southeast Asia will they be able to appreciate the complexity of the network that stimulated Singapore's foundation in around 1300.

THE ARCHAEOLOGY OF SINGAPORE: FORGOTTEN HINTS

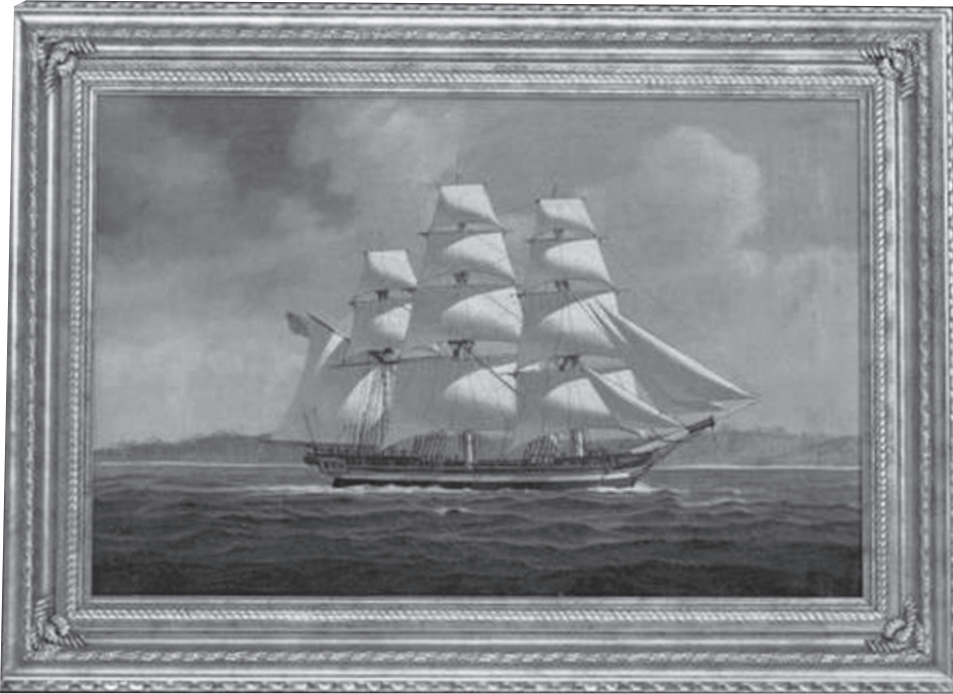
Many people believe that Singapore's history began with the arrival of Sir Thomas Stamford Raffles in 1819. Raffles himself was under no such illusion: he was going to revive an ancient seaport that already had a glorious history.

Upon landing on the island, he immediately found ancient remains that reassured him of Singapore's earlier significance. Raffles expounded upon the glory of ancient Singapura to his friends even before he visited the island. It was probably one topic of conversation at dinners in the cabin of the *Indiana* (Fig 0.01), Raffles' expeditionary vessel that first brought him to this shore.

Raffles' own shipmates were rather skeptical of his theory that Singapore was an ancient place. John Crawford (a ship's captain who was part of Raffles' party in January 1819), looked around the area that is now called the Padang, and wrote:

Where the tents are pitched, the ground is level above one mile, partly cleared of the jungle, with a transparent fresh water brook or rivulet running through it. . . . This spot of ground is the site of the very ancient city and fort of Singapore. . . . No remnants of its former grandeur exist, not the slightest vestige of it has ever been discovered. As for the strength of the fortifications, no remains are to be seen excepting by those possessing a fertile imagination and can trace the foundation or parts of earthen bastions in a mound of earth that lines the beach and winds round the margins of the creek. . . . Sir Stamford found accounts of it in a very old Malay work. (Moore 1969: 20)

According to Sophia, Raffles' second wife, he had decided even before leaving England in 1817 that Singapore would be the most advantageous place for a stopping-off point for British ships between India and China. Why Singapore? After all, Col. William Farquhar, who had substantial experience in the region, favoured Karimun Island, which was in the middle of the south entrance to the Straits of Malacca. However, as one of Raffles' biographers wrote about him, "it was characteristic of Raffles that in his political planning he loved to have a historic background for his actions" (Wurtzburg 1984: 454). At that time, the Dutch possessed Malacca, which dated to the fifteenth century and also had a

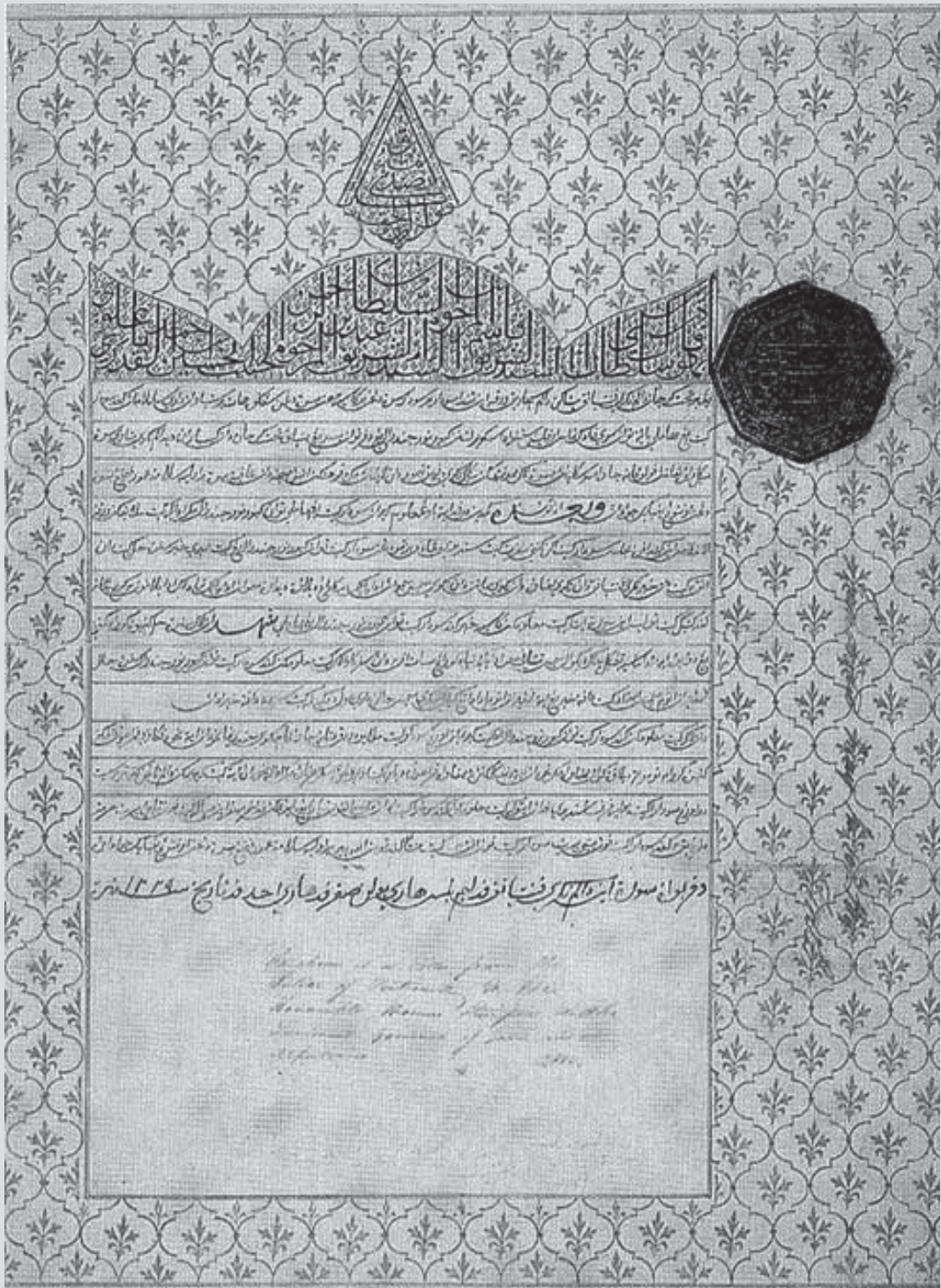


0.01 The *Indiana*, Capt. James Pearl. In 1818, Raffles had the ship sent from Calcutta to Penang, where he leased it on behalf the government. Captain Pearl brought bricks as ballast and to trade. This was actually a ruse meant to enable Raffles to slip into Singapore unsuspected by the Dutch. Raffles used the ship for some time after founding Singapore in 1819. Collection of National Museum of Singapore.

prestigious history among Southeast Asians. Raffles probably hoped to outshine the Dutch by attracting Malay trade to Malacca's predecessor—Singapore. On 12 December 1818, Raffles wrote to his aged friend William Marsden, who had lived for years in Bencoolen, Sumatra: “you must not be surprised if my next letter to you is dated from the site of the ancient city of Singapura”.

Raffles collected manuscripts in the course of his constant study of Southeast Asian history and culture. The most famous is known as *Raffles Manuscript 18*, the oldest known version of the work commonly known as the *Sejarah Melayu* or “Malay Annals”. *Manuscript 18* describes the origins of the Malay royal family in Palembang, and its migrations to Singapore, Malacca, Johor, and Riau. Singapore plays a major role in the *Malay Annals*: it was described as the first great Malay trading port. Numerous seminal developments and events that shaped Malay culture in the reigns of first five Malay kings are set in this city. According to the *Annals*, the Malays only moved their capital to Melaka when forced to do so when Singapura was attached by Java.

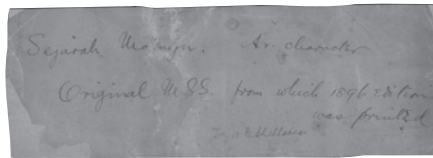
Raffles was quite satisfied with the evidence of Singapore's antiquity that he found there. He wrote to his patroness Princess Charlotte, the Duchess of Somerset:



0.02 Letter from Sultan Sharif Kasim to Raffles, 1811. Sultan Sharif Kasim of Pontianak, west Borneo, appealed to Raffles for help against the piratical activities of another west Borneo kingdom, Sambas, who joined forces with Ilanun pirates to attack merchants, endangering English interests. In this letter, Sultan Syarif thanked Raffles for his gifts of cloth and a pair of golden shoes, and in return sent Raffles two Malay manuscripts: a book of laws and a historical romance, the *Hikayat Sultan Iskandar* (Gallop and Arps 1991: 43). Reproduced by permission from The British Library.



0.03 Raffles MS. 18, oldest known manuscript of the *Malay Annals* with a colophon dated 1612. Archaeological research has revealed numerous parallels with the Singapore section of the *Annals*. Collection of National Museum of Singapore.



[i]n Marsden's map of Sumatra you will observe an Island to the north of these straits called Singapura; this is the spot, the site of the ancient maritime capital of the Malays, and within the walls of these fortifications, raised not less than six centuries ago, on which I have planted the British flag. (Moore 1969: 31)

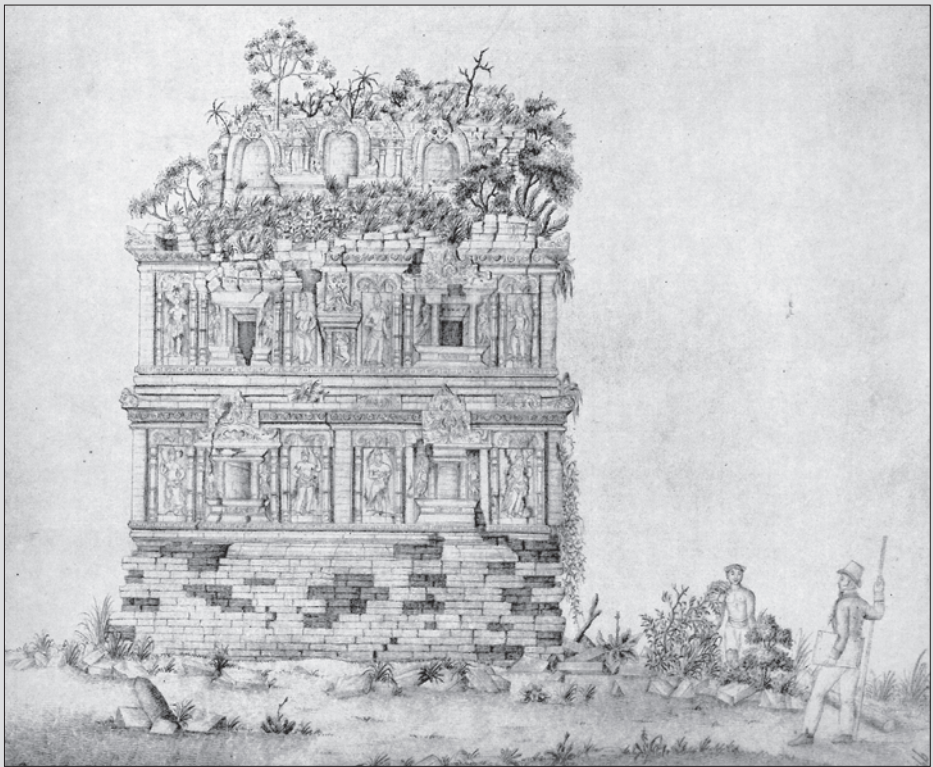
Raffles and Archaeology

Antiquities were one of Raffles' many interests. Although the science of archaeology did not exist yet, Raffles was more perceptive than many of his contemporaries, who sometimes collected antiques but thought of them as mere curiosities. Raffles had a truly anthropological cast of mind. He saw the remains of the art and culture of past peoples of Southeast Asia as a means to understanding their descendants.

During his term as the head of government in Java from 1811 to 1816, Raffles encouraged people to scour the forests for natural samples and bring him relics of the past. He organized teams of draftsmen to sketch ancient ruins. He attempted to decipher inscriptions and manuscripts. The result of this research occupies a large part of the *History of Java* (1817). His choice of Singapore as a site for a new port makes perfect sense when seen in this context.



0.04 "The temple of Singasari, Java", by Dr Thomas Horsfield. By permission from the British Library.



0.05 "Dr. Thomas Horsfield inspecting the temple of Chandi Sari, Java", self-portrait, c. 1812. By permission from the British Library.



0.06 Borobudur. Reproduced by permission from Periplus Editions (HK) Ltd.

Discoveries in the Nineteenth and Early Twentieth Centuries

John Crawfurd, whose name is confusingly similar to that of the skeptical sea captain mentioned earlier (John Crawford), performed the closest thing to an archaeological survey ever conducted in Singapore. On February 3, 1821, while calling at Singapore in the course of a diplomatic mission to Siam and Cochin China (south Vietnam), Crawfurd took a morning stroll. His description of this walk was published in London in 1828 [reprinted in Wheatley's *The Golden Kher-sonese* (1960): 120–2. Crawfurd's *Descriptive Dictionary of the Indian Archipelago* (1856): 402 contains much of the same information; *see also* R. Braddell 1969: app., 22–3].

Crawfurd mistakenly assumed that the long axis of Fort Canning Hill ran from east to west. It is in fact oriented north-northwest to south-southeast. Crawfurd described the greater part of the northern and western sides of the hill as being covered with brick ruins. The only ruin in Crawfurd's account the location of which can be determined today is the Keramat Iskandar Shah, which is on the east side of the hill. Therefore, it seems to make more sense to replace “west” with “north”, and so on. This is what I have done in the following summary:

Crawfurd set off on his walk from the centre of the early British enclave, the flat ground north of the Singapore River today called the Padang. At the north-east edge of the Padang (now Stamford Road) was a substantial earth wall 16 feet

(5 metres) wide at its base and 8 or 9 feet (2.5 metres) high, with a small brook flowing beside it. This feature, which Raffles and Captain Crawford referred to as a “fortification” or “bastion”, is clearly labeled on a map drawn in 1822, as the “Old Lines of Singapore”; the brook is called the Freshwater Stream (*see* Fig. 0.07).

A small black-painted iron plaque on the north side of Stamford Road, opposite the Singapore Sports Club, commemorates a bridge that once crossed the Freshwater Stream. Pedestrians who read the plaque must be puzzled by the absence not only of a bridge, but also of a visible stream. The Freshwater Stream still exists, but now its lower course flows through an artificial underground channel. The upstream portion can still be seen near Mount Sophia, at the junction of Stamford Road and Bras Basah Road, near the site of the former Cathay Building.

The Dutch scholar G. P. Rouffaer, who speculated about Singapore’s ancient history in 1918, was apparently aware of the existence of the 1822 map. Although he does not mention it, the geographer Paul Wheatley probably knew of the map, since he shows the wall in the same location as the 1822 map in his book *The Golden Khersonese* (1961, Fig. 15). I had not yet seen this map in 1985 when I wrote my first book on ancient Singapore, and had supposed that the wall joined the southeast rather than northeast side of Fort Canning Hill. I now know that I was mistaken. However, I still believe that the “palace and temple precinct” was not on the west slope of the hill as Wheatley’s map and Crawford’s account indicate, but on the north and east, near the present Keramat. The southwest slope facing River Valley Road is very steep, and surveys and test excavations there have yielded no remains compared with the dense archaeological deposits, including fragments of ancient brick buildings, found on the northeast slope.

A Chinese visitor, Wang Dayuan, mentions an attack by Siamese in about 1330 when the people of Temasik “shut up their gates”. The *Malay Annals* also mention that ancient Singapore had a city wall with a gate. Crawford reports that the earthen rampart was a continuous embankment with no sign of any gaps. Gates were probably unnecessary since the wall only ran along one side of the city rather than completely around it; the other three sides of the site had natural defences consisting of water or hills. Excavation in Bras Basah Park (now the site of Singapore Management University) yielded no evidence of any ancient settlement north of the wall, so that no gate would have been necessary. Perhaps the royal residence on Fort Canning Hill had a palisaded stockade with a gate.

Crawford saw no ruins on the plain. Aside from the Old Lines, the other sites of antiquities in Singapore lay on the hill and at the mouth of the Singapore River. On the hill were “a sepulchre” and a supposed temple, and at the river’s mouth, a boulder, artificially split, with an ancient inscription carved on it.

Singapore’s inhabitants in 1819 called the hill *Bukit Larangan*, “Forbidden Hill”. The *Hikayat Abdullah*, written by Raffles’ Malay teacher, recounts a conversation between Col. Farquhar and Tengku Abdul Rachman, the local official or *temenggong* who controlled Singapore on behalf of the Sultanate of Riau. Abdullah’s



0.07 The Freshwater Stream, now part of the Stanford canal, late 1990s

account of this conversation echoes another in the *Malay Annals* between Indra Bopal, representing the established island dwellers, and Sri Tri Buana, the leader of a group of newcomers. The Tengku described the hill as the site of an ancient palace to which common people were not allowed to ascend. *Bukit Larangan* was also regarded with awe because of strange sounds that emitted from there, and the presence of ghosts whom locals, even in the 1920s, believed haunted the hill.

Crawford found that brick foundations covered “the greatest part” of two sides of the hill. Around the foundations, he saw fragments of Chinese and local pottery “in great abundance”, as well as Chinese coins with dates as early as 967. These do not prove that a settlement existed in Singapore at that time. Such coins remained in circulation for centuries in Southeast Asia. At Kota Cina, northeast Sumatra, site of a Song-Yuan period trading port, coins from the Sui, Tang, Five Dynasties, and Song periods were used in the twelfth and thirteenth centuries (Edwards McKinnon 1977). Very few copper coins were minted during the Yuan period, when paper money came into general use in China (Kuwabara 1928).

Keramat Iskandar Shah



0.08 1950s



0.09 1960s



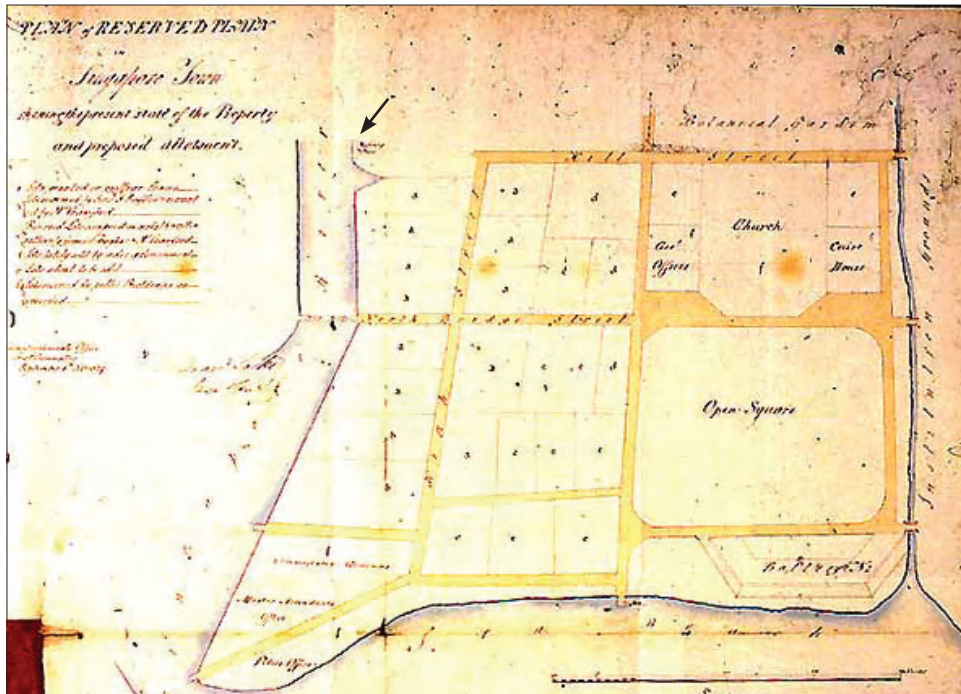
0.10 1980s



0.11 1990s



0.12 2010



0.13 Map of the “Reserved Plain” of Singapore drawn in 1827 by Edward Lake, indicating at upper left the location of the watering place for ships. The spot lay near what is now the corner of Hill Street and River Valley Road. Reproduced by permission from Public Records Office.

The largest ruin, a square structure measuring about 12 metres on each side, lay on a terrace near the summit of the hill. Near the Telecoms Building, which is now at the southeast end of Fort Canning Hill, Crawford saw square sandstone blocks resembling pillar bases found on ancient sites in Indonesia and Malaysia. These were probably remains of a pavilion with wooden pillars supporting a roof. He also found a circular heap of stones enclosed by a low square wall.

Wang Dayuan, in the fourteenth century, and Tomé Pires, a Portuguese official in Melaka in 1515, both reported that Malay palaces were customarily situated on terraced hills. The remains in Fort Canning Park probably marked the site of an ancient palace. Malay palaces usually had an audience pavilion facing the area where commoners lived; the pillared structure may have been such a pavilion, called a *pendopo* in Bahasa Indonesia.

Crawford was told that another terrace, almost as large, was the grave of “a ruler”. He did not record any further details about the spot. “A rude structure” was quickly built at the site, which is now known as the Keramat Iskandar Shah (Figs. 0.08–0.12). When Rouffaer visited the Keramat in 1909, he found a dome similar to tombs in south Sulawesi which are no older than the seventeenth century. There was no inscription to identify the supposed occupant of the tomb (Rouffaer 1921: 64, 380). Sir Roland Braddell published a photograph in the early twentieth century captioned “the tomb of Iskandar Shah, Singapore” (Braddell 1982: opposite p. 57). The photograph shows a wooden bridge across a moat, beyond which a set of pillars forms the entrance to the compound where

a low square-roofed structure stands. A guidebook of 1892 instructs visitors that, “crossing part of the old moat [the *parit* Singapura] by a wooden bridge, the visitor enters the said place [i.e., the Keramat]” (Reith 1892: 60).

According to the *Hikayat Abdullah*, a spring of water flowed from the west side of the hill in 1819 (Hill 1962: 42). This was known as *pancur larangan*, “the forbidden spring”. According to legend, women of the ruler’s household in ancient times bathed there. Ancient bathing sites are well-known in Indonesian archaeology. Some had brick or stone walls and works of art such as statuary, ornamental water spouts, and relief carvings. No remains were recorded from the *pancur larangan*, but soon after the British discovered it, they constructed an aqueduct that carried water from the spring to a tank on the river bank, near the present junction of River Valley Road and Hill Street. This spring supplied all the water needed by visiting ships through the 1820s. Ships in the harbour sent their skiffs up the Singapore River with barrels that could be filled from the tank without the need to step ashore.

By the 1830s the demand for water outstripped the spring’s capacity, and wells were dug around the foot of the hill. This apparently killed off the spring. By 1857 the government had constructed a pair of tanks for water supply on the west side of the hill; thus the name “Tank Road” was given to a street at the north foot of the hill, now called Clemenceau Avenue. After Singapore became independent, the site became a large municipal swimming pool, keeping the 700-year-old tradition alive. The swimming pool in turn was replaced by the Fort Canning office of the National Parks Board at a spot now called The Foothills.

Crawfurd found a grove of very old fruit trees growing on the south side of the hill. Another common feature of old Southeast Asian palaces consists of royal gardens with fruit trees and flowering plants. Numerous examples still exist in Cirebon, Yogyakarta, Surakarta, Bali, and Lombok (Figs. 0.14, 0.15). A seventh-century inscription from the vicinity of Palembang, which according to the *Malay Annals* was the origin of Singapore’s ruling family, announced that the ruler had founded a park for the pleasure of humankind.

The *Hikayat Abdullah* also mentions that the old garden at the lower slope of Fort Canning/Forbidden Hill included old trees of varieties such as *duku*, lime, pomelo, *langsat*, *petai*, and *jering* (Hill 1960: 168). These must have stood forth prominently in the scenery of early nineteenth-century Singapore, for, according to contemporary descriptions, few large trees then grew on the hill. On the shore near the mouth of the Singapore River grew *kamunting* (*Rhodomyrtus* spp.) and *kadadu* (*Melastoma malabathricum?*), both small shrubs which grow in abandoned clearings. Thus the site of the ancient city was covered not by virgin jungle, but by secondary growth.

The *Malay Annals* tells the story of a strongman, Badang, who threw a large stone from the ruler’s palace (probably Fort Canning Hill) to Singapore Point, the mouth of the Singapore River. Exactly at the latter spot, Crawfurd saw a large sandstone boulder. J. W. Laidlay, second secretary of the Asiatic Society of Bengal described the discovery of the stone in June 1819, “on the rocky point on

the south side of the entrance of the Singapore Creek. That point was covered with forest trees and jungle in 1819, and the stone was brought to notice by some Bengal clashees” (1848: 70). According to Abdullah Munshi, the stone was found while rocks were being collected to fill in the swamp where Raffles Place now stands. Another nearby stone was called *Batu Kepala Todak*, “Garfish Head Rock”, by the *orang laut* (boat-dwelling sea nomads) (for more information about them, see chapter 1) who considered it a significant religious object. Abdullah observed that “they are accustomed to make all their solemn agreements [at the rock], as they hold it in reverence. They also pay great respect to the rock, decorating it with flags” (Hill 1960: 145, 165–6). Rouffaer (1921: 33) mistakenly inferred that the Singapore Stone and the *Batu Kepala Todak* were the same rock.

The boulder was split in two. Since a round boulder that is split into two pieces will normally crack along a straight line, thus producing two opposing and relatively flat surfaces (Fig. 0.16), the people who split the stone probably wanted to create a flat surface suitable for carving an inscription. The rock was three metres high and three metres wide; one side had been carved to leave a raised rim which enclosed 50 or 52 lines of writing in an unknown script on an area 2.1 metres wide and 1.5 metres high. J. Prinsep, an orientalist in Calcutta, studied a rubbing of the stone and noted that 40 lines were discernible, but that about 12 lines at the beginning had been rubbed off; he does not attempt to explain why or how [*Journal of the Asiatic Society of Bengal* 6 (1837): 681, cited by Rouffaer 1918: 36].

The stone was blown up in 1843 when the site was requisitioned by the army to build quarters for the commander of Fort Fullerton. The site has been subsequently known by various names: Artillery Point, Fort Fullerton, and the Master Attendant’s Office (Gibson-Hill 1956: 24; Rouffaer 1921: 35 has a slightly different account). When Singapore became independent, a new monument, the Merlion, was erected at the same spot, before it was moved about 100 meters south in the early twenty-first century.

Col. James Low, a British army officer with an interest in antiquities, arrived just after the stone had been demolished and managed to salvage several fragments of it, which he hired a Chinese worker to carve into smaller slabs. As Low wrote, “It happens, however, that the smaller fragments only contain the most legible (if the term is even here really applicable) parts of the inscription”; he sent three slabs to Calcutta, where they arrived in about June 1848 (Low 1848: 65–6).

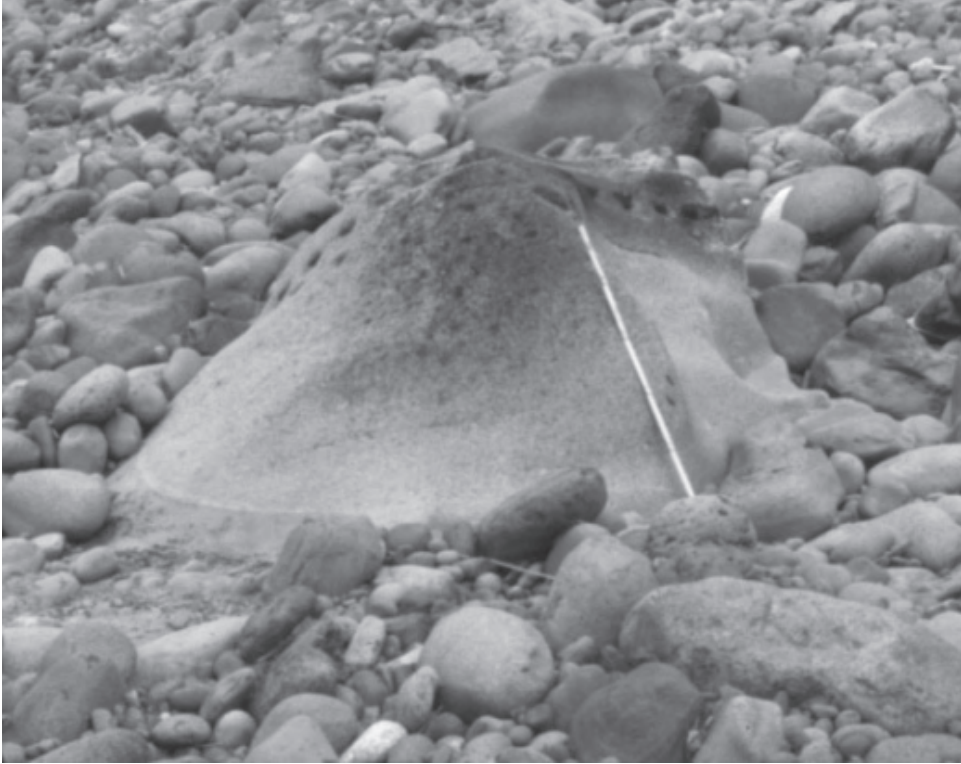
Another officer, Col. W. J. Butterworth (governor of Singapore from 1843 to 1855), found another fragment across the river, on the verandah of the Singapore Treasury, now Empress Place, where guards were using it as a bench. He ordered the fragment to be taken to his house on Government Hill (later Fort Canning), and later sent to Calcutta. It seems that more pieces were saved, but were later lost. For example, W. H. Read saw a large fragment of the inscription “at the corner of Government House, where Fort Canning is now; but during the absence of the Governor at Penang on one occasion, the convicts, requiring stone to replace the road, chipped up the valuable relic of antiquity” (cited in Rouffaer 1921: 54). Pieces of the ancient stone are thus now scattered over a wide area of



0.14 Sunyaragi Garden, seventeenth century, Cirebon, West Java. This site in west Java is one of the best-preserved of any ancient Southeast Asian royal garden. It provides a glimpse of how garden designers in Indonesia used water as part of their plans.



0.15 Mayura Garden, nineteenth century, Lombok. The beauty of this royal garden in eastern Indonesia aroused wonderment among the first Europeans who discovered it in the 1890s.



0.16 Boulder in West Java prepared for splitting; possibly fifth century, since it is near inscriptions of the kingdom of Taruma. The chisel marks are holes to insert wooden wedges, which would expand when wet and fracture the stone.

Singapore, stretching from the river all the way to Fort Canning Hill.

In 1918 the Committee of Management of the Raffles Museum and Library asked to have the fragments of the stone returned to Singapore, and the Calcutta Museum agreed to send them back on an extended loan [Rouffaer 1921: 59 citing *One Hundred Years of Singapore* (1921), vol. 1, 57]. *The Annual Report on the Raffles Museum and Library For the Year 1919* [cf. J. C. Moulton, Singapore: Government Printing Office (1921), 3] notes that a fragment of the Singapore Stone had arrived on indefinite loan from the Trustees of the Indian Museum. In 2013, at the time this was written, it was on display in the National Museum of Singapore (Fig 0.17). The other pieces are presumed to be still in Calcutta.

In 1989, Mr. Kwa Chong Guan, then head of the Singapore National Museum, and I visited the director of the Calcutta Museum's successor, the Indian Museum, and inquired about the location of the other two pieces. We were told that they was probably somewhere in the Museum's storage area, but that they had no definite knowledge of it. One imagines the final scene of the movie *Indiana Jones and the Raiders of the Lost Ark*, with the fragments of the stone kept in the storage area of the Indian Museum, which is a huge warehouse. It is hoped that these fragments will someday be rediscovered.

No important discoveries were added to the inventory of archaeological finds from Singapore for the next 85 years. The summit of the hill, which was originally cone-shaped, was flattened when Fort Canning was built in the late 1850s. Despite the probability that the hilltop would have been rich in antiquities, no discoveries were reported. In 1928, the fort was demolished and a reservoir covering seven acres (three hectares) was dug. During this operation, a cache of gold ornaments, including an armlet, ear ornaments, and a ring with designs of distinctive character, were found at a depth of ten feet (three metres) just below the original ground surface (i.e., that existing before the hilltop was leveled) (*see* chapter 5).

The ring bore an incised design of a goose, one of the regalia of the royal house of Surakarta (central Java), and the symbol of the vehicle of Brahma, one of the three principal gods of the Hindu trinity. Two armlets were found, of which only one remains; the other, along with the finger ring, disappeared during the 1940s. The armlets depict the face of a demon often known as *Kala*. In Hindu mythology, *Kala* stole the elixir of immortality and tried to drink it. The god Vishnu chopped his head off with a sword, but the top half of *Kala's* head had already touched the elixir and therefore could not die. The head of *Kala* therefore symbolizes immortality. *Kala* heads were popular motifs in Javanese temples of the eighth through fifteenth centuries, and as ornamentation on statuary. A large



0.17 The Singapore Stone bore a lengthy text but after it was blown up by military engineers it was only possible to estimate its age as sometime between 700 and 1000 years old. Its script is related to that used in Sumatra during that period. It contains at least some Sanskrit words. Collection of National Museum of Singapore.

image from West Sumatra carved in the fourteenth century is depicted wearing a very similar ornament (Fig 0.18). P. V. van Stein Callenfels, a Dutch archaeologist with extensive experience in Java, stated that the gold ornaments found on Fort Canning reminded him of the best fourteenth-century Javanese craftsmanship (Winstedt 1969).

Pauline Scheurleer, a contemporary scholar specializing in ancient Javanese metalwork, in a letter dated 22 August 2001, informed me that she was not convinced of the antiquity of the *kala* head (Fig. 0.19). Regarding the objects from the hoard, she writes:

They are of a type of ornaments I know well from Java; except, however, for one of them: the pair of bracelets with the clasp in the shape of a *kirttimukha* [another name for the *kala* motif]. I am pretty certain that this pair was made in South India and to me they look somewhat ‘late’. I do not know how late, but perhaps 18th century, but I may be wrong. Compare the *kirttimukha* with Usha R. Bala Krishnan and Meera Sushil Kumar, *Dance of the Peacock*, Delhi 1999, pl. no. 152 (20th cent.), and with p. 36 above (early 19th cent.) M. L. Nigam, *Indian Jewellery*, New Delhi 1999, and compare the type of bracelet with M. L. Nigam, *Indian Jewellery*, p. 85 (Mughal style in Rajasthan, 18th cent).

It is true that the *kala* head armlet looks very “Indian”. The intricacy of the design, the protruding knobs around the face, and the form of the face itself, have a definitive character that appears more Indian than Javanese. The armlets also have a very complicated system of clasps that allows them to be opened and closed to facilitate putting them on and off. On the other hand, all the items were found in the same spot, according to the report, so they should be of the same approximate date. No one has yet argued that the finger ring and ear ornaments are recent.

The difference in style may indicate that the *kala* ornament was made in a different location than the “Javanese-style” gold. Nothing is known of fourteenth-century gold artistry in Sumatra. An inscription in an Indian language (Tamil) has been found in West Sumatra, near the fourteenth-century palace of Adityawarman, who styled himself *Kanakamedinindra* (“Gold Land Lord”). Indian jewellery may have reached Singapore in the fourteenth century; alternatively, goldwork in the Sumatra-Singapore area may have shared stylistic traits with Indian work. Yet another possibility is that the Sumatran-Malay gold artistry actually influenced Indian craft; Indian folklore preserves the story of at least one Sumatran goldsmith who went to India.

These objects were found only a few metres from the Keramat. The site of the 1928 discovery now lies within a fence surrounding the service reservoir atop Fort Canning Hill (Fig. 0.20). The exact spot is marked by a small concrete-block structure (Fig. 0.21), and is off-limits to archaeological investigation.

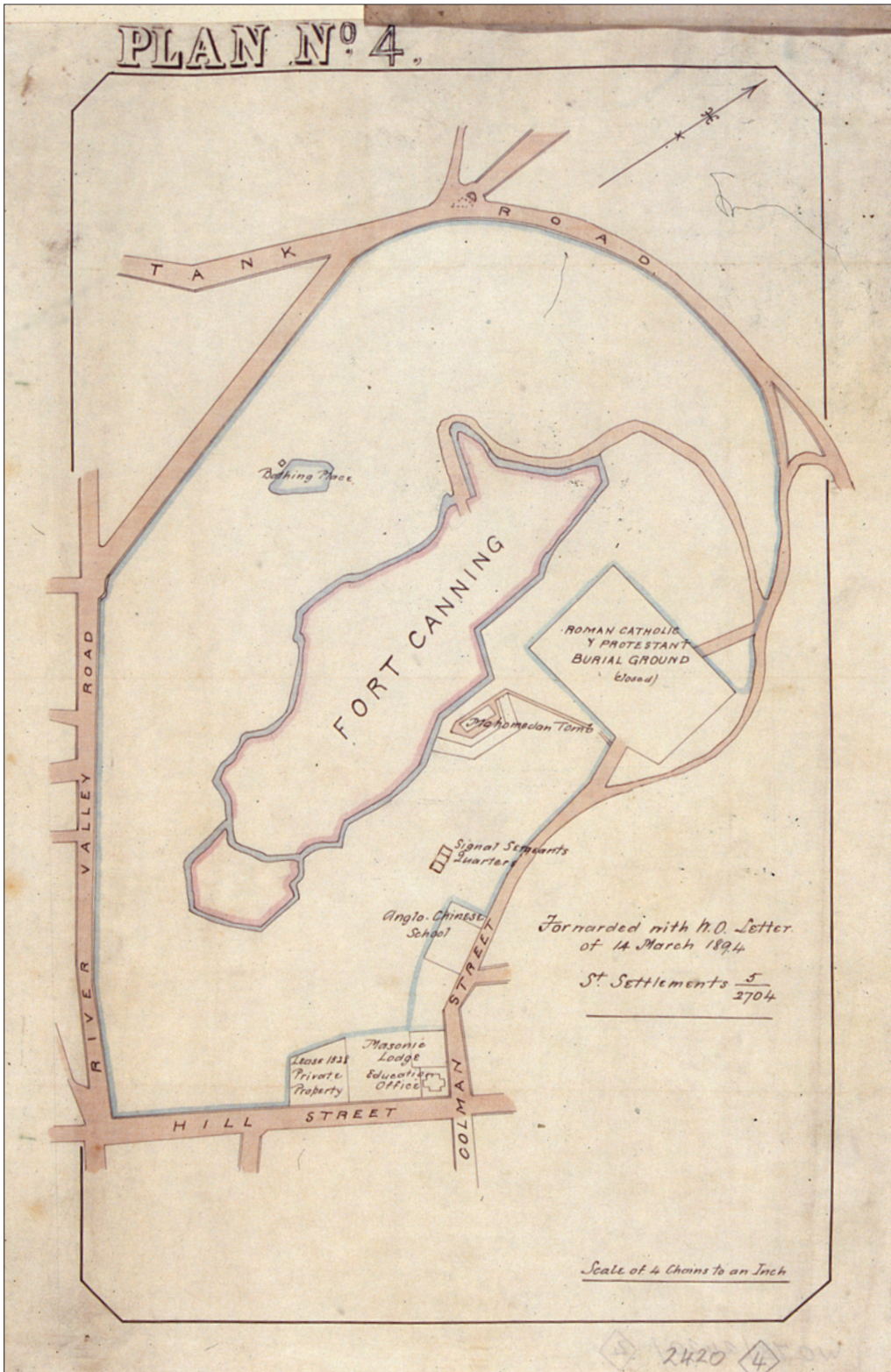
The gold finds of 1928 were the last relics of Singaporean antiquity to attract public notice. During the next few decades the Old Lines, the Singapore Stone, and even the golden hoard were forgotten. The general public grew accustomed to



0.18 *Kala* head ornament on Bhairawa statue from Padang Roco, West Sumatra, fourteenth century



0.19 Gold *kala* head ornament found on Fort Canning in 1926. Collection of National Museum of Singapore.



0.20 Nineteenth-century map with the locations of several landmarks around Fort Canning including a bathing place between Fort Canning Hill and the Singapore River. This bathing place lay near the site of the River Valley Road swimming pool which was closed around 1995.

the assumption that Singapore was “founded” by Sir Stamford Raffles in January 1819. Ironically, he himself never claimed this role. He always characterized his formation of a British settlement in Singapore as an attempt to revive an ancient trading port.

Excavations in Singapore during a period of 28 years from 1984 to 2012 have shed new light on the people who inhabited the south-central area of this island during the fourteenth through sixteenth centuries, a particularly interesting period in history. These archaeological remains allow us to confirm ancient texts that suggest that Singapore became a port of some significance soon after 1300. This research proves that a settlement along the Singapore River grew rapidly and reached a high level of prosperity that lasted for most of the fourteenth century. Several kinds of manufacturing activity were conducted along the riverbank. Inhabitants of Singapore then imported a wide assortment of items from China and India, some of very high quality. The settlement shrank during the Melaka sultanate in the fifteenth century, but continued to be an official outpost of Melaka and its successor, Johor-Riau, until early in the seventeenth century.

A quarter century of archaeological and historical research has transformed our knowledge of ancient Singapore. It is now the best-known fourteenth-century city in Southeast Asia. It is also the oldest confirmed site of an ancient overseas Chinese community. Future research can build upon the work in Singapore to study the effects of early Chinese immigration on Southeast Asian society in general. Archaeological data suggests that collaboration between Chinese immigrants, local officials, and traders from many parts of Southeast Asia brought about the rapid development of this port strategically located at the confluence of Asian maritime trade routes.

Ancient Singapore shared several general characteristics with other early ports in the Straits of Melaka, but also possessed some unique features. These features may be due to a particularly close relationship with China and the development of a settled Chinese community ruled by people we now call Malays [the term “Malay” has gone through many shifts of meaning over the centuries, see the *Journal of Southeast Asian Studies* 32, 1 (2001)]. It is highly probable that traders from other parts of Asia, including Indonesia, India, and Sri Lanka, also resided in Singapore, creating a multiethnic population similar to that which developed after Raffles revived the ancient port. There is no evidence of cultural conflict in this period. The different communities in ancient Singapore seem to have developed a symbiotic relationship in which all understood the benefits of collaboration and cooperation.

Singapore’s golden age came to an abrupt end just before 1400. Archaeological remains however prove that the island was not abandoned. A settlement with external trading connections continued to survive along the Singapore River until around 1600. Thereafter a historical and archaeological vacuum ensues, lasting until approximately 1800. Around 1811, the river was reoccupied by a small population affiliated with the Riau Sultanate on Bintan Island.

Thus matters stood when Raffles arrived. His goal was not to found a new



0.21 The *kala* head was found beneath the small yellow structure behind the girl in the foreground

port; it was to revive the glory that he believed Singapore had once possessed as the first great Malay trading centre. Although he was partly mistaken in this belief (Malay entrepôts in south Sumatra were several centuries older), he was not completely wrong either. It has however taken almost two centuries to show how close he came to being right.

This book begins by describing the first major ports in Southeast Asia (chapter 1). This background is necessary to put ancient Singapore in historical perspective. Ancient Singapore was never a major political centre, but Southeast Asian empires fought to control it. Perhaps it was Singapore's geographically and politically marginal position that attracted early Chinese settlers. In contrast to the restrictions on foreigners typical of major ports in Sumatra and Java, traders in smaller ports may have been allowed more latitude to conduct their activities.

The South China Sea has been compared to the Mediterranean as a cradle of culture. This comparison may be apt in some ways, but fails to do justice to Southeast Asia's complexity. Urbanization in Singapore's environs took a different course from Europe or other major Asian regions. Southeast Asia's sparse population and high ecological diversity favoured a different trajectory of development.

Scholars are still grappling with the need to think creatively about the evolutionary processes that led to the formation of Southeast Asian settlements, which people now recognize as cities. Singapore is one of the oldest urban sites in Southeast Asia for which we have detailed information about the distribution of people, artifacts, and activities over a large area. By telling the stories encapsulated in these artifacts, we can create a portrait of life in ancient Singapore. Readers can judge for themselves whether they would have found the atmosphere and lifestyle of this place strange or strangely familiar. Ancient Singapore played a role in the overall development of maritime trade in Asia and its emergence in the fourteenth

century was the result of a long-term process of development. Chapters 1 to 3 of this book summarize important recent discoveries regarding the Silk Road of the Sea that laid the foundation for Singapore's appearance on the scene.

Chapter 4 summarizes historical sources on ancient Singapore. More knowledge about fourteenth-century Singapore now comes from archaeological discoveries. Chapters 5 through 11 provide a history of the first 25 years of archaeological research in Singapore, and descriptions of the major finds. Research is still in progress, and many new facets of life in this ancient city will be revealed by future discoveries. We already have over 500,000 artifacts from ancient Singapore, more than enough to draw detailed conclusions about this city.

For the benefit of the specialist, considerable space has been devoted to the technical description of the way archaeological research has been conducted here, how data has been acquired, and the different inferences that could be drawn from the evidence. Some readers may find this tedious, but this process will clarify why many assumptions about Singapore's history are now considered wrong. I have endeavored to make the discussion as accessible as possible to the general reader, while at the same time including enough scientific material to enable archaeologists to judge the reliability of the conclusions advanced here. No doubt some of these will be modified by future research.

The socioeconomic complexity of ancient Singapore has been slowly revealed through the gradual accumulation of tens of thousands of small fragments over 28 years. Very few intact items have been discovered. No burials have yet come to light. All artifacts found here represent thrash discarded when deemed no longer useful. Such remains are difficult for the unspecialized eye to discern. This is why ancient Singapore was able to evade detection for so long.

Information on ancient Singapore after 1400 is less comprehensive than for the fourteenth century, but we can use the little data we have to build a general picture of the settlement during the period of the Melaka sultanate and its successors in Johor and Riau up to about 1600. After a hiatus of about 200 years, Singapore revived when a new settlement was founded around the river mouth in 1811, followed by the start of the colonial period in 1819. While the archaeology of nineteenth- and early-twentieth-century Singapore is a separate topic, comparisons between precolonial and colonial Singapore show how life in a port with a sizeable overseas Chinese community differed between two eras separated by 500 years. Colonial archaeology is the subject of chapter 12 of this book.

Archaeological research in Singapore has three major lessons to teach. First is the fact that Singapore has an impressive archaeological record to explore. This possibility was not considered until 1984, and even now few Singaporeans appreciate the potential of their country to contribute important data to the general study of the past of humankind. Second, ancient Singapore was advanced for its time: it was fortified, a rare feature in this time and region, and its inhabitants possessed several types of rare artifacts which have not yet been found anywhere else. Third, Singapore was a small but densely-populated city where a wide range of ethnic groups, occupations, and imports flourished. In this respect, it compares

favourably with famous contemporary trading ports in the Mediterranean Sea.

The first Chinese “diaspora” may have begun before Singapore became a port, but we know almost nothing about the history, stability, or even locations of earlier overseas Chinese settlements. Singapore’s data give us the first reliable picture of what the earliest such settlements might have looked like. Singapore also gives us a clearer picture of pre-European trading systems in Southeast Asia, a subject on which much has been written, but for which few historical sources exist. The huge database produced by 28 years of excavations in Singapore allows scholars to probe such questions such as the range of goods traded and the interaction between long-distance and local trading systems.

Singapore is one of the oldest urban sites in Southeast Asia to have been thoroughly excavated. The data collected can be applied to the study of precolonial urbanization in Southeast Asia, and in the tropics in general, subjects that are still in a stage of infancy.

I hope that the publication of this book will serve to raise Singaporeans’ awareness of the fact that the rise of their small island nation is not a recent historical accident; it has a long tradition that deserves to be more widely appreciated. Singapore is one of the oldest capital cities of Southeast Asia: older than Jakarta, older than Ayutthaya, older than Manila or Yangon. Despite the discontinuous nature of this tradition due to the 200-year-long gap in occupation from 1600 to 1800, most societies find it comforting to learn that their identity has historical depth. Singapore’s ancient past is a potential source of wonder and enlightenment, appreciation of which has the potential to inspire many. It is to be hoped that this description of Singapore’s archaeology will enable more people to experience the joy that comes from imagining what one’s life might have been like had it been lived in the same place but in a different time.

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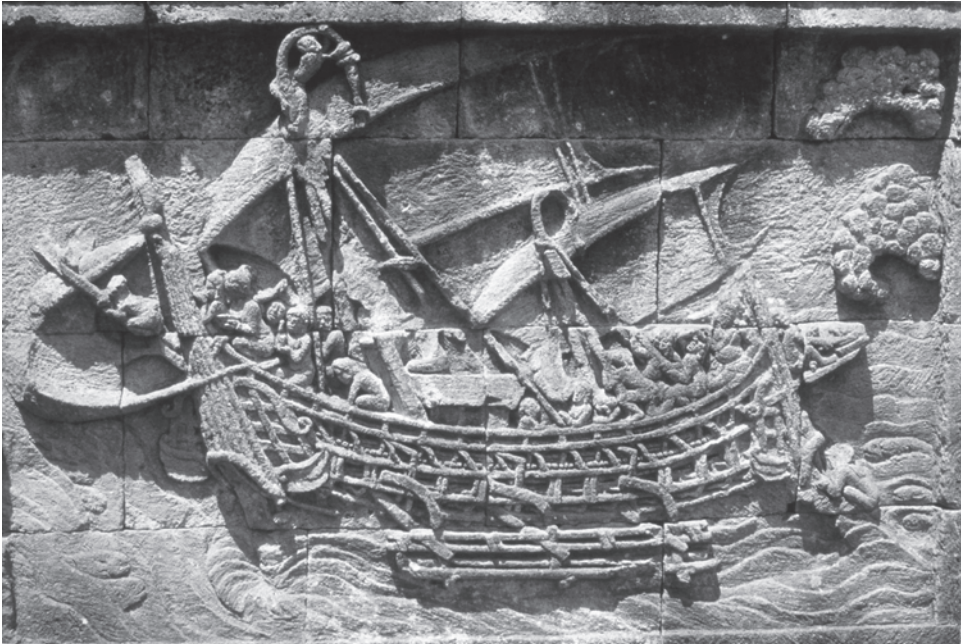
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THE THREE SEAS OF THE SOUTHERN OCEAN



Some 4,000 years ago, many Southeast Asians lived in villages connected by trading networks in which items travelled hundreds of kilometres (Higham 1989: 307). Archaeologists have found evidence that people in prehistoric Myanmar, Thailand, Cambodia, and Vietnam traded with India and China. Although no written sources describe prehistoric Southeast Asia, archaeological research shows that local sailors had developed a high degree of nautical expertise in the waters of the South China Sea and adjacent areas 2,500 years ago, enabling them to colonize the vast Pacific Ocean and reach previously unexplored islands. As the Chinese empire spread south from the plains of the Yellow River, Malayo-Polynesians were colonizing the Pacific Ocean and discovered Hawaii around the time the Tang Dynasty was founded in the early seventh century.



1.01 Bronze drum in Dongson style from Chaiya, south Thailand. Several drums of this type have been found in the Siamo-Malay Peninsula, indicating that this region had been integrated into a network of trade and communication over 2,000 years ago.

Southeast Asians did not restrict their exploration to the Pacific; they also voyaged west. By 300 BC, Southeast Asian mariners had crossed the Bay of Bengal to South Asia. In the centuries that followed, Southeast Asian sailors would discover Madagascar near the east coast of Africa and establish the first human settlements on that island. Malayo-Polynesian languages and cultures spanned more than half the globe as early as 1,400 years ago. No other language family matched this feat until the British established their empire in the eighteenth century. Neither Indian nor Chinese tongues achieved a comparably broad dispersal.

PREHISTORIC TRADE IN SOUTHEAST ASIA

By the third or fourth centuries BC, Southeast Asians had developed a trading system stretching over a vast span of water, from the South China Sea to the Java Sea, and beyond, to the Spice Islands or Moluccas. This route is first detected by the vast dispersal of bronze artifacts of a style known as Dongson, made in north Vietnam, famous for their elaborate decoration and great size, which archaeologists have found as far east as Papua New Guinea (Figs. 1.01, 1.02). By the first century BC, Moluccan spices were reaching Xi'an (Chang'an), capital of the Han Dynasty in northern China. Late prehistoric artifacts in Sahuynh style found in southern Vietnam may represent the ancestral culture of Austronesian-speaking people later known as Cham. At the Sahuynh site of Hang Gon, archaeologists found beads of glass, carnelian, agate, olivine, and zircon, evidence for trade with south Asia between 400 and 100 BC (Higham 1989: 228–9).



1.02 Sites where Dongson drums have been discovered

Who transported these drums and spices? Chams, Malays, and Javanese, members of the Malayo-Polynesian language family who inhabited most of the Southeast Asian coasts were the lynchpins of the system, obtaining spices from the Spice Islands Moluccas and voyaging north with them to the Red River area of north Vietnam, from whence they returned to the eastern archipelago carrying bronzes. Once the outside world acquired a taste for the Moluccas' unique spices (cloves, nutmeg, and mace), an active trade in these commodities developed, passing through the Java Sea, from whence they were dispatched west to the Indian Ocean and east to China. By the fourth century AD, Moluccan cloves were used to pay rent in Roman-occupied Egypt (Warmington 1928: 200). The spice route was over 1,000 years old when it attracted the attention of Christopher Columbus, who, in an attempt to find his way to the Moluccas, accidentally discovered America.

The oldest sites in Southeast Asia where archaeologists have found evidence

of contact with both China and India lie in the territory of modern Thailand. The oldest is in western central Thailand at Ban Don Ta Phet, where radiocarbon dates cluster in the period 390–360 BC. Khao Sam Kaeo, five kilometres inland from the east coast of peninsular Thailand in Chumphon Province, was inhabited between the early fourth and second centuries BC (Glover and Bellina 2011: 24).

The most common evidence for early contact between South and Southeast Asia consists of beads, made of both hard stones and glass. Unfortunately, modern people also evince great interest in old beads, and when sites which contain them are found, they are quickly looted. Beads remain in circulation for long periods, so even if beads made at a certain time are reported from a site, the only way we can tell whether they were brought there soon after they were made or much later is to excavate them in a systematic manner and to find them. At Ban Don Ta Phet, for example, over 3,000 beads of agate, carnelian, and glass have been found in the same soil layer as carbon, which can be dated (Higham 1989: 207, Glover 1989: 25). Translucent pale green hexagonal beads found here are known from Oc-èò, in southern Vietnam, as well as Pasemah, south Sumatra (Glover 1996: 71). These artifacts were found in burials interred in approximately 350–400 BC (Glover 1996: 69).

Until recently, it was assumed that artifacts of glass and hard stone 2,000 years ago were produced exclusively in India. Recent technical studies of beads from Thailand, Cambodia, and Vietnam have cast some uncertainty on this assumption. For example, while the glass used to make most of the beads found at Ban Don Ta Phet is identical to that made in south India, some examples have a different composition from any type known to have been made in India at that time, leading to the suspicion that early Southeast Asians also made glass, either in Thailand or possibly Myanmar (Glover and Bellina 2011: 34–5).

Similar doubt has crept into the discussion of the origin of agate and carnelian beads. A study of the geochemistry of stone artifacts found in Thai sites concluded that the raw material for the beads can be found locally and would not necessarily have been imported from India (Theunissen, Grave, and Bailey 2000). Objects of nephrite probably came from Taiwan, either ready-made or as raw material (Hung et al. 2007). These objects, which include elaborately-designed items such as oval ear ornaments known as *lingling-o* and pendants with heads of imaginary animals on either end of a bar with a hook for suspension, circulated in a network around the South China Sea, and have been found in Thailand, central and southern Vietnam, and the southern Philippines. Little formal archaeology has been conducted in Myanmar, but reports of finds by farmers provide circumstantial evidence that many unfinished beads (remnants of probable production sites) have been found in a corridor from the Samon Valley near Mandalay to Moulamein in southeast Myanmar (Hudson 2004: 195, 2005: 3). By the second or first centuries BC, carnelian beads in the shape of crouching tigers imitating Chinese miniature figurines used as military insignia during the reign of Qin Shihuang (late third century BC) were found from the Samon Valley to Ban Don Ta Phet and Khuan Luk Pad in Thailand. They may also have been made in

Southeast Asia, perhaps in the Samon Valley.

These finds demonstrate that a swath of mainland Southeast Asia from north-central Myanmar to the east coast of Vietnam was already a crossroads of trade between South and East Asia before India or China existed as political or cultural entities. The prototypes of these glass and stone objects may have been imported, but some sites of production may have soon been shifted to Southeast Asia. It is impossible to tell whether this was done by immigrant workers or local craftsmen. Arguments in favour of the immigration of craftsmen from India, at least in the initial stage, have been advanced by Bellina (2003) and Bellina-Pryce and Silapanth (2006).

Other artifacts that strongly imply contact with India are bronze bowls with knobbed bases and incised decorations in a mixture of Indian and local motifs (Glover 1989: 40, Fig. 28). Ban Don Ta Phet yielded between 20 and 30 whole or fragmentary knobbed-base vessels; other examples have been found at Khao Sam Kaeo (Pryce, Bellina-Pryce, and Bennett 2006: 302–3) and Thanh Hoa, Vietnam. The inference that these objects indicate a connection with India is based on discoveries of similar bowls at sites in South Asia including Taxila, Orissa, Bengal, and the Ganges Valley (Glover 1996: 78). It is not clear whether this type of bowl was first developed in Thailand or India; they contain much tin, which is found in Thailand but not in India. This type of alloy is brittle and difficult to work, so special skills would have been required to produce them. Many more examples have been found in Thailand than in India (Glover and Bellina 2011: 36).

Khao Sam Kaeo represents a slightly later period than Ban Don Ta Phet. Remains here show that trade and communication between Southeast Asia, India, and China was increasing. The site consists of four complexes on the summits of adjacent hills that cover an area of 54 hectares. Radiocarbon dates indicate that the site was an active centre of production for items made of glass, stone, and iron between the fourth and second centuries BC. Earthen ramparts were constructed during this period, perhaps for defence (Bellina-Pryce and Silapanth 2006b: 272–3). Artifacts found in association with the ramparts include three bronze drums from Dongson, north Vietnam.

Gold items have also been found at Khao Sam Kaeo, mainly as accidental finds by villagers, not in controlled excavations; their cultural associations are not precisely known. Gold artifacts of late prehistoric style include central knobbed gold beads similar to artifacts found in southern Vietnam (the Mekong Delta region), and a rosette pendant comparable to artifacts from the Tabon caves of Palawan, estimated to date from the period between 500 BC and AD 300 (Pryce, Bellina-Pryce, and Bennett 2006: 309). Other gold items can be stylistically dated to later periods; Khao Sam Kaeo seems to have been utilized in the Funan period as well as in late prehistory.

Khao Sam Kaeo has yielded the oldest foreign ceramics found in Southeast Asia (Bellina-Pryce and Silapanth 2006b: 278). These are pieces of Chinese earthenware from the Western Han period (first and second centuries BC), together with other possible Chinese artifacts, including a bronze fragment that could be

the rim of a mirror, and a projectile point (Pryce, Bellina-Pryce, and Bennett 2006: 304–5). How and why these sherds of Chinese earthenware reached the Siam-Malay Peninsula is unknown. It has been claimed that Chinese ceramics of the Han Dynasty, were unearthed in Sumatra and Kalimantan, but no archaeological evidence of Han Dynasty trade in Chinese porcelain has been discovered (Guy 1990: 2). Perhaps antique dealers imported them in order to interest the Jakarta museum (then under the Dutch colonial government) in buying them. Other examples of Chinese mirrors and projectile points made during the first century BC have been found in central and southern Vietnam (Guy 1990: 304–5).

Ceramics also provide evidence for the expansion of trade between Southeast Asia and India, during the transition from prehistoric times to the beginning of Southeast Asian history, between the second century BC and the third century AD. Several varieties of Indian pottery made during this period, including Northern Black Polished Ware and rouletted ware (possibly made in south India) have been found at Khao Sam Kaeo (Bouvet 2006).

Artifacts made of glass form another category. Glass at Khao Sam Kaeo consists of raw glass in the form of chunks, as well as finished glass beads and bracelets. Glass was thus converted from a raw material to a finished product at Khao Sam Kaeo. Where did the raw material come from?

Glass production requires both a high level of pyrotechnology, and a supply of suitable sand. Some scholars (e.g., Lankton, Dussubieux, and Gratuze 2006, 2008; Bellina and Glover 2004: 74, 84, fn. 19) suspect that glass might have been produced in early Southeast Asian sites such as Khao Sam Kaeo, on the basis of their chemical composition and unusual methods used to create the glass objects found there. Some glass artifacts with similar compositions have been found in the Samon Valley of Myanmar, at the site of Krek, eastern Cambodia, and at Giong Ca Vo in southern Vietnam, which has also been noted as a possible site of glass manufacture (Bellina and Glover 2004: 331–2).

It is possible that some glass makers came to Khao Sam Kaeo and perhaps other sites in Southeast Asia from India in the late centuries BC. However, the search for the origin of the glassmakers has yet to yield any firm conclusions. Apparently glass-making only began in south India at around the same time that Khao Sam Kaeo rose to prominence, and data on early glass-making and working in north India is scarce (Bellina and Glover 2004: 333). The earliest glass objects made in Southeast Asia do not closely resemble any known Indian examples. This suggests that the glassmakers may have been imported from India to Southeast Asia, but made objects in accordance with Southeast Asian preferences once they were there (Bellina and Glover 2004: 336).

THE BEGINNING OF CHINESE RELATIONS WITH SOUTHEAST ASIA (THIRD TO FIRST CENTURIES BC)

Early Chinese civilization was strongly influenced by competition between farmers and nomads. Chinese farming kingdoms and warlike central Asian herders along the Yellow River 3,000 years ago had systematic exchanges, which the

Chinese characterized as receipt of tribute from nomadic vassals, reciprocated by gifts from benevolent Chinese rulers. The nomads received silk, tea, and porcelain, political autonomy, and permission to trade with Chinese citizens. In return, Chinese rulers obtained prestige, jade, and horses, a major military asset.

By the fifth century BC, Chinese had begun to trade with groups south of the Yangzi River. The region that now forms southern China was then controlled by non-Chinese peoples collectively called Yüeh, from whom Chinese sought luxuries such as ivory, pearls, tortoise shell, kingfisher feathers, rhinoceros horns, scented woods, fruit, and spices. Yüeh were expert sailors and frequently traded with Southeast Asia. The kingdom of Nan Yüeh, in modern Guangzhou, was a centre of trade in southern luxuries.

The “first emperor” Qin Shihuang, founder of the Qin Dynasty (221–207 BC), sent half a million soldiers to conquer the Yüeh people (Wang 1958: 7). Lo Yüeh kingdom near modern Hanoi fell after eight years of fighting. Fujian and Guangdong were overcome only after numerous defeats forced China to send reinforcements, including “criminals, banished men, social parasites and merchants” (Wang 1958: 10).

The association of merchants with social parasites, criminals, and other outcasts demonstrates the Confucian philosophy and the low esteem in which merchants were held. Classical Chinese civilization—formed in the northern hinterland where social relations were characterized by constant tension between nomadic herders and settled farmers—emphasized militarism, austerity, isolationism, rigid social hierarchy, and centralized rule. Ministers praised austere rulers who “despised gold and jade”, and encouraged the emperor to force commoners to stay on farms. Southern culture emphasized different qualities: free enterprise, social mobility, and a cosmopolitan attitude toward foreigners. China’s history has been marked by constant tension between these two cultural patterns.

Chinese economic history is poorly documented. Who were the early merchants who were exiled to the southern colonies? We only know of their existence because of the sources that condemn them. In 178 BC, some Chinese nobles were criticized for collaborating with merchants by investing in trade in salt, metals, and luxury goods.

Although the Yüeh region provided some luxuries, the most valuable merchandise lay further south in Nanhai (the Southern Ocean). China’s conquest of north Vietnam was partly motivated by the desire to acquire a strategic port frequented by traders from Nanhai. China set up four military commanderies to administer conquered Yüeh territory, but a “miniature empire”, Nan Yüeh, usurped control and ruled the Nanhai coast from Fujian to Vietnam until 111 BC. In 96 BC, the Yüeh chief of Nanhai became a Chinese vassal.

Stable relations between Nan Yüeh and the Han Dynasty allowed maritime trade to flourish. People of the south were particularly eager to obtain iron from north China in exchange for the incense and ivory from their forests. The Han court was split on the morality of trade; debate on the subject was recorded in a collection of essays entitled “Discourses on Salt and Iron”. Han Wudi, an energetic emperor, allowed trade, but Confucian civil servants had their way after he

died in 87 BC and trade was restricted again. The Confucians were sometimes able to impose harsh penalties on those who violated prohibitions. In fact, Han-period trade is recorded only in the context of measures taken to suppress it. In 77 BC, a Yüeh head of a commandery was found guilty of becoming rich by trading with foreigners and was put to death. No doubt other merchants evaded capture but the result of this practice was that no records of this hidden economy survive.

The ban on trade placed the Chinese elite in a quandary. They could not legitimately purchase “rare and precious objects” from southern lands, but southern rarities played an important part in legitimizing their status. As an expedient, the court began to send eunuchs abroad as ambassadors; their duty was to acquire southern luxuries through diplomatic exchange while avoiding the semblance of trade.

China sought access to the communication network already flourishing in the South Seas for religious as well as political reasons. As Buddhism began to gain converts in China, the court sent monks abroad to obtain Buddhist scriptures and other holy objects. A Chinese mission between AD 2–5 sailed to what is now peninsular Thailand, then crossed to the western coast of the peninsula from whence they sailed to India; they later returned by sailing through the Straits of Melaka (Wang 1958: 20). A Chinese report describes

chief interpreters attached to the Yellow Gate [eunuchs serving in the palace] who go to sea with the men who answer their appeal for a crew to buy bright pearls, *pi-liu-li* [opaque glass], rare stones and strange things, taking with them gold and various fine silks to offer in exchange. . . . The merchant ships of the barbarians are used to transfer them (the Chinese) to their destination. (Wang 1958: 19–20)

At this time few Han Chinese had migrated into the Yüeh lands of south China, the eunuchs may have been sinicized barbarians. As the above record shows, no Chinese ships yet sailed the South China Sea.

THE SILK ROAD OF THE SEA AT THE DAWN OF SOUTHEAST ASIAN HISTORY (FIRST TO THIRD CENTURIES AD)

At the beginning of the first century AD, three great empires coexisted in China (the Han), India (the Mauryas), and the Mediterranean (Rome). This situation provided ideal conditions for Southeast Asians to exploit their geographical position.

The overland Silk Road linking these three empires can be traced through impressive archaeological remains such as brick forts, palaces, painted caves, and temples. Continental empires build impressive monuments that last for thousands of years. Seaports are marked by wooden hulks of ships and piers jutting from the mud. Maritime kings in the South Seas built their palaces of wood, and instead of land, reckoned their wealth in perishable items: textiles, spices, and people. Ships leave to tracks in the water.

The overland Silk Road has been thoroughly documented, whereas the story of the Asian sea route is still obscure. Recent archaeological research on the Silk Road of the Sea indicates that the Asian ship deserves to join the camel, the “ship of the desert”, as a major force in early history, carrying both commerce and

culture to new heights. Ancient Asian ships carried many more people and goods more quickly and safely than animals.

By the first century AD, the Silk Road of the Sea had reached its maximum extent, linking the Persian Gulf and the Red Sea to China. Much of Eurasia experienced unprecedented prosperity at this time, and cultural horizons underwent similar expansion. Traders from the Mediterranean Sea were sailing to India. Europeans, whom the Indians called *Yavana* (derived from Ionia, a region of Greece), established trading posts in south Asia; Indian rulers hired some of them as palace guards. Priests in Roman temples burned Asian incense.

Indian ivory decorated a home in Pompeii in AD 79 when the city was destroyed by Mount Vesuvius. Archaeologists have found Roman coins and pottery scattered over ancient Indian ports. Asia enjoyed a significant advantage in the balance of trade with the West. So much metal was shipped to the east that the Roman economy suffered. Rome paid for some Asian imports with glass, wine, and Egyptian grain, but had to supplement these commodities with gold and silver. Mediterranean lead was so common in central India that it was used to make coins (Wheeler 1954). Southeast Asians sailing to India acquired bronze Roman lamps and statuary as well as Indian pottery made in Roman style which they brought to Thailand, Vietnam, and Indonesia. A mission claiming to have come from Rome reached China in AD 166, but the Chinese decided that the ambassadors were impostors, partly because they brought Southeast Asian tribute such as elephant tusks, rhinoceros horn, and tortoise shell, not Roman goods. This record demonstrates the lengths to which merchants would go to establish trading relations.

Historian Fernand Braudel perceptively remarked that Asia could never have enough European gold and silver. When direct trade between Europe and India revived in the sixteenth century after a lapse of over a thousand years, the old trade imbalance reappeared. In the nineteenth century, the British could only stem the loss of gold and silver to finance imports of tea and porcelain with desperate measures such as forcing China to permit the importation of opium. Conversely, Southeast Asia enjoyed a significant trade surplus with China, so much so that for centuries China was forced to export precious metal to Southeast Asia to fill the gap.

In the later Han dynasty, during the first and second centuries AD, Chinese control over their conquered territory in Tonkin (north Vietnam) weakened, and China sent no more missions to the South Seas. Diplomatic activity did not slacken, however; now it was the Southeast Asian kingdoms' turn to send missions to China, almost all by sea. Even a kingdom called *Shan*, probably on the Shan Plateau southwest of Yunnan, far inland, in AD 132 sent ambassadors to China by sea (Wang 1958: 24).

GRECO-ROMAN TRADERS IN THE INDIAN OCEAN

Two ancient documents written in Greek enable us to reconstruct the organization of Asian maritime trade during the time of the early Roman Empire, which

coincided with the Eastern Han in China.

The oldest surviving text on the subject is entitled *Periplus Marae Erythraensis*, “Sailor’s Guide to the Indian Ocean”. *Periploi* were lists of places on maritime routes and the distances between them (other texts for overland travel were called *itinerario*). The author is unknown but probably lived in the mid-first century AD, around the time of the infamous Roman emperor Nero. He was probably a merchant. His goal in writing his book was to provide guidance for other merchants who needed practical information about winds, places, people, and things found in the Indian Ocean. He was probably based in the port of Berenice, on the Red Sea coast of Egypt. He sought to acquaint fellow merchants with the administrative system that governed sea trade throughout the Indian Ocean, which was based on the concept of *emporia nomima*, “designated trade ports”; these were “legal marts where foreign trade was allowed and dues levied” (Warmington 1928: 53).

A ruler of the Pandya kingdom of southern India sent a mission to Rome during the reign of Caesar Augustus to encourage traders to visit his kingdom. It seems likely that the author of the *Periplus* had been to the Pandya region. Other Greek merchants were established in Tranquebar, a major port of the Chola kingdom. Greek carpenters were said to have helped to build the Chola king’s palace. The *Periplus* author had heard of the Golden Peninsula, the source of tortoise shell avidly sought in the international market, but mistakenly thought it was an island (Warmington 1928: 60–1, 71). By the time of the Emperor Vespasian, who was proclaimed emperor at Alexandria and restored order to Rome after the chaos of Nero’s reign, Indian merchants could be found in Alexandria (Warmington 1928: 76). Vespasian wore silk to celebrate military victories. In AD 92, Emperor Domitian built warehouses called *horrea piperateria* to store pepper and other spices imported from India (Warmington 1928: 89).

The second ancient book about trade in the Indian Ocean, *Hyphegesis Geographike*, “Guide to Geography”, was written around AD 150, a century after the *Periplus*. Its author, Claudius Ptolemaeus, an astronomer who lived in the Hellenized port of Alexandria, Egypt, was quite a different person from the practical merchant who wrote the “Sailor’s Guide”. He was interested in the theoretical aspects of map-making. Versions of the *Hyphegesis* that survived are copies made centuries after Ptolemaeus died. His work remained the most detailed book on world geography for over a thousand years until the time of Christopher Columbus. Arabs of the Abbasid period knew about and used *Hyphegesis*. Europeans only rediscovered the manuscript around 1400, when the Greek copy of the text was brought to Florence from Constantinople. It was quickly translated into Latin and retitled *Cosmographia* (Pagani 1990: vii).

Several scholars have undertaken the difficult task of separating sections of the manuscripts written by Ptolemaeus from sections added on or modified later. Another bone of contention is which maps in the *Hyphegesis* (up to 64 in some versions) if any, were drawn by Ptolemaeus. It is generally agreed that Ptolemaeus compiled an exhaustive list of coordinates that were intended to be used to draw

maps. Previous Mediterranean scholars carried out similar research; Ptolemaeus cites another astronomer, Marinus of Tyre (an ancient Phoenician port), whose work he was endeavouring to improve upon. Neither Marinus nor Ptolemaeus ever left the Mediterranean; they gathered information by interviewing diplomats, merchants, and soldiers. Some of Ptolemaeus' informants might have been Indians visiting Alexandria (Warmington 1928: 109).

Ptolemaeus was particularly interested in trade with Southeast Asia. His data for the silk roads by land and sea are more accurate than his reports on northern Europe (Pagani 1990: v). The vibrant traffic going east from Alexandria by both land and sea generated much information that he could compare and synthesize. Ptolemaeus paid particular attention to places on the sea route to Kattigara (probably the southern tip of Vietnam, where the important kingdom of Funan lay) and China. As Figure 1.04 shows (Wheatley 1983: 456), his information was relatively accurate till the border of China but completely false thereafter, suggesting that southern China was not yet in regular contact with India, though one of his sources claimed to have reached China by sea (Warmington 1928: 108).

Ptolemaeus had a relatively accurate idea of the shape and location of the Siam-Malay Peninsula, which he called the "Golden Peninsula" (*Aurea Chersonnesus* in Latin, *Khrys Khersonesos* in Greek). He gave coordinates for an emporium called Alosygni in India, which was near another place from where people sailed to the Golden Peninsula. These may have been in the delta of the Godavari River (Wheatley 1961: 139). Ptolemaeus speculated about the location of a trading post in India called Simylla on the basis of a "consensus among those who have sailed there and visited the places over a long period, as well as among those who have come to us from there" which the natives called Timoula (reminiscent of "Tamil"). This confirms that Ptolemaeus was in direct contact with people who voyaged to India.

He gave coordinates for 16 places in the peninsula. Two of these places were classified as *emporía*: Takola on the northwest coast and Sabara (also spelled Sabana) at the southern tip. Another, Kole, in the vicinity of modern Kelantan, was classified as a *polis* or settlement. Four other towns lay in the peninsula's hinterland. He used a special term, *diaperama*, to refer to a route across an isthmus on the Golden Peninsula. He mentioned that ships sailed from the Golden Peninsula to Kattigara, an important Southeast Asian port that lay on the route to China. Ptolemaeus quoted Marinus' reference to another city named Zabai, which lay south of the peninsula and took 20 days to reach. Zabai people also sailed to Kattigara (Berggren and Jones 2000: 75–6, fn. 51). Zabai resembles the name "Zabaj", found in later Arabic sources, that probably refers to the region of south Sumatra and Java.

Ptolemaeus, like the author of the *Periplus*, devoted significant attention to the administrative complexities of trade in the emporia of the Indian Ocean (Warmington 1928: 107). These two texts show that commercial practices had already become standardized along the Silk Road of the Sea by the time of the Roman Empire. How and when this happened is not known; we have no



1.03 Sailing routes and wind patterns of the Silk Road of the Sea

historical documents to guide us, only archaeological evidence.

We have some information about commodities shipped over the sea routes. These include items such as rhinoceros horns and kingfisher feathers, which were highly sought-after by the upper classes. A well-appointed Chinese scholar's studio at that time contained carved ivory, horn, tortoise shell, and sandalwood; bamboo for calligraphy brushes; sapanwood and gamboge for dyeing; and lacquered items (Chang 1989: 10). Confucian scholarly traditions included "carrying jade and scents", "burning incense while reading", and "burning resins to provide light". All these activities required imported luxuries from the South Seas.

We will not know whether these light and expensive items were the only cargo on the ships which carried them, or if they shared space with bulkier, cheaper commodities, unless we discover remains of ships. It is quite possible that cheaper



1.04 Map of Northeast India, Southeast Asia and South China, attached to a fourteenth-century manuscript of Claudius Ptolemaeus' *Guide to Geography*. Reproduced by permission from East-West Center Press.

goods not considered worthy of the notice of Chinese scholar-authors also formed important components of the cargoes.

Ptolemaeus and the anonymous author of the *Periplus* knew people who were probably Malayo-Polynesians; they came to India from lands further east in huge ships known as *kolandiaphonta*. Greco-Romans rarely sailed across the Bay of Bengal, and thus had to rely on stories heard in the ports of India and Sri Lanka for knowledge of its eastern shores.

WINDS, ROUTES, AND SCHEDULES

The Silk Road of the Sea was divided into two main sectors: lands “above the wind” (ports in the Indian Ocean), and lands “below the wind”, or *Zirbâdât* in Arabic (the Straits of Melaka, South China Sea, Java Sea, and further east). These terms referred to seasons for sailing. Long-distance voyaging along these routes became possible once seafarers discovered the principle of seasonal winds called monsoons, which provide reliable power for sailing ships.

It was not possible to sail from the lands above the wind, such as India, to the lands below the wind, such as China, in one monsoon. By the time ships from the west arrived in the Straits of Melaka, the western monsoon was dying. Voyagers would either have to remain in the Straits for six months until the wind returned from the west before proceeding further east, or quickly stock up on Chinese and Southeast Asian commodities and return home. A round-trip voyage from India to China would take three years. Few traders wanted to stay away from home that

long when they could be home in one year.

To take advantage of the rhythm of the winds, most ships departed from the Straits of Melaka for India in December or January. Ships sailed from China to the Straits of Melaka in January and February. Vessels from Southeast Asia bound for China left the Straits between June and August with the southwest monsoon, while sailors going from India to Southeast Asia sailed for the Straits between April and August.

Thus, as ships from China weighed anchor and set off to the west with silk and metal, other ships were leaving the Straits and heading west to India. Travelers from the western Indian Ocean had fewer options. They had to begin their journey eastward in either March or August to September in order to complete the longer voyage. Ships bringing the valuable nutmegs and cloves usually left the Moluccas between May or June and October, crossed the Banda and Java Seas, and arrived in north Java about two months later. This climatic regime, the rhythm of the winds, formed the source of the great wealth accrued by the ancient kingdoms in Sumatra and the Siamo-Malay Peninsula.

Shippers or merchants from the three sectors of the network would not meet unless they remained in the Straits for nearly a year. Ship-owners did not like their vessels to remain idle in port for six months for this would be a waste of capital, but traders would sometimes stay. People from the western Indian Ocean who stayed in the Straits for a year would be able to meet ships coming in from China in January and February. This longer period of residence in the Straits, combined with the scarcity of Chinese merchants, led to more important cultural and genetic ties between Southeast Asia and India. This situation only changed about a thousand years later, around 1000 CE, for reasons which will be explained below.

THE EMPORION SYSTEM

Ptolemaeus called international trading ports in the Indian Ocean *emporion*. The *Periplus* mentions 27 *emporion*, divided into three classes: “designated”, “lawful”, and “authorized” (Miller 1969, Schoff 1912, Warmington 1928). We do not know how the three classes of *emporion* differed, but the general term meant

a legal mart where foreign trade is allowed and taxed. . . . In the geographer’s description of Indian seas (in other words, as soon as he described non-Roman but well-known territory), *emporion* means an authorised sea-coast (not inland) mart in the Orient where non-Roman dues were levied by non-Roman authorities. (Warmington 1928: 107).

Ships that called at other ports were often forced to leave.

There were two emporia in what is now Myanmar, as well as a “city” that was *not* recognized as an *emporion*. The “Country of the Brigands” (somewhere in the northern Siamo-Malay Peninsula or possibly around the mouth of the Chao Phraya in the vicinity of modern Bangkok) had one emporium and one city. Chryse (probably the Malay Peninsula) had two emporia, one of which, Sabana,

was located at the tip of the Malay Peninsula, near modern Singapore (Warmington 1928: 127). The site of this ancient trading port has never been discovered.

Sir Mortimer Wheeler, a British archaeologist who publicized discoveries of Roman artifacts in India, thought that “it [was] fair to envisage Indo-European commerce of the first century AD pretty closely in terms of that of the seventeenth century” (1954: 125). The Romans had modern institutions such as officially-chartered trading corporations. Asian trading companies and merchant guilds also had the authority to conduct diplomatic relations, dealing in both wholesale bulky commodities and small quantities of luxury items, similar to the European East India Companies.

Roman trading stations in India faded out of history as the empire began its long, slow decline. Coins from fifth-century Byzantium are commonly found in Sri Lanka (Wolters 1967: 80), but thereafter the Mediterranean connection with the Silk Road of the Sea was severed, and Mediterranean-made artifacts disappear from Asian archaeological sites. From the seventh to the fourteenth centuries, Europe became isolated from Asia, gradually forgetting the knowledge gleaned from its exploration of the Indian Ocean, and regarded tales of fabulous wealth in the distant East as mere legend.

The period that concerns us in this book is the millennium between the fall of Rome and the arrival of their distant descendants, the Portuguese, in Melaka. During this period from roughly 500 to 1500, Asian maritime trade prospered despite the absence of Europeans. One of the first Europeans who glimpsed this world of Asian maritime commerce was Marco Polo, on his voyage from Italy to China in 1292–3. Polo’s descriptions of the Silk Road of the Sea seemed unbelievable to his European contemporaries. Polo’s *Travels* were written by his cellmate after Polo, who became a soldier after his return to Italy, was captured and imprisoned, told the story of his life to pass the time in prison. In the early twentieth century, historians began to take his account seriously when archaeological discoveries corroborated his account.

Very few written records of this early sphere of interaction survive. Those that still exist are written in archaic or extinct languages, and deal mainly with religion and local politics. Archaeological research provides the only hope that we will ever reconstruct the story of this early trading system that generated fabulous wealth for so many people. This research is in its early stages and much remains to be discovered (*see* Glover 1989 for more information on the archaeology of this period).

THE PORT OF TRADE

Economic historian Karl Polanyi argued that long-distance trade in ancient times was very different than the system that evolved in the early modern period. International trade only became integrated with price-fixing markets in the seventeenth century. Polanyi coined the term “port of trade” to refer to a premodern system based on different principles (1957).

Polanyi uses the term “administered trade” to describe a pattern of exchange

of status symbols and ritual objects. Rather than bargaining or valuing items in objective units such as money, exchanges were rituals, part of a political system in which rulers attempted to reinforce status rather than seek profit. The “tributary trade” mechanism between China and foreign ambassadors until the nineteenth century falls into this category. Tributary exchange did not take place in markets; it was diplomatic theatre in where both sides gave and received impressive gifts, earning legitimacy in the eyes of their people.

Anthony Leeds, an economic anthropologist, used Polanyi’s concepts to analyze the economic system that Portuguese visitors found in India in the sixteenth century. That system was not a fossilized set of ancient institutions, but the way the Silk Road of the Sea operated at that time displays startling continuity with the pattern described by the Greek sources over 1,000 years earlier. According to Leeds (1961: 27), the port-of-trade should have four main characteristics: it is an autonomous, specialized town, city, or small state formed for trade; it is a transshipment point between different ecological regions; it is often a neutral buffer zone; and few indigenous people except port officials are involved in the exchanges. Traders seldom had the freedom to move about the city and were restricted to foreign quarters.

Examples of ports with such traits are early sixteenth-century Melaka and seventeenth-century Nagasaki, Japan. Singapore in the fourteenth century possessed most of these criteria, but differed in one crucial aspect: the formation of separate residential enclaves for foreigners such as the Chinese. Why Singapore formed an exception is a mystery that lends itself to interesting speculation about ports of trade and the range of variation they exhibited (Miksic 2004).

The designation of ports as open or closed to foreign traders was one of the system’s principal features, ensuring that benefits from trade accrued to certain people, namely the rulers. In traditional kingdoms, rulers could not trust officials in distant parts of the realm to send customs duties to the central treasury. Wealth from trade could be used to challenge the established ruling clique. Thus ports where foreign trade was allowed were closely supervised by the rulers, who often resided inland in agricultural zones.

Foreign quarters were still found in the so-called “treaty ports” of nineteenth-century China. Within these quarters, foreign communities enjoyed considerable autonomy as long as they did not interfere with China’s internal politics. This arrangement suited both parties: foreigners were allowed to follow their own customs and religion, and the local administration did not have to worry about controlling motley groups of people with different languages and attitudes.

How old was this system? The oldest commercial documents in the world, 5,000-year-old clay tablets from Mesopotamia, indicate that officials from Sumer were appointed to supervise long-distance trade in Anatolia, ports were officially designated, luxury items were exchanged through tributary trade, and merchants lived in separate quarters according to nationality. Given the conditions of premodern life, these seem to be logical solutions to problems of culture contact.

Similar systems evolved in other parts of the world, including Africa. In Mesoamerica at the time of Spanish contact, Aztec officials called *pochteca*, with duties similar to shahbandar of the Indian Ocean, sought luxuries for the nobles in the jungles of Yucatan. In the nineteenth century, the term “extra-territoriality” came to mean something different, but as Polanyi and Leeds have shown, its roots go far back to a completely different sociocultural context.

ADMINISTERED TRADE: THE LORD OF THE HARBOUR

A key figure along the Silk Road of the Sea was an official often designated by the Persian term shahbandar, “Lord of the Harbour”. This title is sometimes translated into English as “harbourmaster”, but that word does not provide an accurate indication of their status. Shahbandar were often foreigners deemed trustworthy by local rulers. They supervised the collection of customs duties and the warehousing of imports, and managed the ruler’s investments. Indonesian rulers often invested in ships and cargoes, evading the approbation attached to commerce by various means. Shahbandar were responsible for resolving disputes between foreigners and local inhabitants. They usually had authority to make treaties. This combination of roles fits the theory that long-distance trade evolved as a means to acquire status symbols before it became a source of personal profit.

Tomé Pires, a Portuguese, acquired an intimate knowledge of the Silk Road of the Sea. He lived in Melaka from 1512 to 1515 and described four shahbandar there, each responsible for merchants from different areas:

They are the men who receive the captains of the junks. . . . These men present them to the Bemdara (the royal treasurer), allot them warehouses, dispatch their merchandise, provide them with lodging if they have documents, and give orders for the elephants (Corteseo 1944: II, 265)

TWO FORMS OF TRADE

Two separate spheres of exchange characterized the trading system of the Silk Road of the Sea: one for luxuries, the other for everyday items. Since “rare and precious” items had political symbolism, rulers often imposed sumptuary laws restricting access to them. Sometimes rulers claimed monopoly rights to certain items; others were subject to customs duty of up to 30 per cent or could only be sold to designated buyers, usually the ruler’s cronies. In many ancient societies, trade—buying and selling with bargaining in markets—was considered a demeaning occupation for the upper-class. This prejudice continued into nineteenth-century aristocratic societies in Europe and China, where foreign items were presented to the ruler in the guise of tribute or gifts, with which the ruler reciprocated with presents. Over time, amounts of reciprocal gifts came to be fixed by custom or treaty; a certain amount of foreign tribute was balanced by a fixed quantity of “gifts”. In anthropological terms, the ideology of exchange took the form of generalized rather than specific reciprocity.

The second sphere of exchange involved utilitarian items. These are less well-documented than luxury items, but old written sources mention the transport of necessities such as rice and salt. These daily necessities found their way to markets where money was used. Monetized marketplaces were common in Asia by the early first millennium AD. Sometimes coins were treated as a source of metal, which could be melted down and recast into other objects such as jewelry, but this does not mean that the principle of standard units of exchange was not understood.

Standardized weights and measures existed in Indonesia by the ninth century. These units were similar to Indian units and terminology, but utilized indigenous as well as imported terms and quantities. Early Indonesian coins look nothing like those made in India. The Javanese word *pirak*, analogous to modern Malay *perak*, “silver”, was a synonym for money. The word was adopted by other Southeast Asians, including Cambodians, suggesting that Indonesian financial practices were influential in other parts of Southeast Asia. Indonesian coins were made of both silver and gold and came in multiple denominations. There is thus good evidence that economic concepts such as price-fixing markets under government supervision evolved independent of external influence in the Straits of Melaka.

THE FIRST KINGDOMS, CHINESE POLITICS, AND TRADE, 220–581 AD: THE THREE KINGDOMS AND SIX DYNASTIES

The Han Dynasty collapsed in AD 220 and was succeeded by the Three Kingdoms Period, which is still celebrated in Chinese culture today as the time when the heroic deeds of the warring generals occurred. One of the three kingdoms, Wu, held the southern coast; Wei and Shu ruled northern and western China respectively. Despite their animosity, Wei had to deal with Wu in order to obtain southern luxuries. Wu on the other hand, cut off from the overland trade route, focused its attention on the South Seas. In AD 236, Wei sent envoys to Wu with horses in exchange for pearls, kingfisher feathers, and tortoise shells. Wu sent frequent missions into the South Seas in search of these items. Two envoys from Wu, Kang Tai and Qu Ying, visited the South Seas in 245–250. They travelled in foreign ships, indicating that Chinese ships were not yet capable of making long trips on the open sea. Although their reports have disappeared, quotes from Kang Tai have been preserved in other texts. He mentioned an island that he visited, perhaps Java or Sumatra, together with Bangka, Belitung, and Borneo; in all, he lists ten places on the Malay Peninsula and in the Southeast Asian archipelago.

A major destination of the envoys was a kingdom called Funan, at the southern tip of Vietnam, where Kang Tai found ambassadors from the Murunda kingdom of India. This information, together with Indian and Roman artifacts found in south Vietnam, indicate regular communication between Funan and south Asia. Kang Tai described Funan’s culture:

There are walled villages, palaces and dwellings . . . they like to engrave ornaments and to chisel. Many of their eating utensils are silver. Taxes are

paid in gold, silver, and perfumes. There are books and depositories of archives and other things. (Cœdès 1968: 42)

Jin conquered Wu in AD 280. In the subsequent period, more Chinese were sent to acquire South Seas luxuries, and more foreign missions visited China. In the short period from 284 to 287, 22 countries came to present tribute.

Chinese literature of this period reflects the wealth that this commerce generated. The Governor of Qingzhou, strategically located on the route between the south coast and China's capital, Loyang, was famous for flaunting his wealth, including Southeast Asian items: coral trees, ivory, pearls, and scented wood. He had "powdered gharu-woods [fragrant wood of the *Aquilaria* genus] as fine as dust sprinkled over an ivory bed, and asked those that he specially loved to step on it" (Wang 1958: 35).

During the Wu and Jin dynasties, AD 226–405, China received many missions from Funan, Champa, the Eastern Roman Empire, and Sri Lanka (Wang 1958: 120). In AD 414 a famous Chinese Buddhist monk, Faxian, returning to China from India by sea, called at *Yeh-po-ti*, a large trading port, possibly in northwest Java. From there he sailed directly to Guangzhou on a ship carrying over 200 people. Faxian saw no other Chinese persons during his years in India nor among the merchants on the ship on which he sailed. His is the first eyewitness record of a sailing connection between India and China, and confirms that Chinese merchants were not yet participating in this trade.

In the next period, called the Southern Dynasties (AD 420–589), 99 foreign tribute missions visited the various kingdoms which ruled China in the wake of Wu, Wei, and Shu (Wang 1958: 51), a great increase over the previous period. Communication was not consistent however; rather it came in spurts, with two peaks, one between 420 and 460, the other between 502 and 540. Of these missions, 78, the vast majority, came from Southeast Asia.

Southeast Asian countries active in this tributary trade included:

Table 1.1 Early diplomatic missions to China

<i>Kingdom:</i>	<i>Location:</i>	<i>Number of Missions:</i>	<i>Dates (AD):</i>
Holodan	Java	6	430–440
Pohuang	Southeast Sumatra	7	445–464
Gantoli	South Sumatra	5	455–564
Poli	Bali	3	470–524
Panpan	Malay Peninsula	12	455–589
Langkasuka	Malay Peninsula	3	515–556
Champa	South Vietnam	25	420–589
Funan	South Mekong Valley	17	430–589
Total:		78	

Southeast Asian ports at this time already specialized in particular products. Funan exported commodities used for religious rituals such as gharu wood (a type of incense), ivory and sandalwood stupas and statues, and glass vessels used for temple rituals. Items for the nobility consisted of gold and silver articles, cowrie ornaments, scented woods, ivory, peacock feathers, tortoise shells, reexports of items like gems, coral, opaque glass, cotton, and storax. *Poli* (Bali) sent mainly sea products: tortoise shells, shell-fish, purple cowries, and corals. Champa provided a broad mix of commodities: many articles of gold and silver, copper, tortoise shell, cowries, gharu wood, grass mats, cotton cloth, rhinoceros horn, and ivory. This list reflects items commonly sought by Chinese nobility. Lists of Chinese “gifts” to these areas only mention silk and brocade.

Sometime between 479 and 502, a certain Zhang Qingzhen “calculated carefully the silks and brocades which he used to trade with the *Kun-lun bo*” (Wang 1958: 60). *Kun-lun bo* were the ships of the people who lived in the South Seas. This record indicates that a mercantile class in southern China was used to dealing with Southeast Asian shippers, but other than their bare existence, no other information regarding these merchants has survived. Although China was closely connected with the South Seas, no Chinese ships of this period are known to have sailed to the south.

Two other references are even vaguer, but betray something of the nature of the trading activity and its importance for some sectors of Chinese society. A reference to the Liu Song Dynasty, one of the southern dynasties, contains the following note:

When the two Han dynasties had sent expeditions these (overland) routes had been found to be particularly difficult and merchandise, on which (China) depended, had come from Tongking; it had sailed on the waves of the sea. . . . Precious things come from the mountain and the sea by this way. There are articles such as rhinoceros’ horn and kingfisher feathers and rarities such as serpent pearls and asbestos; there are thousands of varieties, all of which the rulers eagerly coveted. Therefore ships came in a continuous stream, and merchants and envoys jostled with each other. (Wolters 1967: 77)

The history of Southern Qi (AD 479–502), also refers to active maritime trade:

Of all the precious things in the world none are better than those of the southern barbarians. They are hidden in the mountains and in the seas. They are innumerable. Merchant ships arrive from afar and bring these things to the southern provinces. Thus it is that Tongking and Kuangtung are rich and well stocked. The goods are stored in the imperial treasury. (Wolters 1967: 77)

Very little information about Chinese administration of trade in this period survives. A mission from the Javanese kingdom of *Holodan* in AD 430 was partly intended to acquaint the Chinese emperor with the fact that corrupt Chinese port

officials sometimes oppressed Javanese merchants (Wolters 1967: 165), but otherwise we have no clear information regarding the relations between the government and private traders during the Southern Dynasties.

SOUTHEAST ASIA'S FIRST GREAT TRADING KINGDOM: FUNAN

The Southeast Asian kingdom which Chinese sources call Funan sent its first mission to the Chinese kingdom of Wu sometime between AD 226 and 231. We know little about the people of this kingdom, what they called their country, or even what language they spoke. Their culture was probably related to that of the Mon-Khmer who later created the kingdom of Angkor, but this fact cannot be conclusively proven. The Malayo-Polynesians who founded the kingdoms of Champa in southern Vietnam and are another plausible candidate.

Wu responded to this diplomatic overture by sending missions to Funan. The first one left before AD 231, but no record of its experiences survives. Between 245 and 250, Kang Tai and Zhu Ying made the trip to Funan mentioned above. For the next four centuries, China regarded Funan as one of the major kingdoms of Southeast Asia.

Chinese sources describe Funan as a territorial empire with hereditary kings; similar to China, it acquired territory through conquest. This may not be accurate. Chinese reports of foreign kingdoms often used common Chinese terms without noting how their meanings differed in the context of non-Chinese cultures. This mission's report is one of the oldest records found in China, and was written at a period when Chinese observers were not yet aware of the range of social and political structures found in non-Chinese societies. Later texts give a more accurate perspective on the divergence between Chinese and non-Chinese cultures.

It is unlikely that Funan was a centrally-governed bureaucratic state with a fixed mode of succession. Such polities did not exist until later in Southeast Asia, so it is improbable that Funan would have been so advanced (Vickery 1998, Jacques 1979) among others have discussed this subject at length. Chinese descriptions of Funan as a major centre of maritime trade are however confirmed by archaeological data.

The strong ruler who founded Wu died in 252, after which it was beset by wars and rebellions. It was conquered by Jin in 280. The period between AD 280 and 300 was relatively peaceful and prosperous, and Funan sent three missions. Then a century of warfare in southern China followed, during which only three foreign missions were recorded, all from Linyi, which Vickery (1998: 67) has shown is likely to have been a Mon-Khmer kingdom on the east coast of modern Vietnam. Chinese kingdoms devoted little attention to maritime trade during the chaotic fourth century.

Some maritime trade was possible during a brief respite from warfare in the fifth century. Buddhism's influence was growing in both Southeast Asia and China, and monks from Funan visited China. In 484, Funan sent a tribute of "holy things" such as incense, gold and sandalwood statues, ivory stupas, and

glass vessels to the court of the Qj, who were staunch Buddhists (Wang 1958: 48, 56 n. 32). A fairly long period of peace finally arrived under the Liang Dynasty (502–558), during which Funan sent 13 missions between 502 and 539. The Liang obtained many Southeast Asian products from Funan, as well as items that Funan imported from the Indian Ocean and reexported to China, including Buddhist paraphernalia. In 546, at the request of the Liang court, the king of Funan sent a Buddhist monk, whose name was either Paramartha or Gunaratna, with 240 sutras (Vo Si Khai 1997: 213).

Archaeological Remains of Funan: The Site of Oc-èò

Oc-èò, southwest of the Mekong Delta, is a unique archaeological site: founded at the beginning of the historic period, large (450 hectares), and yielding abundant archaeological evidence of a sophisticated lifestyle including a wide range of commercial, religious, and artistic pursuits. Some scholars have suggested that Oc-èò was *Katigara*, one of the designated trading ports listed in Claudius Ptolemaeus' *Cosmographia* (Cœdès 1968: 277 n. 20; Malleret 1962, III: 421–54).

This was the greatest trading city which had yet appeared in Southeast Asia. Surprisingly it flourished in swampy flood-prone lowland with no commercial resources. In this respect its location corresponds to what one would predict based on the port of trade model: a marginal environment.

Historical evidence indicates that Oc-èò was not the centre of a kingdom corresponding to Funan, but a subordinate of a capital that lay further up the Mekong. Oc-èò was not on the coast, and so may not have been the immediate destination of ships; an as yet unidentified site on the west coast may have served this function. Oc-èò was, however, a densely-populated, commercially-oriented settlement, residents of which owned objects imported from central and southern Asia and the Mediterranean. Foundations of brick structures that may have been palaces or temples have been discovered, but it seems that they were not the main focus of activity in the site: commerce was.

This wealthy and active commercial centre was abandoned in around 600–650, when Funan fell, Chinese sources claim. No successor appeared in mainland Southeast Asia. Instead, new centres of Southeast Asian maritime trade arose in the Straits of Melaka and Java.

Funan's Relations with Southeast Asia

Chinese sources confirm that Funan was a major link in a shipping network that stretched around the South China Sea. Cloves from eastern Indonesia probably reached China via Funan (Wolters 1967: 39). *Dan-lan* islanders from the Philippines sailed to Funan with iron. Trade in metal objects and ores around the shores of the South China Sea was also an important activity during Funan's period of greatness (Wolters 1967: 61).

Archaeological discoveries show that Oc-èò's inhabitants were employed in

many specialized occupations using imported raw materials. They made glass beads, pottery, cast tin pendants, engraved jewellery, fashioned gold ornaments, and carved at least 23 types of precious and semi-precious stones (Higham 1989: 252). No specialized craft quarters have been discovered, but this may be the result of the severe disturbance that the site has experienced, or a lack of archaeological research.

Pottery from Funan has been discovered at two sites in the Malay Peninsula. Ceramics found at Kuala Selinsing, on the west coast of the state of Perak, include several sherds very similar to a particular type known from Oc-èò (Evans 1932: pl. 28; Tan 2003: pl. IV-11, IV-14, IV-15). Kuala Selinsing also yielded several items imported from India, for example, a carnelian seal with a Sanskrit inscription dated palaeographically to the fourth or fifth centuries (Evans 1927, 1928a, 1928b, 1932).

The second Malaysian site to yield pottery from Funan is Pontian, in the state of Pahang, where remains of an old boat were accidentally uncovered about a mile (1.6 kilometres) inland (Evans 1927). The hull was “covered with heaped up sherds” (Evans 1927: 94) from jars with round bottoms decorated by incising the wet clay with a comb-like instrument to create wave-like patterns (illustrated in Miksic 2009: 71, *see also* Malleret 1960: pl. LXXIII). Some of the jars, which stood about a metre high, may have been containers for rice; some rice grains were found on the boat. All authorities agree that the pottery must have come from Oc-èò or its vicinity.

Oc-èò has yielded the largest number of glass beads recovered at any archaeological site in Southeast Asia (Bellina 2003). It has been suggested that some of it was made there (Francis 2002: 43–4), but the majority were probably imported from India. The largest category consists of a type termed “Indo-Pacific beads”. The most common of these are opaque brown-red and orange-red types often called *mutisalah*. Such beads have been found in many sites in Thailand, Malaysia, and Indonesia; likewise, some were probably made at Oc-èò (Francis 2002: 215).

We have no historical information on Funan’s trade with other parts of Southeast Asia except for a Chinese note that proves that Funan imported iron from the Philippines. We can however be certain that this trade occurred, because of the wide range of locally made metal products that Kang Tai said were made in Funan, and the abundant archaeological data that confirms his account. Funan had to import the raw materials for its metalworkers, “In an area like the Mekong delta, a would-be smelter of copper, tin or lead would have to travel for several weeks before he came to a workable source of the appropriate ore” (Bronson 1992: 67). Copper ore could have come from north-central Vietnam or north Luzon. Tin was available in central Vietnam and the Malay Peninsula while silver and gold for coins and jewellery were available in Myanmar, Luzon, Sumatra, the Malay Peninsula, and Vietnam. The fact that a sizeable metalworking industry developed in the alluvial Mekong valley suggests the efficiency of Southeast Asian shipping at the dawn of history.

Ships of the Funan Period

Was the Pontian boat a Funan trading vessel? Evans noted that the ship was built from a kind of timber called *merawan*, a Malay term that includes trees of the *Hopea* and *Shorea* genres. These trees are so widespread that the ship “might have been built anywhere in the Malay Peninsula or the Archipelago”, although at least one variety is found in Cambodia. Another variety, *H. odorata*, “is an important wood for boats in Siam” (Gibson-Hill 1952). Based on comparison with traditional boat types, Gibson-Hill argued that the Pontian vessel was probably built near the Mekong delta or on the shores of the Gulf of Siam. He dated the boat to around AD 500. Later radiocarbon analysis showed that his estimate was not old enough; the wood for the ship was felled between 260 and 430 (1657±60) (Manguin 1993: 256), making the Pontian vessel the oldest dated boat yet found in Southeast Asia so far.

The *Liang Shu*, “History of the Liang Dynasty”, (Wang 1958: 33) states that Funan’s ships carried up to 100 men, who were employed as paddlers. The *Nan Zhou Yi Wu Zhi*, apparently recording information from the end of the third century, describes other ships as follows:

The men from foreign lands called their boats *bo*. The large ones are over 200 feet long, and are twenty to thirty feet high [above the water-level] ... they can hold 600 to 700 men, and a cargo of over 10,000 *ho* (a Chinese corn measure about ten pecks) [i.e., about 600 tonnes; Li 1979: 90]. The men from beyond our frontiers use four sails for their ships (Wang 1958: 38)

These Chinese sources describe two different kinds of ships. The Funanese vessels were rowed, like the later Khmer boats, while the *bo* were large sailing vessels. Some authorities speculate that the word *bo* is an attempt to represent the Malay word for ship, *perahu*. If true, this would suggest that the *bo* were Malay vessels, and that the Funanese may therefore not have been the main sailors of the South China Sea, although Manguin (1985) suggests that they might have been as important as the Malays and Javanese. The Malayo-Polynesians (who will be referred to simply as “Malays” in the rest of this volume) may have been the main shippers connecting Funan to other coastal settlements in the South China Sea and Indian Ocean, as they did the various ports in Melanesia until the twentieth century, creating a symbiotic relationship with the land dwellers.

The Pontian boat, about 12 metres long, is much smaller than the boats described by Li. It does not therefore fall into the *bo* category. It may have been used for trips within Southeast Asia rather than the longer voyage to China.

Archaeologists have had few chances to study early Southeast Asia boats. No iron materials such as nails were used to build them. Their planks were lashed together with plant fibres. The Pontian vessel belongs to the same construction tradition as a boat whose parts were found in the Wat Khlong Thom Museum, Krabi, south Thailand; it was apparently associated with the Khuan Luk Pat bead production site of the first half of the first millennium AD. Other boats of the

same approximate age have been found near Palembang, South Sumatra: one at Kolam Pinisi, dated 434–631, and one at Sambirejo, dated 610–775, which is estimated to have been 26 metres long.

Other important Southeast Asian vessels date from the thirteenth century. One, found at Butuan, Mindanao, southern Philippines, dating from AD 1270–1410, is estimated to have been 20 metres long. Another boat from Paya Pasir, near Kota Cina, northeast Sumatra, was a relatively large vessel like the Sambirejo ship (Manguin 1993b: 256–8).

Large seagoing ships with outriggers and side rudders are depicted in several reliefs on Borobudur, Java, carved around 800 (*see* Fig. 1.00). However, Dr. Manguin (1993: 264) does not think that the largest ships used outriggers. Early Chinese ships may have used side rudders too, so their presence cannot be used to determine whether a ship was Southeast Asian or not.

Chinese shipbuilding techniques began to influence Southeast Asian ships in the fourteenth through sixteenth centuries. Iron nails replaced the fibre lashing in Southeast Asian ships during this period. A shipwreck at Bukit Jakas, Bintan Island, Riau, Indonesia, dated to 1400–60, is an early example of a hybrid ship combining Chinese and Southeast Asian construction techniques (Manguin 1983a, 1983b). These hybrid ships became common after Chinese traders began to operate in Southeast Asia. The fact that this influence did not appear until the Ming Dynasty is further evidence that Chinese ships did not sail to Southeast Asia until relatively recent times.

Inscriptions of Oc-èò

The oldest writing in Southeast Asia has been found in south Thailand and in south and central Vietnam. The earliest writing, in both Indian and Chinese characters, was almost certainly imported. At Go Cam, near Tra Kieu, central Vietnam, a clay seal stamped with Chinese characters called a *fengni* was discovered in a layer thought to date to about AD 100 (Yamagata and Dung 2010: 199). The same layer contained other Chinese artifacts and probably represents an episode of early trade with China. Chinese characters were not used by Southeast Asians until centuries later, and never served as a major means of communication within the region except among Chinese communities.

The oldest Indic script found in Southeast Asia is called Brahmi. One example has been recorded from Khuan Luk Pat, which lies on the bank of the Khlong Thom River in Krabi Province, south Thailand. The site has been seriously disturbed by looters searching for beads (the site's name itself means "hill of beads"). In fact, M. Jacq-Hergoualc'h (2002: 84) estimates that 80 per cent of the site has been destroyed. A carved stone used for stamping documents found at the site (but without archaeological provenance) bears a type of script called Brahmi, originally created in north India and used from 100 BC to AD 100. It bears a single word in Prakrit, possibly *rujjo*, "destroy" (Weeraprajak 1985: 131–3). At Khao Sam Kaeo, three more Brahmi seal inscriptions in Prakrit language have been found (Bellina-Pryce and Silapanth 2006b: 281).

At Oc-èo, the French archaeologist Louis Malleret dug up and recorded 36 small engraved metal rectangles, intaglios, rings, and seals of bronze (1), tin (12), gold (7) and carnelian (15) (Malleret 1962: 308–14). The texts usually consist of just one word or a very short phrase in Brahmi script and Sanskrit language. Jean Filliozat was “struck by the similarity” between the Brahmi of Oc-èo and central Asian writing before AD 500 (Cœdès 1947: 196; Malleret 1962: 312). Filliozat found the Oc-èo script more like that of north rather than south India; the expert epigrapher J. G. de Casparis on the other hand compared it to scripts in central India (1975:12).

Comparison of the styles of letters on various objects show that they were not made at one time, but over a period of several hundred years, from the first or early second century to the fifth century (de Casparis 1979: 381–2), though the largest number seem to belong to the period around AD 300 (Malleret 1962: 312). It is not known whether all were imported, or whether some were carved at Oc-èo.

OC-ÈO CULTURE AND MEDITERRANEAN-STYLE FINDS IN SOUTHEAST ASIA

A number of Southeast Asian sites have yielded artifacts from the Roman Empire. In Vietnam the following were discovered: a third-century bronze of Maximin the Goth, a statue of Poseidon, statues of Dionysius and Pan with South Asian characteristics, and five coins, including one of Antoninus Pius, AD 138; one of Constantine I, 306–37, or perhaps Theodosius II, 415–50; and one from fifth-century Byzantium.

Sites with Roman-style artifacts lie in a belt stretching across the area of central and eastern Thailand once inhabited by Mon-Khmer speakers. U-thong is one of the most important sites. Boisselier (1968) even speculated that U-thong might have been Funan’s capital, but Bronson (1979) disputed this on the grounds that U-thong is smaller than Oc-èo. A consensus is emerging that Angkor Borei may have been a capital at one time, but that the capital may have moved at least once. Higham (1989: 275) agreed that the two sites (U-thong and Oc-èo) share many characteristics. Important artifacts at U-thong include a copper coin of the Roman emperor Victorinus (AD 268–270) (Glover 1996: 64) and two-headed animal pendants, which are distributed from western Thailand to coastal sites in south Vietnam where they are associated with Sahuynh artifacts; these overlap in distribution with a type of ear ornament called *lingling-o* that spread over sites from south Vietnam and the other side of the South China Sea in the Philippines (Chutiwongs 1996: 39; Bacus 2004: 263, Fig. 11.4) (for a Vietnamese example from Sahuynh, see Solheim 1984: 144, Fig. 3i; for a Philippine example from an unidentified site, see Solheim 1984: 149, Fig. 8e).

Among other Thai sites, Ban Tha Kae has yielded stamp seals and a gold bead, items paralleled at Oc-èo (Higham 1989: 272). Muang Phra Rot, in the Bang Pakong valley, northeast Thailand, is usually thought to date from a later period, based on pottery style, but molds for tin amulets like those of Oc-èo indicate that the site was probably also the scene of earlier habitation (Higham 1989: 278).

A “Greco-Roman” lamp and a Buddha statue in early South Indian (Amara-vati) style were reported to have been found at the site of P’ong Tuk (Çœdès 1928: 16–20). The lamp was found in a small square brick building. Çœdès thought the Buddha image was imported from India. The lamp, attributed to Alexandria, Egypt, bears a medallion with the head of Silenus, Dionysus’ mentor; the Dionysian cult was dominant at Alexandria during the time of the Ptolemies (Picard 1955: 137–49). The lamp may have been imported to the site as late as the sixth or seventh centuries. Research at the site by Wesley Clark in 2013 promises to add much to our knowledge of this site.

Chansen, in central Thailand lies outside the territory that Funan was said to have conquered. Nevertheless the material culture found here displays numerous parallels with Oc-èo and related sites in Thailand: tin and gold jewellery, and the stone molds for making them, earthenware stamps, perhaps for printing textiles, small bronze bells decorated with filigree spirals, and coins with *trisula* (trident)-like designs. All these artifact types are found at U-thong, and all but the coins are found in Phases III–IV at Chansen (Bronson 1979: 323). Phase III extends from 200/250 to AD 450/500, and Phase IV from 450/500 to AD 600/650. This information leads Bronson to believe that there was “a status-conscious and to some extent foreign-oriented elite class” at Chansen (Bronson 1979: 323).

Evidence of foreign trade at Chansen during Phases III and IV consists of two artifacts from China, one item possibly from Myanmar, several objects that have been made at Oc-èo, and eight bowls of a type made in Sri Lanka (Bronson 1979: 325, Higham 1989: 272). In Phase II, an Indian-style ivory comb was found, indicating that Chansen had contact with South Asia at that time.

Several ancient ports have been found in Peninsular Thailand, where Chinese sources on Funan suggest they should be. Little intensive excavation has been undertaken at these sites, which have been extensively looted, because the area has also been subject to political instability for decades.

Chinese sources record that Funan became great by subjugating other trading ports. One of the most famous was Dunsun, located somewhere in the upper Siamo-Malay Peninsula. According to the *Liang Shu*, Dunsun was a vassal of Funan (though we do not know what this meant in reality), and was in contact with both Vietnam and India (Higham 1989: 267). According to the Chinese text, “All the countries beyond the frontier come and go in pursuit of trade At this mart East and West meet together. . . . Precious goods and rare merchandise, there is nothing which is not there” (Wheatley 1961: 16). Little systematic excavation has been undertaken on these sites, which have been intensively looted. No site has yet been convincingly identified as Dunsun, but numerous archaeological sites representing other centres of trade that coexisted with Oc-èo have been discovered.

Roman-style artifacts such as two fifth-century Persian coins of the Sassanian period have been found at Yarang (Srisuchat 1996: 230, Jacq-Hergoualc’h 2002: 191). Langkasuka, which Chinese sources of the Oc-èo period called *Langyaxiu*, sent several missions to China in the sixth century. Indian and Chinese monks occasionally visited it. The name survived in Chinese sources until at least the

sixteenth century. Thirty-three archaeological sites have been reported in the vicinity of the village of Yarang, which may have been the centre of the kingdom (Jacq-Hergoualc’h 2002: 167). It is perhaps significant that one part of the site may have been protected by earthen ramparts; this is an unusual feature that recurs in fourteenth-century Singapore. There is reason to believe that Langkasuka and Singapore were intimately connected at that time.

The Yarang citadel is 15 kilometres from the sea. This has caused consternation because no corresponding port has yet been found (Jacq-Hergoualc’h 2002: 168–9). Buddhist remains such as stupa fragments, sculpture, and votive tablets are documented from Yarang, but no concentrations of ceramics, either local or imported, nor beads have been identified (Jacq-Hergoualc’h 2002: 191). This means that the connection of these remains with a trading kingdom remains hypothetical.

Among the third- to sixth-century sites in south Thailand, the best-known is Khlong Tom, also known as Khuan Luk Pat, Krabi, about 15 kilometres from the west coast of south Thailand (Veeraprasert 1992: 150). Despite severe looting, the site has yielded glass, beads of semi-precious stone, seals of gold and inscribed stone, and stone molds for casting jewellery (Higham 1989: 267).

Artifacts kept in the local monastery include Roman carnelian intaglios from the late first or early second centuries AD, Roman and Indian coins, etched agate and carnelian beads including a zoomorphic example like one found at Ban Don Ta Phet, glass collar beads similar to examples found at the south Indian Romano-Indian port of Arikamedu, and what may be an Indian-made glass container (Glover 1996: 65). One seal bears a Sanskrit inscription *data vayam*, “This item is on offer” (id.). Another depicts a deity holding a cornucopia, similar to a motif found on Roman coins. One Roman coin has in fact been discovered here. At the nearby site of Khao Kanab Nam, a clay votive tablet resembling a late fifth-century type found in Sarnath, north India, was discovered (Veeraprasert 1992: 156, 159).

Khuan Luk Pat has evidence for craftsmen working tin, semi-precious stone, and glass; “[n]o other early site in the region shows evidence for such a diversity of technologically advanced manufacturing processes” (Bronson 1990: 213). Bronson concludes that Khuan Luk Pat was really a processing centre rather than a trading port, and dates it relatively later to around the fifth century AD or even later, apparently on the basis of two stones engraved with inscriptions in Pallava script, a south Indian alphabet that he assigns to the sixth to ninth centuries (Bronson 1990: 217). A Tamil inscription on a touchstone for assaying gold, on the other hand, has been dated to the third century (Srisuchat 1996: 250), suggesting a much earlier date for the site’s first occupation. This stone, now stored in Khlong Thom Phra Kru Athan Sankarakit Museum at Krabi, is inscribed in Brahmi of the third century: *perum-patan kal*, “the [touch] stone of the great goldsmith”.

Also found at Khlong Thom were hundreds of gold coins, possibly locally made, based on a conch *srivatsa* type identified with Bago (Pegu) in south-central Myanmar. These are made from gold foil and weigh a mere half a gram. Wicks (1992: 221) suggests that they were used in exchanges, but this is unlikely in view of their fragility; they could not have withstood much handling.

The Khuan Luk Pat site raises numerous questions. One of the anomalies of the site is the absence of evidence of monumental architecture there (Glover 1996: 65). Khao Sam Kaeo's most active phase seems to have been in the late centuries BC, but archaeological research has also revealed that the site continued to be in contact with long-distance trade at a later period. Two, or possibly three, stones inscribed with Brahmi script from approximately 100 BC to AD 100 seem to record their owners' names. A gold seal is inscribed in Sanskrit language, using a script palaeographically dated to the fifth or sixth centuries (Bellina-Pryce and Silapanth 2006a: 384–5, Bellina-Pryce and Silapanth 2006b: 281).

The influence of the mercantile culture of the Oc-èo phase on insular Southeast Asia is unclear. Few scholars accept the theory that a deposed ruler of Funan founded Srivijaya. As Funan declined the prosperous civilization that evolved in Sumatra, and led eventually to the founding of Temasik in the fourteenth century, may have been stimulated by the role of the Malays as transport agents between Oc-èo and other proto-industrial cities of the Mon-Khmer, including those who lived on the Siam-Malay peninsula. The economic processes set in motion by the interaction between producers, processors, and consumers on the mainland could also have affected Malay economic and social structure.

Glover (1996: 64) believes that the social context of the first exchanges of raw materials, such as copper and tin, and exotic products such as gemstones, between widely dispersed groups in Southeast Asia in the second millennium BC conformed to Renfrew's boundary reciprocal or down-the-line relationships (Renfrew 1975: 41–2). Such border-area exchange, involving contacts at the margins of two contiguous societies, does not normally induce much alteration in the internal composition or power relations of either group. The trade between the Greco-Romans and India, on the other hand, can be characterized by Renfrew's middleman and port of trade models (Glover 1998: 26).

Were the links between India and Southeast Asia of the same nature as those between India and the Mediterranean, or were they organized in a less formal, more traditional manner? The British archaeologist Mortimer Wheeler felt that the Southeast Asians were not yet part of the *oikumene* of trading communities linking the Mediterranean to India (Wheeler 1954). He interpreted the discoveries of Roman coins and bronzes in Southeast Asia as “drift”, meaning “intermittent, short-distance reciprocal exchange networks” that already existed by 2,000 BC (Glover 1986: 3).

Glover (1989: 47–8) however concluded that the discoveries at Ban Don Ta Phet refute Wheeler's interpretation and “show that Southeast Asia was already part of a world trading system linking the civilizations of the Mediterranean Basin and Han China”. He is less certain that this commerce was correlated with new social networks based on market exchange, or whether Southeast Asians continued to perceive the long-distance maritime network as “an extension of the ‘Big Man’ prestige goods reciprocal type of economy” (Glover 1989: 4). Paul Wheatley (1983: 294–5) believed that the “Big Man” system was inadequate to explain the development of mainland Southeast Asian kingdoms in the fourth

century. He believed that fundamental social transformations took place in Southeast Asia in the early centuries AD. Bronson, following Wheatley, suggests that Khuan Luk Pat might have been a colonial enclave “founded and inhabited by foreigners” [i.e., Indians] (1990: 227), although he does not discard the possibility that local craftsmen learned Indian techniques of glass-making and employed them there.

Wheatley’s explanation for this change, influence from India, is not accepted by most recent scholarship. Charles Higham, for example, “differs from Wheatley’s interpretation in viewing the critical period between 500 BC and AD 800 as a continuum, with the Indian presence as but one of several interacting variables” (1989: 308). In Higham’s view, when Funan became the main source of prestige goods from the west, the groups of the interior had to intensify their use of overland routes to the west. They had three choices: a western route to the coast at the head of the Gulf of Siam, overland trade with the Cham kingdoms of Vijaya and Kauthara, or to dominate the delta kingdoms themselves; however, “[t]here is evidence that all three paths were taken” (Higham 1989: 315). Higham upholds a traditional school of thought that believes that large numbers of Indian visitors to Funan were instrumental in stimulating social change, and the main motivation for trade was to acquire articles of prestige for local elites to prop up their positions. This implies fundamental continuity with older socioeconomic structures.

WHY DID OC-ÈO CULTURE DISAPPEAR?

Whether or not Funan corresponded to the Chinese description of an extensive kingdom that exercised influence over a broad region stretching to the Siamo-Malay Peninsula, one can speak of a group of ports that appeared on the Southeast Asian mainland over 2,000 years ago, and then faded away in around AD 600. In the early seventh century, while Funan was still mentioned in Chinese sources, the centre of political activity and settlement seems to have begun shifting from the lower Mekong to northern Cambodia. Sanskrit as the common language of inscriptions was supplemented by Khmer. Buddhism and Hinduism, characterized by worship of Visnu and other deities including Durga and Harihara, were supplanted by the cult of the Siva *lingga*.

Malleret (1962: 355 n. 4) proposed that Oc-èò’s decline was brought about by changes in the coastline. Geomorphological research indicates that theories about rapid coastal change in historic times in Southeast Asia are not usually true (Miksic 1977). Hall (1985: 72) suggested that Funan’s decline was due to the expansion of rice agriculture in island Southeast Asia, causing the Mekong delta to lose its position as a supplier of rice. There is however little evidence of intense rice cultivation in the island region at this time, nor is there any indication that surplus production was shipped to mainland Southeast Asia. Changes in the structure of mercantile activity provide the best explanation for the collapse of what was a thriving civilization, not only in the lower Mekong, but across central and southern Thailand and Myanmar.

After the Oc-èò phase, coins gradually disappeared from Cambodia, Myanmar,

and Thailand, and were only reintroduced centuries later. The societies that built the monuments of Angkor and Bagan used no coins. It seems that the economies of these mainland empires of the eleventh and twelfth centuries were managed by a system of high-level administration and barter. No densely-populated trading and manufacturing zones similar to those of Oc-èo appeared on the mainland. As the trading ports in southern Vietnam and Thailand were being abandoned, moated sites appeared on the central plain of Thailand. Archaeologists have identified 63 such sites from the period AD 500–1000. Mudar (1999) identified seven “regional centers” and a four-tier administrative hierarchy in the region at this time. While the old cosmopolitan ports on the southern and eastern coasts were fading, towns in the hinterland formed new, more complex political units.

Many authorities have suggested that Oc-èo culture disappeared because new sailing routes by-passed its ports. The route along the coasts of Myanmar and the Oc-èo region is often thought to have been connected with the use of portages across the Malay Peninsula. In the seventh century, these portages were superseded by an all-sea route through the Straits of Melaka. The new route coincided with the emergence of several ports in southeast Sumatra. By the late seventh century, Srivijaya, a kingdom based in south Sumatra, rose to prominence, partly because it served as Funan’s successor in linking China and the Indian Ocean.

Despite Srivijaya’s image as a major commercial centre in text from all over Asia, no site of the size or wealth of Oc-èo has been found in the Palembang region where Srivijaya’s centre was located (Bronson and Wisseman 1976). This does not mean that Palembang was not Srivijaya’s capital, nor that Srivijaya was not a major kingdom with great wealth generated from maritime trade. Its people seem to have adopted a different mode of settlement from Oc-èo’s: they probably lived on the margins of the broad Musi River, meaning that much of the evidence of their existence probably fell into the river mud and has lain buried, out of the sight of archaeologists. Since at least 2000, its modern population has been avidly exploiting this sunken source of treasure.

An all-sea route from the Straits of Melaka to China already existed at the beginning of the fourth century when the Chinese Buddhist monk Faxian returned from India to China by ship, but the fifth century was still a prosperous period for the south Mekong. Competitors such as the Cham and the Malays of the Straits of Melaka may have benefited from more efficient and intensive trade patterns that emerged during the fifth and sixth centuries, particularly after 581, when China was reunified under the Sui Dynasty.

None of these explanations accounts convincingly for the disappearance of Funan. Historians tend to favour narratives that emphasize climactic struggles and the survival of the fittest, relying on external forces to explain the collapse of civilizations. Yet it seems that in many cases of civilizational decline, the root cause may have been internal rather than external. Around 2,000 years ago, the settlements of the Mon-Khmer of the lower Mekong, the probable dominant population group at Oc-èo, settled around communal reservoirs. In the second century, chiefs called *pon* began to exploit a new source of income: international

maritime trade. When the Chinese arrived on the scene in the third century, Funan was already trading actively with the sources of raw materials around the South China Sea, and had links with India. It is possible that this traffic was not driven by the Mon, but by Malays, Javanese, and Filipinos, who had already become specialized sailors. It was quite possible that Austronesian shipping created a symbiosis favouring the development of intensive craft production in the lower Mekong, with Malay sailors who transported raw materials and finished products, ores and coins, from sources in the islands to the processing centres on the mainland, and connected Mon-Khmer coastal centres with one another.

The lower Mekong focus on trade may have evolved around 2,000 years ago, and then abandoned 600 years later due to a conscious communal decision. In the seventh century, the Khmer who lived in the vicinity of Cambodia's great lake, the Tonle Sap, began to institute a new religious cult associated with Hinduism. The Mon-Khmer of the lower Mekong may have felt more attracted to the new Khmer civilization, and opted to join it. The rulers of the hinterland may have been able to provide a more reliable source of subsistence than the old commercial way of life, with an intensive agrarian system based on elaborate hydraulic works. In any case, in the seventh century, many of the old Mon-Khmer emporia vanished from the Southeast Asian mainland.

What was the significance of the Oc-èo phase? If it failed to prevent people from moving into the hinterland and subscribing to a Khmer agrarian identity, one might argue that it was not very important. On the other hand, some aspects of the south Mekong Mon-Khmer culture continued in peninsular Thailand and Myanmar, suggesting the survival of a pattern of economic vitality emphasizing individual enterprise rather than the centralized control of the later Khmer and Bagan empires. The Mon-Khmer in these areas remained staunch Buddhist adherents, a trait that which kept them in touch with the world, whereas Hindu Angkor, for all its glory, was rather hermetic.

The story of the rise and decline of Oc-èo and Funan may hold the key to understanding the entire ancient history of Southeast Asia. One can argue that the Chinese and later historians were mistaken in perceiving Funan's disappearance as the result of a clash between two populations, one in the lower Mekong, the other in the hinterland. It may be more appropriate to view Funan's disappearance as a sign of a gradual shift in focus from maritime trade in swampy lowlands to intensive agriculture in fertile plains by a single society. The rise and fall of Oc-èo culture raises questions that cannot be answered with the data presently available. Further research such as that being conducted by the Lower Mekong Archaeological Project (LOMAP) should shed new light on this question (Stark 2006).



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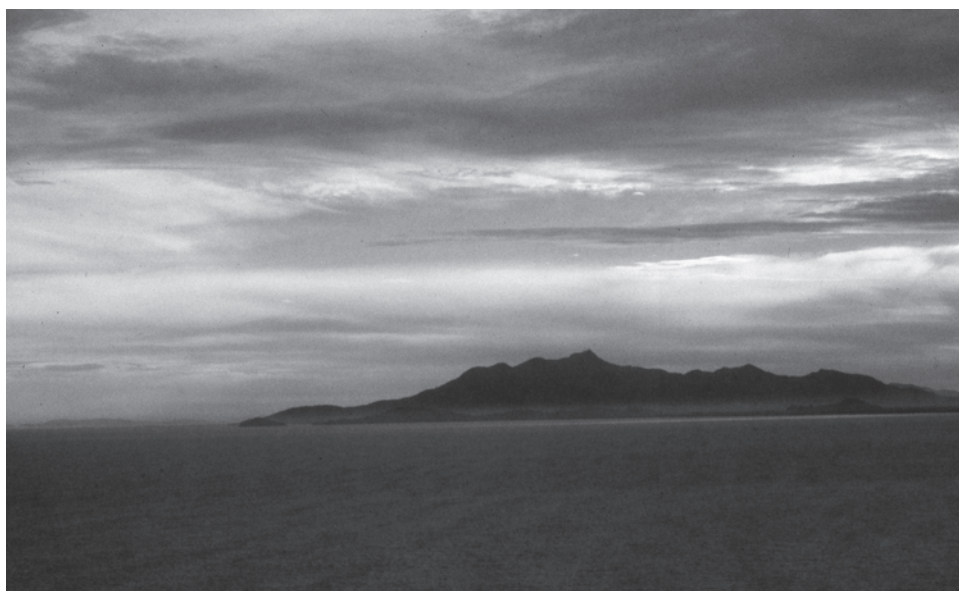
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THE RISE OF THE ISLAND EMPIRES



No sites of port comparable in age and complexity to Oc-èò or Khao Sam Kaeo have yet been found in the Straits of Melaka. During the course of the seventh century, three major developments brought major changes to the Silk Road of the Sea: China was reunited under the Tang Dynasty, Funan faded from the scene, and a new group of maritime trading kingdoms emerged in the Straits of Melaka. The web of commercial relations established at this time persisted with few changes for the next 1,000 years, and provided the context in which fourteenth century Singapore emerged.

KEDAH, MALAYSIA

The oldest known Buddhist texts composed in Southeast Asia are found in the Malay Peninsula, in the modern state of Kedah. Kedah's importance in early communication between Southeast Asia and India is directly related to its location.

2.00 Kedah Peak, seen from the south. Important archaeological sites, including Sungai Mas, the Bujang Valley, and the Merbok Estuary, lie at the mountain's foot.

If one sails due west from the mountain known as Kedah Peak, one just misses the north tip of Sumatra and eventually reaches Sri Lanka. A basic navigational technique of ancient sailors was to sail due east or west along a fixed latitude. Without chronometers, sailors could not establish their position in an east-west direction, but could detect their north-south position by stellar observation.

Several stones inscribed with Sanskrit texts in a script used during the late fourth and fifth century have been discovered near the foot of Kedah Peak (Christie 1990: 45) (Fig 1.05). Three of them bear an identical ritual statement about the Buddhist law of cause and effect (*karma*) that conforms to Buddhist philosophy, but has not been found in India or Sri Lanka. This statement seems to have been composed in the Malay Peninsula, indicating the sophistication of the local Buddhist community. One of these stones, discovered in the ruins of an ancient structure on the south side of the Muda River in 1848, bears an additional section that says, “of the great sea-captain Buddhagupta, a resident (?) of Raktamr̥tika [Red Earth Land] . . . by all means, in all, in all respects . . . all . . . be [they] successful in their voyage!” (Christie 1990: 48).

Where was the Red Earth Land where Buddhagupta lived? Chinese sources of the early seventh century refer to a country with this name (*Chi tu*, literally “Red Earth”). It was sufficiently important that envoys Chang Jun and Wang Junzheng from the Sui Dynasty visited it in 607–609 and wrote a report of it. Their original report has not survived, but quotes from it are found in later Chinese dynastic histories. This kingdom located on the east coast of the Malay Peninsula south of Langkasuka (Wheatley 1961: 26–36, 105) was Buddhist and, according to the Chinese, formed part of Funan. Hendrik Kern and several other authors inferred that this Red Earth Land was the same one found in the Kedah inscription (Kern 1883, 1907; Wheatley 1961: 32). S. R. Das (*Rājābādīdāṅgā*: 1962, cited in Jacq-Hergoualc’h 2002: 216) has argued that it actually refers to a location in Bengal, but the hypothesis that Buddhagupta was a native of the Malay Peninsula cannot be discounted.

SUNGAI MAS, KEDAH

The area between the Merbok River and the Bujang Estuary seems to have been rather densely inhabited by AD 500. Research in a modern village in this area named Sungai Mas (“Golden River”) has yielded key sites of the first millennium AD, including one of the three inscriptions bearing the local statement about karma. One of these, Site 53, covers at least 20 hectares. A soil profile from an excavation at Site 53A displayed three cultural layers [Allen 1988: app. F soil profile Z (a)].

Ceramics include locally made items, Chinese, and West Asian products, as well as glass beads and fragments, mostly of West Asian origin, including eight probable reject beads. The presence of reject beads supports the suggestion of archaeologist Ivor Evans (1912, 1925) that glass beads were made here from imported glass for the site of Kuala Selinsing, Perak (*see also* Francis 1996, Nik Hasan Shuhaimi bin Nik Abdul Rahman 2011). A large quantity of carnelian

beads, probably made in India, was also recovered (Jacq-Hergoualc'h 2002: 298).

A team from the Universiti Kebangsaan Malaysia and the Malaysian National Museum in 1980 discovered brick foundations in the village, six of which were excavated. Finds included several Buddhist artifacts of the fifth or sixth centuries AD: an inscription with a Buddhist prayer in Pallava script; the head of a Buddha image of approximately the same date, found by chance by villagers; and an image of a woman carrying a child, which has been tentatively identified as the Buddhist deity Hariti (Nik Hasan Shuhaimi bin Nik Abdul Rahman and Othman Mohd. Yatim 1990: 52–60).

Other excavations took place between 1980 and 1991 at a location designated Site 32. A total area of 368 square metres was excavated to an average depth of 40 centimetres. Within this area, a large quantity of artifacts was recovered, including locally made earthenware, Chinese porcelain of the Tang and Song, West Asian ceramics of the eighth to tenth centuries, a wide range of beads, and fragmentary foundations of buildings, some of which may have been part of a stupa (Nik Hassan and Kamaruddin 1993: 78–80). The site thus may have been inhabited during two separate phases: the late Oc-èo period, and the eighth to tenth centuries. It is also possible that the older Buddhist artifacts were not originally deposited at Sungai Mas, but at another site in its vicinity. In either case, these data are proof that a complex of early Buddhist sites of some importance lay in the area of the Muda River's lower course.

No remains that can unequivocally be identified as those of a port have yet been discovered at Sungai Mas, which is now about four kilometres from the coast. Allen (1988: 406) implies that the site was on the coast during the time that it was inhabited, which is possible, but some indication of actual entrepôt activity such as storage areas, wharves, etc. would be necessary to accept this hypothesis. It is not clear what Sites 32 and 53 may have been used for: general habitation, ritual, elite residences, or a combination of the above. More precise interpretations can only be formulated when complete research reports are published.

Exploration of other sites in the lower Muda River valley is only beginning, but preliminary results indicate that this region was an important focus of various commercial activities during much of the first millennium AD. For example, excavations at the Sungai Batu site began in 2010 and have yielded evidence of extensive iron-working, and brick structures provisionally interpreted as landing stages for boats that may date from the early centuries AD (Dr. Mokhtar Saidin, pers. comm., 23 April 2011).

PROTO-SRIVIJAYAN SITES IN SOUTH SUMATRA: SENTANG, AIR SUGIHAN, AND KARANGAGUNG TENGAH

Three recently-discovered sites from the early first millennium AD in southeast Sumatra have great potential to explain the development of the seventh-century kingdoms of Malayu and Srivijaya. These discoveries may belong to a “pre- or proto-Srivijaya” period which Chinese references to ports denominated as *Helodan*, *Gantoli*, and *Pohuang* imply once occurred (Nurhadi Rangkuti 2008: 7–8;

Wolters 1965: 212; Wolters 1967: 61, 165, *passim*). Urn burials between 4,000 and 5,000 years old have been found at Sentang, in South Sumatra Province, and Lebakbandung, Jambi Province. Sentang was severely looted in the 1980s; artifacts reportedly found there include an ewer that has been provisionally assigned to Han dynasty China (206 BC–AD 220).

Karangagung Tengah, which lies between the Batanghari and Musi Rivers (Endang 2002), came to the notice of archaeologists only after large quantities of artifacts had been dug up by looters, like sites of the same period in south Thailand. Excavations began in 2001. Artifacts found there include beads of carnelian (including two biconical ones with hexagonal cross-sections similar to those found in Ban Don Ta Pet), rock crystal, a shiny black stone, which may be onyx, and glass beads of several styles, including monochromes, polychromes, some gold-glass beads, and glass mosaic. Ceramics include Romano-Indian rouletted ware, possibly from Arikamedu, south India, and a large quantity of locally made ware containing much pyrite. Results of radiocarbon dating of wooden house posts range between the third and the sixth centuries. A large rudder from a ship has also been found.

More than 15 sites have been discovered in Air Sugihan, which lies about 60 kilometres east of Palembang, and 15 kilometres from the current coastline, at the closest point on the island of Sumatra to Kota Kapur, Bangka. Air Sugihan first came to notice in 1993 as the result of chance discoveries by transmigrants from Java of large quantities of beads, as well as Chinese stoneware ceramics attributed to the Sui Dynasty (581–618) (Adhyatman and Redjeki Arifin 1993: 28–9). Surveys by the Archaeological Research Institute between 2002 and 2008 discovered more than 15 sites, along with Song ceramics and remains of wooden house-posts (Budisantoso and Tri Marhaeni S. 2002, 2005, 2007; Manguin, Soeroso, and Charras 2006; Nurhadi Rangkuti 2008: 8–17; Tri Marhaeni 2010: 40–4).

BATUJAYA AND CIBUAYA, WEST JAVA

Northwest Java, including the area of modern Indonesia's capital Jakarta, has been an important centre of trade for 2,000 years, but sources on the early history of this region are scarce and vague. Archaeologists have been increasingly active in this area, and as a result of their efforts, much new data is becoming available to supplement the textual sources. The Chinese Buddhist pilgrim Faxian stopped in Java on his voyage home from India to China in AD 414. There, he found that “various forms of error and Brahmanism [were] flourishing, while Buddhism in it was not worth speaking of” (Legge 1886: 113). By the seventh century, when Yijing recorded more details about Indonesian Buddhism, he noted that Java and Sumatra had adopted a form of Buddhism called Mulasarvastivada (to which he himself also belonged), although some people in Malayu were Mahayanists, and a few other lesser sects were also followed (Takakusu 1896: 10–1).

Four inscriptions of the fifth century have been found in west Java, three in the mountainous interior, and one near the north coast. They mention a local kingdom called Tarumanagara and its king, Purnavarman, who was a devotee of

the Hindu deity Vishnu. Two Vishnu images carved around this time have been found at Cibuaya on the north coast of west Java, one probably imported from south India, the other from northeast India.

Archaeological excavations at Batujaya, about 15 kilometres west of Cibuaya, have yielded very significant discoveries, including square foundations of brick and stone, and clay votive tablets dated to the sixth or seventh centuries. The tablets are decorated with motifs which lack any Mahayana symbolism; the closest parallels for these tablets are found in Thailand. Radiocarbon dates from the site range from the first to sixth centuries AD, confirming evidence derived from ceramics that inhabitants of the site were in frequent contact with India by the first or second centuries (Manguin and Agustijanto Indrajaya 2006; *see also* Ferdinandus 2002, Hasan Djafar 2010).

Ceramics found at Batujaya provide important data on the culture of west Java in the early centuries AD. They include many examples (30–40 per cent of the assemblage) of a ware called Buni, found in burials along the coast of northwest Java dating to the late prehistoric period (up to the third century AD). Sherds of Romano-Indian rouletted ware comprise 5–7 per cent of the ceramics. Intact vessels of this material had been reported from west Java in the past (Walker and S. Santoso 1977, 1980), but the Batujaya excavations mark the first time that they were found in archaeological contexts. The archaeological data is important because it had previously been suspected that rouletted ware was carried to Southeast Asia as a curiosity or souvenir; the proportion of this material at Batujaya is high enough to suggest that it may have been imported in commercial quantities.

Romano-Indian rouletted ware is named after a decorative technique used on Roman pottery of the first two centuries AD, and imitated by contemporary potters in south India. Analysis of a sherd of this ware found at Tra Kieu, central Vietnam, in a first century BC to first century AD context (Glover 1996: 67, Glover and Yamagata 1995: 156, analysis by Prior 1998) confirmed that the sherd was mineralogically indistinguishable from sherds from Arikamedu, south India, where Greco-Roman traders were present. Analysis of nine sherds from south India, Sri Lanka, and Bali yielded the conclusion that all were probably made at the same site (I Wayan Ardika 2008: 152).

Blandongan and Cibuaya may represent two phases of early classical Indonesian society: one Hindu and the other Buddhist. It is likely that Vishnu worship predated Buddhism in Java. Kang Tai and Qu Ying, in their third-century report *Nanzhou Yiwu Zhi*, mention a place called *Ge-ying* (transcribed as *Ko-ying* in some sources), probably in western Java (Wolters 1967: 227 n. 53). *Ge-ying* exported pearls, gold, jade, and areca nuts and traded with the Malay Peninsula as well as India, from whence it imported horses; it did not trade with China (Wolters 1967: 49–61). A mid-sixth century Chinese manuscript, *Luoyang qielan ji* by Yang Xuanzhi, described *Ge-ying* as the most powerful country in the southern barbarian lands (Wolters 1967: app. A). Blandongan and Cibuaya may also have been part of a kingdom named *Heling*, which sent missions to China in the seventh century, and which Yijing mentions as a Hinayana country (Takakusu 1896: xlviij).



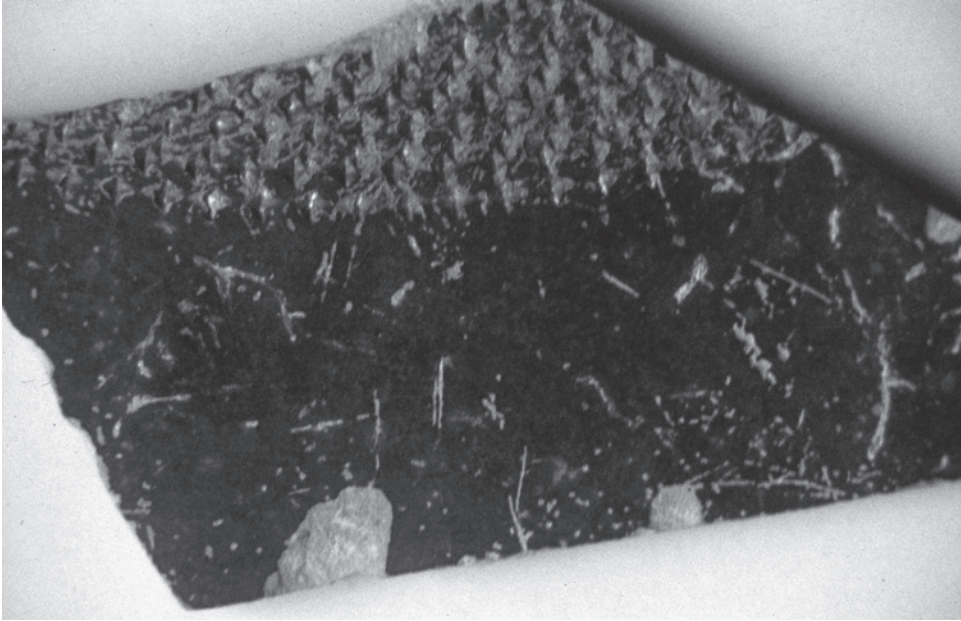
2.01 Sembiran, a 2,000-year-old port on the north coast of Bali

SEMBIRAN AND PACUNG, BALI, INDONESIA

Bali occupies a strategic position on the route to the Moluccas or the Spice Islands of eastern Indonesia. Excavations on Bali's northeast coast have revealed two important sites on the Silk Road of the Sea starting in about the first century AD. These sites, Pacung and Sembiran, near the modern village of Julah, yielded objects imported from India, including over 100 fragments of Romano-Indian rouletted ware as well as two sherds of pottery called Arikamedu type 10. A sherd inscribed with Kharoshthi script from India was also found at Sembiran (I Wayan Ardika 1997, I Wayan Ardika and Bellwood 1991). Other Indian imports in these two sites include beads of glass and carnelian.

A tooth dated to the period 340–20 BC found at Pacung, 200 metres from Sembiran, has been identified as belonging to a non-Balinese, possibly an Indian, although this conclusion has been disputed. The theory that the tooth came from an Indian is partly based on the conclusion that the person who lost the tooth had a terrestrial diet, whereas Balinese of this period are thought to have depended on marine food sources. Mitochondrial DNA analysis shows that the tooth owner's haplotype is mainly shared with people from the South Asian subcontinent (McLaughlin and Thomas 2006; Lansing et al. 2004, 2006).

The Julah area remained an important destination for sailors for a thousand years. Balinese inscriptions from the period AD 896–1181 mention merchants, including foreigners who lived in a *kuta*, probably a walled enclave or fortified settlement, a merchant guild, and market officials.



2.02 Romano-Indian rouletted ware, Sembiran

SOUTHEAST ASIAN RELATIONS WITH CHINA DURING THE TANG DYNASTY (618–906)

The Southern Dynasties came to an end with the reunification of China in AD 581 under the Sui Dynasty. In 605, the emperor founded a new capital and ordered the provinces to deliver southern luxuries such as rhinoceros horns, elephant tusks, furs and feathers to adorn his new court (Wang 1958: 63). The Sui Dynasty was short-lived, but the following Southeast Asian kingdoms sent missions to it nevertheless—Champa: 2, *Dandan*: 2, *Panpan*: 1, Red Earth Land: 3, Cambodia: 1, and *Jialoshi* (?): 1 (Wang 1958: 112).

Southern ocean trade continued to expand after the Tang Dynasty was founded in AD 618. In addition to luxuries for the court and temples, Chinese consumers purchased goods such as medicines and spices. Buddhism gained adherents in China as more people set out on the arduous journeys along both Silk Roads (by land and by sea); this led to increased demand for foreign incense for temple ceremonies.

Yangzhou, at the junction of the Yangzi River and the Grand Canal, became the main centre of trade. A road was built in AD 728 to connect this port to Guangzhou. A Tang-Dynasty source notes the increased volume of trade that ensued from the improvement in transport facilities:

The various countries from across the sea may now daily transport their merchandise, so that the wealth of tusks, hides, feathers and hairs, and that of fish, salt, clams and oysters can . . . meet the needs of the treasury and . . . satisfy the demands of the Qiang-Huai region. (Wang 1958: 79)

COINAGE

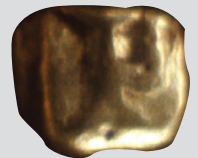
When people begin to engage in regular trade in a systematic fashion, a standardized medium of exchange usually develops. Although coinage developed in many parts of ancient Southeast Asia, it was not treated equally in each cultural area: it circulates within political, not geographic, units.

Objects like coins have intrinsic value due to their metal content and are sometimes traded as a source of raw metal rather than as symbolic objects with an arbitrarily assigned value. Counterfeiting and debasement were common, so accurately determining whether artifacts fulfil the definition of money depends on the study of a large number of dated examples with good provenances. As with several other types of material culture, we do not have sufficient information to determine the functions of objects, even though they closely resemble modern artifacts. We cannot tell whether the “coin-like objects” (Wicks 1992) found in early Southeast Asian sites were coins, medallions, or tokens. Some may have been used in specific contexts such as paying tribute to rulers or donations to temples, but not in daily exchange. The overall weight of evidence from available archaeological data is that most of these objects played a role analogous to money in modern times; therefore they will be called “coins” here. These items however, deviate in several physical aspects from coins in other parts of the world: the oldest Southeast Asian coins bear no inscriptions or dates, were not used to publicize the faces of rulers, or bear the name of a kingdom (a possible exception is a silver object with the name “Dvaravati”; *see* below).

The oldest coins in Southeast Asia that can be dated relatively precisely (AD 454–476) come from the Arakan region of Myanmar. Made of silver, they are decorated with images of a conch and sriavatsa, auspicious symbols in India. Coins bearing these images have also been found at Oc-èò (Wicks 1992: 154); it has not been determined if they were made locally or imported. While Wicks believes that Funan was monetized, he doubts that the coins found at Oc-èò were locally made (1992: 192).

A particular type of conch/sriavatsa coin is thought to have been made by the people of ancient Pegu, central Myanmar, as early as the fifth century AD, became the model for most coinage in Southeast Asia during the rest of the first millennium (Wicks 1992: 108). Examples have also been reported from Saigon and Bengal. This extended distribution at such an early date is strong evidence for its use as a trade item (and possibly a medium of exchange). Other variants include one type at Oc-èò, another at U-thong, Syriam, and Hmawza (the site of the early city of Sri Ksetra); a much smaller one was found in south Thailand (Wicks 1992: 108).

The most widespread coin motif in early Southeast Asia seems to represent a rising sun and has been found in Thailand, Cambodia, and Funan, and may have been made in more than one of these places. These were made in 1, 1/4, and 1/8 unit denominations, evidence in favour of an economic rather than symbolic function. One type is largely concentrated in Myanmar. Another, fairly



common in Myanmar, is also found over a wide area, from central Thailand to Cambodia mainly in the Shan-inhabited areas of the highlands, rather than sites such as Hmawza (Sri Ksetra), which are associated with the ethno-linguistic group known as the Pyu. (Another type of coin, decorated with conch and srivatsa, has been found at both Hmawza and central Thailand.) The largest hoard found on mainland Southeast Asia yet comes from the Ban Moklaan site, near Nakhon Si Thammarat, south Thailand, where several hundred Rising Sun coins, including 1/2 and 1/4 cut segments, were found (Wicks 1992: 221).

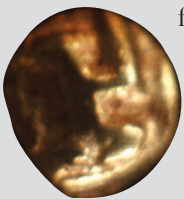
The “most extensive and varied coinage of ancient Southeast Asia” (Wicks 1992: 157) was produced by the people who inhabited areas of central and north-east Thailand during the sixth to tenth centuries. It is often assumed that this region was ruled by a kingdom called Dvaravati then, but Mudar (1999) asserts that it was not a unified kingdom. Indrawooth (2009) has endeavoured to define Dvaravati based on archaeological evidence beyond the realm of religious artifacts while Glover argues that Dvaravati is best understood as an art historical style rather than a political unit; its origin should be dated several hundred years earlier, based on radiocarbon dates from excavations at U-Thong and Chansen (2010).

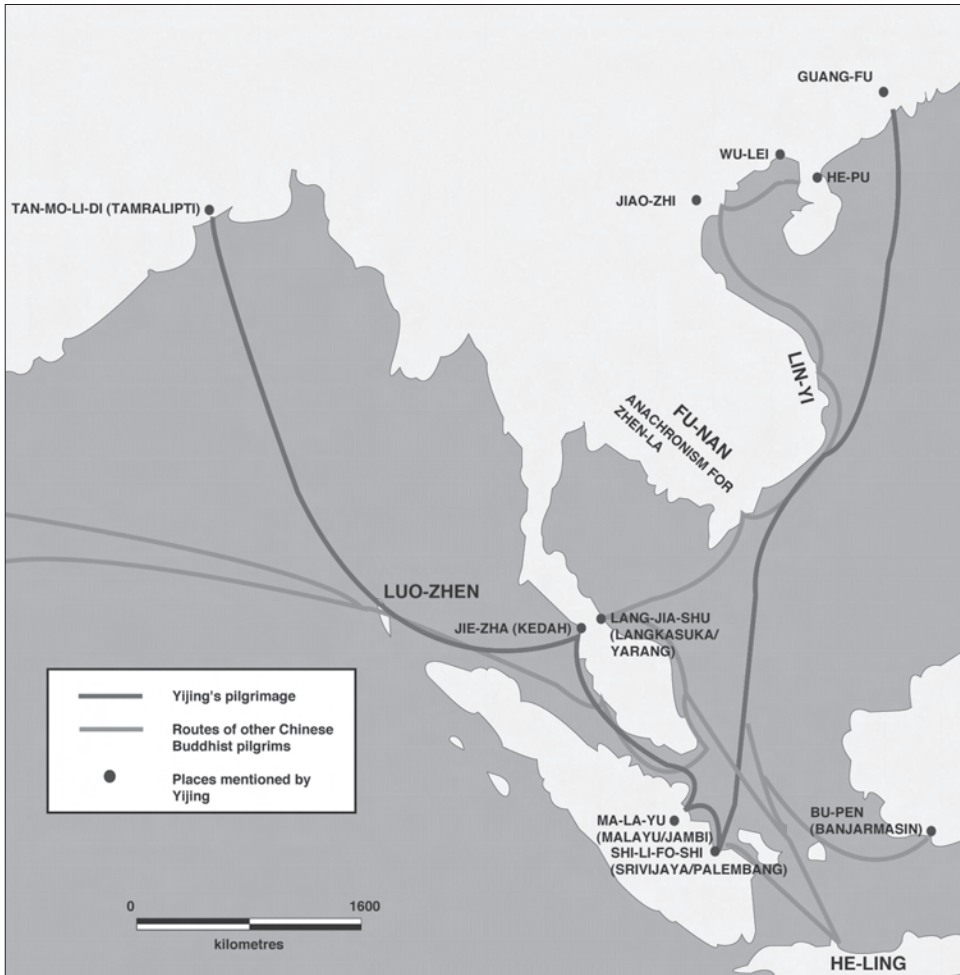
Some silver objects found at another important Dvaravati-related site, Nakhon Pathom, bear the name “Dvaravati”. Wicks (1992: 158) prefers to term these “medals” rather than “coins”. If these were in fact coins issued by a kingdom of this name, they would be the only ones from ancient Southeast Asia to display political connotations. A ninth-century inscription threatening severe penalties to any unauthorised person who imitates Dvaravati coins/medals, the only such proclamation in ancient Southeast Asia, is evidence that these objects had a monetary function as a standard of value (Wicks 1992: 159).

Early coins circulated within southern mainland Southeast Asia, extending to Myanmar and Bengali-inhabited regions on the border of Arakan. Coinage was key in the economy of central Southeast Asia at the time of Funan and coins at Oc-èò were probably used for everyday purchases. Indeed, the complex system of occupational specialization at Oc-èò could not have flourished without a medium of exchange.

Coins later appeared in island Southeast Asia around AD 800. Early island coins were not derived from the mainland coins, which had been in circulation for several centuries by then; they came in different designs, shapes, and even metals. One major type of island coin took the form of slightly cup-shaped pieces of silver with stamped designs called “sandalwood flower” motifs on one side, and the character *ma*, written in Devanagari, a script that appeared in Java in around AD 800, on the other. The coins weigh about 2.4 grams, a unit of weight called *masa* in Javanese; thus the character certifies the coin’s weight. The significance of the flower motif (if that is what it symbolizes) is unknown.

A second early coin form from the insular region is a quasi-spherical or rectangular lump of gold with a stamped design of two depressions separated by a raised line, in each of which is a raised circle. The meaning of this motif is also unknown.





2.04 Maritime routes of ancient Chinese Buddhist pilgrims

Through the eighth and into the early ninth century, trade continued to expand under energetic Tang rulers. Guangzhou in particular benefited from this expansion. A source from AD 841 says, “Guangzhou enjoyed the profits of the barbarian ships where all the valuable goods were gathered . . . Of all those who served at Guangzhou, not one returned without being fully laden [with the wealth they acquired]” (Wang 1958: 83).

During the 278 years of the Tang Dynasty, 24 countries sent 71 known missions to China, most of them from Southeast Asia (Wang 1958: 122–3). The most active countries were Champa, with 26; the Javanese kingdom of Heling, with eight; and the Sumatran kingdom of Srivijaya, with six. Jambi in Sumatra sent two, and a kingdom calling itself “Malayu”, also probably in the Jambi region, sent one. The country of Cambodia (Zhenla) made its appearance in Chinese history, with three missions. Funan vanished from history records after sending its last mission to China in the early Tang Dynasty.

The only historical records of the Tang Dynasty tend to ignore commercial

matters completely. Until AD 714, foreign trade was under the purview of local governments. After the last ship of the season arrived, 30 per cent of the non-monopolized goods would be taken as duty, and the rest would be given back to the envoys to trade (Hirth and Rockhill 1911: 15) and officials had exclusive rights to trade with foreign ships for the first ten days after a ship reached port. A specific location for foreign trade was fixed, as was a specific warehouse for storing goods bought by the government (Sen 1996: 252). There are no records of private Chinese traders going overseas during the Tang period.

Fortunately, we have a valuable account of Sumatra written by a Chinese Buddhist monk-adventurer named Yijing in the late seventh century. Many earlier Chinese pilgrims to the Buddhist holy lands in India had travelled overland, like the famous Xuanzang, whose travels were immortalized in the Chinese classic *Journey to the West*, but by the late seventh century, the sea route had become more popular. This hints strongly that merchants too now preferred the sea to the land route. Yijing mentioned 60 Chinese pilgrims who went to India around the same time as he did: 22 went overland, while almost twice as many, 37, travelled by sea (Fig. 2.04). The pilgrims went from Guangzhou to either Java or more often Palembang, where they changed ship, then proceeded to Sri Lanka, and from there to northeast India (Hirth and Rockhill 1911: 9). For all cases in which there is concrete information, they were passengers on merchant ships, for which this was this the normal route.

Yijing voyaged from China to Srivijaya, south Sumatra, in AD 671, in a ship belonging to the ruler (maharaja) of Srivijaya. He remained in south Sumatra for six months (the normal length of time spent in the Straits while waiting for the monsoon to continue to India), studying Sanskrit at a large monastery there. His experience was positive enough that he recommended it to other future Buddhist travellers. He then took ship in another Srivijayan vessel, and sailed to India via Malayu (Jambi) and Kedah.

After residing in India for 18 years, Yijing returned to Srivijaya, noting that it had absorbed both Malayu and Kedah in the interim. He intended to remain in Srivijaya for some time, but one day, while he was aboard a ship in the harbour in order to send a request to China for more paper and ink, the ship unexpectedly weighed anchor and sailed straight to China, leaving him with no choice but to go along and buy his own supplies. Nevertheless he so desired to spend more time in Sumatra that he sailed back there returned there for some years before finally returning to China permanently in AD 695.

Yijing mentioned that another monk who made the pilgrimage to the Buddhist holy land sailed in a merchant vessel “heavily loaded with goods” from Guangzhou or Hanoi to Heling. The ship then went to Malayu, but sank in a storm because it was overloaded; the monk drowned. No doubt this incidental report represents the tip of the iceberg; travel between South Sumatra and China by Indonesian ships carrying a wide variety of goods from both Southeast Asia and the shores of the Indian Ocean was probably common but also hazardous during the Tang period.

Yijing’s report is of utmost importance for the study of early Tang maritime

trade because it contains the only surviving description of the sea routes used before AD 750. He described direct voyages in Indonesian ships from Guangzhou to Palembang or (less often) Java. From thence, the standard ports of call were Malaya (Jambi) and Kedah. Return voyages followed the same route in reverse.

In the late seventh or early eighth century, Srivijaya “sent several missions to the court to submit complaints about border officials seizing [their goods] and an edict was issued ordering [the officials at] Guangzhou to appease them [by making inquiries]” (Wang 1958: 97, quoting the *Tang shu*).

This is the only mention in Tang records of any mission from the Nanhai that successfully induced the central government to act on behalf of the merchants at Canton. This is evidence that Srivijaya was the dominant trading power and had already earned the respect of the Chinese (Wang 1958: 98–9). This respect is demonstrated by the fact that Srivijayans were leaders of the foreign merchant community at Guangzhou until AD 742.

In AD 684, the governor of Guangzhou was killed in a manner that suggested that the murderer was an Indonesian who committed *amok* because he was distressed by officials’ misdeeds (Miller 1969: 186). Some such incident may have led to Tomé Pires’ remark, over 800 years later, explaining why foreigners were not allowed to go to Guangzhou: “they say that the Chinese made this law about not being able to go to Canton for fear of the Javanese and Malays” (Cortesao 1944: I, 122).

In AD 714 records begin to mention a Chinese official called the *shibo shi*, “Commissioner for Trading With Foreign Ships” (Sen 1996: 256). This is the first sign that officials like the shahbandar of the Indian Ocean were appointed in China. The Commissioner’s office was administered directly by the central government, and dominated by eunuchs. A record from the early ninth century (*Tang Guo Shih Bu*, Li Chan) gives an indication of this official’s duties:

When [the laden Nanhai ships] arrive, a report is sent to the Court and announcements are made in all the cities. The captains who command them [or chief merchants] are made to register their names and their cargo with the Superintendent of the Shipping Trade. [The Superintendent] collects the duties on the goods and sees that there are no [prohibited] precious and rare goods [of which the government had a monopoly]. Some foreign merchants were imprisoned for trying to deceive [him]. (Wang 1958: 101, his emendations)

The Superintendent was also responsible for protecting foreign merchants in the port. The office dealt with the translation of languages, the offering of valuable gifts, and conducted the sending of tributes every year, either sending those due from the province itself or arranging for foreign tribute missions to go to the capital.

Another account suggests that the early Superintendents had no real authority. One Superintendent named Wang Qianxiu wrote to the emperor around AD 800 that “[i]n the past, ‘commissioner’ [for trading with foreign ships] was only

an empty title. He had no real power to issue instructions . . . the commissioner neither kept any official records, nor maintained a permanent office” (Sen 1996: 253). However, Wang Qianxiu may have been a biased source; he could have denigrated his predecessors in order to glorify his own record.

The *shibo shi* may at times have acted as a “king’s merchant”, exercising the right to the first pick of the cargoes before other officials and possibly private traders had their chance. Some superintendents may have also been local prefects. In another instance, a prefect of Guangzhou abolished taxation of foreign ships on the basis of local politics rather than economic management (Sen 1996: 253). A governor of Lingnan in AD 820 was cited for halting smuggling: “When the foreign ships arrive . . . there is an examination of the merchandise. Rhinoceros (horns) and pearls were so numerous that bribes were offered to the servants and retainers; the Governor stopped this” (Wang 1958: 101).

The same source indicates that Chinese merchants had begun to sojourn in Southeast Asia. It is difficult to reconcile this information with the regulations that strictly forbade Chinese to engage in private trade with foreigners, but it is obvious that such trade did take place. Merchants were governed by harsh regulations, but officials had some flexibility in applying the rules:

Far across the sea in the South, there were those who died in the countries there. The officials held their goods. And if their wives or their sons did not come within three months to claim them, these would be confiscated. The governor [stopping this practice] said “The sea journey back and forth is calculated in years; why fix the time in months. If anyone has proof, no matter whether he comes early or late, let him have all”. (Wang 1958: 101–2)

Perhaps the governor at this time was a local man who was more sympathetic to local traders than the imperial bureaucrats from the north. At any rate, this pronouncement indicates that prohibitions against private trade were gradually slackening, and the prestige of the merchant class was rising. By the ninth century, it becomes possible to speak of “state trading” (Wang 1958: 90 n. 1). Apparently members of the imperial family, regional aristocrats, and civil servants were all benefiting from the trade in the luxuries generated by the Silk Road of the Sea.

Shipwreck: Belitung

In the ninth century, another port of trade was opened to foreigners: Quanzhou (also called *Zaitun*, the Arab pronunciation of a Chinese name for a type of tree; Marco Polo used it in the thirteenth century). A shipwreck site discovered in 1998 in the Gelasa Strait between Bangka and Belitung Island, Indonesia, contained a rich cargo of Chinese products from the early ninth century. The ship, sometimes called the *Batu Hitam*, probably sank sometime between 830 and 840 (Wilson and Flecker 2010). The ship’s precise origin cannot be determined but details of its construction suggest either the Persian Gulf or northwestern India (Flecker 2000).

This ship is one of the major discoveries in the history of Southeast Asian archaeology, but basic questions about it remain unanswered. Where was the ship going? What was its mission?

China began to export porcelain for the first time in the early ninth century; the Belitung ship may have been one of the first to carry such a large cargo of pottery (Wang 1958: 112). Besides Chinese ceramics, the ship was heavily loaded with precious metals, including gold artifacts of imperial quality, as well as silver ingots. Other artifacts found include an Indonesian gold coin, lead ingots (which functioned both as an item of trade and as ballast), aromatic resin (probably from Southeast Asia), star anise (from China), and a well-made wooden box (of jackfruit wood or a similar variety, from South or Southeast Asia).

From this information, we can deduce that the ship had called at a port (probably in China) where a large quantity of high-value Chinese goods was taken on board. Most of its cargo would have passed through Yangzhou, though a large proportion of the ceramics and other commodities were packed in jars made in Guangdong. A handful of ceramics probably came from the Persian Gulf, but several items such as a stone mortar and pestle indicate that its crew may have included Southeast Asians. Several mundane items possibly belonging to passengers from Southeast Asia and China were also recovered (Krahl et al. 2010: 40).

The ship seems to have been relatively old when it sank: it must have been leaky, because it had been repaired with wadding between its planks made from *Melaleuca*, or paperbark, which is found in the Singapore area. Kampong Gelam in Singapore was named after *Melaleuca cajuputi*, a species of this tree. The twine used to lash the hull's planks together may be *Hibiscus tiliaceus*, one of the most common plants used by Malays and Indonesians for making twine (Flecker 2008). Chinese ships going to *Ta-shih* (Arab lands) in the twelfth century were accustomed to repairing their ships in Palembang (Wolters 1983: 55); these materials would certainly have been available there in the ninth century.

Where was the ship bound? Contributors to a catalogue on an exhibition on the ship and its cargo (Krahl et al. 2010) advance conflicting hypotheses. Some believe the vessel was returning to the western Indian Ocean, possibly to Oman (see Guy 2001–2: 25, Hsieh 2010: 142). The shipwreck's location however shows that its intended route was not through the Straits of Melaka, which would have been the normal way to reach the Indian Ocean from the South China Sea. If the ship were heading for the Indian Ocean, she would have had to pass through the Sunda Strait between Sumatra and Java. There is “no reliable evidence that the Sunda Straits were ever used in early times” (Wolters 1967: 267 n. 4): this route was dangerous because it involved sailing up the west coast of Sumatra, exposing ships to numerous reefs, rocks, and shoals, violent storms coming in from the Indian Ocean, with few harbours, whereas the north end of the Straits of Melaka was well-known to Indian Ocean sailors. The ship's location is however on a known and very popular route: the way from the South China Sea to Java.

What was the ship's mission? It is improbable that the Batuhitam was engaged in a common trading voyage. The quantity and quality of the artifacts on the ship



2.05 Southeast Asian ports of the first millennium AD

are unprecedented for any previous site of this period, on land or under the sea. The cargo was literally full of gifts fit for kings and might have been Chinese imperial gifts sent in response to a Javanese diplomatic mission. Java sent six embassies to China between 813 and 839, indicating that intensive diplomatic and economic ties existed between the two kingdoms (Louis 2010: 91). A ship sent to Java bearing gifts in response to a Javanese mission to China would have carried objects of immense value; the discovery of a Javanese gold coin on the Belitung hints tantalizingly at such a connection. The Batuhitam sank at a time when the great Javanese kingdom of Mataram constructed such major monuments as Borobudur. Javanese society was at the peak of its ancient glory when the ship sank.

In 878, Tang prosperity came to an end. Guangzhou was pillaged during a rebellion, foreign merchants were murdered, and trade there came to a halt for a century. The Tang Dynasty itself fell in 906.

The Five Dynasties (907–959)

Only four missions to China are recorded during this period of Chinese disunity: three from *Fanzheng* and one from Srivijaya. Despite the lull in diplomatic activity large shipments of Chinese products were still making their way into the Nanhai.

A shipwreck in the sea lane off south Sumatra called the *Intan*, dating from around 943, carried a large cargo of Chinese porcelain along with items from Southeast Asian sources such as earthenware pottery that probably came from South Thailand, and ivory (Flecker and Miksic 2000, Flecker 2002, *see later*). This was a Southeast Asian ship, probably from western Indonesia.

The foundation of the Song Dynasty in 960 ushered in a new and even more prosperous period of trade, when many more parties became involved, including Chinese merchants voyaging into the Nanhai. This development will be discussed in the next chapter.

SOUTHEAST ASIAN PORTS OF THE SEVENTH THROUGH TENTH CENTURIES

The kingdom of Funan declined and vanished in the early seventh century. At about the same time, the centre of Southeast Asian maritime trade shifted to the Straits of Melaka (Fig. 2.05). A century of debate has failed to resolve the question of whether these events are connected, and if so, which was the cause and which the effect. The rise of the Tang dynasty was accompanied by the appearance of ports of a very different nature from Oc-èo in Sumatra and the Malay Peninsula. The traders and officials in these ports coordinated complex exchanges of a vast range of commodities between the Indian Ocean, the South China Sea, and the Java Sea. Archaeological investigation of their sites is still in the early stage of development, but the gradual emergence of a prosperous and sophisticated society which eventually led to the settlement of Singapore is beginning to come into sharper focus.

Malayu/Jambi

One of the first new tributary kingdoms to emerge in the Straits of Melaka after the formation of the Tang Dynasty was Malayu. This kingdom sent a mission to China in AD 644. Over two hundred years later the Chinese record two missions, in 853 and 871, from a place called Jambi (Wolters 1967: 85). The kingdom of Malayu is thought to have been in the region of Jambi. It is not possible to determine whether Malayu later called itself Jambi, or whether Jambi was a new kingdom. The gap of two centuries can however be explained by the statement of the Chinese monk Yijing who visited Sumatra in the late seventh century that Malayu became part of Srivijaya. The dispatch of embassies to China in 853 and 871 suggests that Malayu, now calling itself Jambi, was attempting to assert its independence.

No archaeological site corresponding to the kingdom(s) that sent missions to the Tang court under the names Jambi or Malayu has yet been found in the Batanghari basin of east Sumatra, where kingdoms of those names were established in later times. Some Buddhist images that may date from this period have been found, but no Chinese porcelain or other trade commodities from the Tang Dynasty have been recorded there yet.



2.06 The busy port of Palembang on the Musi River, south Sumatra

Srivijaya and the Archaeology of South Sumatra

By the end of the seventh century, southeast Sumatra had become the centre of Srivijaya, a major shipping link between South Asia and China; Yijing reported that he sailed from Guangzhou to India in ships belonging to Srivijaya's ruler. Srivijaya continued to monopolize maritime trade between China and the Straits of Melaka for the next four centuries.

Archaeologists have found it difficult to correlate Chinese and Arab descriptions of Srivijaya's wealth with material remains in southeast Sumatra (Bronson and Wisseman 1976). Concentrated archaeological research has yielded notable results, but much of Srivijaya's original material culture may be permanently lost due to factors such as the use of perishable materials and life on rafts or stilt houses built above flowing water (Manguin 1987) (*see* Fig. 2.06). However, persistence has gradually paid off, and enough archaeological remains have now been discovered in and around Palembang to convince most scholars that Palembang was in fact Srivijaya's capital (Manguin 1992, 1993).

One book gives us the best picture of how people in the Singapore region in the precolonial era regarded their heritage: the *Sulalatu's-salatin*, better known as the *Sejarah Melayu* or *Malay Annals*. Yet another alternative title is *Penurunan Segala Raja-Raja*, "The Descent of Kings" (*see* chapter 4). Although one cannot use the *Malay Annals* to derive specific historical facts, one can use it to study the mindset of the people known as Malays of the seventeenth century; they considered Palembang the origin of their culture. According to this text, the first Malay ruler magically appeared on Seguntang Hill in Palembang (*see* Fig. 2.07).



2.07 A modern Muslim keramat or shrine on Mount Seguntang, Palembang

Between 682 and 686, several inscriptions were carved on stone in Palembang and its vicinity. Other inscriptions in the area are undated, but were probably also carved in the late seventh century (Fig. 2.08). They prove that a new kingdom was emerging in this area where the most important religion was Buddhism. Buddhist statuary and Hindu images have also been found on Bukit Seguntang (Fig. 2.09).

For at least four centuries, Srivijaya's capital was the major power in the Straits of Melaka. Yijing implies that between his two visits to the capital in 672 and 689, Srivijaya became the overlord of Malayu, on the west coast of the Straits, and Kedah, at the northeast end of this vital waterway (Wolters 1967: 15 and 263, fn. 2). Chinese and Arab sources depict it as one of the richest countries in the seventh through tenth centuries. Although Srivijaya sent few diplomatic missions to China, it was heavily involved in Chinese trade.

An important series of excavations has focused on the island of Bangka, off the mouth of the Musi River which leads to Palembang. In 1892, an inscription was discovered in the hamlet of Kota Kapur on the west side of Bangka, one of the nearest points on the island to the Musi River's entrance. The inscription, dated 686, contains an oath of loyalty to the ruler of Srivijaya, and records that Srivijaya had just launched an attack on the land of Java. Various other finds such as a statue of Vishnu, a fragment of a possible Durga image, and an earthen rampart 4 metres high and 1.5 kilometres long were recorded, but no archaeological research was conducted there until 1994 when a Franco-Indonesian team recorded important new discoveries (P. Koestoro, Soeroso, and Manguin 1998).

The team excavated the rampart and obtained a radiocarbon date of the sixth to ninth century, with the midpoint of probability around 650. The researchers also found the foundation of a stone structure, probably a temple,



2.08 A late seventh-century inscription in Old Malay language and script discovered at Sabukingking near Telagabatu, Palembang. The seven cobra or naga heads on the top of the stone symbolize water and supernatural power. Water was poured over the stone, absorbing magical power from the writing, collected at the trough at the bottom, and drunk by those taking the oath. The water would turn to poison and kill any officials who committed treason.

within which they discovered a hoard of five stacks of iron pans upon which rested 60 Chinese glazed bowls, probably from twelfth-century Fujian. Few other Song period sherds were found at the site, and only in surface surveys, which also yielded Guangdong wares of the ninth or tenth centuries. The 1994 excavations also discovered remains of four more Vishnu statues, all dated to the fifth to seventh centuries.

Another excavation in 2007 found remains of a possible temple, with gold jewellery, Chinese ceramics of the Song period, and much local earthenware in the village of Kota Kapur Lama, “Old Kota Kapur”. It has been suggested that this may have been the original location of the inscription of 686, but more excavation is necessary to test this hypothesis (Tri Marhaeni 2010: 35–6).

The Kota Kapur excavations show that a settlement with significant foreign connections existed here before Srivijaya was founded. It does not seem to have been a trading station, since few imported objects other than the statues themselves have been found (though future excavations may alter this picture).

In later times, Bangka was a source of two important commodities: pepper and tin. Perhaps these items were already being extracted by Srivijaya and fed into the international trade network via Palembang. Pyramidal tin ingots weighing 2.3 kilograms have recently been discovered at Kota Kapur, together with ancient tin-mining implements such as iron shovels and wooden handles. Larger ingots were found in 2009 at Tuatunu village, near the find spot of a larger wooden rudder of ancient style and modern tin mining by the local population (Tri Marhaeni



2.09 Statue of the Mahayana Buddhist deity Avalokitesvara discovered on Mount Seguntang, Palembang. The statue was probably carved around the time of Yijing's visit in the late seventh century.

2010: 38–9). A tin mine in 2010 was operating 25 metres from the east wall of the ancient earthen rampart (Tri Marhaeni 2010: 29, 33). Large-scale exploitation of haematite, a source of iron ore, is now taking place on neighbouring Belitung. Excavations on Bangka in 1996 recovered 27 kilograms of iron slag. It is possible that this site worked iron ore from Belitung.

Historical sources suggest that the people of Bangka were integral to the success of Srivijaya, given their strategic location near the Musi River mouth, the presence of important mineral resources, and their maritime skills.

The discovery of twelfth-century remains in the foundation of a seventh-century temple is strange, but probably represents some form of renewed religious activity there at a time when trade in Chinese porcelain was active. By the Song dynasty Srivijaya's power had waned, but Kota Kapur was probably still a mainstay of a polity based in Palembang. Bangka was a naval base for the Palembang ruler until a Javanese attack destroyed it in the late fourteenth century (Corteseo 1944: vol. 2, 230–42).

Unfortunately, Srivijaya's history is almost entirely undocumented. The seventh century inscription from Sabukingking refers to a long list of functionaries who were required to take an oath of loyalty to the ruler. The inscription is grammatically Old Malay, but many of the words for categories of officials are Sanskrit. The list includes “supervisors of trade and crafts” and ship captains, so at least we know that those occupations existed. After the seventh century, no more stones were inscribed in south Sumatra. Chinese sources only mention Srivijaya fleetingly, when some unusual event or situation came to the notice of the northern court.

The rise of Srivijaya signalled the transfer of the centre of Southeast Asian commerce from the mainland kingdom of Funan to the Straits of Melaka, which formed the junction of sea lanes connecting the Indian Ocean, South China Sea, and Java Sea. Srivijaya followed the practice of other ports along the Silk Road of the Sea, and attempted to prevent all other ports in its sphere of influence from trading or engaging in diplomatic exchanges with China. Without diplomatic contact and Chinese recognition as independent polities, Southeast Asian kingdoms could not participate in tributary trade. The ports in Srivijaya's sphere of influence may have been reduced to secondary status, funnelling tropical items to Palembang, from whence they were exported to China. In return for submission to Srivijaya, the rulers of the secondary ports could obtain some fruits of the trade in the form of status symbols as tokens of royal esteem (*anugerah* in Malay, *anugraha* in Sanskrit) from the maharaja of Srivijaya. This system seems to have worked for 350 years.

Was Palembang a port of trade in the technical sense of the term? This designation may not be appropriate for Palembang since there is evidence that it enjoyed frequent communication with its hinterland. Furthermore, Palembang was the geographical centre of an extensive realm rather than a marginal settlement. Palembang's customs and cultural perceptions of exchange and wealth, however, were no doubt quite similar to those found in the other *emporium* along the Silk Road of the Sea.

In the absence of ancient data, we must resort to more recent descriptions of life at Palembang to try to determine how this unusual city may have functioned in its watery environs in the past. One of the best descriptions comes from the British naturalist Alfred Russel Wallace, author of the classic *The Malay Archipelago* (1869). He visited the city in the 1850s and noted that it was three or four miles (five or six kilometres) long but only one house wide: it consisted of one long row of houses built on stilts at the edge of the Musi River. He also noted that all traffic was by boat (1869: 95).

Many people lived on rafts in the river. A Chinese author who wrote in 1225, Zhao Rugua, said that the common people in San foqi (southeast Sumatra) lived on rafts and therefore were not taxed (Hirth and Rockhill 1911: 60). This custom can also be ascribed to practicality, given the fact that the Musi River at Palembang experiences spring tides of 4.5 metres, and the floods that usually accompany the rain season. In 1820, only upper-class people lived on dry land in wooden houses with tiled roofs and their own piers. Even Europeans lived in rafts on the river (van Rijn van Alkemade 1883: 55). Palembang was also called the “City of Twenty Islands”. The palaces of the Sultan and two *pangeran* or high officials were on one of these “islands”, which were actually hummocks of slightly higher ground in the midst of swamps at the edge of the river. There was no market on land; all trade took place in *perahu* on the river (van Sevenhoven 1825: 53).

The city was divided into wards. Foreigners had to live in areas designated for their ethnic group: one for Chinese, one for south Indians (“Klings”; van Rijn van Alkemade 1883: 69 n. 49). Arabs and Europeans were not allowed to go further upriver than the sultan’s palace, on pain of death (Thorn 1815: 156–64). Other sections of the city, or *kampung*, were identified with specific occupations such as mat-making, iron-working, and goldsmithing. These traits are consistent with the port-of-trade, though Palembang’s situation in the midst of an extensive hinterland does not correspond to that model. In many respects, it is better to designate Palembang as a “central place” in geographic terminology (Miksic 1984).

O. W. Wolters once translated a statement by Yijing as saying that the ruler of Srivijaya lived in a “fortified city”. In 1979, Wolters clarified the meaning of Yijing’s text:

I-ching merely uses a conventional Chinese term for the protect compound of royal dwellings His statement should not be construed as meaning that the compound was protected by stone or brick . . . there is no reason to suppose that the ruler’s residence was constructed of anything more permanent than elegantly carved timber. (18–9)

Thus we should not expect to find remnants of ancient brick walls in Palembang. There may well have been fortified compounds, but they would have been enclosed in wooden stockades or earth ramparts, possibly with thorny bamboo (*jelutong* in Malay) planted on them for extra protection.

In 1025, a fleet from Tanjor, the capital of the Chola kingdom in south India, launched an attack on major ports in the Straits of Melaka under Srivijaya’s

control, including the capital at Palembang (Kulke, Kesavapany, and Sakhuja 2009). The king was captured and taken to India, never to be heard from again. The Srivijayan trading empire or thalassocracy never recovered from this blow. For about 100 years after the attack of 1025, the north end of the Straits, from Barus to Kedah and Takuapa, may have been under direct Chola administration; a crown prince of the Chola Empire probably served as viceroy in Kedah (Miksic 1995).

Archaeological discoveries at Palembang in the 1990s made major contributions to clarifying vague and sometimes contradictory historical sources. No Chinese ceramics older than the ninth century have been discovered at Palembang. Then in the ninth and tenth centuries, a wide range of Chinese wares, including Ding, Yueh, Changsha, Gongxian white wares, and much Guangdong coastal greenware appears. Glazed earthenware from the Arabo-Persian region was also available in Palembang at this time: lustreware, turquoise, and tin-white wares (Eka A. Putrina Taim 1992, Ho and Bronson 1995: 1).

Excavations in the West Palembang area, in the vicinity of Seguntang Hill, yielded few artifacts from below the surface, although surface finds included several hundred sherds of Chinese ceramics of Yue ware of the ninth and tenth centuries (Manguin 1987: 359). At Talang Kikim Seberang, many fragments of late Tang greenware and storage jars, chunks of glass, glass beads, and iron objects were revealed during reclamation of swamp land. Another locale, Kambang Unglen, yielded 8.6 kilograms of early glass, indicating a possible bead-manufacturing site. The beads are of Indo-Pacific type, probably originating from India. Several other sites such as Karang Anyar yielded early artifacts, but most were in disturbed contexts. The Lorong Jambu site yielded an assemblage of Song-Yuan date.

Excavation at the Museum Badaruddin site in central Palembang in 1990 and 1991 yielded 55,000 artifacts weighing over 800 kilograms, 40 per cent of which belonged to the Srivijayan period. Out of the total assemblage, imported ceramics comprised 10,000 items or 18 per cent (Manguin 1992).

Archaeological research in Palembang is difficult but promises to yield more information on this critical site. A long-term coordinated campaign will be necessary to acquire more complete information on the probable capital of Srivijaya.

Barus

Sailors have generally avoided the west coast of Sumatra throughout history. Unlike the sheltered Straits of Melaka, it is exposed to the open Indian Ocean, and small islands and rock outcrops create navigational hazards. Nevertheless a site on the northwest coast of Sumatra seems to have become an important harbour by the ninth century. The modern name for the locale, Barus, is echoed by one of the names in Ptolemaeus' *Geography* of the first century: a group of islands called Baroussai. Thus, the name may once have referred to a fairly extensive area, and not just to one port.

Barus has been well-known to antiquarians since the nineteenth century. In 1844, jewellery and coins of gold and silver were found at Lubok Tua, five kilometres from the modern town of Barus (Deutz 1875). Between 1852 and 1857, an archaeologi-

cally-inclined Dutch official, H. N. van der Tuuk, found more gold and silver coins, and 17 finger rings with Nagari and Kawi scripts, used in ancient Java and Sumatra. In 1899, a red granite torso of a bodhisattva was sent to Batavia, but disappeared.

The most famous discovery in Barus occurred in 1873 when a Dutch administrator reported four inscribed stones. One written in Tamil, dated 1088, refers to an Indian merchant guild (Subbarayalu 1998), members of which usually were referred to as sons of the deity Parameswari, a female version of the name Parameswara. A ruler of fourteenth-century Singapore bore this name (*see* chapter 3). The guild was centred in Karnataka, though it drew members from several ethnic groups, including Tamils of the Cola kingdom in Tamil Nadu, by the end of the twelfth century.

The Tamil inscription calls the local population *Ṣabedj*, and characterizes them as cannibals. This imputation fits other reports regarding the Batak of North Sumatra. Variants of the name *Ṣabedj* (*Zabag*, *Zabaj*) are found in Arabic texts of the period as well (Laffan 2005).

Lubok Tua probably became important because of camphor. This product comes from several different types of trees, but the most esteemed quality came from an area north of Barus called Singkel. *Kapur Barus*, “Barus camphor”, was a stock phrase for the best camphor in the ancient world. The first Arab to mention the Maharaja of Zabag, Ibn Hordadbeh, AD 844–848, stated that Srivijaya was known for two things: camphor and the ruler’s practice of throwing gold bricks into the water to mark his birthdays (Sastri 1949: 62). No doubt this camphor came to Palembang from northwest Sumatra.

Barus was also known by another name to early Arab sailors: *Fansur* or *Pansur*, a local (Batak) word for “spring of water”. *Pancur* in Malay is a common place name in coastal Sumatra, Malaysia, and Riau. It was important that sailors be able to find fresh water in this region, where most streams are brackish.

After Ptolemy, the next references to Barus are found in Tang Dynasty sources: Yijing (635–713) and Jia Dan (730–805). Yijing mentions *Polushi*, on the west coast of Sumatra. There are four Barus-like toponyms in Tang sources (*Poluosuo*, *Polü*, *Polushi*, *Polu*) so this name’s transcription varied considerably, whereas a slightly different one, *Polü*, remained constant. Some scholars, excluding O. W. Wolters, thought *Polü* was “Borneo”. Probably Chinese editors themselves became confused about the difference between *Polü* and *Polü* and occasionally mixed them up.

Arab sources started mentioning Fansur in the ninth century, also in the context of camphor, in which case it clearly refers to Barus. The Chinese began using this toponym much later: a Ming Dynasty envoy who went to the west coast of Sumatra visited *Fansu-er* in 1405. A Batak chronicle says that the port of Barus moved three times (Guillot 1998a: 113). This may explain the use of various names for the same trading centre.

Four kilometres north of modern Barus is an area of about three hectares, enclosed by an earthen rampart on a rise 20 metres high, strategically located between two rivers. Important archaeological excavations here have recovered abundant evidence of ancient trading activity, including Chinese, Arab, Egyptian,

Persian, and Indian merchandise: bricks, ceramics, glass, iron, bronze, gold, stone stelae, statue fragments, semi-precious stones, and early coins (Guillot 1998b).

Chinese artifacts found at this site include 17,000 potsherds, many of them porcellaneous stonewares from Xicun and Chaozhou in Guangdong, which were exported to Southeast Asia from the late tenth until the early twelfth century. There are no Longquan celadons from Zhejiang Province at Lubok Tua, so the importation of Chinese ceramics must have ceased by 1150 (Dupoizat 1998: 154, 156; 2003). Glazed three-colour ware (*sancai*) and so-called Dusun jars found here date from the mid-tenth century. Other Chinese artifacts include white porcellaneous stoneware and white porcelain which might have come from Jingdezhen in Jiangxi Province, and greenware that may have originated from Zhejiang. In view of the strong evidence for abundant connections between the Arab lands and Barus, it is surprising that the Chinese ceramic assemblage at Lubok Tua resembles that of Fustat, Egypt, rather than Siraf in the Persian Gulf (Dupoizat 1998: 155).

West Asian artifacts include almost 9,000 glass shards from broken carafes, goblets, bottles, and possible chemical or medical instruments, translucent or coloured pale blue, green, yellow, brown, cobalt blue, purple, or turquoise. They come from two different regions and time periods: one group comes from the Persian Gulf (Iran/Iraq), and dates from the ninth or tenth century; the other is from Egypt-Syria and dates to the twelfth century (Guillot and Sonny Ch. Wibi-sono 1998, Guillot et al. 2003: 223 ff.).

Almost 1,000 sherds of pottery made in the Persian Gulf, mainly at Siraf between the mid-ninth to early eleventh centuries were also found (Perret and Sugeng Riyanto 1998, Guillot et al. 2003: 171–97). These are characterized as functional rather than decorative and included unglazed jars and pots and some incised sherds with pseudo-Kufic inscriptions, monochrome white and turquoise blue-glazed monochromes, and some polychromes.

India is represented by approximately 1,000 glass beads; these were manufactured using a south Indian technique. Other glass objects consist of very dark purple bracelets from an unknown source.

The majority of artifacts found at Barus are sherds of locally made pottery. Some were made using a fast potter's wheel, an industrial technique not common in early Southeast Asia. Some wheel-made ware of fine clay is akin to pottery found in Sumatra, Malaysia, and fourteenth-century Singapore. Without further analysis, the precise relationship between them cannot be determined. Fine Paste Ware, as it is sometimes called, was used to make pots, jars, perfume bottles, incense-burners, and ewers (called *kendi* in Southeast Asia). It was probably made in the Satingphra area of modern Thailand.

Other coarser ware, usually red-slipped, was used to make squat pots (wider than they are high, with carinated shoulders and bases usually stamped with parallel lines) and round-bottomed jars (with everted rims and incised geometric designs). The Batak, the most numerous inhabitants of the Barus area today, do not have a tradition of producing expert potters. This led the chief investigator of the Barus site to postulate that the earthenware might have been imported from

Aceh or Java, or made by locals supervised by outsiders. Earthenware pottery is fragile and not easily transported. Pottery traditions can wax and wane in an area. Perhaps local pottery production was stimulated by an influx of foreign traders, and fell into desuetude after Barus' age of commerce ended.

Earthenware pottery was one of the most important commodities made in Southeast Asia. Huge amounts of it mark ancient settlements, but few scholars have studied it. Potsherds are not as glamorous as jewellery, temples, or statues, but they yield a very large amount of data relevant to key aspects of ancient culture, from technology to economy to art to social structure. Until many more studies of local earthenware pottery are completed, we will remain ignorant of many aspects of premodern life in Southeast Asia.

Locally made earthenware was traded within early Southeast Asia. This is proven by the tenth-century Intan shipwreck, and laboratory analysis at the National University of Singapore that showed that some fourteenth-century earthenware found in Singapore was imported from southern Thailand (Miksic and Yap 1990, 1992). Such analysis is, however, time-consuming and requires specialized equipment. For the moment, the role of local pottery trade in early Southeast Asia's economy is unknown.

Another commodity almost certainly made in Barus consists of bronze objects, including jewellery, containers, and an animal statuette (a goose). They were produced by the lost wax method of bronze-casting that has long been a Southeast Asian specialty. Droplets of bronze are another piece of evidence leading to the conclusion that copper and tin (both obtainable in Sumatra) were processed here to make bronze.

Other metallic items also found at Barus are gold artifacts. Nineteenth-century Dutch sources reported that local people dug up much gold jewellery and coinage here. Archaeological excavations in the 1990s succeeded in discovering rings, some with stones. Two fragments of stone moulds for ear ornaments, or perhaps pendants, confirm that some if not most of the gold was cast locally. Most ancient Barus coins were made of gold, but a few silver examples exist. Similar coins have been found on the coast north of Barus and at Bengkulu, 1,000 kilometres south. Two were discovered in a temple at Muara Jambi, on the east coast of Sumatra.

Some coins were found near a gold mine at Rejang Lebong, in the Bengkulu highlands, where nineteenth-century Dutch miners found much evidence of ancient gold mining on a large scale. The gold for Barus' coins might have come from there or from north Sumatra. Barus was known in the early sixteenth century as a gold exporter among both Arabs and Portuguese (Tibbetts 1979; Cortesao 1944: 161; João de Barros, cited in Guillot 1998a: fn. 15).

Why did Barus decline? The ancient Arab geographer Mas'udi says that ships from Siraf and Oman only went as far as Kalah (probably the isthmian area of the Malay Peninsula) where they met ships from China. Perhaps Lubok Tua suffered from the rise of the Seljuks who disrupted trade in the Persian Gulf in the mid-eleventh century. Siraf and Sohar, two great Persian ports, fell out of use at this time; perhaps Lubok Tua was so dependent on Persian Gulf trade that it

too declined. Many other factors also began to affect the Straits of Melaka in the mid-eleventh century so it is difficult to assign the main role to any one cause.

Who lived at Barus? It is possible to imagine but impossible to prove that Arabs created a permanent settlement there. A text known in a thirteenth-century version but which may be much older, mentions that the inhabitants of Barus were once Christian (Guillot 1998: 124–5). It is possible that Nestorian Christianity once made converts on this coast; but if so left no traces in Sumatran culture.

It is also possible that an Indian enclave existed at Barus, as suggested by the inscription of 1088. That stone must, however, be viewed in context. Other Tamil-language inscriptions have been found in Padang Lawas (an area with remains of twelfth to thirteenth century brick temples of Vajrayana Buddhism in the north Sumatran interior), Aceh, Bandar Bapahat (near Pagarryung, in the Minangkabau highlands of West Sumatra), and south Thailand. South Indian culture made a strong imprint on the Batak, not only on the west coast, but also on the east (Edwards McKinnon 1987). This influence was not necessarily accompanied by large numbers of Tamil migrants.

Archaeology cannot prove or disprove the presence of a particular ethnic group, or speakers of a particular language, except under very special conditions that are not fulfilled in the case of Barus. Indian traders may have come in small groups and sojourned for a year or two before returning to India. Thus existing evidence cannot prove the presence of an overseas Indian colony or permanent settlement. No document states that natives from any part of South Asia resided permanently in Sumatra or the Malay Peninsula. Even if pottery was imported directly from India, artifacts alone do not prove the ethnicity of the people who used them. After all, Chinese porcelain was used by Southeast Asians for centuries before verifiable Chinese overseas communities existed. The only circumstances in which one can envision archaeological evidence as sufficient proof that a foreign group lived amidst a local one would be if one could demonstrate two very different lifestyles (in terms of dwelling architecture, or artifacts from daily use) in simultaneous existence at the same site. Even then, other hypotheses—such as differences between elite imitating a foreign lifestyle, and commoners perpetuating local tradition—could also be advanced.

Guillot (1998a: 128) is of the opinion that “The fact that very few of the remains can be attributed to the local population proves that Lobu Tua was a sort of foreign enclave in Batak land”. He envisions Barus as a “foreign merchant station, probably controlled by south Indians in alliance with a local prince”, “completely independent of local political power” (Guillot 1998a: 130). This assertion is premature. It is impossible to accept the conclusion that a foreign enclave or enclaves existed at Barus without documentary evidence. The possibility of a foreign enclave at Barus certainly can be admitted, but it cannot be said that there is any positive archaeological evidence in its favour. In this case, negative evidence is not proof of anything.

Between 2001 and 2004, a Franco-Indonesian team excavated three more sites in the Barus area. These were later than Lubok Tua, and yield data on settlement

and trade during the period between the twelfth and seventeenth centuries (Perret and Hedi Surachman 2009).

Takuapa and Laem Pho

The area of the Siamo-Malay Peninsula from the Isthmus of Kra south to the modern state of Kedah became well-known to Arab geographers as Kalah-bar. The tale of Sulayman the merchant, dated 851, says that from the Nicobars, “ships gather to enter the strait called Kalah-bar. By *bar* is meant both a kingdom and a coast. Kalah-bar [is part of] the empire of Zabag which is south of this country. Kalah-bar and Zabag are governed by the same king” (Ferrand 1922: 53). Kalah appears in the *Arabian Nights* as a place that Sinbad visited. A Chinese source, the *Song Shih*, says that Arab merchants came to Canton on a *Ku-lo* ship in 1012 (Wolters 1966: 228, n. 22). The *Song Shih* describes a Tamil sailing route to *Ku-lo* dated 1015; *Ku-lo* was on the west coast of the Malay Peninsula. Another early Chinese writer, Jia Dan, mentioned *Ko-ku-lo*, which may be the same place (Wheatley 1961: 59–60). The geographical information in these reports is not detailed enough for us to state exactly where these places were, but they give us a picture of the complex nature of the sailing routes that met in the area around the border of modern south Thailand and peninsular Malaysia.

Mas’udi in AD 943 wrote that mariners from Siraf and Oman continually sailed to Kalah and Zabag (Sastri 1949: 71). This situation probably arose following the massacre of foreign merchants at Guangzhou in the early ninth century. Thereafter we have much evidence, both textual and archaeological, that Chinese and Arab merchandise was exchanged at the isthmus in what is now southern Thailand. Kalah has sometimes been identified as Kedah, but may equally have been “a generic term used to designate the stopping-off places used by the Muslims along this coast” (Jacq-Hergoualc’h 2002: 262).

Many sherds of Chinese and Arabic pottery and glass from the ninth century have been discovered at sites on both sides of the isthmian region of the Malay Peninsula, such as Takuapa and Laem Pho. One of the most common types of porcelain found at these sites, Changsha ware, a huge quantity of which was found on the Belitung shipwreck, has been discovered at sites in the Malay Peninsula including Sungai Mas, Kedah, and at numerous locations in central Java, from the north coast to the great temples at Dieng, Prambanan, Sojiwan, Sari, and Ratu Boko. Similar ware has been found further west, in Sri Lanka, Iran, and Kenya (Guy 1990: 11), but in smaller quantities than in Southeast Asia.

Statues, temples, and other artifacts associated with Hindu and Buddhist religious activities are scattered along both the east and west sides of the region around the Isthmus of Kra (Bronson 1996; O’Connor 1972, 1974; Lamb 1961) (see Figs. 2.09, 2.10). Remains, however, are concentrated at three sites that sprang to life for a few decades in the ninth century. These include Ko Kho Khao, on the west coast, and the nearby banks of the Takuapa River. A ninth-century Tamil inscription found here was set up by the South Indian Manigramam merchant

guild (Sastri 1949a). Hindu statues, probably connected with Tamil visitors, have also been found at Kwan Phra Noe and Khao Phra Narai; “Takuapa was clearly as cosmopolitan as the great trading ports of Tang China” (Guy 1990: 7).

Takuapa/Ko Kho Khao shares many traits with Laem Pho, which lies opposite it on the east coast of the peninsula: both sites have yielded many fragments of Middle Eastern glass cups and bowls, late Tang Dynasty pottery, and many varieties of beads made from glass and stone (Lamb 1961, 1965; Khemachatt 1983, Jacq-Hergoualc’h 2002: 287–9). Except for a small area at Laem Pho that was settled again for a brief time in the late twelfth century (Bronson 1996), both sites had short lives, mainly during the ninth century. Both possess Chinese ceramics. At Ko Kho Khao they comprise between 3 and 8 per cent, whereas at Laem Pho, which is closer to China, the proportion rises to between 9 and 36 per cent. The Chinese wares come from a wide range of types: Changsha, Yue, Ding, northern White, Meixian, and Guangdong wares, as well as a green and white splashed ware that may have come from Gongxian.

Middle Eastern ceramics at Ko Kho Khao and Laem Pho are rare by comparison with Chinese ceramics. They include glazed earthen ware of five types such as Basra turquoise, yellow enamelled lustre white, and cobalt blue and white wares. Middle Eastern glass on the other hand testifies to the presence of a very large number of glass vessels, about 90 per cent of which were cups or small bowls. A few sherds closely resemble pieces of glass found at Fostat in Egypt. A Chinese source of the Song period, the *Zhizi Tongjian*, comments that Arab glass cups are as suitable for serving hot wine as cups of ceramic or silver.

It has been suggested that Laem Pho and Takuapa were connected by a trans-peninsular route, but other scholars argue that the similarities are due to common membership in a maritime trade network, which included Sungai Mas in Kedah, and Palembang in south Sumatra (Jacq-Hergoualc’h 2002: 292). Bronson (1996) noted that whereas earthenware pottery from the two sites is similar to that found in central Thailand at the same period, that from Ko Kho Khao is more varied, and sizes and styles also diverge. The environment at Laem Pho is suitable for agriculture, particularly wet rice growing. Its population may have been largely composed of indigenous people under the governance of another site, now known as Chaiya, five kilometres west of Laem Pho, which may have been the capital of a kingdom well-known to the Chinese as *Panpan* (Jacq-Hergoualc’h 2002: 294). Ko Kho Khao seems to have had no hinterland, and its political affiliation is obscure; it may have formed an enclave of South Asian visitors. In the nearby Wiang Sra area, the artifact assemblage includes local earthenware, imported Chinese pottery of the Tang and Song periods (ninth to thirteenth centuries), an Arab coin dated 882, and Hindu sculpture including a *yoni* (a base for a Siva *lingga*), Bhairawa, Vishnu, and Devi statues of the tenth or eleventh century (O’Connor 1972: 60).

All three sites seem to have declined in the early tenth century, probably due to changing commercial and political variables. Another site in southeast Thailand, Nagara Sri Dharmaraja (Nakhon Si Thammarat in modern Thai) then rose to prominence.



2.10 Wat Long, Chaiya, south Thailand. This temple may have been founded during the Srivijaya period.

SHIPWRECK: THE INTAN

In 1997, two years before the discovery of the Belitung site, the Intan—a tenth-century shipwreck mentioned earlier, named after a nearby oil field—was excavated off the coast of southeast Sumatra (Flecker and Miksic 2000, Flecker 2002). The brief description below cannot do justice to the wealth of information that the Intan provides the field of archaeology. A shipwreck is a time capsule, a moment frozen in time. This kind of opportunity is almost never found on land except in cases such as a sudden volcanic eruption that stops change forever. The fact that so few shipwrecks have been properly recorded in Southeast Asia means that each one is invaluable.

Moreover, this wreck dates from a particularly interesting period. The kingdom of Srivijaya was at the height of its wealth and power. The Tang Dynasty had just fallen, and China was in one of its eras when numerous kingdoms coexisted; these periods of division did not harm foreign trade. The great kingdom of Mataram in central Java had just collapsed as well. The last dated inscription from central Java, by coincidence, is dated AD 918, around the earliest possible date for this shipwreck. Where in Java was the Intan going? By AD 929, east Java had become the center of a new polity; perhaps the Intan was heading for a port in the vicinity of Surabaya or Tuban.

Remnants of the ship confirm that it was not built in China: the types of wood used were not Chinese, and the ship was held together with dowels rather than



2.11 Wat Phra Boromthat, Chaiya. The gray temple with gilded decoration may have been established during the Srivijaya period.

nails. The ship had one trait that suggests Chinese influence on the ship's design: although no wooden examples remained, remains of large quantities of iron artifacts had formed concretions that preserved the pattern of bulkheads that had long rotted away.

Ships built in Thailand had adopted the use of bulkheads by the fifteenth century. It is believed that Chinese ships made their first appearance in Southeast Asian waters in the thirteenth century, and then in small numbers. The identity of the *Intan's* builders is thus a complicated question that has no answer as yet.

The *Intan's* cargo had two main categories: ceramics and metals. At the bottom of the vessel, where they would act as ballast and steady the ship, was a heavy load of tin ingots, which probably came from the Malay Peninsula or the islands of Singkep or Bangka near the spot where the ship sank. Above the ingots were Chinese ceramics. It would have been irrational to carry this amount of tin from the Malay Peninsula to China, load up with ceramics, and sail back thousands of kilometres in the other direction. The conclusion is that the *Intan* visited a port where both tin and Chinese ceramics were available. It is also possible, but less plausible, that the ship first took on tin in one port, and then sailed to another to pick up Chinese porcelain. This combination of commodities is excellent evidence in favour of the theory that major ports of trade in Indonesia accumulated large amounts of imported Chinese and other merchandise, which they then reexported to other areas. The *Intan* may have come either from the isthmian region of the Malay Peninsula, or a port such as Palembang, south Sumatra. Its location indi-

cates that it was probably heading for Java (Flecker 2002: 123, Fig 123).

Weights and measures had become standardized in Java, and possibly Sumatra, in the late ninth century. Another piece of evidence in favour of the conclusion that the ship was Indonesian is the large number of scale weights found in the wreck. The weights are mostly made from a copper alloy, often with small inserts of a slightly different alloy. Quartz or marble, tin alloy, or composite materials were also used.

Forty-three scale weights from the *Intan* fall into no fewer than 23 weight categories. These include 1 *tahil* (38 grams); 1 *kati* (20 *tahil*, 760 grams); 1 *masa* (2.4 grams); 8 *masa* (19 grams); 12 *masa* (29 grams); 24 *masa* (46 grams); and 28 *masa* (58 grams). Although some of these units (or very similar ones) and some of their names, are also found in India and China, many of them are uniquely Indonesian, and are mentioned in Javanese inscriptions of this period. This reinforces the suspicion that the ship originated from the Indonesian archipelago and did its main business there.

The year when the ship sank can be fixed with relative precision (Flecker 2002: 63) because the ship carried 137 Chinese coins, all made of a lead alloy and all but one (which is blank) have an identical inscription: *Chien-heng Chung-bao*; coins with the same inscription were made during this entire period of 25 years between AD 917 and 942.

It is impossible to overstate the importance of the *Intan* for Southeast Asian archaeology. Many of the items found on board have never been seen before. The range of merchandise in the vessel is also astounding. The following summary only sketches the most important categories of artifacts found in the ship.

One of the most surprising aspects of the *Intan* was the discovery of a vast array of miscellaneous bronze items, possibly made in Sumatra, where the raw materials for bronze are found, or in China (Figs. 2.12, 2.13). A Chinese source from the Song Dynasty states, “Foreign merchants from San foqi bring raw copper and seek to have vessels of it made in Quanzhou. They take them back to their home countries in order to decorate their temples” (Schottenhammer 2001: 106). Two conical objects may have been ingots, but most of the bronze objects are finished artifacts, many for Buddhist rituals. These include items such as bronze finials with loose rings (*khakkhara*) fastened to the heads of wooden walking staffs which rattled when carried by priests (Flecker 2002; Miksic and Soekatno 1995: 143, Fig. 38). Other items include a large group of bronze ceremonial items called *vajra*, which were used by monks from a form of esoteric Buddhism. The *vajra* symbolises the thunderbolt, weapon of Indra, king of the sacred mountain at the centre of the universe in Indian mythology. In the tenth



2.12 A bronze *kala* head found on the *Intan*, probably for use as a handle for a wooden door of a temple. Courtesy of M. Flecker.

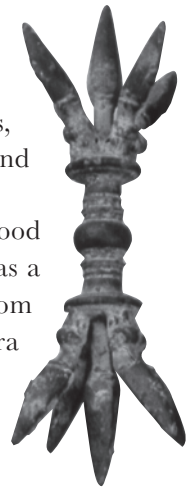
century, Thunderbolt Vehicle (*Vajrayana*) Buddhism became popular in Indonesia. Bronze *vajra* and bells were two of the most important ritual objects used by Buddhist priests of the Vajrayana. Also found were small bells meant to be worn by priests. The cargo also included statues of Buddhist deities and mythical beasts which were used in temples and in the homes of believers.

The large bronze objects in the shape of monster masks with rings in their mouths had never been seen before in Indonesia. These represent *Kala*, the demon of time. Ancient illustrations, for example, on the false doors of the Lolei temple at Roluos, Cambodia, depict them as functioning as door handles on temples. Other bronze objects on the Intan, such as ornate door fittings and hinges, were also probably accessories for temple construction. Molds for making votive Buddhist objects such as miniature *stupa* and figures of deities were also included in the cargo.

Bronze items for domestic use such as Chinese-style mirrors (for examples, see Flecker 2002: 54–60) formed a large category. Copper alloy trays were also found but were badly corroded by seawater; little but their rims survive. These were used in religious ceremonies but probably had many other uses (Miksic and Soekatno 1995: Fig. 81–4, 167). The list of miscellaneous bronze items is long: ear rings, oil lamps, chest handles, cauldrons, pot stands, hammer heads, fasteners, mortars, pestles, door hinges, seals, and scrap metal.

The wreck yielded several items of gold: coins of the “sandalwood flower” type probably made in Sumatra; jewellery; and accessories such as a gold handle for an iron object. The jewellery belongs to types known from contemporary Java. Very few gold artifacts have been found in Sumatra because very few excavations have been conducted there, and most gold finds are made by chance rather than in controlled excavations. Stories abound of large quantities of gold artifacts discovered accidentally and immediately melted for bullion. In 2011, numerous gold artifacts were recovered by local river men from the beds of the Musi River in Palembang and the Batang Hari in Jambi, many of them having similar styles to those from Java and the Intan (Miksic 2012). Evidence from the Intan and other shipwrecks now suggests that gold items may have been made in Sumatra for export to Java.

Eighty silver ingots with inscriptions in Chinese characters were found during excavation, and others were removed illegally by divers. The inscriptions usually give a weight; for



2.13 A set of vajras symbolizing the thunderbolt to be used by Buddhist priests. These were being shipped from Sumatra to Java when the ship sank in the tenth century. Courtesy of M. Flecker.

example, one inscription reads “Sword office high grade silver of 52 *liang* certified by the official Chen Xun” (Flecker 2002: 85). The silver was thus exported from China, the main source of which lies in Yunnan. Silver was sometimes given to Sumatran envoys; a 1079 mission received the huge quantities of 517 kilograms (10,500 *tahils*; Wong 1979: 16). Throughout most of history, silver, rather than gold or copper, formed the basis of China’s monetary system (von Glahn 1996).

The Intan carried a large quantity of iron items made in China, including bundles of iron bars and one bundle of iron blades (similar to Malay *parang*) tied together with rattan strips and frying pans (*wok*), in nested stacks. Iron was always avidly sought by the people of insular Southeast Asia. The Buddhist monk Yijing, in the seventh century, described how in the Nicobar Islands sea nomads would rush out in canoes, offering coconuts, bananas, and artifacts of rattan and bamboo when they saw a trading vessel. In return, “what they are anxious to get is iron only; for a piece of iron as large as two fingers, one gets from the five to ten cocoa-nuts” (Takakusu 1896: xxx).

The ceramics of the Intan seem to have been aimed at a rather sophisticated market. The original cargo may have numbered 20,000 objects, more than half of which consisted of Chinese stoneware. Higher-quality items included small dishes with a white to *qingbai* (bluish-white) glaze, possibly from Guangdong, although Jingdezhen is also a possibility. Other white porcelains included bottles, jars, ewers and bowls, probably from both Guangdong and Fujian Provinces. Greenware bowls and covered boxes with finely incised decorations, ewers, and bottles on board probably came from the Yue kilns of Zhejiang Province.

At some point, the ship also picked up some containers made in an undetermined location in the Near East, probably Persia. These are found in the form of fragments of large decorated jars with a turquoise-green glaze. There were at least four jars of amphora shape on the ship (Flecker 2002: 118).

Fragments of glass vessels, mainly bottles, are probably from China. They are very similar to glass from the thirteenth-century Java Sea wreck, which has chemical composition typical of Chinese glass (Miksic, Yap, and Vijiyakumar 1996). Hundreds of glass “eye beads” found on the Intan were probably of Near Eastern manufacture, although it is possible that such beads were made in Palembang (Flecker 2002: 79). Similar beads have been found at Sungai Mas in Kedah.

Another important and relatively unique component of the cargo is Fine Paste Ware pottery. These consist of bottles and *kendi*, some of which were of the sophisticated shape called *kendi maling*, which can only be filled by turning them upside down (Eng-Lee 1984: 10, Figs. 3a–d). Energy-dispersive X-ray fluorescence analysis (EDXRF) conducted at the National University of Singapore’s Department of Physics indicates that these items were probably made in south Thailand. The results then suggest that the Intan may have taken much of its cargo on board from there.

Organic items are very unlikely to survive centuries of immersion in the sea. Several types were however found on the Intan. Examples include a small piece of ivory, which was often sent to China in the tributary trade, and small fragments

of aromatic resin. The fact that resin and ivory were products of Sumatra, and the ship's apparent course toward Java, are further evidence that the ship had not come directly from China. Other organic artefacts found included the bones and teeth of humans and tigers, deer antlers, and candlenuts.

The Intan gives clear evidence of the integral nature of the China-Indonesia-Indian Ocean trade. The ship carried items from all three regions, some of high quality, others of a very ordinary nature. This was not a tributary mission; this was a mercantile enterprise with a mixed cargo. Numerous people probably had a financial interest in the ship. How were records kept? What would have been brought back from Java? Why did the ship sink? These are all obvious questions which are likely to remain unanswered forever.

It is interesting to compare the Intan with the Java Sea (*see* chapter 3). Although the two disasters are separated by approximately 300 years, there are remarkable similarities between the cargoes of the two vessels. The Intan, despite being the older ship, had a more diverse cargo. On the other hand, almost every item found on the Java Sea was also present on the Intan. This suggests that the trade patterns between China and Southeast Asia were relatively stable for long periods of time.

Both ships also demonstrate that it was common practice to take Chinese items to one port in Southeast Asia where they were unloaded, stored, and then reloaded on another ship for another destination. It is equally likely that some of these items would have been unloaded and then reshipped even further east from Java, eventually reaching Sulawesi or Maluku.

SHIPWRECKS: CIREBON AND KARAWANG

Both sites lie at depths of over 50 metres under water off the northwest coast of Java. The Cirebon or Nanhan wreck was found in 2003. A relatively large proportion of the ship's hull was preserved, so that it was possible to study the varieties of wood and construction techniques used and to conclude that it was an Indonesian-made vessel. Looters had already begun their work despite the considerable depth at which the site lies, so the original situation and amount of artifacts on board cannot be precisely determined. The cargo resembles the Intan: items from the whole Silk Road of the Sea, from the Persian Gulf to China. Archaeologists logged more than 150,000 items. It is estimated that this ship carried at least 300 tonnes of cargo (Liebner 2010: 33). Categories of materials included gold, bronze (with Buddhist ritual items among them), glass bottles, beads of many varieties, some of which appear to bear Arabic inscriptions, and ceramics. Over 250,000 sherds were studied but had to be left on the site due to the impossibility of storing them on land. The huge quantity of ceramics on board, perhaps 500,000 pieces, staggers the imagination when one considers that the population of Java at this period may only have reached two million people. An inscription on the base of a bowl, *xu ji shao wu chen*, indicates that the bowl was fired in the *xu* kiln in the year 968 (Liebner 2010: 35), indicating that at least some of the ceramics date from the very early Song dynasty.

The cargo included 35,000 pieces of earthenware, as well as 250,000 Chinese

ceramics (Bambang Budi Utomo 2008: 35). Among the earthenwares are a wide variety of *kendis* of the Fine Paste Ware type (Bambang Budi Utomo 2008: 49–52, illustrations). Abu Ridho’s report (1985), and personal communication from both Susan Naranjo of the National Museum, Manila, and Philippine maritime archaeologist Mary-Jane Bolunia, confirm that similar ceramics also reached the Butuan area of Mindanao. Some examples of ceramics, almost certainly originated from southern Thailand (*see* chapter 7), and which were probably excavated in the Philippines, are found in the collections of the National Museum, Manila, and in private collections (Guérin and van Oenen 2005: 164).

Careful plotting of items on the site led to a surprising conclusion: the cargo was under the control of a single merchant or authority, not stowed according to bundles or holds allocated to individual traders. If this is true, then commonly-held assumptions regarding the organization of ancient maritime trade in Southeast Asia need to be re-examined (Liebner 2010: 44). This pattern could also be explained by an extreme degree of specialization in which each merchant dealt in only one type of commodity, but this is not true of commercial organization of the early period of European contact with Southeast Asia. The data supports the model of “tributary trade” where most exchanges between long-distance trading partners were conducted through semi-official channels in a few large transactions, rather than through a large number of small business deals.

The Karawang was discovered by fishermen in 2007 and lies 55 metres deep. Only partial excavation has been conducted. Approximately 40 per cent of the cargo, which is estimated to have included 100,000 ceramics (Liebner 2010: 42), is believed to remain on the site. No remains of the ship itself have yet been found. Like the Cirebon wreck, the most common artifacts were green-glazed bowls.

THE END OF THE FIRST MILLENNIUM

By AD 1000, the Straits of Melaka had been the keystone of a long-distance maritime system for almost a millennium. The earliest major trading kingdom had been located in the lower Mekong valley, but Funan had close relations with the isthmian region of the Malay Peninsula. By the beginning of the historic period in Southeast Asia, several trading ports had formed along the shores of the Straits, taking advantage of the waterway’s strategic location between the three seas and the local products that formed part of international luxury trade. The system was both flexible and stable. Many harbours in the region exhibited several features of the port-of-trade model, but also possessed various idiosyncrasies. As the *Intan* shows, this trade was complex and mixed the precious with the humble.

Archaeological data suggest but cannot prove that enclaves of merchants and craftsmen from various parts of the Indian Ocean existed in Southeast Asia before AD 1000. No historical sources refer to permanent settlements of foreigners during the first millennium. Residents in these enclaves may have come and gone frequently rather than settling in them permanently. This situation may have changed in the eleventh century. This change, its causes, and consequences for Southeast Asians, will be discussed in chapter 3.



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FROM THE FALL OF SRIVIJAYA TO THE RISE OF SINGAPORE



Chinese documents from the early tenth century record that Sumatra and Java were constantly at war with one another. Java then experienced a major disaster, *pralaya* in Javanese, between AD 919 and 929. The inscriptions are typically reticent about revealing the details of the event, but a Srivijayan invasion is one possibility. Although the results of the disaster included the transfer of the Javanese capital to the eastern hinterland and a halt to the building of monumental architecture that lasted for four centuries, trade continued to flow smoothly along the Silk Road of the Sea.

As the eleventh century dawned, there would have been no reason to think that wealthy and powerful Srivijaya, the overlord of the Straits of Melaka, was about to fall. This is, however, exactly what happened. A surprise attack from an unexpected quarter swept through the Straits of Melaka, defeating Srivijaya and all

her main vassals. Srivijaya's king was seized and borne away by the conquerors, never to be heard from again. Despite this violent disruption, Asian maritime trade grew at an accelerating pace between 1000 and 1300, bringing about fundamental changes in the society and economy. The main cause of the change was not political (the fall of Srivijaya): it was economic (i.e., a shift in China's policy toward Chinese merchants who went abroad to trade). Extant records offer only a rough and potentially misleading view of the volume and nature of trade during the early period of overseas Chinese expansion. Archaeological research is beginning to fill in this important gap in our knowledge of this critical period in the development of the Silk Road of the Sea.

THE RISE OF THE SONG DYNASTY AND THE EARLY OVERSEAS CHINESE

Srivijaya and the Song Rulers

In 900, Srivijaya was in firm control of the Straits of Melaka and the kingdom's foreign relations were in good order. In 904, Srivijaya's envoy to China was appointed as head of the foreign quarter in Fujian (Wolters 1967: 239 n. 87). In 960, China was reunified under the Song Dynasty, a circumstance that boded well for even greater Srivijayan prosperity since Chinese policy limited foreign trading partners to a few kingdoms who managed to obtain diplomatic recognition. During the ninth century, the Tang dynasty entered a period of slow but irreversible decline, leading to its fall and the period of division known as the Five Dynasties, between the fall of the Tang in 906 and the rise of the Song. China's fragmented political condition had favoured the development of rival ports in the Straits of Melaka. Now Srivijaya could expect a return to its former position as the sole overlord of commerce between the Three Seas of the Asian maritime trading network (the Indian Ocean, South China Sea, and the Java Sea).

During the Northern Song period (960–1126), imported luxurious goods (jewels, ivory, rhinoceros horn, ebony, amber, coral, aromatic products and perfumes) were still an imperial monopoly; only licensed dealers could buy them at government warehouses in Quanzhou and Guangzhou, in fixed quantities and at fixed prices. Rhinoceros horn, a product of the Sumatran forests, played an important role in the close relationship between Srivijaya and the Song emperors. The Song had only been in power for a few months when a mission from Srivijaya arrived at the capital, Kaifeng. It is quite possible that the Srivijayan ruler had received word of the new political situation, and seized the opportunity to form relations with the new ruling clique. Perhaps by chance, tribute brought by this mission included a rhinoceros horn with a pattern resembling a dragon and the Chinese character for "Song". Chinese believed that rhinoceros horn bore signs from heaven; the Song ruler, Taizu, presented this horn as evidence that he had received the true mandate of heaven. Following tradition, he had a belt hook made from this horn, which he wore when making sacrifices at the altar of heaven (Salmon 2002: 60–1). Srivijaya's gift thus became a prominent symbol

of the Song Dynasty's legitimacy. For the next two hundred years, envoys from Sumatra were shown particular favour by Song rulers, including invitations to imperial sacrifices on Taishan and other important state ceremonies. In 1003, a Srivijayan embassy reported that a temple had been built in Sumatra to pray for the emperor's longevity. Srivijaya sent five more missions between 1004 and 1018. In 1172, more than ten rich Srivijayan merchants lived in Quanzhou (Salmon 2002: 70 n. 52).

The South Begins to Rise

During the Tang Dynasty, the commercial inclinations of the southern Chinese were stifled by Confucian prejudice against maritime trade. During the Five Dynasties, one of the fragments of the shattered Tang empire was a kingdom called Min. Min only survived until 946, but its southern part, Minnan, comprising southern Fujian and Quanzhou, remained virtually independent until 976. Minnan's freedom gave its people a new opportunity to develop maritime trade. The first Hokkien merchants ventured into Southeast Asia on Muslim ships (Chang 1998: 149). By the eleventh or twelfth centuries, they began to command their own vessels, sailing to the Indian Ocean.

Wealth earned from foreign trade brought about major changes in China, especially in Fujian. Obscure families in what had been one of China's poorer areas became prominent nationally due to the income from the Silk Road of the Sea (Clark 2001: 47, 86–9). An example was Wang Yuanmo who lived in Quanzhou in the twelfth century. He spent part of his youth as a servant in a Buddhist monastery where he learnt to read books of the “southern barbarians”. When he became a merchant, he impressed the king of Champa with his ability to read local texts, and became immensely wealthy.

Song Regulation of Trade and the Growth of Guangzhou and Quanzhou

During the first 150 years of the Song Dynasty, imperial policy toward maritime trade vacillated. Between 960 and 1126, foreign commerce grew but was still confined within the mould cast by Confucianists a thousand years earlier. Regulations governing contact with foreigners remained the same as those that were in place during the Tang Dynasty. Between 976 and 983, people caught trading with foreigners were branded on the face and exiled (Hirth and Rockhill 1911: 20). Superintendents of Trade inspected incoming ships for undeclared items that were imperial monopolies, transported legal imports to warehouses, extracted the duties on them, exchanged Chinese goods for monopolized products, and inspected outgoing ships for “prohibited goods”. These officials were also responsible for ensuring the safety of foreign merchants. Lastly, all valuable goods arriving in China had to be taken to government warehouses.

The first Bureau of Maritime Commerce under the Song was established

at Guangzhou in 971, but the office of Superintendent of Foreign Trade was often filled by a local official who combined it with other duties until the eleventh century (Sen 1996: 256). The Song initially sought to stimulate trade through the traditional mechanism of official tributary relations, including sending four missions to the South Seas in 987 with imperial edicts, gold, and cloth, to exchange for aromatics, rhinoceros horns, ivory, pearls, and Barus camphor (Ma 1971: 33, Sen 1996: 254–5). One source, the *Lingwai Daida*, mentions annual fairs set up to attract foreign traders (Sen 1996: 256).

One of the beneficiaries of a port's status as an approved port of trade was the local ceramic industry. *Pingzhou Ketan*, a text written during the Song Dynasty, describes a ship being readied to sail to the South Seas: "The greater part of the cargo consists of pottery, the small pieces packed in the larger, till there is not a crevice left" (Yang 1985: 26). According to Wong (1979: no pagination), there is only one reference to a diplomatic gift of porcelain during the Song Dynasty: some white porcelain given to Srivijaya in 963. Apparently, porcelain was considered a commodity rather than a luxury fit for diplomatic gifts.

Quanzhou, a port in Fujian, was given its own office of the Bureau in 1087, and gradually began to compete with Guangzhou, becoming particularly popular with Muslim traders. Quanzhou's Muslim-sounding alternative name, *Zaitun*, is probably derived from the Chinese word *citung*, a common local tree (Writer's Group 1977: 51). Quanzhou went through a depression during the late Song period, but recovered during the Yuan dynasty. Marco Polo called Zaitun "one of the two ports in the world with the biggest flow of merchandise" (Latham 1958: 237). A Yuan scholar, Wu Zheng, called it "the pre-eminent city in China" (So 2000: 118). One of the reasons for Quanzhou's growth may have been less-rigorous enforcement of customs regulations, "By the mid-eleventh century Quanzhou had apparently become an important—if illegal—destination for traders seeking to avoid the 15 per cent tariffs imposed by the Customs Office" (Clark 2001: 51).

Many Muslim visitors went no further than Sumatra during this period. Sumatran embassies to China sometimes acted as middlemen, bringing Arabian products as tribute. In 1018, one embassy brought 81,680 units of frankincense and an unknown number of other items from Arab lands as well as Indonesian products such as sandalwood, pepper, nutmeg, and cloves (Wolters 1958: 101). In 1156, a Sumatran envoy brought four glass vessels of Arabian sugar and 16 vessels of Arabian dates. In 1178, another Sumatran brought 11 glass vessels (probably from Arabia or the Persian Gulf) containing sugar, dates, and gardenia flowers (Ho 1994: 45).

More offices of the Maritime Trade Bureau (*Shi-bo Wu*) were opened at Hangzhou (971), Mingzhou (999), Suzhou, Wenzhou, and Jiang-yin Chun. Although quantitative data is scarce, anecdotal information suggests that the Song Dynasty "may be deemed the first period of great oceanic trade in the history of the world" (Ma 1971: 23). Some indication of the rate at which trade expanded can be gleaned by the fact that China's annual imports totalled 53,000 items between 1049 and 1053. By 1175, the figure had grown by ten times (Wheatley 1961: 61).

The Song government began to offer incentives for maritime trade. In the late Tang Dynasty, the government made an early investment in maritime infrastructure by developing a harbour near Fuzhou. In the early eleventh century, the government dredged Guangzhou harbour (Wheatley 1959: 26–7). Chinese merchants who induced foreigners to bring in cargoes yielding duties of 50,000 strings were offered official rank. In 1115, the government established a hostel at Quanzhou for foreigners; this cost the government 300 strings of cash a year. In 1132, another hostel was founded at Guangzhou. A welfare service was also set up for shipwrecked seamen, who received an allowance of 50 cash and two pecks of rice a day.

Licensed goods were acquired by the government as import duty (paid in kind, not in cash) or through purchase by the Superintendent of Merchant Shipping. For this purpose, the Superintendent was allocated about 100,000 strings of cash a year in the late eleventh century, and 300,000 strings in the early twelfth century. Interestingly the capital for this activity was obtained by taxing priests' diplomas. Returns on this investment were substantial; the Quanzhou office between 1128 and 1134 made a profit of 980,000 strings (Rockhill 1914: 421 n. 1; *see also* Sen 1996: 257 for data from the eleventh and early twelfth centuries).

Foreign traders began to obtain access to wider markets in China. Before 1104, merchants, whether local or foreign, could only sell their goods in the prefecture where they came into the country. This rule proved to be unenforceable, so merchants were allowed to sell their goods in other areas as long as they obtained a permit from the Bureau of Maritime Commerce (Sen 1996: 257).

Coins and the Chinese Economy

Although coins had been made since the Han Dynasty, China's economy only became fully monetized during the Song period. During the Tang period, coins in China were mainly used for paying tax (Miyazawa, cited in Von Glahn 2004: 163), but even so, the Chinese government collected only 4 per cent of its taxes in 749 in the form of money. By 1065, the figure had risen to more than 50 per cent (Lo 1969: 61). In the 1070s, a powerful administrator, Wang Anshi, tried to encourage the use of money, but these reforms were scaled back by officials who favoured traditional policy after his patron, Emperor Shenzong, died in 1085, and Wang himself passed away in the following year (Von Glahn 2004: 164). Nevertheless, merchants were becoming a critical source of government revenue, which no doubt gave them significant political leverage. Between the late eleventh and early twelfth century, revenue obtained from maritime trade tripled, and revenue from tax on trade had doubled again by 1131; taxes on maritime commerce then contributed 20 per cent of the empire's total revenue (Lo 1969: 67–8).

During the Northern Song Dynasty, about 300 million strings of coins were minted, but the amount of coinage actually in circulation is disputed. Miyazawa estimates that only about 30 million strings were in circulation in 1100, and that peasants had no coins left after paying tax; the rest were in the government's treasury. Gao Congming on the other hand suggests that as much as half of the

money supply was used in the marketplace, and that rich families had savings of between 30,000 and 500,000 strings of cash (Von Glahn 2004: 169–72). The true situation is hard to assess.

The early Song government attempted to enforce an imperial monopoly of eight kinds of goods: tortoise shell, elephant tusk, rhinoceros horn, a special kind of steel used for weapons, skins of a lizard used for making drums, coral, agate, and frankincense (Ma 1971: 37–8). Almost all of these were imports from the South Seas. Nevertheless indirect references suggest that reality did not correspond to the legal ideal and records indicate that economic laws were regularly evaded.

In 1074, an official named Zhang Fangping complained that foreign ships leaving China on their homeward voyage were so full of Chinese coins that “the currency was drained off like the waters of the sea into the *wei-lu*” [“rear gate”] (Rockhill 1914: 422). By the mid-twelfth century, illicit trade in expensive merchandise was so great that Chinese smugglers paid for all goods with gold, silver, iron, and especially copper cash. By 1159, only 10 per cent of the coins supposed to be made were actually cast. Official accounts attribute this discrepancy to illegal sea trade with Southeast Asia. The Superintendent of Foreign Trade was supposed to inspect outgoing ships to make sure that they did not carry away forbidden items including coins and other bronze objects, gold and silver, as well as other strategic items such as horses, weapons, and books (Sen 1996: 257).

In 1222 China passed a law making it illegal to buy foreign goods with money. Instead, Chinese were encouraged to barter local products like silk, lacquer, and porcelain for imports. This regulation spurred porcelain production in Guangdong. Zhu Yu wrote that “The people of Guangzhou take out loans to hire ships to sail afar, offering to pay 100 per cent interest The rich availed themselves of this opportunity to stock up on silks and pottery and sold these at inflated prices” (Yang 1985: 27). Huge kiln complexes were built in parts of Guangdong that had access to the South Sea, for example Xicun and Beijiao, to service export demand. Chinese traders rented space on ships and slept on their cargo, much of which consisted of pottery (Yang 1985: 28). People living in poorer areas of southeast China where land was not particularly fertile found the ceramic industry to be an important new source of employment; Southeast Asian demand for manufactured goods thus provided an important stimulus to the economy of southeast China in the late Song period.

Chinese were allowed to go abroad to trade during the Song, but they could only depart from ports where there were offices of the Bureau of Maritime Commerce, and had to report the details of the crew, route, and cargo (Sen 1996: 258). In 1194, the governor of a military district in Fujian refused to allow people under his jurisdiction to go abroad to trade with foreign people “whose many ships coming from abroad laden with aromatics, rhinoceros horns, ivory and kingfishers’ feathers were already draining all the copper cash out of the land”. Sumptuary laws were passed in 1107, 1157, 1201, and 1214, forbidding the use of kingfishers’ feathers and gold for ornaments, but to no avail. In 1248, an official,

Zhen Zhiulu, “attributed the drain of cash out of China to the extravagance of its people in purchasing such luxuries as perfumes, ivory, and rhinoceros horns, and to the sea-trade generally” (Rockhill 1914: 423).

Perhaps due to the drain of bronze coinage, silver became more important in China’s economy. In 1161, soldiers received half their salary in silver. In 1189 the export of silver was banned (Von Glahn 2004: 175). Nevertheless Chinese silver ingots, some with official stamps on them, have been found on Southeast Asian shipwrecks of this period, and reportedly in Bahrain as well (Schottenhammer 2001: 136), indicating that this ban like many others was not effective.

The Fall of Northern China: Trade Becomes a Patriotic Act

Sea trade was a double-edged sword. It sometimes provided additional resources for the state coffers, leading the emperors of China to dream that maritime trade might provide a solution to their financial problems. On the other hand, their inability to enforce regulations on foreign trade led to a deterioration in the financial situation.

Ancient restrictions began to crumble when the Song Dynasty was defeated by Khitan nomads in 1126. They lost the northern heartland to the invaders, and their court moved south to Hangzhou. Quanzhou, the nearest port to Hangzhou, soon surpassed Guangzhou as the largest entrepôt in China. “Treaty ports” where foreign trade was sanctioned was reduced to Quanzhou and Hangzhou.

The court was now cut off from the overland route to the west, but conversely lay nearer to the ports linked to the South Seas. The potential of maritime commerce to fill the coffers of the kingdom and to pay for the defence of remaining Song territory became a key priority to the empire.

Official trade expanded, partly by design in order to secure additional revenue. In 1137, shortly after the retreat southward, Emperor Gaozong issued an edict that “The profits from maritime commerce are very great. If properly managed, they can bring a million [strings of cash]. Is this not better than taxing the people?” (Ma 1971: 34). Gaozong’s projections were, in fact, conservative; in 1128, maritime trade had already yielded customs duties of two million strings of cash, 20 per cent of the government’s entire revenue.

Revolutionary change was made soon after the retreat to the south. For the first time in history, Chinese were allowed, even encouraged, to go overseas to trade. The structure of the maritime trade system in the South Seas fundamentally changed as a result. Official tribute-bearing status was no longer a prerequisite for commercial relations with China. Trade was freed from its ancient ties to diplomacy. The tribute system that had regulated contact between Southeast Asians and Chinese declined significantly: “By the twelfth century no Malay port depended for its fortunes on the Chinese tributary trade” (Wolters 1975: 1).

The ostensibly scornful attitude of the nobility toward trade had probably long been a facade presented to the public, behind which lay a very different code of conduct. This façade now disappeared. The Song nobility manipulated mari-

time trade to become rich, thereby becoming very unpopular with the merchants (Kwee 1997: fn. 35).

Private Trade and Southeast Asian Politics

The decline of the tribute system resulted in political change in the kingdoms of the South Seas. The advent of Chinese merchants and shippers in Southeast Asian waters demolished barriers that had limited prosperity to a few ports. Srivijaya received a severe blow from an attack in 1025; the appearance of Chinese ships in Southeast Asian waters probably sounded the thalassocracy's death knell.

Changes in Chinese policy did not cause economic hardship in Southeast Asia as a whole; in fact the reverse is true. Many new archaeological sites of this period appear along the Straits of Melaka, marked by abundant sherds of porcelain. This increased wealth was more widely distributed now, because more Malay ports were in direct contact with China; no longer were the Straits of Melaka subordinate to Srivijayan monarchs who monopolized most imported items.

The complexity of maritime trade in the thirteenth century is illustrated by the enormous range of items in a Chinese inventory of 1141 that listed 339 types of imports (Wheatley 1959: 31). The most important by value as well as volume were still aromatics: frankincense, ambergris, storax, gardenia flowers, *pucuk*, myrrh, cloves, nutmeg, and sandalwood. These were used for a wide range of purposes. In addition to religious ceremonies, incense was used to perfume clothes, to decorate walls, to scent bathwater, and to prepare food. One of four imperial warehouses was devoted solely to incense and aromatics.

The First Chinese Ocean-Going Ships

Some Chinese had probably been residing in Southeast Asia before 1126, but it is unlikely that any accurate accounting of them will ever be possible. Since it was a capital offence to trade privately overseas, those who flouted the law tried to ensure that their acts would not be discovered. Evidence that Chinese were living overseas appears from time to time in official records; for example, in 1150, a Chinese man and some "dark natives" were shipwrecked on the Chinese coast, apparently while trying to sneak back into China. The Chinese man had lived in Indonesia for a long time and had an Indonesian wife (Hirth 1917: 76). As might be expected from the clandestine nature of the early trade and the intensity of smuggling, which continued even after private trade was no longer an offence, little documentary information exists on early Chinese shipping.

The word "junk" often associated with traditional Chinese ships is actually Javanese. *Jong* first appears in a Javanese inscription of the ninth century (Zoetmulder 1982: 748). While there are several references to Chinese ships in the South China Sea and the Indian Ocean in Arab and Chinese texts of the first millennium, in most cases these can be interpreted to mean ships with Chinese merchants and/or cargo, not necessarily ships built by the Chinese in China. The first firm historical evidence for the presence of Chinese fleets in Southeast Asia

and beyond comes as late as the thirteenth century. (Flecker 2001: 221)

A few details of how commerce was conducted during the Song Dynasty have come to light. Ship captains were given *qu-qi* or “vermillion passes” on which were written the names of the captain and his first mate, the number of passengers, the size and type of ship. Ships were still relatively primitive; in addition to sails, they had about ten oars, each worked by four men. The sailors were armed with bows and arrows in case of pirate attacks. There were no cabins; each passenger was allotted a certain amount of deck space. Crew members of trading ships usually engaged in individual small-scale trading. They were organized into five-member units, and had some sort of “papers” issued for them (Kwee 1997: 16).

Chinese literati considered shipbuilding a practical occupation unworthy of the analysis or descriptions that they compiled for many other forms of Chinese technology (Needham 1971: vol. 4, pt. 3). The same cultural perspective affected Chinese art, which contains no detailed early depictions of ships. One of the earliest images of a Chinese ship is not found in China, but at the Bayon temple at Angkor, Cambodia, which dates from the late twelfth century. Needham (pl. ccviii, Fig. 975) describes this as a traditional flat-bottomed square-ended Chinese vessel with two masts. The earliest European depiction of a Chinese ship appeared in the *Catalan Atlas* of circa 1375.

Zhu Yu described Song-period merchant ships at Guangzhou:

The ships were several hundred feet long, and wide. Merchants divided space in the ships for stowing goods, each getting several square feet of floor space, while they slept above. Most of the goods were ceramic vessels, one placed within another according to size with little space between (Kenderdine 1995: 253, quoting Li Zhiyan and Cheng Wen 1989).

The main vessel towed behind it a smaller “tender” for landing. Data from Marco Polo make it possible to calculate that the largest ships may have had capacities of 500 to 800 tonnes, about the same as the Chinese vessels used to trade with Southeast Asian in the nineteenth century; the tenders may have been able to carry around 70 tonnes (Wake 1997: 54–5). Chinese sailors began using the magnetic compass in the early twelfth century. Another method of navigation made use of a hook on a long rope to bring up mud from the sea bottom, which captains smelled and inspected to determine their position (Wang 1958: 108).

A law permitting foreigners to bring tribute and to trade on Chinese ships was passed in about 1085, but official ambivalence toward trade was demonstrated when this permission was quickly rescinded. In the Yuan period, the law was changed to allow foreigners on Chinese ships (which were divided into two classes, official and commercial); they were taxed for this privilege (Pearson, Li, and Li 2002: 45).

New regulations allowed private shipyards to be built in southeast China. The *Nanwai zongzhengsi*, “Agency for Southern Branch of the Royal Clan”, became engaged in maritime trade. Clan members could expropriate ships from merchants. During the thirteenth century, imperial clan members in Quanzhou increased dramatically, from 300 to 2300. Maritime trade and politics became

deeply intertwined in Chinese politics.

Maritime archaeology is just beginning to contribute to the study of early Chinese maritime trade. An important Song Dynasty shipwreck was discovered just north of Fuzhou, at a site called Bai Jiao, in the Dinghai area. The majority of artifacts recovered (69 per cent) were porcelains, most of which (88 per cent) were black or “hare’s fur” bowls; the rest were *qingbai*, with a few white and green-glazed items, and two blue and white pieces. The “hare’s fur” bowls are Jian blackware made in north Fujian, and are highly esteemed by the Japanese for serving the purposes of tea drinking. Very few examples of this ware have been found in Southeast Asia (fragments of one were found at the Kota Cina site); the ship was probably not bound there. There were also two concretions of iron in the wreck (Kenderdine 1995).

Other Song-period shipwrecks have been found at Ningbo and at Houzhu Bay, ten kilometres north of Quanzhou. The latter, excavated in 1974, is one of the most important discovered in China. Chinese ships in general had no keel, stem post, or sternpost. They did have watertight transverse bulkheads, which strengthened the hull greatly but added great weight, and centreboards (Keith and Buys 1981). Southeast Asian “hybrid” ships sometimes added bulkheads. The Quanzhou ship deviated from the typical Chinese design: it had a deep V-shaped bottom rather than the standard flat hull, a true keel (called *lung ku*, “dragon spine”), and a stern rudder. This vessel was 34.6 metres long, 9.82 metres wide, and displaced 374.4 tonnes, as large as any merchant vessel then known in the West. Worcester (1984) estimates that Yuan Dynasty junks were 36 feet (11 metres) broad in the beam, and more than 100 feet (30 metres) long. If further excavations show that this type of vessel was common in the thirteenth century, then later Chinese ships either regressed, or our conception of them is greatly in error.

According to labels found among the cargo, the ship belonged to the imperial clan, and corroborates other documents showing that nobles were directly involved in trade (Chaffee 2001: 34). Quanzhou fell to the Mongols in the eleventh month of 1276, and 3,000 members of the imperial clan were massacred. The ship may have arrived just after this event, which would explain why much of the cargo was still on board.

One Chinese-built ship that probably dates from the Song Dynasty has been found at Tanjong Simpang Mengayu, off the north tip of Sabah. By the time archaeologists had a chance to study it, only fragments of the ship’s timbers remained and most of the cargo had been removed by looters. A total of 303 intact ceramic artifacts were however recovered, as well as 250 kilograms of sherds. These consisted of “*qingbai* [shape not specified], ewers, covered boxes and other brown-glazed ware” including a *kendi* and some teapots, as well as 61 bronze gongs, which lacked the raised knob common on most such artifacts (Sjostrand, Adi Haji Taha, and Samsol Sahar 2006: 111). Those authors estimate the date of the artifacts as Northern Song (960–1126), whereas Flecker (2012: 27) prefers Southern Song (1127–1179). The latter author also confirms that the ship is of Chinese



3.01 Southeast Asian kingdoms and ports, eleventh to thirteenth centuries

construction, based on nail holes found in the timbers. Southeast Asian ships at this time did not use nails: they were lashed together. It is extremely unfortunate that the oldest Chinese ship found in Southeast Asia was almost completely destroyed before details of its size, design, and lading could be ascertained.

SOUTHEAST ASIAN SOCIETIES DURING THE SONG PERIOD

During the tenth to thirteenth centuries, Southeast Asian societies were evolving in two different directions. The mainland was dominated by two empires: Bagan in Myanmar and Angkor in Cambodia. By the tenth century, Cambodia and Myanmar had abolished coinage in favour of highly centralized planned economies based on governmental control over labour and agricultural surpluses. Foreign trade played little part in these kingdoms, which were preoccupied with warfare and the construction of major religious monuments.

While these empires were demonetizing their economies, the people of the Straits of Melaka and Java Sea were moving in the opposite direction. The Cham on the south coast of Vietnam were also a force to be reckoned with, though few archaeological data on Cham trading sites have been acquired. A Chinese source mentions a Quanzhou man who became rich from trading with Champa in about 1160–90. The economy of Sumatra and Java was also highly monetized. In Java, taxes were paid in money, in contrast to contemporary India. Irrigated rice land, orchards, and houses were privately owned and could be sold, although rights to land that was not under continuous cultivation were still vested in the village as a corporate body. Most villages had periodic markets. Javanese markets had been officially regulated since the eighth century (Christie 1992).

Javanese inscriptions describe two levels of economic activity. One level was probably part-time; activities in this category included dye-making, dyeing, weaving, some pottery making, sugar making, and bamboo-mat making. These occupations were probably conducted as side-lines when agricultural cycles or local resources made them feasible.

The second level of activity involved specialized traders and craftsmen who were mobile and able to choose where to live on the basis of economic considerations. These people were termed *masamwiyawahara*, “those who carry on commerce”. Some were middlemen connected (in a manner that is still not clear) to an international network, dealing in imported produce including tin and other metals. They also sold rice. This suggests that a relatively large number of people bought food in the market, with further implications for economic specialization and surplus agricultural production.

How did the long-distance maritime trade network articulate with the local distribution system? Sadly, neither Javanese nor Chinese sources help answer these questions, and very few archaeological data on this subject have been collected. The only important class of artifact for which distributional data is available in Java is porcelain, and the only regional study so far conducted took place shortly after World War II (Orsoy de Flines 1941–1947). In a study of the probable zone where early central Javanese ports were located, covering 2500 square kilometres, Song pottery was found at over 20 sites in Rembang, and over 100 sites in the neighboring regencies of Semarang, Grobogan, Demak, Jepara, Pati, Kudus, and Blora. The distribution pattern seems to correlate with settlement areas and transport routes between the coast and the hinterland.

By the eleventh century, imported pottery in north-central Java was distributed in an integrated marketing system. This pattern contrasts with the one so far detected for the Tang dynasty in south-central Java where most Chinese porcelain is associated with temples. Several variables might account for this: the functions for Chinese pottery may have changed at different times or in different areas, Chinese ceramics may have been less prestigious during the Tang than in the Song, or settlement patterns may have changed. We need much more information on the distribution of Chinese imports in Southeast Asian sites before the impact of Chinese involvement in maritime trade on Southeast Asian societies and economies

can be disentangled from other aspects of life that were evolving at the same time.

The empires of mainland Southeast Asia had very much the same attitude toward trade as the Confucianists in China. Khmer and Burmese societies prized stability and continuity. No large commercial cities developed in their realms. Life centred on rituals performed in palaces and temples. Social mobility was limited except through prowess in warfare. Both the Bagan and Angkor empires were often engaged in warfare, external and internal. Although Myanmar and Angkor had a silver measure of value, and sometimes also expressed values in gold, these were not coins; no locally made coins from the imperial age have ever been found at Bagan or Angkor. Thus everyday economic exchanges were probably conducted through barter or under official administration.

In island Southeast Asia, social hierarchies were much less rigid. Although we have no written descriptions, analogy with later periods suggests that political power was tightly intertwined with wealth obtained from trade. This wealth was not meant to be hoarded: it was redistributed to others to bind them into traditional patron-client relationships. Unfortunately this may have acted as a brake on the development of trade; once in power, successful men tried to prevent rivals from emerging by monopolizing trade (Reid 1993a: 267–9).

Politically too, island Southeast Asia was moving in the opposite direction from the mainland. While Bagan and Angkor were creating administrative systems covering larger and larger areas, the kingdoms of Mataram and Srivijaya disintegrated: the former in the early tenth century, the latter in the early eleventh century. Surprisingly, growth in trade was negatively correlated with political unity in insular Southeast Asia at this time. The expansion of commercial activity in the islands can be seen in the development of coinage. Locally made sandalwood flower silver coins of the tenth through twelfth centuries are found over a wide area, from Java to southern Thailand. There are regional differences; those in Java are irregular; those found in Sumatra and south Thailand have a different style of script and are much better-made. At least one example of the southern Thai type was found in an excavation at Fostat, Egypt.

A Chinese author of 1225, Zhao Rugua, reported that Javanese commanders and soldiers (numbering around 30,000) were paid in gold. Gold was also used to pay fines and bride prices. International trade, however, was on a non-cash basis; this emphasizes the fact that money is a local rather than an international medium of exchange. According to the *Song Shi*, the Javanese government of the thirteenth century established a fixed rice-silver exchange rate. Zhao however gives a different account, saying that the rice price in Sukadana, Java, fluctuated between 30 and 100 measures for one portion of “trade gold” (Wicks 1992).

The reasons for the sudden decline and disappearance of Mataram are still unknown. Many hypotheses have been advanced, from volcanic eruptions to Srivijayan attacks, to the positive lure of trade that was giving increasing importance to the northeast coastal area around Surabaya, but no firm conclusion can be drawn. The fall of Srivijaya is easier to account for: it was militarily vanquished.

Kedah and the Fall of Srivijaya

The relationship between Srivijaya and the rulers of south India had been cordial since the seventh century. In 1005, the ruler of Srivijaya was cooperating with the ruler of south India to build a Buddhist temple. After over 300 years, this friendship evaporated. According to an inscription of 1030 at Tanjor, the capital of the Chola kingdom, Rajendra Chola captured Sanggramavijayottungavarman, king of Kadaram (an important port in the Bujang Valley, south Kedah), seized his great war gate and confiscated his riches. Kadaram is mentioned twice in the inscription: first when it is reported that its king was captured, and second in the list of territories of Srivijaya that Rajendra attacked. The inscription does not give any reason for the invasion.

It is believed that the Chola defeated Srivijaya in 1025. However Kedah may have been attacked a few years earlier. The Tiruvalangadu inscription dated 1017–1018 calls Rajendra Chola “the victor of Kataha” while the introduction to another inscription dated 1022–1023 calls him the ruler of Gange and Kadaram. However the Tiruvalangadu inscription is written in two languages. The first part consists of 524 lines in Tamil, while the second has 271 lines of Sanskrit. Both are dated in the sixth year of Rajendra’s reign, but the Sanskrit section is believed to have been added later. An inscription from the ninth year of his reign does not mention the conquest of Kataha, but another from his thirteenth year reports Rajendra’s victories in India. The Tanjor inscription was also written in his thirteenth year; the report from the Tirumalai inscription is repeated, and the conquest of the Straits of Melaka is then appended. Majumdar concluded that Kedah was attacked in 1017–1018, but the attack was not successful. Only in 1025 was victory achieved (Majumdar 1986: 171–3 fn. 2).

Another event occurred in Kedah involving the Cholas and Srivijaya later in the century, but what happened is vague. The Perumber inscription issued by Virarajendradeva in 1069–1070 states that, “Having conquered Kadaram, [he] was pleased to give [it back] to [its] king who worshipped [at his] feet [which bore] ankle-rings” (Majumdar 1986: 181). The simplest explanation of this is that a revolt broke out and was subsequently put down by the Cholas.

In 1070, a man named Kulottunga ascended the throne of the Chola kingdom. In Chinese, he was called *Di-hua-jia-luo*, probably a transcription of “Diwakara”. According to the *Song shi*, in 1077, two emissaries came to China from India: *Zhi-luo-luo* and *Ma-tu-hua-luo*. An inscription in Guangzhou states that a person named Diwakara had been king of Srivijaya since 1064–1067. The king of Srivijaya in the same year sent two emissaries to China, with the same names as the Chola envoys.

Early inscriptions from Kulottunga’s reign say how he “gently raised, without wearying [her] in the least, the lotus-like goddess of the earth residing in the region of the rising sun” (Majumdar 1986: 186); this is sometimes considered a reference to Kedah. Kulottunga’s connection with Kedah is mentioned in two other sources. The Smaller Tamil Leiden Grant, 1089–1090, says that he gave a village to a Sailendra temple at the request of the king of Kidara (Majumdar 1986: 182). The use of the name “Sailendra” to refer to a ruling group is only found in inscriptions from Java and Face B of an inscription from Ligor, southern Thailand. As

noted above, Sailendra also appears in an Indian inscription as the name of the ruler of Kedah. A Tamil poem, *Kalingatupparani*, written around the end of his reign in 1120, refers to Kadaram's destruction by Kulottunga (Wolters 1970: 93).

Based on this data, some believe that Kulottunga was once a high official in Kedah, perhaps a viceroy, who later ascended the throne in India (Çœdès 1968: 148). Wolters thought instead that the similarity in names between the king of Srivijaya and the Chola king was mere coincidence (1966: 228–30). However, this leaves us without an explanation for the Chinese belief that the Chola kingdom was a vassal of Srivijaya in 1068–1077 (1966: 148). A south Indian historian thought that this “can only be explained as the result of a wanton misrepresentation on the part of the envoys of Srivijaya” (Sastri 1949: 84). The most likely explanation is that Kulottunga was sent to Kedah as viceroy, and later returned to India as king. Hearing that the ruler of Kedah had become king of the Chola, the Chinese may have wrongly concluded that the Cholas had been subjugated by Kedah.

Chola power declined in the twelfth century. Indian sources no longer mention Kedah. The period of Tamil colonization of the north end of the Straits may have lasted about a century. The most visible traces of this period in Kedah include ruins of Siva sanctuaries (particularly Candi Bukit Batu Pahat) and some inscriptions, the most famous of which was carved in Barus in 1088.

The Chinese report that a number of places in the Malay Peninsula were subjects of San foqi in 1225: Pahang, Terengganu, Langkasuka, Kelantan, Ligor, Tambralinga, and Chaiya. A leader in a country called *Fo-lo-an* was directly appointed by San foqi, and the crown prince of San foqi made a pilgrimage there every year to burn incense in a temple (Wheatley 1961: 69). *Fo-lo-an* was relatively rich, with a temple roofed with bronze. It sent tribute every year to San foqi, including gold and silver bowls (Hirth and Rockhill 1911: 69).

Kedah (now referred to as *Ji-to*; changing Chinese transcriptions cause headaches for historians) is only mentioned once in the *Zhu Fan Zhi* of 1225; the same name is used by Wang Dayuan in the fourteenth century and Ma Huan in the fifteenth. In 1225, Zhao Rugua wrote that ships went to Malabar every year from three places: Kedah, Jambi, and San foqi. This replicates the seventh-century situation. The thirteenth-century situation in Kedah is hard to evaluate. Çœdès believed the main commercial centre in the northern Straits of Melaka moved from Kedah to Pasai, but that Kedah was still politically stronger (1968: 245, 367 fn. 87).

In the fourteenth century, Prapanca called *Keda* and *Jere* (Kedah Peak and Gunung Jerai in Malay) territories of Majapahit. Kedah does not play a prominent role in the *Malay Annals*. The king of Kedah came to Melaka in the reign of Sultan Mahmud Syah in order to be confirmed as ruler in his district (Brown 1970: 130–1). Thus Kedah seems to have lost most of its early importance by this time.

Kedah Archaeology and Architecture: the Chola Imprint

No inscriptions of the eleventh or twelfth centuries have been found in Kedah. Thus we have no concrete evidence for Indian political occupation or the implantation of a south Asian trading settlement there. Architecture, however, indicates



3.02 Candi Bukit Batu Pahat (“The Temple on the Hill of Carved Stone”), Kedah, Malaysia, was probably built in the early eleventh century for the worship of Siva

a sudden change in the culture of the Merbok estuary.

Archaeological remains south of the Merbok (chapter 2), consist of Buddhist remains and inscriptions. Remains north of the Merbok are very different. They include foundations of Hindu sanctuaries consisting of a *vimana* (a room for a holy object such as a statue or *lingga*) and a *mandapam* (an open pavilion) with a roof, where a statue of Siva’s mount Nandi was usually placed, and where worshippers took part in ceremonies (Peacock 1980: 24). This architectural style is only found in one part of Southeast Asia: Biaro Si Topayan in north Sumatra (Lamb 1961: 1–9). One Kedah sanctuary, Site 8 (Fig. 3.02), was also provided with a stone conduit for holy water or *somasutra*. This feature is common to Hindu temples, both ancient and modern, but only one temple in Indonesia (Candi Arjuna, Dieng, central Java, built in the early eighth century) has such an appurtenance. Since the Chola kingdom was mainly Hindu and Rajendra Chola was a devotee of Siva, it is likely that Site 8 was a Hindu temple built during the Chola period.

Although a large proportion of these sites cannot be assigned to Hinduism or Buddhism, the figures indicate a shift from Buddhism to Hinduism in the Bujang-Merbok region around the time of the Chola invasion.

Was there a Chola enclave in Kedah? Although it seems likely that

Table 3.1 Pre-Islamic sites of Southern Kedah (Allen 1988)

Early Buddhist:	6
Early Hindu:	2
Late Buddhist:	1
Late Hindu:	6
Hindu, unknown date:	3
Early Unknown:	8
Late Unknown:	12
Unknown period, religion:	22

there was, no such archaeological evidence has been discovered. Locally made Kedah earthenware is decorated with carved wooden paddle marks; both technique and specific motifs link this ware with northeast Sumatra (especially the Kota Cina site; *see* below) as well as fourteenth-century Singapore and sixteenth-century Johor Lama. There are very few discernibly Indian artifacts in the north Merbok zone. The Hindu temples in Kedah may have been erected by the Cholas as a symbol of their conquest. It is quite possible that south Indian traders established themselves in Kedah; the lack of an inscription like those found in Barus and dated 1088 by itself proves nothing.

Art historian Stanley O'Connor has observed that "Brahmanical sculpture in Peninsular Siam from the ninth to the eleventh century is dominated by South Indian styles. . . . This intrusion of south Indian style represents a violent discontinuity in the course of Brahmanical sculpture on the peninsula" (O'Connor 1972: 52). One can discern a powerful and sudden influx of powerful Tamil influence at this period. The Chola attempt to dominate Kedah and southern Thailand was probably the climax of a period of increasingly intense cultural and economic relations between India and Southeast Asia. This phase however passed, and the northern end of the Straits of Melaka returned to its own cultural traditions.

Song Dynasty Chinese ceramics have been discovered at a site called Pengkalan Bujang. Although historical sources on the subject are lacking, archaeology indicates that Kedah had close relations with Borneo and Java at this time. According to chemical analysis, a gold object from a temple ritual deposit in Kedah was made with gold from Borneo (Treloar 1967, 1968, 1972).

Implications of the Kedah Evidence for Srivijaya, and the Meaning of *San foqi*

One major difficulty encountered in learning more about ancient Southeast Asia is heavy reliance on foreign references. Foreigners were often somewhat confused about the situation in Southeast Asia, and it is never certain whether the same name always refers to the same place; moreover, the same place may have had more than one name. For example, Srivijaya is also referred to as *Sribuza*, *Shih-li-fo-shih*, *San foqi*, *Zabag*, etc. Adding to the problem is the propensity of foreign writers to attempt literary effects, which may distort local names intentionally, and to use metonymy, whereby one name stands for a whole area (or conversely a name of an island may stand for a country), etc. For example, *Suvarnadipa*, "Golden Island", in Sanskrit sources, may either mean the whole island of Sumatra, or the kingdom of Srivijaya. To confuse matters further, in ancient times, it was not common practice to have a name for a country; the name of the capital usually stood for the entire area under the authority of the ruler who lived in the royal palace.

It is therefore dangerous to rely on evidence from place-names in Southeast Asia. One particularly suggestive change however is the replacement of one Chinese name for Srivijaya with another, beginning in the year 905. The older name was *Shi-li-fo-shi*, a phonetic rendering of Srivijaya. At the end of the Tang

Dynasty, however, the name was changed to San foqi. *San* is not a good approximation of *Sri*, although *fo-qi* is a good rendering of *vijaya*. What is the significance of this name change?

The character for *san* in Chinese texts literally means “three”; San foqi could be translated as “the three vijayas”. This may reflect Chinese realization that Srivijaya was not a centralized empire. The appearance of this name coincided with a sudden burst of mission-sending. Southeast Asian kingdoms tended to send more missions to China during times of internal turmoil in the hope that Chinese recognition of their status as rulers would be politically useful back home. In 992, a Chinese record states that a Three Vijayas ambassador was afraid to go home because his country had been invaded by Java (Çoedès 1968: 132). By the end of the tenth century, Srivijaya’s monopolistic position in the Straits was slipping. Tambralinga, an important port in the northern Malay Peninsula was already independent of Srivijaya (Wolters 1958) and *Ku-lo*, probably on the west coast of the Malay Peninsula, was trading directly with China (Wolters 1966: 228).

George Çoedès, the great historian who laid the foundation for the study of ancient Southeast Asia, believed that Srivijaya’s setback was only temporary. He was probably wrong. In addition to evidence that Cholas ruled Kedah and replaced Buddhism with Hinduism, there is evidence that Palembang, the 400-year-old capital of Srivijaya, lost its dominant position. Some historians have assumed that the capital of Srivijaya simply shifted to the next river valley to the north, the Batanghari, in Jambi, where the kingdom of Malayu had been located (Wolters 1966). This is contradicted by the fact that after frenetic diplomatic activity in the late tenth century when the Three Vijayas sent many missions to China, it did not send a single mission to China between 1028 and 1077. This could be either a sign of stability, or of complete collapse in the wake of the Chola attack of 1025.

It is unlikely that the ruler of Srivijaya simply transferred his palace to Jambi. The two rivers, the Musi and the Batanghari, had been rivals since at least the seventh century. Local polities rarely disappeared in premodern Southeast Asia. The transfer of the centre of power in southeast Sumatra to Jambi would not have been a simple matter of relocating a palace while maintaining continuity with the Srivijayan past. What undoubtedly happened was that Jambi managed to reverse 400 years of Palembang dominance and converted the Musi River from an overlord to a vassal. This was not a minor geographical readjustment; this was a momentous creation of a new *mandala* of power, with a new sacred center. This probably indicated a loosening of centralized control over trade in the Straits of Melaka as more Chinese merchants and ships entered the region.

It is likely that Srivijaya no longer existed after 1025. The Chola attack may have been the proximate cause of this “fall”, but a more crucial if less dramatic factor was the gradual infiltration of foreign merchants into and through the Straits of Melaka and South China Sea. At first these were Muslims from the west, but another group soon became much more significant: the Chinese.

The earliest Chinese traders to Southeast Asia may have simply hitched rides on Muslim ships. Over the course of the centuries, however, the Chinese acquired

enough knowledge to venture out independently. This sojourning lifestyle led to the formation of Chinese overseas communities. At first, the Chinese probably visited Southeast Asia for limited periods, but the exigencies of commerce made it profitable to leave agents to take advantage of fluctuations in market prices. Sometime during the twelfth century, the first overseas Chinese community was implanted somewhere in the Straits of Melaka.

THE SOUTHERN SONG DYNASTY AND ZHAO RUGUA'S "RECORDS OF VARIOUS FOREIGN LANDS"

In 1126, Mongol invaders conquered northern China. The Song established a new capital further south. They managed to survive here for another century and a half. In 1260, the southern capital was lost. The court managed to maintain a precarious existence until 1279, but resistance then came to an end.

The shift of the Song court to south China, near seaports, and the urgent need for funds to support the army, gave Chinese maritime trade with the South Seas a new impetus. In 1178 an important work on the subject, *Lingwai Daida*, "Information on What is Beyond the Passes", was written by Zhou Qufei. Unfortunately, this work has been lost, but quotes from it are found in later sources. The oldest well-preserved text that gives extensive details of Chinese maritime trade is entitled *Zhu Fan Zhi*, "Records of Various Foreign Lands", written by the harbourmaster of Guangzhou, Zhao Rugua, in 1225. He never left China but accumulated information by interviewing sailors and incorporated information from Zhou Qufei.

The *Zhu Fan Zhi* does not mention any overseas Chinese communities. Although it is probable that one or more had formed before 1225, archaeological evidence cannot prove if Chinese traders merely visited a site or if they lived there for a long period of time. Only historical evidence can prove that with certainty, and none seems to have survived.

Zhao implies that Chinese traders were not restricted to a few "designated" ports. The old *emporion* system had become unenforceable by the thirteenth century. Many new ports appeared at this time, some in areas that had rarely been in contact with China previously. At *Pu-ni* (perhaps Brunei), on Borneo, after preliminary ceremonies, the traders

request the king and the grandees of his suite to fix with them the prices of their goods; this being done, drums are beaten, in order to announce to all the people near and far that permission to trade with them has been granted. Clandestine trading previous to the price being fixed is punishable. It is customary to treat the traders with great regard . . . (Hirth and Rockhill 1911: 156)

Krom (1931) said this gives the impression of a country with little or no "Hinduization".

Zhao Rugua said San foqi (now referring to a polity ruled by Jambi) was not rich because of its own products, but because ships from many countries met

there. Zhao says that the best *pandanus* mats were made on Borneo, but were sold at San foqi. Ambergris, a costly perfume, was worth its weight in gold. Zhao considered this commodity to be an Arab monopoly, but the Chinese obtained most of their supply at San foqi. Zhao knew Srivijaya as a great source of many other products that originated from Arab or Persian lands, such as pearls, frankincense, rosewater, gardenia flowers, myrrh, aloes, asafoetida, etc. (Hirth and Rockhill 1911: 61). There is no evidence that local manufacturing was carried out in Jambi, except for finely-carved wood, which Zhao says was available there.

Zhao records that San foqi had 15 vassals, including Palembang (thus showing definitively that Palembang was no longer the place which the Chinese called *San foqi*), from Kelantan and Tambralinga on the Malay Peninsula to Sunda (West Java) and Lamuri, north Sumatra (he also mentions a vassal named *Si-lan*, which sounds like “Srilanka”; if this is what he meant, this would cast doubt on the accuracy of this entire passage). On the other hand, in 1230, Tambralinga set up an inscription at Chaiya, peninsular Thailand, which shows that Tambralinga had just conquered Chaiya. The inscription gives no indication that either party considered themselves to be under the authority of San foqi.

Zhao also records that San foqi used violence when necessary to make passing ships call at its harbour and pay duty. This trait represents continuity with the ancient traditions of the Silk Road of the Sea, and even Venice was not above resorting to the same tactic.

SOUTHEAST ASIAN TRADING PORTS OF THE EARLY CHINESE DIASPORA

The Problem of Ancient Southeast Asian Urbanization

Oc-èò is the oldest known archaeological site of what most people would call a city in Southeast Asia. It had a dense population, as proven by the large amounts of habitation remains, and signs that the site’s residents engaged in many kinds of specialized occupations, for which they were paid in money. Other sites of the early first millennium AD such as Khlong Thom (Krabi, southern Thailand) may have had a similar form but Khlong Thom has been badly looted, thus disturbing or removing ancient remains before they could be studied. Extensive archaeological excavations of a well-preserved site are needed to estimate the population of an ancient settlement; very few sites in Southeast Asia have had the benefit of such a situation. Knowledge of early Southeast Asian cities is therefore almost non-existent and will probably never be recovered.

A second problem is the fact that traditional Southeast Asian houses, even palaces, were built of wood, bamboo, and thatch. After a few centuries, almost nothing is left of such structures. This problem is particularly acute in the Straits of Melaka, where many cities such as Palembang were built over water, and when they decayed, they simply fell into the mud and vanished. Many sites once had monuments built of brick, but as in the cases of Palembang and Singapore, sites were looted, old bricks were exploited in the nineteenth and twentieth centuries, and these structures too vanished without a trace.

Conversely, some sites have an abundance of monumental remains but no evidence of dense population. This is true of south central Java. At Angkor in Cambodia and Bagan in Myanmar, archaeological attention has focused on spectacular monuments; no effort has been expended on looking for remains of dwelling areas. Hence we have no idea whether these civilizations created densely-populated urban areas, or were like Egyptian pyramids, monuments in a region of dispersed population. Perhaps the centralized kingdoms of Myanmar and Cambodia, having little occupational specialization, did not foster (in fact would not have wanted to see the rise of) densely-packed urban zones in which it would have been difficult to exercise the stringent political controls that typified these two societies.

If we leave aside the many cases where there is no data to determine whether or not a city in the modern sense of the word existed, we must conclude that no known urban site arose in Southeast Asia for several centuries after the decline of Oc-èò. In Sumatra, Java, Borneo, the Malay Peninsula, and the Philippines, early European visitors noted with astonishment and curiosity the thickly-populated ports in the midst of which grew dense foliage (Miksic 1989). This was quite different from way space was used in European cities.

Very little systematic exploration in search of settlement sites has been carried out in eastern Sumatra. Edwards McKinnon noted at least 12 sites of the tenth through fifteenth centuries in the Musi River basin alone; most are remains of pre-Islamic temples or statuary, though some are marked by sherds of Chinese porcelain. Many other sites have been found in the Batanghari drainage (Edwards McKinnon 1985, Shah Alam bin Mohd Zaini and Cowan 2006). Due to a lack of manpower and funds, and the inaccessibility of sites, little else is known of them other than the mere fact that they exist.

Palembang and Jambi

Neither Palembang nor Jambi has yielded enough archaeological data to answer questions regarding their layout or population. Chinese accounts described Palembang as a place where foreigners dwelt inside a wall, while the indigenous inhabitants lived either scattered about outside the city, or on rafts (Hirth and Rockhill 1911: 60). There is neither evidence of a dense urban conglomeration nor any reference to a Chinese community.

Excavations in the early 1990s recovered Chinese ceramics of several varieties from the eleventh and twelfth centuries: green, *qingbai*, and brown glazed ceramics from Fujian, Guangdong, and Zhejiang (Eka A. Putrina Taim 1992). Thus Palembang was not cut off from international trade despite the loss of its paramount position to its northern neighbour.

The island of Bangka, just off the mouth of the Musi River, was important to Srivijaya. The empire probably drew much of its naval power from the island's population. Even before Srivijaya appeared in the late seventh century, Bangka was in contact with long-distance communication networks. Evidence for this includes the establishment of the cult of Vishnu here as early as the sixth or seventh century. A ruined Vishnu temple contains an enigmatic assemblage of five piles of *qingbai*

bowls of the twelfth century, laid on top of five piles of iron *woks*, facing upward, which in turn rest on three piles of *woks* facing down (Eka A. Putrina Taim 1992).

Malayu-Jambi

The modern province of Jambi in east Sumatra is essentially coterminous with the area drained by the Batanghari. After the Musi, the Batanghari is the second largest river system in Sumatra (Fig. 3.03). It is 1,740 kilometres long, of which 1,440 is listed as navigable (Agus Widiatmoko 2009: 2). Historical archaeology in the province of Jambi begins with the Karang Berahi inscription, one of several stones bearing oaths of loyalty to Srivijaya set up in the late seventh century. Karang Berahi lies in the hinterland, near a source of gold. A Tang source of the early seventh century mentions a tributary mission from Malayu, a name specifically associated with Jambi for the next 700 years. Yijing mentioned it as part of his itinerary from Srivijaya to Kedah in 672; in 685, he called there again, and said it was now (part of) Srivijaya. In the ninth and again in the eleventh century, Jambi sent tributary missions to China.

By the eleventh century, sandalwood flower coins similar to those used in Java, made in gold, electrum, and silver, appeared on Sumatra and the Malay Peninsula, including sites in south Thailand such as Krabi. One category is mainly found at Barus, Bengkulu, and Muara Jambi. In contrast to Java, silver coins were rare in Sumatra. The only large hoard reported in Sumatra was discovered at Krui, Bengkulu. This site on the southwest coast is not likely to have been a major trading port; it does, however, lie near a source of the gold and silver in the highlands. Another category of coins is specifically associated with Barus.

An eleventh-century Arab source mentions that Sribuza had many money-changers. No coins have been found in Palembang, but three gold coins of this type were found at a temple named Candi Gumpung in Muara Jambi. It is however necessary to note that no *candi* at Palembang were ever properly excavated. Perhaps similar coins would have turned up there too. The Jambi coins were found in the foundation deposit of the temple; thus this find tells us nothing about other possible contexts in which they might have been used.

Malayu seems to have been one of the main beneficiaries of the destruction of the monopoly that Srivijaya enforced for almost four centuries. Although *Malaiyur* is mentioned in the Tanjor inscription as one of the ports that was attacked during the Chola campaign of 1025, Malayu sent five missions to China between 1079 and 1094, evidence of its active role in international trade. Missions in the twelfth century brought both local products and Near Eastern glassware and sugar, evidence of Malayu's central role in a far-flung commercial network.

Arab texts of the ninth century mention a place called Zabag or Zâbaj. The *Akhbar al-sin wa'l-hind*, "Reports of China and India", mentions Zabag, Ramni (probably Lamuri in Aceh), and Salat (probably from the Malay word *selat*, "strait"). According to these texts, Zâbaj was a kingdom ruling Kalah Bar (probably the west coast of south Thailand and Kedah) and had camphor, gold, a volcano, and cannibals. Another text entitled *Voyage of the Arab Merchant Sulayman*



3.03 Traditional boat with side rudders on the Batanghari near Muara Jambi

to *India and China*, edited in AD 851, followed by remarks by Abu Zayd Hasan (written around 916), tells the story of a young and impetuous Khmer king who expressed the wish to have the head of the Maharaja of Zabag presented to him on a platter. The maharaja heard of this, and killed the Khmer king. The *Kiṭāb al-masalik wa'l-mamalik*, “The Book of Routes and Kingdoms”, ascribed to an Iranian, Ibn Khurdādhbih, contains similar information and adds that every day the Maharaja received gold that was thrown into a pool of water. An early tenth-century account of Abu Zayd of Siraf shows that *Zābaj* can be identified with Srivijaya; a place in it was called Sribuza.

Zābaj or *Zabag* probably corresponds to *Jawaka*, which probably referred to both Java and south Sumatra. Arab texts continued to use the name *Zabag* into the twelfth century, when it referred to the polity governed from Jambi. The Arab geographer Edrisi in 1154 wrote that the Chinese had begun to frequent Zabag and its island dependencies because of unrest in China and tyranny and confusion in India. In Zabag, they found the laws just, the people well-behaved and business-like. As a result, he says, Zabag was “so heavily populated and so often frequented by foreigners” (Ferrand 1922: 66).

Malayu was subjected to the main thrust of the invasion from Singasari in the thirteenth century. Nevertheless, the kingdom may have remained significant until sometime in the late fourteenth century. During the early Ming period, when Palembang had a significant Chinese population, Jambi seems to have sunk into oblivion. No early blue and white porcelain has been discovered in the province.

Statuary, temple ruins, and inscriptions of the eleventh through thirteenth century have been discovered in both lowland and upland Jambi. For several decades, archaeological research in the province focused on the site of Muara



3.04 Gudang Garam, Muara Jambi, a ruined Buddhist stupa, probably built around AD 1100

Jambi, about 25 kilometres down the Batanghari from the modern capital of Jambi Province, where 39 *candi* or brick temples (M. Nazir 1980/81: 23) are spread over a distance of five kilometres on the left bank of the river and other ancient remains cover an area of over 1,000 hectares. These include both square buildings with interior rooms which were probably temples for statues, and stupas (Fig. 3.04). Muara Jambi was the centre of a thriving Buddhist community.

Water management facilities including three pools and numerous canals (nine have so far been identified). A large artificial pool called *Telaga Raja* (Fig. 3.05) suggests that the site was also the location of a palace. This feature, a 120 by 100 metre rectangle, is one of three artificial pools on the site. It lies 100 metres from the large temple of Candi Gumpung (Agus Widiatmoko 2009; Retno Purwanti 2009). These remains probably mark the site of Malayu's capital in the eleventh through thirteenth centuries. The temple-building and landscape alteration is evidence of the prosperity and probable political ascendancy consequent upon Malayu's new autonomy after the fall of Srivijaya's capital Palembang in 1025.

Restoration work on the temples of Muara Jambi in the 1980s uncovered large quantities of pottery, including local earthenware, probable Javanese artifacts, and a wide variety of Chinese porcelain and stoneware. These have yet to be intensively studied.

Archaeological evidence of trade in Jambi consists of Chinese porcelain ranging from the Five Dynasties through the Yuan period, scattered over a number of sites between Muara Jambi and the sea (Edwards McKinnon 1982a, 1982b, 1992; Abu Ridho 1992, 1995). At Muara Jambi, ceramics were found near the gateways to several temple compounds, suggesting that some sort of activity



3.05 Telaga Raja, “King’s Pool”, Muara Jambi, perhaps part of the palace of the ruler of Malayu

occurred regularly there. The Chinese wares span the early eleventh through the thirteenth century. In the ruins of one of the monuments, Candi Kembar Batu, a bronze gong with Chinese inscription including the date 1231 was discovered.

The existence of a “King’s Pool” at Muara Jambi suggests that the site was a royal palace and temple complex, a ceremonial rather than economic centre. Numerous sites of the eleventh through thirteenth centuries have been found downstream from Muara Jambi. A survey organized by the Asia Research Institute of the National University of Singapore and the National Center for Archaeological Research and Development of Indonesia with participation from Udayana University, Bali, in the lower Batanghari in 2005 aimed to reconstruct pre-fourteenth century settlement patterns in the basin. The project, sponsored by Orchard Marine, Singapore, explored both banks of the Batang Hari and its immediate floodplain within a distance of approximately 20–30 metres from the riverbanks, and the Batang Kumpeh, a tributary of the Batanghari, between the modern town of Jambi and the coast.

The survey confirmed that Muara Jambi, at 1,100 hectares, is the largest of all sites in the area of what was once called the Kingdom of Malayu. Three sites belonged to a second tier, based on their area of 50 to 132 hectares: Lambur, Kota Kandis and Suak Kandis. Two sites belonged to a third tier, with areas of 12 to 28 hectares, while thirteen sites covering less than one hectare, a fourth tier, were also discovered. Eight more sites of unknown size have been reported found by the local branch of the Monuments Preservation Department (*Balai Pelestarian Peninggalan Purbakala*) (Shah Alam and Cowan 2006).

Some of these sites contain remains of brick temples, but the main evidence



3.06 Statue of Prajnaparamita, Buddhist deity of transcendental wisdom. The statue was found at Muara Jambi, but may have been imported from east Java, where this goddess was also popular, perhaps around the time of the invasion of Malayu by Singasari in 1275.

of ancient activity on them comes from ceramics (Listiyani 2008). Kota Kandis has yielded both huge amounts of imported ceramics and also a bronze ceremonial lamp of south Indian origin. It seems that the port, where much porcelain was unloaded and other economic activity probably took place, was not located near the cluster of brick monuments, but at another site, closer to the river's mouth. This spatial separation provides an interesting insight into the distinction made between religious and economic activity.

Archaeological activity in Malayu has concentrated on monuments, statuary, and inscriptions. No research has attempted to elucidate the size and the nature of sites downriver from Muara Jambi, or the role that trade and other occupations played in their formation and functioning. We are still far from understanding the commerce of this important area where the Silk Road of the Sea touched the shore of eastern Sumatra during the period of early Chinese immigration.

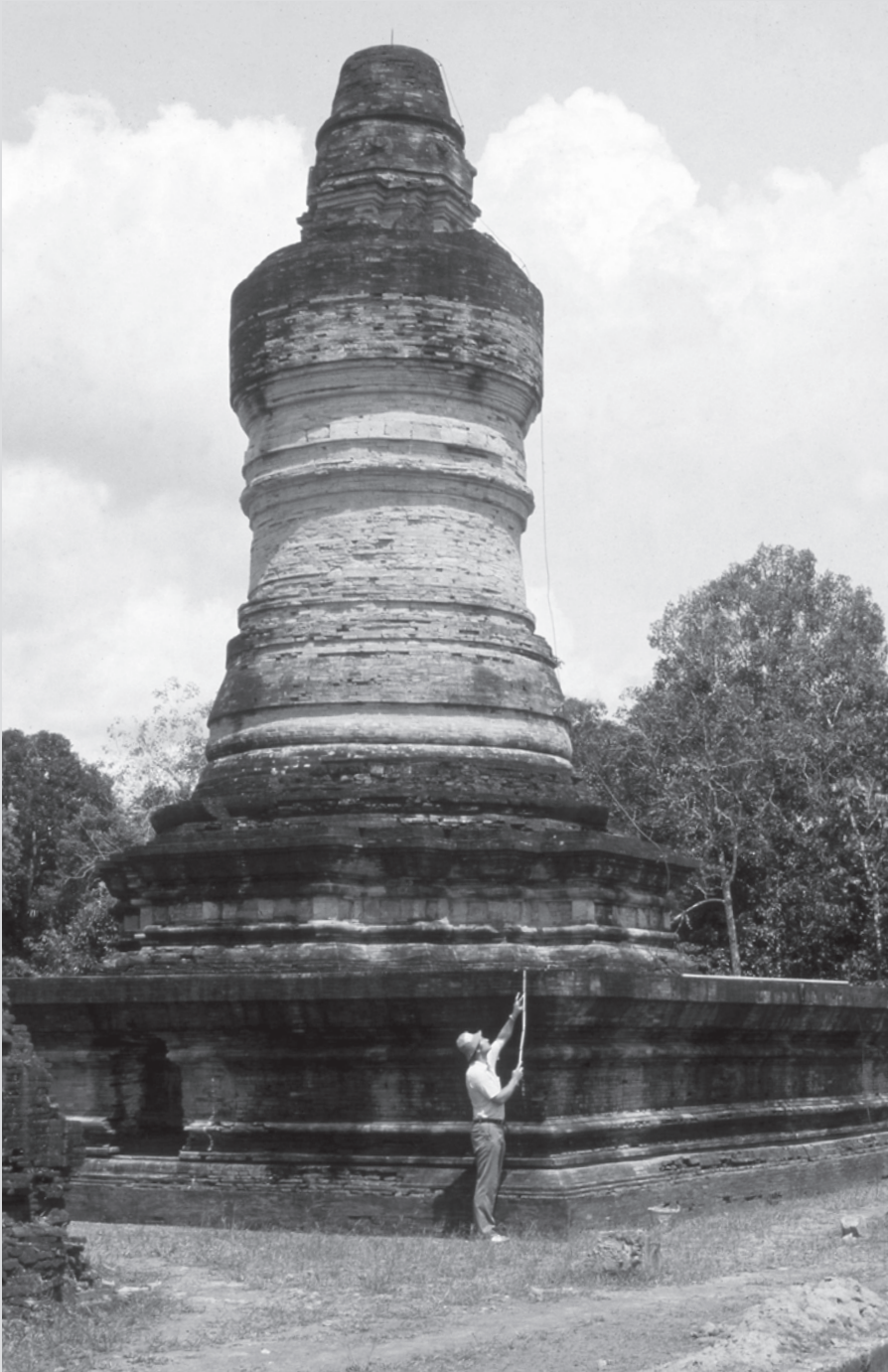
This situation began to change in the 1990s. Surveys and test excavations have now been performed along much of the lower Batanghari's present course [Abu Ridho 1992, 1995; Tim Penelitian Arkeologi Klasik (TPAK) 1996/97]. The river has changed its bed numerous times, and many oxbow lakes and tributaries, both extant and silted up, remain to be studied. This research has demonstrated significant potential to expand our knowledge of early Chinese trade and Sumatran civilization. Perhaps in the next decade more research including intensive excavations will bring this potential to fruition.

A Hinterland Ceremonial Site: Muara Takus

In Riau province, far up the Kampar River, lies Muara Takus. A cluster of Buddhist shrines was built here in the eleventh century; it is unclear by whom and for what purpose. Some scholars have discerned Sri Lankan influence in the tall thin Mahligai Stupa (Fig. 3.07), which still stands, but no Sri Lankan artifacts have been found at the site. Sherds of Chinese porcelain recovered there during restoration in the 1980s indicate that the inhabitants of the site had contact with the Silk Road of the Sea. The site proves that Buddhism's influence extended beyond the coastal zone into the Sumatran hinterland. It also probably indicates the presence of an intersection of trade routes at this point. No habitation or other sites have been discovered anywhere nearby; the site today lies in a remote and underpopulated region of the island. Muara Takus is the most important ancient site yet discovered in Riau Province. The Kampar River is not an important transport route, because of a dangerous tidal bore which forms at its mouth. The Chinese sherds found there may have entered the island via a port on another river, then found their way overland to this site.

Barus

The site of Lubok Tua, Barus, northwest Sumatra, may have qualified as a city in the eleventh century (*see* chapter 2). Further research is needed to confirm this hypothesis since it is not yet possible to estimate the population density of Lubok



3.07 Mahligai Stupa, Muara Takus, Riau Province, Sumatra, probably built in the eleventh century and subsequently enlarged

Tua, but it seems that the inhabitants of the site were employed in specialized occupations connected with an active trading network linking this site to Egypt, the Persian Gulf, India, China, Java, and other parts of Sumatra. Lubok Tua seems to have declined not long after the Tamil invasion; there is no evidence that the Tamil corporation that erected the inscription in 1088 stimulated a large increase in commercial activity. In fact, the reverse may have been true. The site has yielded much Chinese and Persian material, but very few items from India. There is no firm documentary proof that any foreign community settled there. Other sites in the Barus area, such as Bukit Hasang, arose in the twelfth century. Barus continued to play an important role in long-distance trade until the seventeenth century (*see* chapter 11). The Arab traveller Ibn Battuta, who visited Sumatra in 1335, considered Barus, like Palembang and Malayu, a port of international importance (Krom 1931: 397–8).

Kota Cina

Kota Cina lies beside a mangrove swamp in northeast Sumatra near the mouth of the Deli River (Fig. 3.08). Important exports lie in the site's hinterland, including gold, and camphor, which was highly prized in the Chinese market. In the early and mid-1970s, extensive archaeological excavations carried out there (Miksic 1979, Edwards McKinnon 1984) (Fig. 3.09) discovered brick temple foundations (Fig. 3.10), wooden posts that once supported stilt houses (Fig. 3.11), Buddhist and Hindu statuary (Fig. 3.12), large quantities of Chinese and local ceramics (Figs. 3.13, 3.14), Chinese and Sri Lankan coins, gold, bronze and iron slag, moulds for making jewellery, bones, and food remains such as shells.

The site lacks monumental architecture other than foundations for simple rectilinear brick structures. Some foundations had been dismantled by local residents, so it is possible that larger buildings may have stood there once. One surviving structure may have been a *mandapa* associated with south Indian Hinduism; another may have been a Buddhist monastery. Statues of both religions were found there; all were probably imported from Sri Lanka and southern India.

The best evidence for dating Kota Cina comes from tens of thousands of porcelain sherds, found in excavations and surface surveys, that can be assigned to the late Northern Song and Southern Song (roughly from 1080–1260), approximately two centuries. The *Zhu Fan Zhi* of 1225 states that the porcelain trade at that time was mainly in the hands of foreign, especially Arab, merchants (*fan shang*), so the presence of huge amounts of Chinese porcelain at a site does not by itself prove that Chinese merchants brought it there, still less that they resided there for long periods. [However, Zhu Yu in the early 1100s, described Chinese merchants going abroad as taking mainly pottery, “the small pieces packed in the larger, till there is not a crevice left” (Hirth and Rockhill 1911: 31).]

It is theoretically possible to attempt to estimate the probability that Chinese settlers lived there by looking at the total assemblage of artifacts, their distribution, and their contexts both within the site and the surrounding region. This is why it is necessary to construct an extensive but also finely-detailed image of



3.08 Creek leading to the Kota Cina site

the distribution of Chinese ceramics in the Straits of Melaka over the tenth to fifteenth centuries: until such data is collected, we cannot evaluate objectively the probability that any site was the home of an early overseas Chinese community.

The density of habitation debris, the breadth of their distribution over an extensive area, and the range of occupational specializations that the remains demonstrate, qualify Kota Cina to be considered a city. Next to Barus, Kota Cina is the oldest Indonesian city that can be archaeologically identified.

The history of this region is not well-known. No names in early Chinese sources can be correlated with it. The name of the site itself is suggestive. There was already a village of this name here in 1825 (Anderson 1971). The name is Indonesian for “Chinese stockade”. Etymologically, *kota* has become the modern Indonesian word used to translate “city”. This differs from Malaysia, where the word *bandar* (trading port) is used instead. The name of the site suggests a possible reason for its formation. Marco Polo described how Chinese voyagers built wooden stockades in north Sumatra in 1292 (not long after Kota Cina seems to have been deserted):

We disembarked from our ships and for fear of these nasty and brutish folk who kill men for food we dug a big trench round our encampment, extending down to the shore of the harbour at either end. On the embankment of the trench we built five wooden towers or forts; and within these fortifications we lived for five months. (Latham 1958: 254)

The fact that Polo’s Chinese comrades did not spend the monsoon in an existing



3.09 Indonesian excavation at Kota Cina, 1977. The director of the excavation, Mr. Nurhadi M. Sc., is on the right holding the camera.

Chinese community suggests that one did not exist at this time. Perhaps Kota Cina had been abandoned.

The Chinese continued to use the same procedure for several centuries. Even the large fleets of the early Ming Dynasty built temporary encampments. According to Ma Huan:

Whenever the treasure-ships of the Central Country arrived there, they at once erected a line of stockading, like a city-wall, and set up towers for the watch-drums at four gates; at night they had patrols of police carrying bells; inside, again, they erected a second stockade, like a small city-wall, [within which] they constructed warehouses and granaries; [and] all the money and provisions were stored in them. (Mills 1970: 113)

Kota Cina was perhaps formed by the coalescence of a population of local origin around a core of seasonal Chinese visitation that gradually became permanent habitation. Exemplars of such seasonal settlements were to be seen in eastern Indonesia in the early nineteenth century. Alfred Russel Wallace described one such transitory trading centre: Dobbo, in the Aru archipelago (1860: 335–6). Approximately 500 traders including Chinese and Arabs gathered annually on a particular beach, set up shops, and exchanged iron tools and cloth for local products such as pearls and feathers of the bird of paradise. This activity lasted for a season; when the wind changed, the traders bundled up the commodities they had acquired, the Indonesians boarded their canoes, and within a week the entire beach lay deserted. Echoes of European medieval trade fairs may be discerned in



3.10 Brick temple foundation at Kota Cina, probably built in the late eleventh or early twelfth century



3.11 Soil strata of habitation area at Kota Cina

this pattern. Through a process of mutual accommodation and symbiosis, Chinese traders may have decided to remain at sites such as Kota Cina semi-permanently, and local groups may have settled around them, providing the visitors with food and labour. Local rulers would have given the Chinese rights to settle in his territory, since he would have derived political benefits by engaging in traditional exchanges of luxury items as gifts and from market trading of other commodities under his supervision and taxation.

Evidence suggestive (but not conclusive) of a Chinese presence at Kota Cina includes the large amount of Chinese porcelain; gold foil scraps with inscribed Chinese characters (Swan and Scott 1990); and hundreds of bronze Chinese coins, some still in boxes and corroded together in sausages, indicating that they were originally tied in strings of uniform numbers to form larger units. Others were scattered randomly among habitation remains. The most probable inference is that they were used as an everyday medium of exchange. This is the oldest known site in Southeast Asia with evidence that Chinese cash was in circulation.

There is no evidence that Indian currency was used in Southeast Asia, but Sri Lankan coins of the late thirteenth century have been found at Kota Cina and fourteenth-century Singapore, indicating that these were in circulation. Together with the imported stone statues of Buddhist and Hindu deities, the coins suggest the possibility that Kota Cina's population contained a South Asian component .

A few traces of contact with the Persian Gulf/Red Sea area were also discovered. A Chinese goldsmith in Penang, Mr. Tho Fook Wai, identified green stains on the interiors of several small clay cups as the remains of borax, which was used as a flux in melting gold. According to Zhao Rugua, Java imported borax from Persia. Shards of glass and a few sherds of pottery were also identified as products of that general area.

Kota Cina's society can be interpreted as a fusion between a local population and foreign elements. The immigrants did not impose a new way of life, but acted as a catalyst that resulted in a new form of economic and social structure. North Sumatrans had previously experienced foreign trade indirectly by bringing their products to rulers of Srivijaya or possibly Kedah. The arrival of a Chinese ship in the Deli River of northeast Sumatra seeking gold and forest products would have been gladly greeted by the local society.

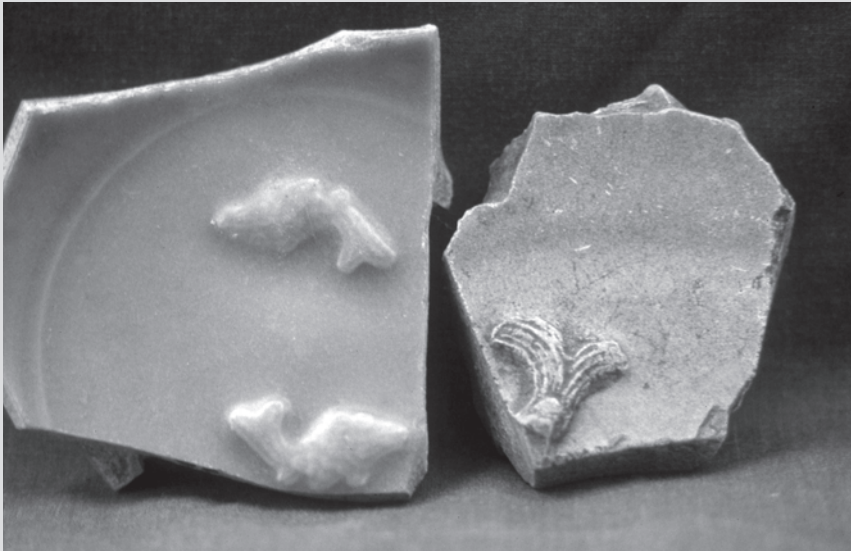
When Srivijayan power was broken by the attack from south India in 1025, the ancient emporion system, which confined foreign trade to a very few designated ports, was replaced by a more atomistic pattern. The system might have been reconstituted had Muslim and Chinese traders not begun entering the region at approximately the same time as Srivijaya was destroyed. With large numbers of foreign traders entering the region just when political authority was diffused, the old mechanism by which one Indonesian port could prevent foreign traders from calling at rival ports became unenforceable. Various ports at the south end of the Straits of Melaka (Jambi, Palembang, Singapore, Melaka, Riau, and Johor) managed to attain *primus inter pares* status, but never acquired Srivijaya's ability to impose a monopoly of trade over the entire Straits.



3.12 Granite image of Buddha in south Indian/Sri Lankan style, probably carved in the twelfth century. The head was stolen in the 1940s and replaced by a crude clay version.

Other trading sites of the eleventh through thirteenth centuries must exist along the coasts of the Straits, on the north coast of Aceh, and in peninsular Thailand, but archaeological evidence for them has not yet been seriously sought. Kota Cina may be representative of a whole class of sites along the coasts of the Straits of Melaka, formed as the result of new opportunities presented by the disappearance of a previous monopolistic system and a newly available source of business. One of the principal factors that led to Kota Cina's rise is Chinese immigration. No such sites existed any earlier, because there was no previous phase of Chinese (or south Asian) immigration.

The majority of remains at Kota Cina are sherds of local earthenware pottery, decorated with paddle marked motifs much like those found in Kedah at the same period. Pengkalan Bujang also displays some important differences with Kota Cina. Kota Cina architecture used brick rather than stone. Numerous terracotta figurines appear in Kedah but not in Kota Cina. The overall range of artifacts indicates that the main activity in Kota Cina was not religion but trade. In Kedah the situation may have been the reverse. According to the Malaysian archaeologist Leong Sau Heng, her excavations in Kedah in 1971 "have shown that entrepôt activity was not as important as Dr. Lamb thought. In general, the cultural layer was not very thick or dense" (Leong 1980: 11). Most of the known eleventh to thirteenth century remains in Kedah are religious monuments, not habitation remains.



3.13 Green porcelain with molded fish decoration, Song Dynasty, Kota Cina



3.14 Celadon *kendi*, thirteenth-century, Kota Cina. The shape of this vessel suggests that Chinese potters were copying Southeast Asian earthenware in an attempt to capture a larger share of the market for ceramics.

On the other hand, sites in south Kedah show signs of having once been important, but have not been intensively investigated. At one site, designated “Kota Aur” in earlier reports but properly known as Kampung Sireh (or Site 42), deep, well-stratified deposits of foreign ceramics were exposed over a distance of at least 80 metres in a stream bank. These include Song, Yuan and Ming, Thai, Vietnamese, and possibly even Khmer ware. Kampong Tambang Simpoh (Site 43) yielded sherds of tenth-century Chinese, and eleventh to twelfth century Middle Eastern provenance. No blue and white ceramics were recovered, so the site probably did not survive into the fourteenth century. Other Middle Eastern artifacts included 14 glass vessel shards and two beads. Some shards were distorted by fire; the discoverer speculated that beads may have been made here using re-melted glass (Allen 1988: 369). Alastair Lamb’s excavations in Pengkalan Bujang in the 1950s uncovered large quantities of imported ceramics and glassware (Lamb 1961; for illustrations, *see also* Choo 1987: 71, pl. 65 Song greenware; also recovered were fragments of a glass lamp from the Arabian region that dates from the eleventh or twelfth century AD; 78, pl. 76; and cover illustration).

The Philippines: Breaker Shoal Shipwreck

The Butuan site (*see* chapter 2) was abandoned after the tenth century. Other trading ports arose elsewhere in the Philippines. The Breaker Shoal shipwreck, found in 1991 near Palawan, yielded ingots of lead and iron, and Chinese porcelain of the *qingbai* and greenware varieties from Dehua, Tongan, and Anxi, Fujian, Jingdezhen, and possibly Zhejiang. In addition to porcelain, the cargo included Cizhao type stoneware storage jars including “small-mouth bottles”, otherwise termed “mercury jars” (*see* chapter 7). *Kendis* resembling those made in south Thailand indicate that the merchants, whoever they were, had commercial contacts with other parts of Southeast Asia in addition to China (Dupoizat 1995).

THE LATE-THIRTEENTH CENTURY

The Song capital fell to the Mongols in 1260, although a refugee Song court clung to existence until 1279. Despite their origins in the vast grasslands of central Asia, far from the ocean, the Yuan rulers had a sophisticated knowledge of the world. Their empire at that time stretched all the way to the gates of Europe. Though their culture emphasized militaristic values, they were aware of the advantages that peaceful commerce could bring. Chinese trade was not diminished by the transfer of power; instead trade expanded as the traditional moral and legal restrictions on trade were relaxed while Confucianism’s influence declined. Two other new processes had a lasting effect on the Straits: the coming of Islam and the expansion of Javanese power.

EARLY ISLAMIZATION AND JAVANESE EXPANSIONISM

Although the inhabitants of the Straits had been in contact with Arab and Persian traders for hundreds of years, there is no evidence that local people

converted to Islam until the thirteenth century. In 1281, Malayu sent two Muslim envoys to China; “most probably men who had already business connections with China and thus were merely ad hoc ambassadors” (Krom 1931: 336). By 1292 however, Marco Polo reports that the ruler of a north Sumatran kingdom called Perlak was a Muslim. The grave of King Malik-al-Saleh, dated 1297, was discovered in Samudra in the early-twentieth century (Moquette 1913). Perlak sent a mission to China in 1286, shortly before Polo’s visit (Rockhill 1914: 441).

Little archaeological research on Aceh has been published. Sites with deposits of early Chinese, Thai, and Vietnamese ceramics on Aceh’s coast demonstrate that great archaeological potential lies untapped in this region (Edwards McKinnon 1988). At the moment, we can only rue our ignorance of this region. Answers to basic problems such as the process of early Islamization of Indonesia, the world’s largest Muslim nation, will not be available until Aceh is thoroughly studied.

Beyond Aceh, until the fourteenth century, Islam was mainly a religion of foreign merchants in ports along the route from Sumatra to Maluku. Then Islam began to make converts in the Malay Peninsula: first in Terengganu on the east coast, and in the early-fifteenth century when the ruler of Melaka converted, presumably followed by his subjects. The impact of Islam in the thirteenth and fourteenth centuries was limited.

Javanese power revived in the thirteenth century. In 1275, the kingdom of Singasari, in eastern Java, launched an attack on Jambi, which forced the kingdom to become a vassal. The ruler himself was taken back to east Java. This may account for the failure to find any late Yuan ceramics in Muara Jambi since the site probably ceased to function as a significant political centre.

The Javanese ruler, Krtanagara, who succeeded in projecting power over the distance separating east Java from Sumatra (approximately 1,500 kilometres), ruled until 1292. Events at this time were unfolding quickly. Kublai Khan, then ruler of China, had sent a mission to Java in 1289 to demand greater tokens of submission than the Javanese had been accustomed to give as part of the tributary trade system. Krtanagara mutilated the faces of the envoys and sent them back as a sign of his defiance. In 1292, at approximately the same time as Marco Polo was sailing back to Italy via Sumatra, a fleet set off from China to attack Java. They were deprived of their vengeance, however, when Krtanagara was assassinated shortly before the fleet arrived. The consequence of these dramatic events for the Straits of Melaka was that Javanese control over Sumatra was loosened for a few decades while a new kingdom consolidated power in eastern Java: Majapahit.

COMMERCIAL AND POLITICAL CONTACTS BETWEEN CHINA, SOUTHEAST ASIA, THE MIDDLE EAST, AND EUROPE, 1260–1300

If economic history has been largely neglected in comparison to other aspects of the Chinese past, the economic history of the Yuan has been positively ignored. Only

one English-language study has been devoted to the foreign trade of the Yuan, and that work, Schurmann's *Economic Structure of the Yuan Dynasty* (1956), contains only one chapter on maritime trade. In fact, the whole study is based only on two *juan* of the *Yuan Shih*. Yuan trade has also been largely neglected in Chinese-language sources. A 1955 study by Fang Hao is still the main work, though its conclusions are now outdated (Kwee 1997). Fang Hao studied general Sino-Western interaction and argued that foreign trade continued to grow despite the tendency of the Yuan government to monopolize this sphere and suppress big merchants.

Chen Gao-hua suggested that Yuan foreign trade was conducted mainly by sea rather than overland (Kwee 1997: 2, fn. 3; cf. Reid 1993:10). Chen argued that maritime trade reached a peak in the Yuan Dynasty, but his essay lacks supporting evidence. Schurmann and Li Donghua also argued that maritime trade in Quanzhou during the Yuan was more prosperous than in the Song, but they too offered no evidence (Kwee 1997: 2, fn. 4).

Indirect evidence supports the idea that the expansion of Song times continued to accelerate during the Yuan Dynasty. New signs of increasing Chinese familiarity with the maritime world appear. For example, Yuan sources distinguish more clearly between various maritime territories. Terms such as East and West Seas (*Dong-xi-yang*), Bigger East Sea (*Da-dong-yang*), *Xiao-dong-yang* (Little East Sea), and *Xiao-xi-yang* (Little West Sea) first appear. The Yuan espoused an open-seas (*kai-hai*) policy. It was much easier for foreigners to reside in China. Local officials even held ceremonies to pray for favourable wind. Since no statistics have survived, other sources of indirect evidence to estimate the magnitude of Yuan trade must suffice. Schurmann (1956: viii) observes that

not all the important economic institutions of the Yuan are covered [in the *shi-huo-zhi* section of the *Yuan Shih*]. They contain . . . nothing on tenancy, private commerce, stores, pawnshops, and manufacturing. None of these institutions directly concerned the government, although they are important in the economic history of China; only those of direct interest to the government such as taxes, land survey, maritime grain transport, and monopoly taxes are treated.

The *Dade Nanhai Zhi* states that there were many treasures in the Yuan Dynasty, many times more than previous dynasties (Kwee 1997: 3, fn. 7). Both the number of foreign polities trading with China, and the variety of produce available in China increased during the Yuan. More Muslim tombstones were erected in Quanzhou compared to the Song. Official veneration of Mazu, the Goddess of the Sea, increased. More than 160 types of maritime goods were listed in the Southern Song, but more than 220 types in the Yuan (Kwee 1997: 4, fn. 9).

The Yuan established their first maritime trade office in 1277 at Quanzhou, the most prosperous port of the late Song. "Every year, an invitation was to be extended to foreign traders to trade in China" (*Yuan Shih*, *juan* 94; Kwee 1997). Three more were established shortly thereafter: at Ningbo (Kingyuan), Shanghai, and Kanfu (near Hangzhou, Polo's Ganfu). By 1293 there were seven: Quanzhou,

Shanghai, Kanpu, Wenzhou, Guangzhou, Hangzhou, and Qing-yuan (Hirth 1917: 72). Anecdotes indicating the wealth of Quanzhou are plentiful. The son-in-law of the superintendent of trade at Quanzhou, who died in 1293, owned 80 seagoing ships and 130 *pikul* (1 *pikul* = 100 *kati* or about 60 kilograms) of pearls (Wheatley 1959: 29). The best pearls came from the Near East, but Jambi was the main collecting centre from which they were imported into China. The main source of Southeast Asian pearls was Sulu in the southern Philippines; others came from Kampar, near Jambi, and Java. Zhao wrote in 1225 that “Their price is very high. The Chinese use them for head-ornaments”. Traders attempted to smuggle pearls into China by hiding them in the lining of clothes and the handles of umbrellas (Hirth and Rockhill 1911: 230). Even monks were not exempted from paying tax at this period.

Table 3.2 Authorized foreign trading ports in China (Chang 1983: 10)

Song Dynasty:

Maritime Trade Superintendency (*Shibo Si*):

Mizhou, Hangzhou, Ningbo, Quanzhou, Guangzhou

Maritime Trade Bureau (*Shibo Wu*): Hangzhou, Ningbo, Suzhou, Wenzhou, Qiangyin Zhun.

Yuan Dynasty:

Maritime Trade Superintendency:

Shanghai, Ganbu, Qing Yuan (Ningbo), Hangzhou, Wenzhou, Quanzhou, Guangzhou.

The Yuan rulers lacked the Confucian prejudice against trade. Thus it is not surprising that they liberalized trade to a greater extent than the Song emperors, although policies pertaining to commerce continued to fluctuate. From 1277 to 1284, businessmen were allowed to engage in foreign trade (So 2000: 119). In 1278, “officials memorialized the throne calling attention to the importance of encouraging trade relations with the peoples of the south-eastern (or southern and eastern) islands, all of whom, the writers declared, were filled with the most loyal devotion to China” (Rockhill 1914: 429). In 1279, an envoy was sent to Java. In 1282, an envoy from Java came to China with a golden “shrine” as tribute.

In 1284, the Yuan government introduced measures aimed at engulfing the lion’s share of the profits from maritime trade. Prefects of Hangzhou and Quanzhou appointed representatives to go abroad to conduct trade, providing them with ships and capital. Net profit was distributed according to a formula of 70 per cent for the government and 30 per cent for the trader. Those who went to sea and their families were exempted from corvee.

This policy was resented by big merchants; it seems like its main objective was not to stimulate trade, but to stunt the growth of a few large mercantile families who were becoming dangerously powerful by making it possible for more small

operators to compete with them. On the other hand, small traders were probably pleased with this opportunity.

The new attitude toward maritime trade was a result of the transplantation of the traditional symbiotic relationship between the *ortogh* and Mongolians their original homeland in the steppes to the maritime silk road. *Ortogh* or *ortakh* (“partners” in Turkic) were commercial groups, consisting largely of central Asiatic Muslim merchants, who became a leading class under the Yuan; the government loaned them much money for commerce and usury (Kwee 1997). The profits of this money-lending went to the Yuan aristocracy.

The Yuan government first instituted a maritime trade tax in 1292 (Kwee 1997: 15, fn. 46). By 1295, smuggling to avoid the tax and to export forbidden goods such as bronze coinage was so rampant that officials were sent to sea to examine ships. The Yuan authorities forbade the use of private capital in foreign trade (Rockhill 1914: 425). However, “[t]he efforts of the government to prevent private trading must have failed signally, for in 1303 we learn that the prohibition against private sea-trading was repealed” (Rockhill 1914: 426).

The Yuan political attitude toward Southeast Asia was not uniformly favourable to commerce. The Yuan fought numerous battles on the Southeast Asian mainland with Vietnam, Champa, Cambodia, and Myanmar, often in an attempt to force Southeast Asians to make more formal submission to China than the Chinese emperors had ever required in the context of the “tributary trade”.

In 1292, Emperor Kublai Khan sent a large expedition to Java to avenge an insult caused by the mutilation of his envoy. The expedition was organized by the governor of Fujian, who used ships requisitioned from private traders. This arrangement underscores the fact that China still had no navy. In 1293 the fleet sailed from Quanzhou, but the expedition became embroiled in political confusion in Java, was ultimately betrayed by an erstwhile Javanese ally, and sailed back the same year. Kublai Khan died in 1293, and no Chinese missions are described in official accounts thereafter. Relations with Java soon returned to normal; Javanese missions arrived at court in 1298 and 1300.

In the mid-Yuan, official attitudes toward commerce swung violently back and forth. The offices of maritime trade were closed in 1294 but reopened later the same year; closed in 1303 and reopened in 1308; closed in 1311 and reopened in 1314; and closed in 1320 only to be reopened in 1322. Thereafter, matters stabilized and trading by sea was permitted until the fall of the Yuan in 1367.

Chinese records never give reasons for these frequent reversals of policy. Scholars have suggested that political motives—such as the fear that rich merchants might turn against the state—were responsible, but it is also possible that these actions were meant to penalize private traders who violated trading laws. There are references to “22 rules of Yuan trade”. Moreover, prohibitions may not have been significant, for evidence suggests that foreign traders still came to Shanghai when the office of maritime trade there was closed.

In 1326 the Tai-ding emperor renounced tributary trade; “In 1329 the presenting for transmission to Court of expensive and useless objects, all of which

had to be paid for at regulated prices and which were now held to be but a ‘canker devouring the riches of the state’ was strictly forbidden” (Kwee 1997: 8).

In the last years of the Yuan Dynasty, numerous local rebellions broke out. Quanzhou was one centre of rebellion. A local garrison, largely made up of soldiers from Persia and led by Persian merchants, took control of the city from 1357 to 1366. They were eventually routed in 1366, but the rebellion had ruined many local businessmen and some had relocated to other ports (So 2000: 122–4). By the end of the Yuan, south Chinese trade networks were in a state of depression. It would be centuries before south Chinese ports would regain the prosperity and importance they had attained during the Song and Yuan Dynasties.

UNDERWATER ARCHAEOLOGY OF THE THIRTEENTH CENTURY

Pulau Buaya Shipwreck

Information from several important shipwrecks considerably augments and clarifies the information from history and land-based archaeology. One was discovered in the 1980s near Pulau Buaya, in the Riau Archipelago, approximately 100 kilometres south of Singapore. The wreck was not properly documented by archaeologists; it was salvaged by commercial divers. After the realization that the large quantity of ceramics recovered was not saleable, the material was left to deteriorate in a warehouse, and only the best pieces were dispersed without being recorded. No data whatsoever regarding the structure of the ship that carried the material was collected. As a result, a potentially important source of knowledge about early Asian trade was lost.

The salvors collected 31,000 whole artifacts. They were utilitarian wares rather than luxury items. The rate of breakage of the cargo is unknown; the total cargo may have included 50,000 pieces or more. Most of the known ceramics came from Guangdong, with a few representatives from other kiln sites. The glazes had deteriorated while submerged, which is one of the reasons why the cargo was not commercially saleable. Another reason is that thousands of the objects are nearly identical. The cargo mainly comprised cheaper wares for sale to the public rather than luxury items for delivery to a ruler. Some earthenware objects, which may have belonged to the crew, include carved paddle-marked containers with round bottoms, much like sherds recovered at land sites along the Straits of Melaka. Fragments of an earthenware stove of a form widespread in insular Southeast Asia were also recovered (Abu Ridho and Edwards McKinnon 1998: pl. 47).

Other objects salvaged include a number of ewers or *kendi* made of Fine Paste Ware similar to examples found in Kota Cina and Singapore, as well as on the Java Sea wreck to be discussed below. Two touchstones for assaying gold, and two dice of black wood with white bone inserts, form additional finds. The dice are quite large, four centimetres on a side. “Numerous” tumbler-shaped glasses of blown glass were also noted, as well as some bottles and flasks, probably of

Near Eastern origin (Ridho and Edwards McKinnon, 1998). Metal objects found include some ingots of 99.12 per cent pure copper; eight gong-like objects (but without the raised boss commonly found on most such objects); 129 copper bracelets; 48 bar-shaped ingots of unidentified metal; 48 lead ingots in the shape of a truncated double pyramid; one mirror; two Chinese coins, one of which dates from the Tang Dynasty; and quantities of iron *woks* and cleavers or *parang*, which had been tied with sugar-palm fibre.

Also in the cargo were 18 metal ingots with the Chinese character *guan*, “official”, formed by pouring molten metal into moulds with the characters cut into the mould (Abu Ridho and Edwards McKinnon 1998: 80–2). XRF analysis of the ingots by the Chemistry Department, National University of Singapore, showed that of eight tested, five were mainly lead, while two others were mainly tin. The remaining ingot was a combination of 51.33 per cent copper, 37.55 per cent lead, 4.73 per cent zinc, with small amounts of iron, calcium, and silicon.

Table 3.3 Analysis of ingots from Pulau Buaya

	<i>Lead</i>	<i>Tin</i>	<i>Zinc</i>	<i>Copper</i>	<i>Iron</i>	<i>Manganese</i>	<i>Calcium</i>	<i>Silica</i>
Metal #2	37.55	-	4.73	51.33	1.37	-	2.98	1.97
Metal #3	13.66	86.13	-	0.055	0.15	-	-	-
Metal #4	97.82	-	-	<0.007	0.067	-	2.09	-
Metal #5	0.27	95.57	-	-	1.79	0.090	-	2.28
Metal #6	98.66	-	-	0.007	0.18	<0.006	1.16	-
Metal #7	95.21	-	-	0.16	0.15	-	4.48	-
Metal #8	99.05	-	-	<0.009	0.019	-	0.92	-
Metal #9	97.37	-	0.14	-	0.23	-	2.23	-

Percentages are by weight

In addition to the ingots, several other metal items from the wreck were analyzed. They were found to be various bronze alloys:

Table 3.4 Table of metal objects from Pulau Buaya

<i>Artifact:</i>	<i>Cu</i>	<i>Sn</i>	<i>Zn</i>	<i>Pb</i>	<i>Si</i>	<i>Fe</i>	<i>Ni</i>
Wire	95.47	2.19	1.42	0.25	0.43	0.11	0.11
Flat metal fragment	72.26	26.11	-	0.22	1.32	0.12	0.011
Silvery fragment	72.28	26.83	-	0.25	0.20	0.42	0.017
Rim fragment	63.09	35.87	-	0.25	0.46	0.29	0.032
Disc	74.43	2.49	22.13	0.55	<0.14	0.22	0.057

The ship probably sank sometime in the twelfth or thirteenth century. The finds of Straits-type artifacts, which probably belonged to the crew, suggest that it may have been a Southeast Asian ship, but without any remains of the vessel this must remain pure conjecture.

The Java Sea Shipwreck

Another piece of evidence that suggests that the Yuan Dynasty was a period of continued commercial expansion was recovered in 1996. Archaeological investigation of a shipwreck dating from the late thirteenth century off the southeast coast of Sumatra, in the western Java Sea, disclosed that this vessel carried about 100,000 Chinese porcelains as well as 10,000 pieces of earthenware thought to have been made in southern Thailand (Mathers and Flecker 1997). The ship contained at least 30 varieties of pottery, as well as other commercial commodities: iron *woks* and knives from China, tree resin (dammar) and ivory (possibly from Sumatra). A few glass vessels may also have been part of the cargo. This range of artifacts is consistent with theories regarding the “peddling nature” of some Southeast Asian commerce at this period. Although it is premature to draw a final conclusion, this find may help resolve a 70-year-old controversy over the relative importance of “splendid” versus “trifling” objects in the trade along the Silk Road of the Sea.

The ship was found in the 1990s off the southeast coast of Lampung, Sumatra. It was far out of sight of land and no navigational hazards lie nearby. It is not possible to determine why the ship sank. Unfortunately the ship’s hull had almost completely disappeared. Fragments of teak found there may have formed parts of the ship structure. Several wood fragments contained wooden dowels, or at least dowel holes. The Chinese in contrast used iron fastenings, not dowels, even for edge joining of hull planks. Two large stones were found in approximately the correct position where the ship’s anchors might have been stowed. Their composition and shape suggest a Southeast Asian rather than Chinese origin. One seems to be a basaltic rock, perhaps andesite; the other is limestone. Teak, andesite, and limestone are all associated with Java. The best guess which can be made on the basis of this data is that the ship was Javanese.

In contrast to Pulau Buaya, the Java Sea wreck was the subject of a well-designed archaeological research project. The vessel can be dated to the late thirteenth century by stylistic analysis of Chinese porcelain found on board, and radiocarbon dating of aromatic resin (the 68 per cent probability range for the C14 date was 1265 to 1310; Mathers and Flecker 1997: 76). Artifacts were spread over an oval area on the seabed measuring 70 by 55 metres. This is larger than the Intan wreck where the artifact field measured 50 by 45 metres. The Java Sea ship is estimated to have been 26 metres long and 8 metres wide (Mathers and Flecker 1997: 69).

The main cargo items on the Java Sea wreck were ceramics and iron. It has been estimated that the total weight of the iron cargo, made up of bundles of iron bars and stacks of cauldrons, was approximately 340 tonnes (Mathers and Flecker 1997: 70). Rectangular bars were stacked in bundles of four or five, bound with strips of rattan, and wrapped in coarsely woven material or strips of cane. Trapezoidal bars were bundled in a cone shape and were similarly packaged. Centres of iron-smelting were established in numerous places in Fujian during the Song, including Anxi and Dehua, where ceramics were also made (Schottenhammer 2001: 103).

It has been estimated that the weight of the ceramic cargo of the Java Sea

was 25 to 30 tonnes (Mathers and Flecker 1997: 70–1). Non-ceramic artifacts other than iron objects made up a very small proportion of the material recovered from the Java Sea wreck. They include bronze figurines, mirrors and trays, glass, aromatic resin, sharpening stones, ivory, copper and tin ingots, and scale weights and bars. All of these types are paralleled by discoveries on the Intan. There are fewer scale weights than on the Intan: 14 weights from 10 weight categories, while the 43 recovered from the Intan cover 23 categories.

Bronze figurines on the Java Sea include a cross-legged man acting as the corner support of a small platform or altar, and a woman riding a dolphin-like sea creature. This probably is an allusion to the Javanese folktale of *Sri Tanjung*, which was often portrayed in art in the fourteenth century. There were also two finials that once adorned the wooden staffs of priests.

A cargo of this scale and variety is suggestive of regular trade during the middle years of the Yuan Dynasty, which was not entirely Chinese-oriented, judging from the large proportion of southern Thai ceramics on board. While the cargo of the Java Sea wreck is mainly composed of Chinese ceramics and iron, there are enough non-Chinese items to conclude that the vessel's trading pattern had much in common with sixteenth-century tramp sailing ships. "Tramping" was economically a sound strategy since it gave merchants the best opportunity to benefit from price differentials in many ports. In the Mediterranean, as in Southeast Asia,

[e]very sailor from captain to cabin-boy would have his bundle of merchandise on board . . . Amid the buying and selling, care was always taken to call at some port such as Leghorn, Genoa, or Venice, where it was possible to exchange spices, leather, cotton, or local for metal currency. Only the big specialized salt and grain ships had any resemblance to the destination-conscious shipping of today. The others were more like traveling bazaars. (Braudel 1972: II, 107)

During the excavation in 1996, 12,000 intact ceramic items were recovered. Breakage was estimated at over 80 per cent. The majority of pieces were utilitarian wares: green glazed bowls and dishes from Fujian, and brown glazed jars, basins, and bottles from kilns near Quanzhou. Finer wares include *qingbai*-glazed molded covered boxes, vases, ewers, and dishes from the Anxi and Dehua kilns of Fujian, and some very fine *qingbai* dishes from Jingdezhen. Some varieties such as *qingbai* dishes with heavily molded bodies are quite unusual. The high frequency of boxes with inscriptions on the bases is another particularly interesting type of find since vessels of this type are not common in Southeast Asia, although they have been reported from China.

Interestingly, the cargo includes nothing from Longquan, one of the more productive kilns of this period that produced porcelain that was very popular in Southeast Asia. Green porcelain in the vessel belongs to Fujian, principally the Tongan kiln complex. Black glazed tea bowls are "southern Temmoku" rather than the famous *jian* tea bowls. A few ewers, bowls, lids, and covered boxes are decorated with floral motifs in brown on a cream background, or vice versa,

and were originally covered by a transparent green glaze. They are similar to some Cizhou ware, but the clay from which the Java Sea examples are made is whiter and finer. Products of the Cizhou kiln complex include a few examples in which brown floral decorations were placed over a white background. The reverse process, with the possible addition of green overglaze, in complex decorative compositions, is a most surprising and intriguing discovery.

The stoneware component also contains a number of surprises. The *meiping* jars and basins with stamped motifs are well-known types. Generally, the larger storage jars belong to known types, but the high frequency of jars with stamped characters on the shoulders is surprising. Green-glazed large jars with black decorations are not common at known sites.

Hundreds of Fine Paste earthenware *kendis* and bottles of probably peninsular Thai origin indicate that the ship voyaged from China to the Patani area of south Thailand then to Sumatra, and was on its way to Java when it sank. The Fine Paste ware bears a general resemblance to objects associated with the area of Patani in South Thailand. However several shapes in this cargo have never been seen before, in particular *kendis* in the form of circular tubes with a spout, a neck, and a foot. Only Chinese versions of this form were known previously. The many *kendi maling* are another interesting type of earthenware *kendi*. These have an opening to fill them at the base instead of the neck.

We can only guess at the perishable component of the cargo. There are indications that much of it could have been of Southeast Asian origin; for example, elephant tusks found on the site are likely to have originated from Thailand or Sumatra rather than China. Ivory and resin, products of Sumatra, suggest a stop at a port along those shores. There is, of course, the possibility that all the cargo was transhipped at a south Sumatran port. Bronze figurines and finials of pre-Majapahit origin could also have belonged to sailors on an Indonesian vessel.

Wild elephants were still found in south Fujian in 1050 and in Yunnan in 1388 (Arasaratnam 1991). Ivory, according to Zhao, came from Annam, the Red River, Cambodia, and the east coast of the Malay Peninsula, Sumatra, and Java. Ivory also reached China from Africa via the Arabs and Srivijaya, as well as through a port in the Malay Peninsula. Beginning with the reign of Wude in the Tang Dynasty, ivory was used for making tablets used by officials from the fifth rank and above to make notes when in audience with the emperor; lower ranks used wooden tablets. These tablets are often shown in portraits, and symbolized officialdom.

According to Zhu Yu, in the early 1100s ivory and scented woods were very prestigious items in the China market; they were imperial monopolies denied to the general public (Hirth and Rockhill 1911: 21, Wong 1979). Sixteen large pieces of elephant tusk were recovered from the Java Sea, some of which display signs that they have been processed. Blocks of resin up to 410 millimetres long were recovered from the Java Sea. The presence of these two Sumatran products (ivory and resin) is strong evidence that the ship had recently called at some port on that island. There were only two tin ingots and one copper ingot on the Java Sea,



3.15 Java Sea shipwreck: Fine Paste ring-shaped *kendi*; similarly-shaped vessels made of white porcelain in China during the Yuan Dynasty have been found in the Philippines. Reproduced by permission from Oxford University Press.

possibly remnants of a previous cargo, whereas these items were the primary cargo on the *Intan*. Two bronze gongs found on the Java Sea were the only artifact type not found on the *Intan*.

The *Intan* and Java Sea shipwrecks differ in age by 300 years, but they illustrate that the pattern of trade was remarkably stable during the Song and Yuan eras. While the Java Sea ship appears to have loaded its cargo of iron and ceramics in a port in southern China or the isthmus of the Malay Peninsula and the *Intan* probably took on her cargo in Sumatra, Chinese ceramics dominate both cargoes. The ceramics were made in kilns in Guangdong, Fujian, and Zhejiang Provinces, with a few finer pieces from Jingdezhen in Jiangxi Province. On closer inspection of the types of wares on these two ships, it seems that market demand shifted from the ceremonial and decorative to the utilitarian.



3.16 Java Sea Shipwreck: lid of porcelain, brown glaze; light-coloured areas were originally covered with green glaze which has dissolved. Reproduced by permission from Oxford University Press.

The Houzhu Shipwreck

It is interesting to compare the Java Sea shipwreck with a vessel which sank around the same time in Houzhu Bay, part of Quanzhou Harbour. The bay was busy in the late Song and early Yuan periods. The ship, excavated in 1974, was 24.2 metres long and 9.15 metres wide. Estimates of her capacity range between 200 and 380 tonnes. The ship had a keel of pine, a bow post of camphor, a hull of cedar, and bulkheads. The excavators calculate that it would have had a crew of about 50 men. The ship was as big as any contemporary European vessel, and techniques used in her construction were more advanced. It has been proposed that some of these features indicate Southeast Asian influence on south Chinese shipbuilding (Keith and Buys 1981; Pearson, Li, and Li, 2002: 47). The ship probably sank between 1256 and 1279. Some wooden tags found on board suggest that the cargo belonged to the *Nanwaizongzhengsi* (an official organization involved with trade in the Southern Sea). Others conclude that the ship belonged to a Muslim, perhaps Pu Shougeng, since the name Yali/Ali appears on the tags. Pu Shougeng was an important local merchant who became Trade Superintendent sometime after 1266 (Kuwabara 1928). The majority of the cargo was of Southeast Asian origin. The largest category of surviving items consisted

of organic materials: spices and medicinal substances: pepper, betel nuts, frankincense, ambergris, aromatic wood (laka, sandalwood, gharu and “many other kinds”) and tortoise shells. Other possible Southeast Asian commodities were found in small amounts: cinnabar (4.6 grams) and mercury (385 grams) (Writing Group 1977: 18).

Few Chinese objects were on board: 34 pieces of “pottery”, and 22 pieces of porcelain. These were not the ship’s main cargo; perhaps they were personal property of the captain and the crew. These ceramics included four examples of “small-mouthed pottery *p’ing* (vase)” (Writing Group 1977: 28, Fig. 16), of a type discussed further in chapter 7. Coins were also found; 504 made of copper (33 Tang, 358 Northern Song, 70 Southern Song, and 43 that could not be dated), and seven made of iron. Cowry shells, interpreted as currency, were more numerous: 1,700, plus more than 100 others in the vessel’s vicinity. One glass bead was recovered, along with a small quantity of glass weighing 2.55 grams. Over 2000 cowries, which may have been used as currency, and assorted tropical sea shells were recovered (Pearson, Li, and Li 2002: 48–9). The Chinese did not use cowries as currency, but this was a traditional practice in Southeast Asia.

The Houzhu ship is a good example of a vessel going in the opposite direction from those discussed above: to China, bringing home a cargo of Southeast Asian luxury produce. There is some reason to think the ship may have been sunk during a battle between Song and Yuan forces in 1277.

Cambodia

We obtain the first detailed report of overseas Chinese residing in Southeast Asia, at least temporarily, at the very end of the thirteenth century. Unexpectedly, this evidence does not come from the Straits of Melaka but from the capital of Cambodia, Angkor. This once-mighty kingdom was then in a serious state of decline with much of its western territory having just been conquered by the kingdom of Sukhothai. Nevertheless, Angkor was still important in diplomatic circles.

Ancient Angkor’s settlement pattern has yet to be clarified. Narrative reliefs of the late twelfth century Bayon temple may reflect the scenery of Angkor with some accuracy, but we cannot be sure of this. In the reliefs, houses are shown surrounded by gardens, rather than in dense clusters.

The commercial quarter apparently comprised stalls set up with small thatch roofs resting on a few wooden posts. The main axes of the town of Angkor Thom were lined with canals; these were the best sites to set up stores. Around the Bayon, in excavations conducted close to the temple, numerous very ordinary tiles have been discovered . . . They most likely came from the small shelters for traders located around the Bayon who remained there until the sixteenth century . . . it is scarcely possible to locate the residential quarters. (Dumarçay and Royère 2001: 106).

It seems like the pattern of settlement in Angkor was much less dense than Kota Cina.



3.17 Bayon Temple, Angkor Thom, Cambodia, late-twelfth century

Nor is there much evidence for economic complexity in Angkor. Inscriptions rarely mention merchants, merchants' quarters, or markets, and never provide details of them. Women were the main traders. They had no shops; all activity took place in open spaces. Small purchases were paid with rice, grain, or Chinese coins for payment. Larger purchases were paid with cloth while the largest used gold and silver, but not in the form of money.

Why was there no money in Angkorian-period Cambodia? Claude Jacques suggested that trade was simply underdeveloped. Wicks in contrast concludes that "interregional exchanges and the distribution of goods reached a considerable scale under Angkor" (1992: 218), but other than Zhou Daguan's reference to Chinese merchants, there is no evidence for this. The presence of the Chinese may have stimulated some trade by introducing imported coinage, but only limited amounts seem to have been available. A Chinese presence alone was obviously insufficient to introduce coinage on a large scale to Cambodia, suggesting that social institutions may have hindered its utilization.

Few Chinese sources contain usable information on foreign trade at this period, largely due to official prejudice against commerce even during the relatively free atmosphere of the Song and Yuan Dynasty. One of the few available records of commerce, written in 1297 by Zhou Daguan, *Zhenla Fengtu Ji*, "Description of Cambodia", is based on an official mission in the course of which Zhou Daguan spent half a year at Angkor in 1296. Zhou's mission was not mainly concerned with trade, and his report contains relatively little information on the subject, especially since Cambodia was not an important trading country. Among Cambo-



3.18 Angkor Wat, Cambodia, early- to mid-twelfth century

dia's products, he mentions *damar*, tree resins used for incense. Zhao says it was imported from Cambodia, and shipped to China in porcelain [stoneware?] vessels. Kingfishers' feathers were another export; one Ming source (the *Xingcha Shenglan*) says that Cambodian kingfisher feathers were "superior to those of any other foreign ports". As noted earlier, trade in kingfisher feathers was sufficiently active that the Chinese government tried to ban their import in 1107. One of Cambodia's most important exports was ivory. Cambodia's imports, according to an early fourteenth-century source, were limited to a few kinds of textiles (brocade, silk, satin, and cotton) and glass beads.

Surprisingly, Zhou implies that some Chinese had resided in Angkor for a few generations. He mentions that "a few people . . . burn their dead; these are for the most part descendants of the Chinese" (Çœdès 1968: 215). The practice of cremation was not common in China; those "descendants of Chinese" in Angkor must have been there for several generations, long enough to adopt a more Southeast Asian custom for disposal of the corpses. Unfortunately, Zhou does not tell us anything else about these purported descendants of Chinese: how many there were, whether they had any special occupations or if they were distinguished from the Cambodians in other ways. Judging from Zhou's very brief description, the community does not seem to have maintained any Chinese characteristics. The fact that they were aware of their Chinese descent (or that they claimed to be so descended) does however suggest that they maintained some sort of separate identity.

Zhou betrays no surprise at finding a relict Chinese population here. Without

other documentary evidence, however, we cannot read any more into his terse statement other than the fact that a Chinese community had become established at Angkor at least several decades before 1292. It is not possible to determine whether they were sojourners or settlers.

Sabah: The Jade Dragon Shipwreck

In 2010, a shipwreck was found off the north tip of Sabah, Borneo, by local fishermen who immediately began to loot the cargo. Subsequent investigation by a trained archaeologist managed to ascertain that the ship was of Southeast Asian lashed-lug construction, and carried a specialized cargo consisting almost entirely of green porcelain from the Longquan region of Zhejiang, with additional examples of probably Cizhou and Cizao origin (Flecker 2012: 18). Remains of the ship were badly damaged, but it was possible to determine that it was relatively small; it may have only carried 1,000–2,000 ceramics (Flecker 2012: 16) plus a similar weight of iron machetes. The wreck can only be dated by the style of the ceramics, which were probably made in the late thirteenth or early fourteenth century. This ship was not on the conventional Silk Road of the Sea; it was probably sailing east to the Spice Islands, the Moluccas. Chinese vessels may have sailed to this area via the Philippines during the Yuan period, though this practice had long ceased by the time the Portuguese arrived there in the early sixteenth century.

CONCLUSION

Increasing numbers of Chinese traders sailed to Southeast Asia in the Song dynasty, at first tentatively, then more boldly as Chinese official policy gradually decriminalized foreign trade and communication. At first they may have stayed overseas for short periods, but as time went on their period of residence extended longer and longer until eventually some resided overseas for many years. For hundreds of years Chinese travellers depended on foreign ships and sailors, but by the end of the thirteenth century China had developed both the navigational skills and the boat-building techniques necessary to voyage as far as the Straits of Melaka. Chinese trade with Southeast Asia increasingly moved away from the old tributary system. Song coins became a major currency in Southeast Asia, and commerce became monetized to a significant degree in some ports.

Through the Song and possibly the early Yuan, Chinese travellers would have formed small minorities in foreign quarters of Southeast Asian ports. In the thirteenth century, the population of Chinese in some ports may have become relatively substantial. When Marco Polo sailed through the region at the end of the thirteenth century, however, he does not mention any permanent overseas Chinese settlements.

The maritime trading communities of Southeast Asia provided a major source of demand for Chinese products, particularly textiles, metal, and ceramics. It seems that the economies of the two areas became integrated to a certain extent. Despite political shifts and the decentralization of control over the Straits of

Melaka after the fall of Srivijaya in 1025, trade continued to grow, and new social formations appeared in both areas as a result of the increasing ability of people to attain higher status through trade despite being born into lower stations.

Just a few years after Marco Polo's half-year stay in Sumatra, the first documentary evidence of a Chinese community in Southeast Asia appears. This community was established not in one of the major centres of maritime trade, but in the hinterland of Cambodia. This community was probably not the first to be formed; it is, however, the first to be mentioned in a written source. Unfortunately, we do not know whether they lived in a specific part of Angkor. Archaeological evidence of their presence is lacking. Chinese porcelain has been found in Angkor, but scattered over many sites. The quantity of Chinese porcelain in Angkor is not as large as at the much smaller, simpler site of Kota Cina.

A Chinese "pagoda" was built in thirteenth-century Negapattinam, southern India, for Chinese sojourners (Guy 1993–94, Sen 2003: 231), suggesting that their numbers there were substantial. No historical descriptions of early Chinese quarters in India exist, suggesting that the sojourners did not reside in India for long periods.

Thus by 1300 we have archaeological evidence that Chinese may have resided in the Straits of Melaka, but no documentary source to confirm that hypothesis. Conversely, in Angkor we have documentary evidence that a Chinese community existed, but no archaeological clues to its location. It is only in the fourteenth century that a site with both archaeological and written evidence for a Chinese community in Southeast Asia appears. That site is Singapore.



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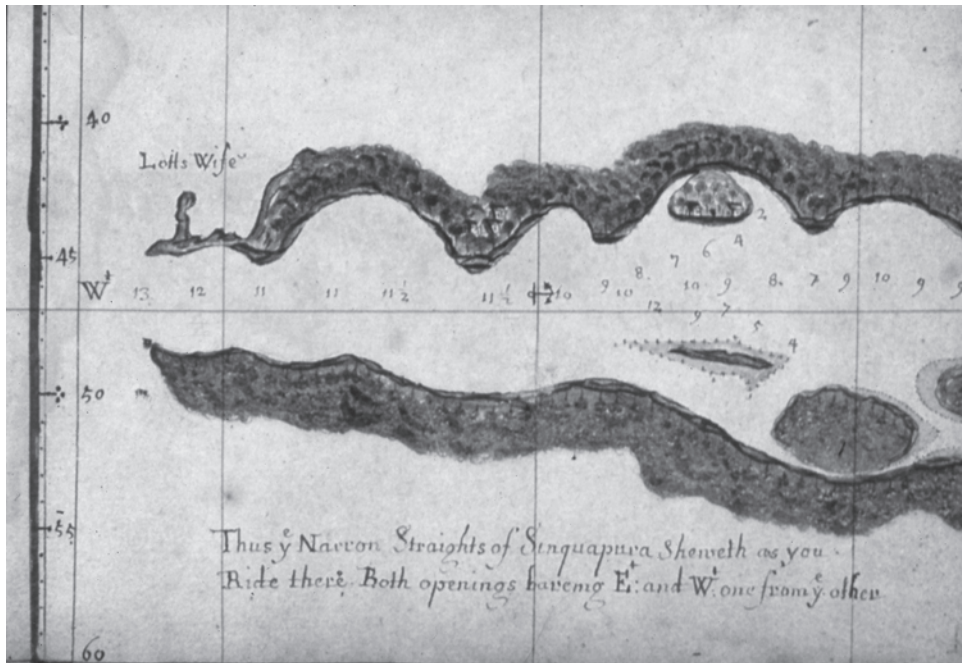
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SINGAPORE'S ANCIENT HISTORY, 1299–1604



Genealogies were important documents in most early Southeast Asian kingdoms. Despite the lack of strong lineage organizations, Southeast Asian societies stressed the idea that rulers should be descendants of previous rulers and that kingship was marked by “white blood”. The most important ancient Malay book—known in English as the *Malay Annals*, in Arabic as the *Sulalatu’s Salatin*, and in Malay as the *Sejarah Melayu*—is a collection of stories wrapped around a core of royal genealogy.

4.00 A British map of 1709 made during a survey of water depths in the passage through the western entrance to Keppel Harbour. In addition to the rock pinnacle which the British called Lot’s Wife, several villages along the shoreline are depicted. Reproduced by permission from the British Library Board.

THE MALAY ANNALS

An unknown author living in Melaka compiled a genealogy of Malay rulers in around 1436. The original version no longer exists, but the *Ceritera asal Raja-Raja Melayu punya keturunan*, “Story of the Origin and Descent of the Malay Rajas”, may be its direct descendant. Subsequent generations copied and revised this text, which evolved into the *Malay Annals*.

In 1436, the Malay ruling class was in the process of converting to Islam. Old ideas of political legitimacy based on Buddhist symbolism became passé. A new ideology for justifying the right of the nobility to rule was needed. The compiler of the *Malay Annals* may have adapted an older text, which contained some elements from the Buddhist period, in order to fulfil this need.

About 30 manuscripts of the *Malay Annals* exist. Several historians have taken up the challenge of reconstructing the stages through which the text evolved by comparing manuscripts copied and edited at different times and places (Wolters 1971). The *Malay Annals* contains no dates. It was not written to record events according to modern concepts of objectivity, but to muster popular support for the ruling line of Melaka (and later their successors in Riau and Johor). The *Malay Annals* belongs to a literary genre that was meant to be read aloud; recitation of literary works was a popular form of entertainment in Southeast Asia until the advent of electronic media. The *Malay Annals* was meant to attract an audience in order to inculcate its messages, which also influenced the text’s content.

In the fifteenth century, “Malay culture” in the modern sense did not exist yet. The word *Malayu* acquired its modern connotations in the nineteenth and twentieth centuries (on the changing meaning of the word *Malayu*, see Wee 1985, Milner 1982, L. Y. Andaya 2001, T.P. Barnard 2001, Reid 2001, Shamsul A. B. 2001). In light of this, the *Malay Annals* was not just a reflection of Malay society; it also played an active role in shaping the evolution of Malay identity.

The oldest surviving version of the *Malay Annals* is known as *Raffles MS 18*. Sir Thomas Stamford Raffles acquired it during his residence in Southeast Asia in the early nineteenth century. This copy was written around 1612 and reflects the political situation of that time. A comparison of *Raffles MS 18* with a version written in Riau around 1750 displays major changes connected with changing political circumstances. The 1750 version, known as the *Shellabear Recension* after Reverend William Shellabear who had it printed in Singapore in the early nineteenth century, was shaped during a period when Bugis from Sulawesi dominated Riau. It is neither a coincidence nor a mistake that Hang Tuah, the hero of Melaka, is depicted in the *Shellabear Recension* as being of Bugis rather than Malay ancestry. This kind of rewriting occurred frequently in the evolution of the *Malay Annals* and the 1612 version had no doubt undergone numerous changes compared to the hypothetical 1436 version. The *Malay Annals* was never intended to be taken literally, but this does not mean that it is fiction or myth. In order to achieve its goal of legitimizing the ruler, each generation for whom it was revised had to perceive it as reflecting reality. Each version of the *Malay Annals* can be used to reconstruct the perceptions of a particular generation of their identity in its time and place, a stage in long-term history, but is not a text which claims to be an objective record of events.



4.01 Important sites in Riau and the Straits of Melaka, fourteenth to sixteenth centuries

The *Raffles MS 18* indicates that the Malay court and its principal supporters in the early seventeenth century imagined that Singapore had been the site of a great port in their recent history. How did Singapore acquire such a key role in Malay tradition?

SINGAPORE AND THE MALAY ANNALS

The book begins with the story of a king named Raja Shulan from Kalinga (an ancient kingdom on the east coast of India) who was a descendant of Iskander Zulkarnain (a figure in Persian mythology distantly inspired by Alexander the Great) and his son, Raja Culan, who set out to conquer China. The Chinese, hearing of his plan, manned a leaky old ship with elderly toothless and hairless men and sent it to intercept him at Temasik. There they met Raja Chulan, who inquired of them how far away China was. The Chinese told him that they had left home when they were young men, and the voyage was so long that they had become very aged. Raja Chulan then gave up his designs on China.

Temasik, the text tells us, was the original name of Singapore. Raja Chulan is clearly modelled on Raja Chola, who attacked Srivijaya in 1025. This episode indicates that the Chola attack on Srivijaya was still remembered when the story became embedded in the *Annals*. One of the importance symbolic aspects of this tale is the depiction of Temasik as a strategically located place where Indians and Chinese met at the dawn of the evolution of Malay culture.

According to the *Annals*, Raja Chulan had a love affair with a fairy princess who lived beneath the sea (another common motif in ancient Southeast Asian myths). She bore him three princes who later appeared, as if by magic, on the summit of a hill called Seguntang Mahameru near Palembang (see Fig. 4.01), after

a night marked by a strange glow on the hill. The next morning, two widows found that their rice on the hill had turned to gold. Mystical auras, gold, and mountains are symbols of sovereignty in Southeast Asian myths. The Raja of Palembang, Demang Lebar Daun, “Chief Broad Leaf”, abdicated so that one of the three princes, Sang Nila Utama, whom these signs indicate was divinely inspired, could become king. The other two young men became kings of Minangkabau (west Sumatra) and Tanjong Pura (Borneo). Upon his coronation, Sang Nila Utama changed his Malay name to Sri Tri Buana, which is Sanskrit. Demang Lebar Daun promised that the Malays would be perpetually loyal to Sri Tri Buana’s descendants, and in return Sri Tri Buana promised that the rulers would never oppress their subjects by shaming them.

LORD OF THE THREE WORLDS

Sri Tri Buana in Sanskrit means “Lord of the Three Worlds”, an allusion to the belief that the universe was divided into a heaven of gods, a world of humans, and an underworld of demons. Some early Southeast Asian kings used this phrase as a title. Other connotations of the title can be gleaned from various sources. In the twelfth century, the phrase *Sri Tribhuvanaditya*, “Bright Lord of the Three Worlds”, was inscribed on clay votive tablets with images of Buddha found at Bagan and Tavoy (Dawei, Myanmar). Alaungsithu, grandson and successor of Kyanzitha, eleventh-century king of Bagan, bore the title “Sri Tribhuvanadityapavara” (Luce 1970: II, 12–5). According to an inscription on the plinth of a statue of the esoteric Buddhist deity Amoghapasa from Singasari, east Java, the King of Malayu in 1286 bore the title *Srimat Tribuanaraja Mauliwarmadewa*.

A Buddhist text written around 1345 was dedicated to the explication of a doctrine entitled the Lord of the Three Worlds, which is still influential in Thailand today. According to this doctrine, all living things can be ranked on the basis of merit, thereby justifying hereditary social stratification (Phraya Lithai 1982). The philosophy of the Three Worlds was thus influential precisely when Singapore was becoming a significant commercial site, and when Chinese sources tell us that Singapore was attacked by *Xian/Siam*. Audiences who attended recitations of the *Malay Annals* would have understood this allusion.

The concept of the Three Worlds was also popular in fourteenth century Java. Queen Tribhuwanottunggadewi, “Goddess of the Three Worlds”, was a devout Buddhist. During her reign of Java (1328–1350), Majapahit incorporated Temasik as a vassal. Both of Southeast Asia’s major fourteenth-century empires, Ayutthaya on the mainland, and Majapahit on Java, who sought to dominate Singapore, espoused the doctrine of the Three Worlds. The conversion of the ruler’s name from Malay (a local language) to Sanskrit (an internationally prestigious language) would have had grandiose resonance all over Southeast Asia. It symbolizes an attempt by the Malay rulers to claim high status on an international level.

The *Malay Annals* and other stories of archetypal heroes stress subjects’ obligation to be absolutely loyal to their rulers, and the rulers’ duty to never shame their subjects. The story of the agreement between Demang Lebar Daun and Sri Tri

Buana echoes the oath of loyalty taken by seventh-century subjects of Srivijaya.

Most societies have myths that depict the origins of the world and status systems. Popular myths across the vast Austronesian realm, from Indonesia to Polynesia, contain the theme of a stranger who miraculously appears in the form of a handsome, glowing youth, and is proclaimed king (Fox 1995). The story of Sri Tri Buana fuses tropes from primordial Austronesian and early Buddhist sources. Eventually Sri Tri Buana left Sumatra and went to the island Bintan, which was ruled by Queen Sakidar Shah (*see* Fig. 4.02). The *Malay Annals* reports that her subjects possessed 400 ships, a sign of considerable wealth and power.



4.02 Singapore, Karimun, Riau and Lingga

She adopted Sri Tri Buana as her son and successor. In order to enthrone him properly she created the *nobat*, a set of musical instruments that have been indispensable royal regalia in Malay kingdoms for centuries. One day while hunting, Sri Tri Buana came to a very large, high rock. He climbed on to the top of this rock and looking across the water he saw that the land on the other side had sand so white that it looked like a sheet of cloth. And he asked Indra Bopal [the Queen's chief minister], "What is that stretch of sand that we see yonder? What land is that?" And Indra Bopal answered, "That, Your Highness, is the land called Temasik" (Brown 1970: 19).

Archaeological research has revealed that a layer of fine white sand once extended along the south coast of Singapore from the Singapore River to Kampong Gelam. Before Singapore's south shore was settled, from the perspective of a person on a passing ship it would have shone almost blindingly white in the sun, in contrast with the green hills and blue water which dominated the view. The *Malay Annals'* description of the south coast of Singapore before human settlement preserves a genuine memory.

Sri Tri Buana desired to proceed to this beautiful shore immediately, but halfway across the Singapore Strait a storm struck and his ship began to sink. Everything was thrown overboard to lighten the ship, but they continued to drift helplessly toward Telok Belangah (the name still applied to a district on the southwest coast of Singapore River). Sri Tri Buana threw his crown overboard and the weather became calm immediately.

The theme of the lost crown is another recurrent motif in Indonesian literature. In this case, it probably symbolized the transfer of the Malay capital from Sumatra to the Malay Peninsula, and the loss of control over lands which had formed the core area where Malay identity formed.

The explorers went to hunt on open ground at *Kuala Temasik* ("the mouth of the Temasik River", now the Padang, which means "field" in Malay), where they briefly saw a strange animal. Demang Lebar Daun mentioned that he had heard that lions were said to have such an appearance in ancient times and concluded diffidently that they must have seen a lion. Sri Tri Buana then decided to establish a city at Temasik and call it Singapura, or "Lion City".

Despite being known as "a lion city", historians have noted many times that lions have never been found in Southeast Asia. The animal described in the *Malay Annals* is clearly not a lion. The text describes it as very active, dignified and powerful in bearing, with red body, black head, and white breast, slightly bigger than a goat (Winstedt 1938: 61). Although the beast's "lordly bearing" could be said to accord with its identification as a lion, the colours described do not belong to a normal lion's fur. They are characteristic of a mythical beast called *janggi* that, according to legends told in the Minangkabau Highlands of West Sumatra, guarded gold mines. Swatches of *rambut janggi*, "janggi hair", adorn lances kept as heirlooms by Minang families. This material, which is dark red and 15–20 centimetres long, is probably orang utan fur.

Although lions are not native to Southeast Asia, at least one was seen in South-

east Asia in 1011, when a lion was shipped from India to China via San foqi. A Chinese text described it as follows: “The lion’s appearance is truly yellow, the head is variegated, but the body is uniform in colour” (Wade 1991: 31–2). No doubt the lion’s passage was much discussed in Palembang at the time; it is equally probable that Malay sailors who had been to India, and Indian visitors to San foqi, would have recounted experiences with Indian lions.

The adoption of the name Singapura parallels the change of the ruler’s name from Sang Nila Utama to Sri Tri Buana: it replaces a local Malay name with a name in Sanskrit, the prestigious international language. This change reinforces the inference that the adoption of a new name was intended to stake a claim to elevated status in the sphere of international relations.

THE NAME “SINGAPORE”

The island now known as “Singapore” is one of several locations in Southeast Asia that bears this name; “Singapura” was a fairly common name for a city in early Southeast Asia. The first was established at Tra Kieu, near Hoi An, central Vietnam, by the Cham people in the fifth century (Coedes 1968: 154, Briggs 1951: 67). Others were later founded in central Thailand (modern Singburi, which dates from the Angkorian period, approximately the twelfth century) and in the fifteenth century in west Java (Sunarto H. and Sukanda-Tessier 1983: 404 and *passim*).

The name also occurs in Indian stories like the *Jataka* tales (the previous lives of Buddha). In the *Mahavastu*, a history of the *Kinnari* (half-human, half-bird beings who beautify heaven with their songs), King Subahu ordered his son Sudhanakumara to assist at the great sacrifice of King Sucandrima at Singapura (de Casparis 1958: 17, fn. 87). In the *Ramayana*, Singapura is one of the most distant places where Rama searches for his lost wife Sita. The lion was already a symbol of Buddhism in the reign of Asoka in India in the third century BC. The inscription of Surodakan from east Java, dated 1447, lists Singapore as a dependency of Majapahit. Bambang Pramudito has argued that the Bawean Islands north of Java, now called “Shangkapura” (2006: 371–2), were known as Singapura in the seventeenth century.

Wheatley speculated that “Sing(h)apura” was derived from “the esoteric Bhairawa-Buddhism practised at the court of early Majapahit” (1961: 304). Examples of place names that contain *singha* from the thirteenth and fourteenth centuries include “Singhasari” and “Singharaja”. The existence of older Singapuras discredits this theory. Temasik’s name was probably changed to Singapura around 1390, when a usurper from Sumatra seized control of the island.

According to the *Malay Annals*, Sri Tri Buana died after 48 years and was buried “on the hill of Singapura” along with Demang Lebar Daun. The *Tuhfat al-Nafis*, written in Riau in the nineteenth century, adds that Queen Sakidar Shah was also buried there. Thus, Malay literature recorded that the three most important ancestors of the Malays (their first ruler, the chief of Palembang, and the Bintan queen who legitimized him) were all buried on Singapore Hill. No wonder

the inhabitants of Singapore in 1819 were in awe of the place they called *Bukit Larangan*, “Forbidden Hill”, now called Fort Canning. They believed an ancient palace had stood there, and that illustrious ancestors were buried on it and thus refused to set foot there.

According to the *Malay Annals*, Sri Tri Buana was succeeded by his son, Paduka Sri Pikrama Wira. Thereafter “Singapura became a great city, to which foreigners resorted in great numbers so that the fame of the city and its greatness spread throughout the world” (Brown 1970: 21); thus the *Malay Annals* grants to Singapura the honour of being the first great Malay port. The Raja (Bhatara) of Majapahit in Java heard of the great city of Singapura and wished to make it his vassal. He attempted to achieve this goal through diplomacy, but when this failed, he sent his fleet to attack Singapura. Paduka Sri Pikrama Wira, however, successfully defended his kingdom and ruled for 15 years.

Pikrama Wira’s reign was also famous for the appearance of Badang, a strongman who was associated with a boom or moveable barrier that guarded the entrance to the Singapore River. In a contest, Badang threw a large stone from a hill (probably Fort Canning) to a point (*tanjung*) at the mouth of the Singapore River. When the British arrived, sea nomads still believed that supernatural powers resided there in the Singapore Stone and other large rocks. Similar artifacts, made of enormous iron chains, are mentioned in other sources in connection with Malaysian and Indonesian rivers. They may have really existed, though no archaeological evidence has been discovered. *Raffles MS 18* remarks that the boom still existed when the chronicle was compiled (hypothetically around 1612). Several marginal notes in the *Malay Annals* mention Singapore landmarks said to have been extant when the text was written; such remarks only appear in connection with Singapore. Perhaps an editor/copier added them.

Pikrama Wira was succeeded by his son Sri Rama Wikrama. After 13 years, Rama Wikrama died and was succeeded by his son who became the fourth ruler of Singapura with the title Paduka Sri Maharaja.

FROM SINGAPURA TO MELAKA

A man from Pasai, north Sumatra, unwisely tried to impress Paduka Sri Maharaja’s queen by magically changing an areca palm growing in front of the palace into two trees. The king saw this and had him executed. A clot of the man’s blood turned to stone, which the manuscript states could still be seen. Shortly after the execution, Singapura was attacked by garfish (*ikan todak*). A young boy saved the city by suggesting the following strategy to Paduka Sri Maharaja: set up a barrier of banana tree trunks along the shore and all the garfish would get stuck in it, thereafter they were easy to kill. It worked. The Maharaja, fearing that such an intelligent boy might become a threat to his rule, had him killed.

This literary motif may have been added for pure flourish or as a veiled reference to an event that the author did not wish to describe directly. It is not a fantasy that people can be killed in this manner. Fishermen in the Straits of Melaka are

occasionally stabbed to death by garfish; for example in Perak in July 1996. These large fish have sharp beaks and are attracted to lights in boats; they jump toward lanterns and strike people in the head or chest, sometimes wounding them fatally.

Paduka Sri Maharaja died after twelve and a half years, and his son, Sri Sultan Iskandar Syah, succeeded him. Iskandar Shah, the last of Singapura's five kings, is crucial to the evolution of Malay culture because Islam was introduced during his reign. Like Paduka Sri Maharaja, who unjustly sentenced a boy to death, he also committed a crime, unjustly shaming one of his wives by exposing her in the market. She was the daughter of a high official, Sang Rajuna Tapa, who took revenge by stealthily opening the city gate so that Batara Majapahit of Java could conquer the city. Iskandar Shah fled to Seletar, then Muar now a town in the modern state of Johor, Malaysia. Sang Rajuna Tapa and his wife were divinely punished for their disloyalty: in another echo of the ancient oath of loyalty, they were turned into stone in the moat of Singapura. *Raffles MS 18* claims that this landmark existed as well. Iskandar Syah ruled Singapura for three years, then spent two years in Muar before settling at Melaka where he laid the foundations for its later greatness, ruling there for 20 years (Brown 1970: 41–2).

The fall of Singapura can be seen as a cautionary tale. Iskandar Shah broke Sri Tri Buana's covenant never to shame his subjects; the fall of Singapura was the direct result of the violation of this ancient agreement. In fifteenth-century Melaka, however, public shaming was a form of formal punishment equivalent to execution:

punishments for transgressing royal privilege were death, confiscation of the offending item, and public humiliation . . . closely tied to the Malay idea of *aib* (shame or disgrace). The tearing of garments and bedding and the smearing of the face in the case of misdemeanours towards the Bendahara were publicly executed, with the *Kanun* condoning mob participation in meting out punishment, no doubt to increase the offender's sense of humiliation. (Khasnor Johan 1999: 135)

In the Philippines, according to a sixteenth-century author, people could be enslaved for murder or debt, but also “for insulting any woman of rank, or taking away her robe in public and leaving her naked, or causing her to flee or defend herself so that it falls off, which is considered a great offense” (Junker 1999: 133).

With the founding of Melaka, the *Malay Annals* record that Singapura became the domain of the son of an official with the title *Sri Bija Diraja*; apparently Singapura had been his father's fief as well. Sri Bija Diraja held an important office: Laksamana, commander of the sultanate's maritime forces (Brown 1970: 117–8, 241 n. 625).

Hang Tuah, the most heroic figure in Melaka, with traits analogous to Arjuna in the *Mahabharata*, also held the office of Laksamana. Thus the greatest hero in the *Malay Annals* was directly associated with Singapura. Why would Singapura be his fiefdom? The *Malay Annals'* account of the reign of Sultan Mansur Shah, one of Melaka's most glorious periods, glorifies Singapura as the base of 40 three-

masted cruisers (Brown 1970: 67). Singapura was apparently the most important source of naval strength in the Melaka period, as Bintan had been earlier. Melaka, on the other hand, had no local seafaring population.

The name “Singapura” disappears from the narrative in the tenth chapter of the *Malay Annals*, during Mansur Shah’s reign. It is replaced by *Ujung Tanah*, “Land’s End”, which included Melaka’s domains in the southern tip of the Malay Peninsula as far south as Bintan.

W. Linehan (1947) has worked out the chronology of Singapura’s history as it would be if the *Malay Annals* were indeed factual. This was possible because Iskandar Shah’s existence is confirmed by the *Ming Annals*: he visited China in person and Chinese sources recorded his death in 1413. By adding up the regnal periods of the five kings, 114 years, Sri Tri Buana would have hypothetically arrived in Singapore in 1299 and Singapore would have fallen to Java in 1375–1376.

No one has claimed the *Malay Annals* is a reliable guide to dates or events. Scholars however debate the intriguing question of whether we can reconstruct the intentions of the compilers of the *Malay Annals*. To what extent was it meant to depict Singapura’s actual appearance and importance in the fourteenth century?

O. W. Wolters (1971) concluded that Singapura in the *Malay Annals* symbolized the Srivijaya kingdom’s long heyday in Palembang. The description of Singapura, he theorized, could have been a device to avoid mentioning the eleventh-century defeat by the Cholas and Palembang’s subordination to Jambi. The only period when Singapura became a Malay capital, according to Wolters’ reconstruction, was a six-year period between 1391 and 1397.

Palembang was the capital of a great maritime kingdom founded in the seventh century, with a lifespan of 300 years, which constituted one of the first great Malay trading kingdoms. Singapura was only founded in about 1300. It was thus not the first great Malay port or capital. An alternative interpretation to Wolters’ is possible: that the *Malay Annals* reflects a period when Singapura was an important port sometime between the decline of Palembang in the eleventh century and the rise of Melaka in the fifteenth century.

Other mysteries stemming from the *Malay Annals*’ depiction of the past remain unexplained. Why is Singapura’s glory given five reigns whereas Palembang’s history, which lasted several centuries, is reduced to one? Why is Malayu/Jambi completely ignored? Unfortunately, these questions cannot be answered. We can, however, discuss another interesting question: how did *Raffles MS 18* influence its British owner, Sir Thomas Stamford Raffles?

THE INFLUENCE OF THE MALAY ANNALS ON SIR THOMAS STAMFORD RAFFLES

Although some have disputed this conclusion, it is certain that the *Malay Annals* played a major role in Raffles’ decision to establish a base in Singapore in 1819. Several letters written before he even visited the island show that he was aware of Singapore’s great reputation in Malay literature as an ancient kingdom. Raffles

took great personal satisfaction from the idea of reviving an ancient port. Lady Raffles “later claimed it was the specific account of the founding of Singapore in the third chapter of the *Annals* which first gave her husband the idea for an ‘Eastern Settlement’ on the same site” (Hooker and Hooker 2001: 43–5, Bastin 2002: 109).

John Bastin has argued that the influence of the *Malay Annals* on Raffles should not be overstated: “That Raffles knew of Singapura from the *Sejarah Melayu*... is obvious; but that it was the prime inspiration for the British settlement on the island overlooks the complex factors that actually led to its foundation” (Bastin 2002: 109). Geopolitical considerations undoubtedly dictated the outline of Raffles’ search for a commercial base at the south end of the Straits of Melaka. His colleague, Col. William Farquhar, favoured Karimun Island, 30 kilometres west of Singapore, but an inspection of it in January 1819 showed that the island had several disadvantages. According to one source, it was Captain Daniel Ross of the *Discovery* who suggested to Farquhar and Raffles that they should consider Singapore (Langdon and Kwa 2010: 1). Within a very short time after his arrival, Raffles concluded a treaty with the Malay official in charge of Singapore, and there was no more discussion of Karimun Island.

We will never know for certain how various factors influenced Raffles’ decision. Singapore’s geopolitical location, its potential port facilities, and its water resources, as well as its romantic image in Malay literature, were probably all taken into consideration. If Raffles was concerned with generating maximum publicity among the population of the islands for his new port, then there would have been no contest. Singapore had a storied name and was ruled by an important official of the Riau kingdom, while Karimun Island was a minor outpost. The name Singapore would have been a good marketing strategy, and Raffles was most interested in attracting local shipping to his settlement, as well as using it as a way-station between India and China (cf. Trocki 1979: xviii).

OTHER SOURCES FOR SINGAPORE’S EARLY HISTORY

Tomé Pires, the Portuguese Apothecary

If the *Malay Annals* is a historical romance that plays with facts rather than rooting itself in them, other sources record Singapore’s ancient history from different perspectives. Stories about ancient Singapura were told in Melaka in 1509. Tomé Pires, who arrived in Melaka shortly after 1511, obtained much information from the large Javanese community there. In addition to supplying much of Melaka’s rice, Javanese mercenaries had been the backbone of Melaka’s land forces. Melaka must have had close relations with Java, despite the adversarial role assigned to the Javanese in the *Malay Annals*.

Pires cited information obtained from an unknown Javanese document (perhaps a copy of a Javanese *babad*, a genre of historical romance similar to the Malay *hikayat*), which claimed that a Palembang prince called Parameswara sought to throw off Javanese suzerainty sometime after 1360. A Javanese fleet in

retaliation attacked his stronghold on Bangka, whereupon Parameswara fled to Singapura. Eight days after arriving, Parameswara assassinated the local chief, known by the title Sang Aji. He then “governed the channel and the islands, . . . and he had no trade at all except that his people planted rice and fished and plundered their enemies, and lived on this the said channel of Singapura” (Cortesao 1944: 232). The title *sengaji* was used as the equivalent of “prince” on the island of Bima until 1917 (Lebar 1972: 71). Joao de Barros, a later Portuguese author, gave more details: he wrote in 1553 that Parameswara fled from Palembang to Temasik, killed a ruler named Sangesinga, and ruled for five years with the help of *Çelates*, who were hated by the people of Singapura.

The most likely interpretation is that the murdered chief of Singapura had been married to a princess from the Malay kingdom of Patani, then a vassal of the Siamese empire of Ayutthaya, one of Thailand’s restive southern provinces today. In about 1396, according to O. W. Wolters’s calculations, Singapura was attacked, not to destroy the city but to punish Parameswara for Sang Aji’s death. These forces may have acted with the sanction of Ayutthaya, but they were probably Malays from Patani. Parameswara again evaded capture, fled to Muar, and then founded Melaka.

The Sea People of Karimun Island

Portuguese and Malay sources agree that one of Parameswara’s main sources of support when he fled from Palembang to Singapura was a group of “Sea People”, *Orang Laut*. The Portuguese called them *Çelates*, from the Malay word *selat*, “strait”. The Sea People who came with Parameswara from Palembang (or perhaps Bangka) chose not to live with him at Singapore but stayed at Karimun Island instead. Perhaps they felt unwelcome in Singapore, as the Portuguese say. They may have been involved in the murder of Singapore’s chief.

Karimun plays no role in the *Malay Annals*, but occupies a strategic position at the southern end of the Straits of Melaka. From atop hills there, lookouts can see Singapore on one side and Sumatra on the other. No ship can sail into or out of the Straits undetected. Chinese sailing directions of the Yuan and Ming Dynasties refer to Karimun Island as an important navigational landmark and rendezvous. Despite its absence from Melakan literature, Karimun played a role in the age of Srivijaya. A steep rock face on the north side of Karimun bears a Sanskrit inscription in Nagari script carved in the ninth or tenth century, Srivijaya’s golden age. In large letters, 30 centimetres high, the inscription proclaims *Mahāyānika Golay-antritasri Gautama Sripada*: “These are the footsteps of the illustrious Gautama, the Mahayanist, who possessed an armillary sphere” (Figs. 4.03–4.05; for an alternative reading, see Caldwell and Hazelwood 1994).

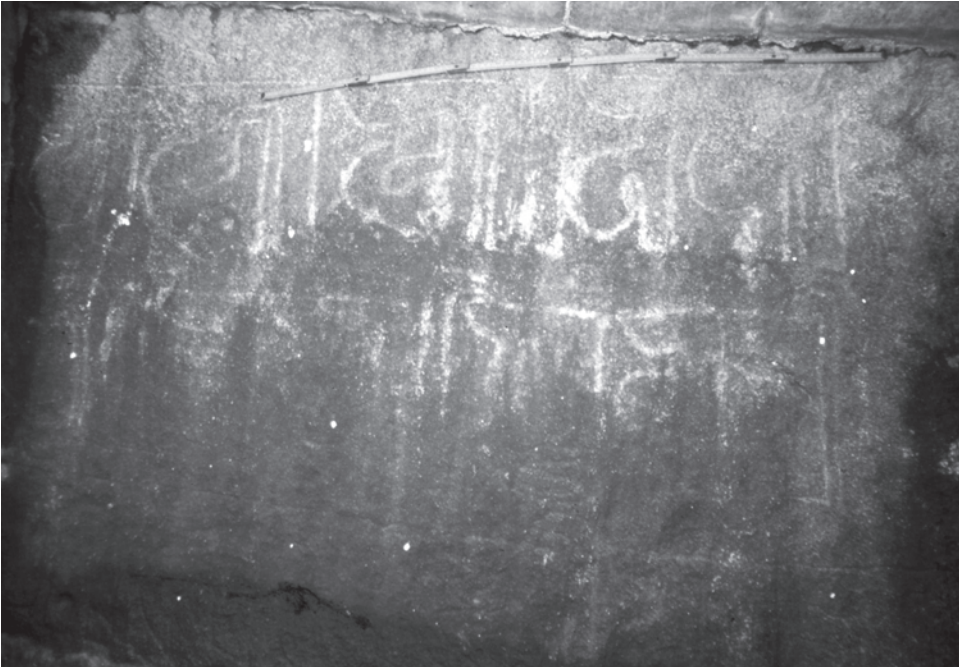
These enigmatic words can be interpreted as follows. Natural indentations near the inscription might be the “footsteps” to which the text refers. Nagari script was used by Mahayana Buddhists in Java starting in the late eighth century. Thus a Buddhist community led by someone named Gautama probably existed somewhere near the north coast of Karimun. The term *gola yantra* was used as early



4.03 Karimun quarry. The inscription is on the outcrop to the right of the picture.



4.04 The Karimun inscription is now enclosed by a concrete wall, decorated with traditional flags by the *Orang Akit*. The natural indentations in the rock may be the “footprints” referred to in the inscription.



4.05 Karimun inscription, written in large Nagari characters and Sanskrit language

as 476 in Indian astronomy to refer to an instrument often termed an armillary sphere which was used to ascertain the positions of stars (Narveker 2007). The armillary sphere was probably not made by a craftsman resident on Karimun, but was received as a gift or token of esteem (*anugerah*) by Gautama, a local chief, from his overlord, who was the ruler of either Srivijaya or Malayu, who had in turn received it from elsewhere, perhaps a place in southern Asia.

Karimun occupies a doubly strategic location: it commands the southern entrance to the Straits (only 9 kilometres of water separate it from the southwest tip of Johor and 20 kilometres from Pulau Rangsang on the western side of the Straits), and lies directly north of the mouth of the Kampar River, which leads into the Minangkabau heartland in west Sumatra. Several classical archaeological sites lie along the Kampar. One of them, Muara Takus, which may date from the tenth or eleventh century, consists of ruins of substantial brick temples built in accordance with Mahayana precepts but resemble stupas from Sri Langka.

The commanding height overlooking the Straits of Melaka where the inscription was found could have been used by Sea People allied to Srivijaya or Malayu to keep watch over passing ships and make sure that they paid duties to the Maharaja. As a token of esteem and to bind the Sea People more closely to him, a king probably presented a fancy imported instrument to Karimun's chief, which so pleased him that he had a record of the gift inscribed on the prominent rock in large letters where all who passed by could see it (Fig. 4.06).

Gautama's profession of the Mahayana faith is quite compatible with this supposition, because it was the religion of both the Srivijayan and Malayu royal



4.06 View from the site of the Karimun inscription over the Straits of Melaka



4.07 Residents of north Karimun, who identify themselves as *Orang Akit* (Akit People)

houses. In addition to his admission of Srivijayan spiritual authority, Gautama probably rendered other services as well; several authors have noted that the boat dwelling populations of the Riau and Lingga archipelagos probably formed the heart of Srivijaya's military, especially naval, power. The loyalty of the boat dwellers of Karimun would have been extremely valuable to any ruler hoping to maintain control over shipping in the Straits of Melaka, over other ports that



4.08 Karimun shrine on the fringe of the Orang Akit village

could have competed with him as the focus of transit trade, and over piracy.

A few kilometres from the inscription is a village; the inhabitants call themselves the Akit people (Fig. 4.07). They profess to be Buddhists, though their temple is a mere thatched hut in the forest (Fig. 4.08). They live mainly by fishing and continue to revere the inscription, decorating the low cement enclosure around it with banners. These traits link them to the people who probably resided on the island over a thousand years ago, and those who worshipped the stones at the mouth of the Singapore River in 1819.

The Çelates were the only people who lived in Singapura in 1511. “The Synggapura channel. It has a few Çelates villages; it is nothing much. From there onwards the said kingdom does not extend any further on land. This canal is a thing of little importance—I mean the people who live there” (Corteseo 1944: 262). According to Pirés, Çelates Bajaus lived near Singapura and Palembang, always accompanied Parameswara, and had the *bendahara* and *laksamana* as their hereditary offices. In the seventeenth century, the Sea People of Singapura had a chief who went by the high-sounding title *Raja Negara Selat*, “king of the country [or town] of the Straits” (Andaya 1975: 256, 259, 264, 281, 288). According to Pires’ informants, the Sea People discovered the site of Melaka and invited Parameswara to move there from Muar. When the Portuguese took Melaka, the *laksamana* was a descendant of these Sea People. Hang Tuah may have been a member of this group. Pirés called a group of islands between Karimun and Rangsang “Çelates islands”, and noted that they produced some food.

In 1846, Karimun was still notorious as a base for pirates of the Galang *suku* (“tribes”, communities; small groups, usually speaking their own dialect, and identified with a particular range of territory). In the late nineteenth century, the population was mostly descendants of these people, who had become semi-sedentary but were not Muslim.

The Mangrove Lovers

The coasts of Singapore and the Straits of Melaka afford four different habitats: mangrove swamps, sandy beaches, rocky cliffs, and coral reefs. To modern people, mangrove forests may appear forbidding, but are highly productive from an ecological standpoint. The mangroves were the home of the Sea People, if nomadic boat dwellers can be said to have a fixed address. Their fauna consists mainly of shellfish and crustaceans, with some reptiles, the most valuable of which are turtles. Humans have exploited these excellent protein sources for thousands of years. Mangroves yield no wood for making canoes, but some species, including *nibong* and *nipah*, are valuable for making traditional shelters; *rhizophora* species provide high-quality firewood and charcoal; the bark of certain mangroves provides tannin. Pandanus, useful for baskets, mats, and sails, and hibiscus, for rope, are also found in this habitat. Unlike sandy beaches, mangrove forests are also difficult to penetrate, but afford protection against storms and enemies to those who are familiar with them.

Sea People in the Mergui Archipelago, one of their last remaining refuges, continue to follow a yearly cycle dependent on the climate. During the wet season, they live in the lee of islands where they collect oysters, wild yams, and materials for boat-building and mat weaving. Sometimes they build temporary dwellings on stilts over tidal flats. During the dry season, they move to the windward coasts where they hunt stingrays and dive for pearl shell (Sopher 1977: 60).

According to Pires and da Barros, stingrays were important to Sea People in the sixteenth century because they were the source of poison in blowgun darts. A group of boats worked together to trap rays in order to obtain their caudal spines, which were then ground up and mixed with other ingredients to make poison. Arab writers like Mas'udi (943), Idrisi (1154), and Ibn Said (thirteenth century) mention that pirates in the islands of the South China Sea also used poisoned arrows (Sopher 1977: 342).

The Sea People were not self-sufficient. For hundreds if not thousands of years they specialized in collecting natural products, which they exchanged with inhabitants of settlements in estuaries along the Straits of Melaka who later came to be denoted as "Malay". The Sea People were primary producers of commodities such as pearl shell and pearls, wax, sea cucumber, edible bird's nests, and dammar resin, important components of the region's maritime trade. They were usually allied with a patron, either Malay or Chinese, who claimed exclusive rights to trade with them, and was seen as their protector.

In 1819 Singapore was home to several *suku* of Sea People. Those who lived around the Singapore River belonged to the Gelam *suku*, who also inhabited Batam and nearby islands. Abdullah Munshi described them, and noted that they paid homage to a rock near the mouth of the Singapore River (not the inscription, but another rock which looked like a garfish head). Soon after the British arrived the Singapore River became crowded, so they moved to Pulau Berani, an island in Keppel Harbour near Sentosa. By the early 1920s, they had assimilated Malay culture (Sopher 1977: 105). Another group, the Seletar *suku*, lived on boats around mangroves, especially on the north coast of Singapore near the Seletar River mouth. The Biduanda-Kallang *suku* who lived in the mangrove swamp at the Kallang River were said to have died out in 1848 because of smallpox (Sopher 1977: 107).

The Sea People retained their important position in the kingdom after the Malay capital returned to *Ujung Tanah* (the Johor-Singapore-Riau area). Different *suku* of Sea People had special occupations. The *suku* Mantang specialized in blacksmithing, including making swords and spears. Other *suku* served as soldiers, rowers, “transport of envoys and letters to rulers in foreign countries”, producers of agar-agar and sagu, service in the kitchens, bringing water and wood, and raising hunting dogs (Andaya 1975: 44).

The Sea People were the sultans’ most loyal subjects. Their links to the Malay rulers persisted until 1699, when the last sultan who could claim to be a direct descendant of Sri Tri Buana was assassinated. They became fragmented and leaderless thereafter, and many were absorbed by other ethnic groups.

The Founder of Melaka, the Portuguese, and the Siamese

The *Malay Annals* say that Iskandar Shah was the last ruler of Singapura who was driven out and founded Melaka. On the other hand, the Portuguese author Tomé Pires records that Singapore was once ruled by a man named Parameswara, and that Iskandar Shah was his son who was born in Singapore and became Melaka’s second ruler. Chinese records of the early Ming Dynasty and Portuguese authors including Joao da Barros, and Bras d’Albuquerque (later renamed Afonso, after his father), the son of Melaka’s conqueror, also say that Parameswara was Melaka’s founder. The *Malay Annals* omit any reference to Parameswara, for reasons that we can only guess at.

Da Barros says that Siamese, not Javanese, expelled Parameswara from Singapore; he then went first to Pago, 40 kilometres upstream from Muar. The last sultan of Melaka also stayed at Pago for about four years, 1516–1520, before he was driven away by the Portuguese and relocated his court to Bintan.

Portuguese authors do not agree on who attacked Parameswara in Singapore. Bras d’Albuquerque, in 1557, wrote that Singapore was already a large town when Parameswara arrived. He too says that Parameswara was expelled after five years, but instead of the Siamese, he says the enemy was the king of Patani (a Malay kingdom and vassal of Siam). He first went to Muar, then Bertam (Rouffaer 1921: 27–8). Diogo do Couto agreed with the *Malay Annals*’ statement that Majapahit was responsible for Parameswara’s expulsion, while Erédia said he fled an attack from Pahang (which then meant most of what is now peninsular Malaysia) (Gibson-Hill 1956: 19). Although the Portuguese heard several different versions of the story of the relationship between Singapore and Melaka, their accounts agree that a large town had existed at Singapore, the ruler of which was a Siamese vassal who was killed by a refugee from Palembang.

The name “Pahang” is first mentioned in Zhao Rugua’s 1225 gazetteer; this kingdom sent missions to China in 1378, 1411, 1414, and 1416. The Palandas and Attabas rivers in Claudius Ptolemy’s *Geography* may also refer to Pahang (Wheatley 1961: 171). Archaeologists have not yet discovered the kingdom’s capital, though remains of it should exist.

The Siamese had begun to expand into the northern Malay Peninsula by

1280 (Wheatley 1961: 301). The first Siamese inscription, erected at Sukhothai in the late thirteenth or early fourteenth century (putatively dated 1292) claimed Nakhon Sitamarat, on the border of the Malay kingdom of Patani, as a vassal; Patani too became a Thai vassal soon thereafter. Wang Dayuan mentioned an attack by *Xian* (“Shan”, which later meant Siam) on Temasik about 1330 (Rockhill 1914: 100). The Javanese kingdom of Majapahit may have exercised hegemony over Singapore between 1330 and 1390, but thereafter (or perhaps even simultaneously) the kingdom of Ayutthaya also exacted tribute from Singapore. Melaka in the early fifteenth century sought Chinese protection against Ayutthaya, but later is recorded to have paid tribute to the Siamese.

Pirés listed three kings with the title “Sang Aji”: the rulers of Palembang, Pontianak, and Singapura. All were vassals of Java, but the Singapura ruler was said to have married a daughter of the Siamese king and a Patani noblewoman. Thus the Singapura ruler would have been related by marriage to both Ayutthaya’s king and the Patani Malay nobility.

It is possible that *Parameswara* and *Iskandar Shah* may have been different names used by the same man at different stages of his life. According to Pirés’ Javanese informants, Java decided to attack the man when they heard that Sang Aji of Palembang had declared himself to be exempt from tributary obligations. The year 1389 may have seemed to be a favourable period for a rebellion because the great Javanese king Hayam Wuruk had just died. According to Wolters’ reconstruction, Parameswara’s rebellion failed, forcing him to flee Palembang in 1390 or 1391 (1971: 71–4, 110–2), after which he then usurped the then ruler of Singapura.

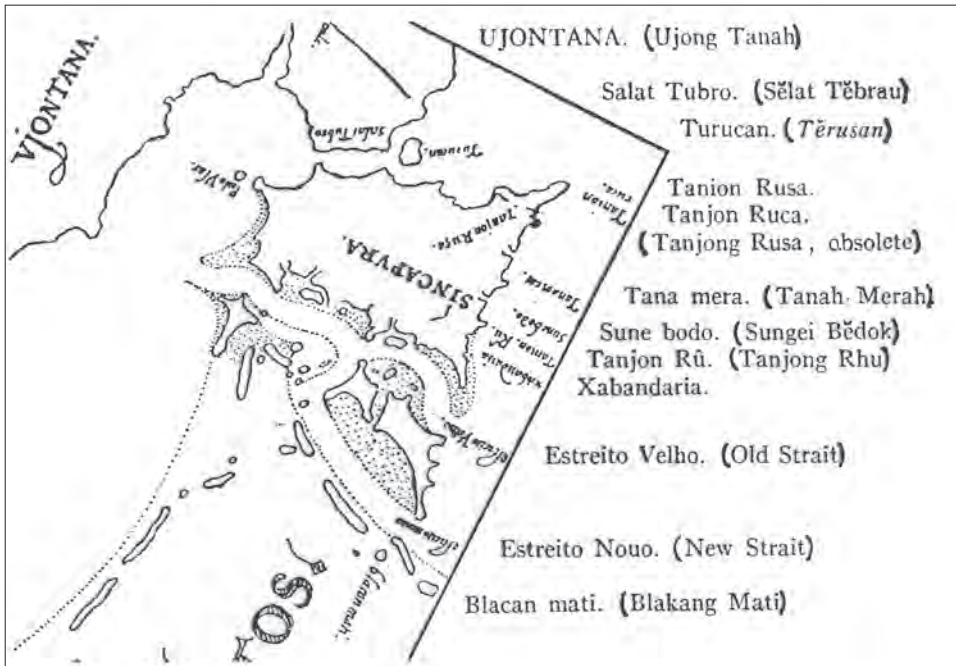
Why Parameswara (or Iskandar Shah) chose Singapore will never be known. As archaeological research has shown, Singapore at that time was relatively prosperous. Perhaps it was because Parameswara’s Sea People were already familiar with the area.

Godinho de Erédia

After the death of the king of Siam, Parameswara’s son, Iskandar Shah, began to compel the ships which formerly navigated in the Strait between Melaka and Sumatra that they should no longer go to Singapore and also the ships from the east which used to come there to exchange merchandise with those from the west, according to old custom; as a result of this Singapore began to become empty of merchants who came to live in Melaka. (Sopher 1977: 317, quoting Joaõ da Barros)

If this is true, Singapore must have declined gradually rather than suddenly during the fifteenth century; historical and archaeological evidence corroborate this.

Godinho de Erédia, born in Melaka in 1563, was the son of a Bugis princess who eloped with a Portuguese member of a diplomatic mission to Sulawesi. Raised in Portuguese India, at the age of 37 he returned to Melaka as commander of a squadron of 70 ships that guarded the south end of the Straits of Melaka. In 1604 he founded a fort at Muar and ordered that others be built at Singapore and



4.09 Godinho de Erédia's map of Singapore drawn around 1564, published in 1604. Johor (Ujontana) is at the top. Blakang Mati is the old name for Sentosa. The Xabandaria at the mouth of the Singapore river is the station of the "lord of the port". Reproduced by permission from Gibson-Hill (1956: 54).

Pulau Kundur, near Karimun (although no action seems to have been taken to carry out these plans). He blockaded Johor and launched other hostilities against the Malays including the destruction of the fortified settlement of Kota Batu (Johor Lama) (Mills 1997).

Erédia was quite interested in Malay history and antiquities. He seems to have been told that Parameswara was the first king of the Malays, which was untrue. This suggests that a different version of the genealogy of the Malay Kings, which included Parameswara, once existed. Erédia provides specific information: Parameswara came from Palembang to Singapura in 1398 (he was not far wrong), and assassinated the *Xabandar* (shahbandar, harbourmaster) of Singapura, who was related to the lord of Pahang, after fleeing from his father-in-law the Emperor of Java Major. "[T]he monarch who resided in Pathana, the metropolis of the Malayos, was tributary to the empire of Syam, for right down to the present day the Malayos regard the latter as their master" (Mills 1997: 37). When Parameswara arrived in Singapore around 1391, the local chief was probably a vassal of Siam, connected by marriage to Patani. After moving to Melaka, he built a fortress on top of a hill and, according to the Portuguese, was succeeded by Iskandar Shah.

Several texts confirm that Singapore was a Siamese vassal. Barros mentions "governors who resided at Çingapura on behalf of the King of Siam" (Mills 1997: 91). "A nautical Arab text of the first half of the sixteenth century indeed tells us that 'Singapore is the last land of Siam in the South'" (Mills 1997: 96).

Erédia described several antiquities found in no other source. At a place called Panchor was the “King’s Pool”, a marble bathing place (Mills 1997: 24). Panchor is 18 kilometres northeast of Melaka. No remains exist there today. About 30 kilometres north of Melaka is a high rocky promontory called Tanjung Tuan (“Lord’s Point”); one can see the coast of Sumatra from here on a clear day. At this spot, Erédia found “another building, which looks like a basin made of marble blocks or like the ruins of the base of a pyramid, in which Permicuri was buried . . .” (Mills 1997: 24). The site is now occupied by a large lighthouse; there are no visible ancient remains on the site, though several keramat-like shrines are maintained by local devotees at the foot of the hill.

Erédia saw “traces of the royal orchard of Sarvarallos which resembled a terrestrial paradise, with plantations of trees bearing delicious fruits of every kind, and with every variety of flower” (Mills 1997: 24). Gardens were a fundamental component of royal palaces in Southeast Asia. John Crawfurd found a grove of very old fruit trees growing at the southeast foot of the Forbidden Hill of Singapore in 1822. This may have been the remains of Temasik’s palace garden. Singapore’s first botanic garden was established in the vicinity; a spice garden now thrives on the same spot in Fort Canning Park.

Erédia’s report contains a detailed map (Fig. 4.09) of the Straits of Singapore and Sabbang dated 1604 (Mills 1997: opposite 225). Erédia’s familiarity with the Singapore-Johor area can be attributed to his naval responsibilities. It is quite likely that he stepped ashore on Singapore, since he gave orders for a fort to be built there. His map depicts a number of place names on the south coast of Singapore which still exist: Tanah Merah, Sungai Bedok, Belakang Mati, and Tanjong Rhu. Another name in the vicinity of the Singapore River, *Xabandaria*, indicates that Singapore still had a “lord of the harbour”, probably an official appointed by Johor. Singapore must have had enough external trade to make such an appointment worthwhile. The name *Xabandaria* also appears on at least two other maps from around 1650. A Flemish merchant who spent much time in the region in the early seventeenth century called Singapore the “Island of the Old Xabandaria” (Borschberg 2004c: 36).

Erédia’s map shows the place name “Old Strait” at Keppel Harbour. “New Strait” is further south, the present Main Strait, the waterway between Singapore and Batam. This confirms that Keppel Harbour was used in the sixteenth century and earlier (consistent with the designation “old”) despite the much greater suitability of the Main Strait.

A detailed comparison of early European maps of the Singapore region shows that not all mapmakers were as precise as Erédia. For example, Singapura is sometimes placed up the Johor River, near the site now known as Johor Lama (“Old Johor”). The name *Singapura* was often used in the phrase “Straits of Singapura” to designate the multiple channels south of the island, and even the southern part of the Straits of Melaka. Conversely, Singapore was sometimes called *Ujong Tanah*, “Land’s End”, a name that in Asian sources could apply to a fairly large part of the southern Malay Peninsula as well (Borschberg 2004c: 34–7).



4.10 Candi Jawi, one of Krtanagara's funerary temples where he was commemorated in the form of Siva in the lower section and Buddha in the upper section. This shrine exemplifies the tall, slender form of fourteenth-century Majapahit temples.

The Name “Parameswara”

Numerous scholars have speculated on the origin and meaning of the name *Parameswara*. It was once believed that this was a title given to a low-ranking noble who married a woman of higher rank. Some Southeast Asian inscriptions mention *Sri Parameswara*, a name, but *sri* sometimes prefixes titles too, for example, *Sri Maharaja*, or kingdoms (e.g., Srivijaya). Van Stein Callenfels (1926) pointed out that a Javanese text, the *Pararaton*, referred to two Majapahit noblemen as *Parameswara*: the uncle of King Hayam Wuruk and a high minister. Callenfels correctly concluded that *Parameswara* was an honorific, not a given name of the individuals concerned.

Observing that in both cases the honorific was applied to men married to higher-ranking women, he drew the incorrect conclusion that the title symbolized this type of marriage. Van Stein Callenfels noted that “Parameswara” was part of a title in Balinese inscriptions dated 944 and 1126. It was also used to refer to the son of Bali’s ruler in 1204 (Coedès 1968: 180). The king of Bali from 1260 to 1324 called himself *Paduka Bhatara Parameswara Sri Hyang ning Hyang Adidewalancana* (Endang Sri Hardiati 1996: 107). A princess could also be given the title of *Parameswari*, the feminine form of the word. According to the *Pararaton*, the daughter of the prince of Wengker, who was an ally of Gajah Mada in the Bubat massacre of 1357, had a daughter, Paduka Sori, probably a corruption of *Parameswari*. She married the king of Majapahit, and the prince of Wengker became the king’s father-in-law (I Gusti Putu Phalgunadi 1996: 125, 127, fn. 6).

The name/title *Parameswara* has several possible implications. According to the Sivasiddhanta form of Hinduism that became popular in Indonesia in the fourteenth century, the process of *moksha*, “deliverance from existence”, involves four stages. One scholar has speculated that the ancient Balinese practice of carving portrait statues was perhaps related to stage 3, *niskala*, “where the soul of the deceased king takes [its] place at the feet of the god *Parameswara*, and mingles with the body of the Lord” (Hariani Santiko 2000:179).

Parameswara literally means “supreme lord”. It was often applied to the Hindu god Siva, but “Paramesvara, Siva and Mahadeva are different persons” (Gonda 1972: 3). In fourteenth-century east Java, the highest god was called either *Parameswara* or *Bhatara Guru*. He was modelled after Siva as a teacher, ascetic, and husband of Uma (Gonda 1972: 3). The supreme deity was sometimes considered a goddess and called *Parameswari*. Members of the guild of Indian merchants who erected the inscription at Barus in 1088 termed themselves her sons (Subbarayalu 1998).

In India, *Parameswara* was used as a royal title by fifth-century kings of the Guptas, Chalukyas, Rastrakutas, and Western Ganga (Chakravarti 1978: 30 n. 49). Some have suggested that the title indicated that the kings were attempting to claim divine status.

Parameswara is among a list of deities invoked in an undated inscription from Lawan, Lamongan, east Java (Edi Sedyawati 1994: 296). The *Bhomakawya*, a Javanese poem, mentions Bhatara Parameswara, which Edi Sedyawati (1994: 128 n. 4)

considers a name for Siva, “king of all the gods”. Parameswara and Parameswari are used as names for Guru and Uma in another ancient Javanese poem, the *Tantu Panggelaran* (Edi Sedyawati 1994: 166 n. 10).

The title was commonly used by Javanese royalty, both male and female, in the thirteenth and fourteenth century. “Paramesvari Tribhuwana” was the eldest daughter of Krtanagara, thirteenth-century conqueror of Malayu (*see* Fig. 4.10). She became consort of Krtarajasa Jayawardhana (Vijaya), founder of Majapahit (Çoedès 1968: 201). The Melaka ruler’s consort in 1411 was called *Parameswari* (in the *Ming Shilu*; Wade 1991: 96), corresponding to her husband *Parameswara*.

Wijayarajasa, the ruler of the important east Javanese district of Wengker, bore the title “Sri Maharaja Raja Parameswara”. The Charter of Biluluk II, 1391, and the Charter of Katiden, 1395, refer to “the Magnificent Lord the Illustrious Parameswara, He who is the honoured Released in Wisnu’s Abode” (Pigeaud 1960: 167, 174). These posthumous titles are approximately contemporary with the Parameswara who ruled Singapore.

The title was also very popular on the Southeast Asian mainland. Sri Parameswara was the ruler of *Ko-lo*, which in the ninth century lay southeast of *Pan-pan*, somewhere around the Isthmus of Kra (Wheatley 1961: 55 n. 1). An eighth-century ruler called himself *Campapura Parameswara*, “supreme lord of the city of Campa” (Southworth 2000: 240). Several rulers of Champa were called *Paramesvaravarman*: in 972, 1021 (Çoedès 1968: 124, 139), and another between 1044–64 who may have been a Buddhist (he built a monastery at Phu Qui, Phan Rang; Schweizer 2000: 205, 208). The title *Paramesvari* was also given to a Vietnamese princess who married the Cham king in 1306 (Çoedès 1968: 217).

It was common practice in Southeast Asia to give rulers posthumous names or titles. The founder of Angkor, Jayavarman II, was referred to as *Paramesvara* after his death in 850. Çoedès concluded that “this is the first definite example of the use of a name indicating deification for a sovereign of Cambodia” (1968: 15), though other scholars dispute this. Lesser members of the elite, for example, the chaplain of Rajendrarvarman in the tenth century, were also called *Parameswara* (Chakravarti 1978: 168). An obscure, probably unimportant, individual with this name is cited in an Angkorian inscription dated 959 (Wicks 1992: 195).

Paramesvarapada was the posthumous name of Jayavarman VIII, who abdicated a year before Zhou Daguan’s visit in 1296. The last classical Khmer king (r. 1327–?) was Jayavarmadiparamesvara (Çoedès 1968: 228). *Paramesvara* could even be a building, as it seems was the case of the temple complex at Angkor now known as Preah Koh, built in AD 879 by King Indravarman. It consists of six brick towers dedicated to his parents, his mother’s parents, the dead Jayavarman II, and his wife in the forms of Siva and Devi (Çoedès 1968: 310 n. 6).

The *Ming Shilu* mentions *Ba-la-mi-suo-la Da-luo Xi-ni* (Parameswara Telok Cini?), king of Pahang, in 1411. One suspects that this is the same person as the Melaka king. As late as 1445, a Chinese source called a ruler of Melaka *Xi-li Ba-mi-xi-wa-er Diu-ba Sha*, “Sri Parameswara Dewa Shah” (Wade 1991: 96).

Chinese Sources on Ancient Singapore

The place named *Longya men* (“Dragon’s Tooth Strait”) first appeared in the *Yüan Shih*, an official text, in 1320. The text tells us that “[i]n the ninth month of the seventh year of the reign of Yen You [1320], Ma Cha Man and others were sent as envoys to *Zhan-cheng* [Champa], *Zhanla* [Cambodia], and Longya men, asking for tame elephants”. In 1325, Longya men sent a mission to China with a memorial and tribute (Hsü Yün-Ts’iao 1973: 3ff.). The nearby island of Bintan had also sent a mission in 1323. Thus Longya men was already known to the Yuan court before 1320, since the mission must have been planned in advance. However, these records are frustratingly brief and tell us nothing other than that Longya men and Bintan were then part of the Silk Road of the Sea.

Another place named Longya men appears in 1225 in Zhao Rugua’s text. It has been argued that this place was Lingga, south of Riau, and that the fourteenth-century Longya men was in that vicinity (*see* Lin 1999). It is more probable however that the Song text referred to a different place than the Yuan texts. Evidence that Longya men was Singapore in the fourteenth and fifteenth centuries is overwhelming (Chung 2003).

Fortunately, a more detailed account was written soon after these brief references. This record is the only surviving eyewitness account of ancient Singapore.

Wang Dayuan: Chinese Trader and Author

A rare instance of the use of maritime trade as a poetic theme occurs in a poem by Sung Pen in the early fourteenth century: “The foreign ships have sailed away from their anchorage. Year after year they come as if the seas were always tranquil. . . . In the sixth month when the south wind blows they come and we greet them with wine and music. Is it not a joyful occasion?” (Wheatley 1959:3).

The first Chinese trader to write about Southeast Asia was Wang Dayuan, cognomen Huanchang. He was born around 1311 in Nan chang, known in earlier times as Hongzhou, which became a prosperous port in Jiangxi during the Song Dynasty. “It was said that ‘there are many merchants who engaged in the trade of precious aromatic woods, pearls, and rhinoceros horns. Their boats are as big as hills, and they frequently transport such goods to and from the areas of Jiao (Zhi), Guang (Zhou) and Jing-chang (Hu-guang)’” (Kwee 1997: 56–7 fn. 7). The town is not far from Jingdezhen, the great centre of porcelain production. Nanchang may have been a centre of porcelain trade in the Yuan period.

In 1349, Wang’s composition, *Daoyi Zhilue*, “Description of the Barbarians of the Isles” (*DIZL*) was incorporated into a local gazetteer, *Qingyuan Xuzhi*, “A Continuation of the History and Topography of Quanzhou”, by Wu Jian. Only about two-thirds of the text has been translated into English (W. W. Rockhill 1914). Wang’s text gives us important information on a wide range of topics. Unfortunately, we know little about him. In a postscript to the *DIZL*, he writes, “I ‘attached’ to a boat when I was young to go for sea-travel” (Kwee 1997: 64, fn. 31). This term seems to denote a trader who booked space on a ship for himself

and his goods. He seems to have made two voyages, one from 1330 to 1334, and the other from 1337 to 1339. It is believed that he lived in Quanzhou for some time (Ptak 1995: 52).

Wang Dayuan describes “horse boats” at a place called *Gan-mai-li*, in Southeast Asia:

The ships here . . . are bigger than [normal] trading ships. Their sides are of planks, and they use neither nails nor mortar [to join them], but coconut fibre. Each ship has two or three decks with a board shed [over the upper deck?] . . . to make headway against leaking the sailors take turns, day and night, without any intermission, at bailing out the water. In the lower hold of the ship they carry a mass of pressed-down frankincense; above this they carry several hundred heads of horses” (Kwee 1997: 33, fn. 51; cf. Rockhill 1914: 623–4).

Wang probably made special mention of these boats because “pepper is expensive as these ships transported much away, compared to them, the [normal] trading ships transported less than a tenth of that” (cf. Rockhill 1914: 624, amended by Kwee).

When the Portuguese arrived, the Javanese built huge *jong*, larger than the biggest Portuguese ships, near teak forests on the coasts of north Java, south Borneo, and Pegu (Bago, Myanmar). A fleet that sailed from Jepara to attack Melaka in 1512 included 60 *jong* of over 200 tons’ burden. Large *jong* averaged 350–500 tonnes deadweight, the largest reaching 1,000 tonnes and capable of carrying 1,000 men. Javanese sailed as far as the Maldives, Oman, and Aden. By the end of the sixteenth century, however, they had mostly disappeared. Perhaps Chinese and Gujarati ships took over their role (Manguin 1993c).

A shipwreck found near Sinan, Korea in 1976 was probably a typical trading vessel of the Yuan Dynasty (Kim 1986: 39). Like the Quanzhou ship of the thirteenth century, it could carry 200–300 tonnes, and about 60 crew and passengers. This was probably the type of ship on which Wang sailed to Singapore. An unknown quantity of ceramics and other items was looted by fishermen before archaeologists arrived, but it was still possible to recover 28 tonnes of copper cash; 1,017 pieces of red sandalwood; and 22,007 artifacts including ceramics, metal, stone, and miscellaneous items. The ship, probably bound for Japan, sank in 1323 (Kim 1986: 3). The very high quality of the porcelain led archaeologist Li Zhiyan to conclude, “in general the celadon wares of the Yuan period are superior to the celadon wares of the Southern Song period in terms of quality of glaze and potting technique” (cited in Kim 1986: 11, 109). It is possible that the celadons were exported from Qingyuan (Ningbo), Zhejiang, the Chief Military Command of the Pacification Commission, or centre of Mongol military administration, from 1302 to 1354.

No blue and white ceramics were found on this shipwreck. This is probably because the export of blue and white porcelain had not yet begun; they were only exported between 1329 and 1352 (Liu 1991). The cargo included 12,359 celadons,

5,303 white porcelains (including a type of *qingbai* defined as “pedestalled vases” that have been found only in Southeast Asia; Kim 1986: 58), 506 black-glazed wares (including black-glazed *temmoku* from Jian, Fujian), 188 *jun* wares, 2,305 stoneware jars, 729 metal objects (bronze kitchen utensils, scale weights, mirrors, incense burners and other ritual items, and three bars of iron, lead, or nickel), a wooden bodhisattva statue, plant materials including pepper and betel nuts, and 90 stone items (inkstones, grinding stones) (Kim 1986: 54, 56–7)

Wang and His Book

We do not know when or where Wang died, or his motive for becoming the first sea trader to write about his experiences. His book does not belong to any standard literary genre. The little information we can glean about his life is summarized in Table 4.1

It would be a full century before a work as useful to the historian of Southeast Asian commerce as the *DYZL* appeared. The work is divided into 100 chapters and describes 99 countries, ports, and other localities spanning the huge region from China to Maluku to east Africa. It is our only source of knowledge about many places. Wang quoted Zhao Rugua’s *Zhufan Zhi* a few times: once on the Philippines, once on Phanrang (Vietnam), twice on Palembang, and once on India. Wang modelled some aspects of his work on *Zhufan Zhi*, but both the style and structure of the *DYZL* differ from it significantly.

Table 4.1 Chronology of Wang’s life (Su 1981: 10, trans. in Kwee 1997: 69)

1311	Birth
1330	First voyage from Quanzhou
1334	Returned during summer
1334–7	Stayed in China
1337	Second voyage from Quanzhou
1339	Returned during summer/autumn
1349	Wrote <i>DYZL</i>

“Wang’s literary style is poor” (Kwee 1997: 67) indicating that he was not a member of the literati class. However, he did have literary pretensions; the *DYZL* was excerpted from poems he wrote (which have not survived). Perhaps as the result of his personal experiences among many other cultures, Wang was less inclined than previous Chinese authors to depict foreign customs and people as inferior to those of China. The *DYZL* seems to be the result of a genuine effort to record information the author considered useful for traders.

Wang was intellectually ambitious: in addition to attempting poetry, he incorporated his personal concept of cosmology into the text. Wang believed that islands in the south China Sea formed a midpoint from which three “arteries”

extended to the south (toward Java), to the east (Borneo), and the west (*Xia Kunlun*, a vague territory). Wang assumed that the numbers 3, 9, and 81 were important, a belief related to ancient Chinese ideas that the world consisted of 9 continents each divided into 9 parts.

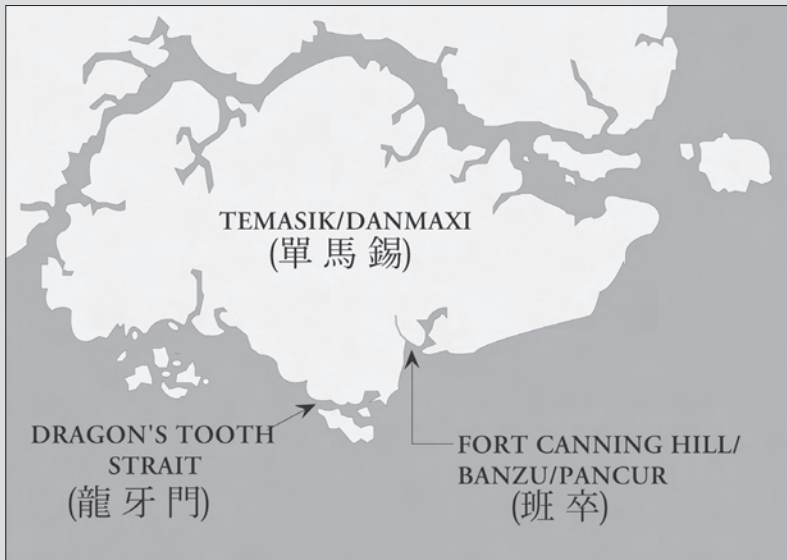
Like other Chinese of his time, Wang thought of the world as containing two oceans, Eastern and Western. However, he differed from others on the point that divided the two. Previous writers considered the Sunda Strait between Java and Sumatra the dividing line. Wang placed it at the Straits of Singapore, specifically at Longya men, placing Singapore at the symbolic point where east and west met (Ptak 1995: 54–6). He mentions 99 places (Table 4.2); Longya men is squarely at the midpoint at number 49. For the first time in Chinese history, the whole of maritime Southeast Asia, with the exception of Myanmar and possibly the northern sections of the South China Sea, is judged to belong to one entity. (Ptak 2001: 416).

Wang mentioned two overseas Chinese communities, but the possibility that he omitted others is left open. One of these communities consisted of some Chinese who belonged to a fleet sent to attack Java in 1292. Those who fell ill during the outward voyage were left behind on *Goulan Shan* (possibly Gelam Island, off south-west Borneo). In Wang’s day, 40 years later, “over 100” of these men were still alive, “mixed up with the native families” (Rockhill 1914: 261).

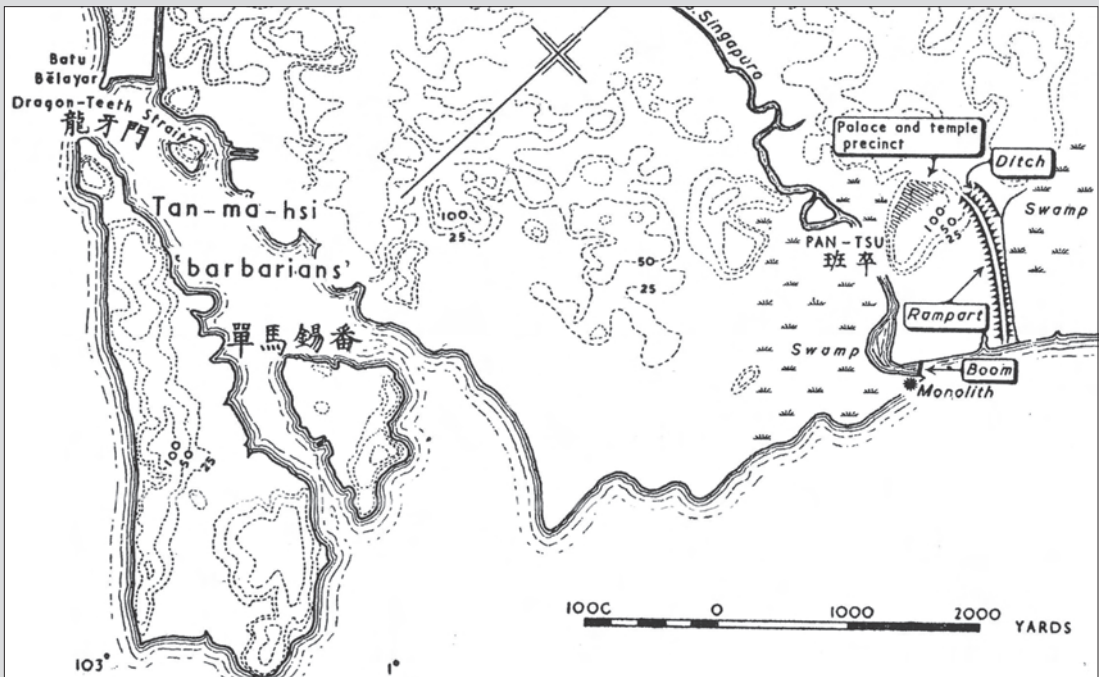
Table 4.2 Distribution of places mentioned in the *DIZL*

<i>East Asia</i>		
Pescadore Islands	Ryukyu	Taiwan
<i>Island Southeast Asia</i>		
Singapore (2)	Malay Peninsula (12)	Anambas Islands
Pulau Condor	Sumatra (11)	Java (3)
Borneo (4)	Philippines (3)	Karimata
Banda	Moluccas	Timor
Uncertain places in insular Southeast Asia (11)		
<i>Mainland Southeast Asia</i>		
Vietnam (5)	Cambodia (1)	Thailand (2)
<i>Indian Ocean</i>		
Sri Lanka (3)	Maldives	Hili
India (8)	Persia	Africa (6)
Mecca	Turkey	
Indian Ocean, unidentified (14)		

Wang’s second reference to overseas Chinese is more significant, because it seems to refer to a settled community of merchants. The reference appears in the



4.11 Important toponyms in fourteenth-century Singapore



4.12 Wheatley's map of Singapore, based on Wang Dayuan's account (Wheatley 1961: 81). Reproduced by permission from University of Malaya Press.

context of his description of the Longya men, or “Dragon’s Tooth Strait”. This is the western entrance to Keppel Harbour, Singapore, which he described as a particularly dangerous pirate lair (Fig. 4.11). His account states that Chinese lived there. This is difficult to comprehend since an organized, law-abiding settlement of traders lay beside the Singapore River only eight kilometres away. Could Wang have made a mistake? Could he have mixed up the two places in his account? How could Chinese live in the pirates’ lair, when Chinese ships were the pirates’ prey?

Wang’s account of Singapore has been translated several times; the most commonly available translation is that of Wheatley (1961: 82). Due to the importance of this passage for the history of Singapore, it is worth delving into the range of possible meanings of Wang’s text. Dr. Geoff Wade and Dr. Goh Geok Yian have analyzed the text of the Singapore sections in detail. In the following section, Wheatley’s text appears first, followed by a literal translation and comments supplied by Dr. Wade and Dr. Goh.

TRANSLATIONS OF WANG’S DAOYI ZHILUE (PART 1)

WHEATLEY. *The strait runs between the two hills of the Dan-ma-xi (Temasik) barbarians, which look like “dragon’s teeth”.*

LITERAL TRANSLATION. The strait is formed by the two mountains of the Temasik natives.

W. *Through the centre runs a waterway.*

L. Between is a water course that separates them.

W. *The fields are barren and there is little padi. The climate is hot with very heavy rains in the fourth and fifth moons.*

L. Soil/fields is/are barren, padi little. Climate is hot. [During the] fourth [and] fifth month[s] there are excessive rains.

W. *The inhabitants are addicted to piracy.*

L. The favourite customs are pillage and plunder.

W. *In ancient times, when digging the ground, a chief came upon a jewelled head-dress.*

L. In former times the district chief/headman dug the ground and gained a/the jade crown. [This could either be meant literally, or as a figure of speech signifying gaining ascendancy over a place.]

W. *The beginning of the year is calculated from the rising of the moon, when the chief put on his head-gear and wore his dress to receive the congratulations. Nowadays this custom is still continued.*

L. Year’s beginning uses the sighting of the moon as 1st month 1st day. The tribal chief [chiuzhang, a term used to refer to the leader of a tribe or people who is known to have charisma and prowess] wears the crown and puts on [a ceremonial] dress/costume to receive congratulatory orders.

W. *The natives and the Chinese dwell side by side.*

L. The Prime Minister [*xiangfu*] instructs both men and women to live in harmony with the Chinese people or Men and women reside beside Chinese people.

W. *Most gather their hair into a chignon, and wear short cotton bajus girded about with black cotton sarongs.*

L. [They wear a] pestle hairstyle (bun) [and] wear [a] short shirt (bu means cloth, usually cotton) [which is] [blue/green [*qing*; e.g. *qingbai*; a special Chinese colour category including dark blue/green]. These cloths [are of] low production value [?].

W. *Indigenous products include coarse lakawood and tin.*

L. The place produces coarse laka wood [and] tin dust.

W. *The goods used in trade are red gold, blue satin, cotton prints, Chu porcelain, iron cauldrons and suchlike things.*

L. Trade goods (i.e., items brought to trade) [*chi jin*=] red gold [*qing duan*=] blue-green silk [*hua bu* =floral pattern cloth/cotton [*chu*=] local [*ci qi*] pottery [This is not a place name for a major kiln site, as some have thought. Rather the word stresses that this is not high-quality porcelain] and metal pots.

W. *Neither fine products nor rare objects come from here.*

L. The hill[s] are without beautiful forest tribute without unique [produce]. [The] goods [coming] from all regions of commerce [for exchange] all/similarly are also [considered?] pirates' goods/spoils.

W. *All are obtained from intercourse with Quanzhou traders.*

L. Trading goods of Quanzhou are obtained by piracy/Quanzhou's products all pirated goods.

W. *When junks sail to the Western Ocean the local barbarians allow them to pass unmolested but when on their return the junks reach Ji-li-men [*Karimun*], the sailors prepare their armour and padded screens as a protection against arrows for, of a certainty, some two or three hundred pirate perahu will put out to attack them for several days.*

L. [The] oceangoing large ships heading towards the western oceans are not questioned or hindered by the indigenous (???) .When returning boats approach the Straits of Jilimen, the sailors have to install arrow guards and special cloth screens and sharpen weapons to prepare for defence. Two hundred-three hundred ships inevitably come to meet the enemy/battle several days.

W. *Sometimes [the junks] are fortunate enough to escape with a favouring wind; otherwise the crews are butchered and the merchandise made off with in quick time.*

L. If one is lucky to have a good wind it is possible not to suffer, [but if they] get caught, people are slaughtered [and their] goods are taken/possessed and (the) people also die apparently within a very short time.



4.13 Longya men: the Dragon's Tooth Strait seen from Fort Siloso on Sentosa Island in the 1980s. Lot's Wife/Batu Berlayar/Dragon's Tooth Rock once stood in the water near the opposite shore, now called Labrador Point after a British fort built on the site in the late nineteenth century.

Wang's account may be deconstructed as follows. The Dragon's Tooth Strait was named after a pinnacle of stone that protruded from the water off what is now known as Labrador Point. The Malays called it *Batu Berlayar*, "Sail Rock"; the early English called it "Lot's Wife". It is shown on a British chart of 1709 (Fig. 4.00), proving that the British had begun to scout the area over 100 years before Raffles arrived there. The two hills would have been Labrador and the rocky promontory on Sentosa where Fort Siloso was built in the nineteenth century (Fig. 4.13). Singapore's nineteenth-century defenders still thought that the ancient waterway possessed considerable strategic value. It was removed in the mid-nineteenth century as part of a project to make navigation into Keppel Harbour safer.

Wang's reference to a jewelled headdress recalls the *Malay Annals'* tale in which Sri Tri Buana throws his crown into the sea. Then comes a statement that can be interpreted in two ways: Wheatley has translated it as "the natives and the Chinese live side by side" while Dr. Wade believes the phrase could mean either that local people were simply told to live in harmony with the Chinese people, or that local and Chinese people physically lived side by side. As an example of the ambiguity that characterizes Wang's text, another scholar, Hsü Yün-ts'iao (1973: 2), has translated this section as follows: "Both men and women, even those Chinese dwelling there, have their hair tied in a knot . . .".

We still lack a definite explanation of this statement. Perhaps Wang meant to contrast the Chinese settlement in Singapore with the way in which Chinese normally lived in Southeast Asia, in their own stockades as Marco Polo described, or in designated foreign quarters as in nineteenth-century Palembang. Foreigners in China were required to live in foreign quarters from the Tang Dynasty until the nineteenth century. If this is the case, why are no other Chinese communities mentioned in his account? It seems unlikely that he would have neglected to mention at least the more important ones. Accounts written during the Ming voyages in the early fifteenth century record the locations of several large Chinese communities.

Allied to these questions is the mystery of whether Chinese lived among the pirates who are discussed in the next paragraph. It is hard to believe that Chinese merchants would live among pirates who butchered the crews of Chinese ships. There was a much safer location just a short distance away: a place Wang called *Pancur*.

TRANSLATIONS OF WANG'S *DAOYI ZHILUE* (PART 2)

WHEATLEY. (1961: 83) *Banzu*.

LITERAL TRANSLATION. Either *Ban zu* or according to some versions of the text *Chueh Zu* (*chueh* refers to some kind of architecture usually used for official purposes and *zu* refers to either a group of people or a military rank or contingent).

W. *This locality is the hill behind Longya men.*

L. The location is connected/linked to Dragon's Tooth Gate's back hill.

W. *It resembles a truncated coil. It rises to a hollow summit, interconnected terraces, so that the people's dwellings encircle it.*

L. Similar to a convoluted coil like it breaks through [the ground into an] uneven peak and the said inhabitants live in surroundings encircling the connected terraces.

W. *The soil is poor and grain scarce. The climate is irregular, for there is heavy rain in summer, when it is rather cool.*

L. [Therefore/hence] the poor infertile soil [has] little vegetation. In addition the weather/climate is irregular and in summer, [there is] lots of rain and [therefore it is] slightly/a little cold.

W. *By custom and disposition [the inhabitants] are honest.*

L. (No change.)

W. *They wear their hair short, with turbans of gold-brocaded satin, and red oiled-cloths [covering] their bodies.*

L. The customary practice is to keep short hair, wear false gold-patterned satin wrapped around the head and a red-oiled crude/coarse cloth tied around the body.

W. *They boil sea-water to obtain salt and ferment rice to make spirits called ming-chia.*

L. [They] boil sea water to obtain salt and process rice [grains] to produce wine/alcohol.

W. *They are under a chieftain.*

L. [They] have tribal chief. [Wang uses a word that refers to a leader who is not independent, but a vassal of another more powerful ruler.]

W. *Indigenous products include very fine hornbill casques, lakawood of moderate quality, and cotton. The goods used in trading are green cottons, lengths of iron, cotton prints of local manufacture, chi jin [“trade gold”], porcelain-ware, iron pots and suchlike.*

L. Trading goods are satin [silk/green] cloths, iron bars, locally printed/produced cloths, red gold, pottery and iron urns/tripods for example.

Temasik also appears in a comment that Wang inserted into another section of the *DYZL*, on *Xian*, “Siam/Shan”, in the lower Chao Phraya valley.

In recent years they [*Xian*/“people of Shan/Siam”] came with seventy odd junks and raided *Dan-ma-xi* and attacked the city moat. [Here Wang uses Temasik rather than Pancur to refer to the settled area.] [The town] resisted for a month, the place having closed the gates and defending itself, and they not daring to assault it. It happened just then that an Imperial envoy was passing by (*Dan-ma-xi*), so the men of *Xian* drew off and hid, after plundering *Xi-li*. (Rockhill 1914: 100)

Pancur is Malay for “spring of water”. Wang contrasted the people of *Pancur* with those of Longya men: Pancur people were honest, had a chieftain, wore different and much more stylish clothing that covered their bodies in contrast to the “short bajus” of their neighbours, and their hair was short as opposed to the long-haired thugs around the corner. They also had an industry (a distillery). The hill they reference must be *Bukit Larangan*, later called Government Hill, and finally Fort Canning Hill. They also had a fortification, which they were able to use effectively to defend their city.

He called the people who attacked Pancur the *Xian*. Later this word meant “Siamese”, but at this date it could have referred to any of several Tai-speaking groups, perhaps one living in the lower Chao Phraya River valley. The name is close to English “Shan”, a modern ethnic group living on the Thailand-Myanmar border.

Wang paid much attention to clothing. For Chinese of this period, clothing conveyed substantial information about the social status and identity of individuals; thus he was highly attuned to this subject. This is fortunate because his descriptions help us to judge the degree of cultural variation between societies in the Straits of Melaka at this time. In the fourteenth century each harbour in the Malay Peninsula had its own style of clothing. People of Tambralinga (south Thailand) wore white shirts with black sarongs, and imported cloth from the Near

East; Pahang people wore long shirts tied with string, made from cotton imported from Java; Kelantan people wore short upper garments with black sarongs, except on holidays when they wore long red upper garments. Terengganu people wore short green shirts fastened with cloth from Cambay; they imported cotton from Vietnam. Langkasuka people wore cotton from the Philippines and printed cloth from India and local sources. The clothing of Singaporeans, including headcloths decorated with gold thread, was quite fancy in comparison. These sound like the *tengkolok* or headcloths of *kain songket*, cotton or silk interwoven with gold thread, worn in parts of Sumatra today. In the fifteenth century, people of Pahang also imported multi-coloured silk and cotton from Java (Wheatley 1961: 77). Wang's description of clothing is a rare source of evidence enabling us to reconstruct the busy commerce in perishable commodities between Southeast Asia's ports.

The raid on Temasik was part of a long history of enmity between the Malays and the Siamese. The *History of the Yuan* says that around 1295, "since the people of *Sien* and of *Ma-li-yü-erh* have long been killing each other and are all in submission at this moment, an imperial order has been issued telling the people of *Sien*: do no harm to the *Ma-li-yü-erh* and hold to your promise" (Çoedès 1968: 205). This edict, like many other imperial Chinese orders issued to Southeast Asians, was ineffective.

Wang's accounts of Longya men and Temasik, although brief, are much more anecdotal than his normal style, indicating that he was quite familiar with the Singapore area. In almost all other cases, he goes straight to the point, elaborating on the products that can be bought and sold in a particular place. Although he may have wished to be a poet, in his text he appears as a down-to-earth businessman, very economical with words.

Early sources rarely refer to the actual nuts and bolts of Southeast Asian commerce. Wang is the only early author who mentions details such as the existence of accountants in Southeast Asia. He specifically praises those in Brunei: "The accountants of this country are exceptional, one man will manage all the book-keeping and expenditure and receipts without a fraction of an error" (Rockhill 1914: 265). Another reference depicts the practice known as *encomienda* in the Philippines, whereby native traders received goods on consignment from Chinese traders, and returned after some time with their payment.

In the *DYZL*, the expression "for example" or "etc." often appears at the end of the list of trade goods. Some ports, such as *Hua-mien*, north Sumatra, are identified as stops for provisioning, not trading ports. Here, sailors could purchase food such as cattle, sheep, fowls, ducks, betel nuts, sugarcane, *sirih* leaves, and cotton, in exchange for iron bars, blue cotton cloth, and coarse bowls. Yuan sources (*Nanhai Zhi*, *Siming Xuzhi*) list about 250 imports. These fall into two categories: precious materials (ivory, rhinoceros horn, coral), and aromatic materials (spices and perfumes) (Kim 1986: 36–7).

It is unusual for a businessman to give away trade secrets. Why Wang decided to perform a public service by divulging commercially valuable information value is another question that we will never be able to answer.

The Name “Pancur”

Pancur, “spring of water”, is a common place name in the Straits now, and has been for centuries. Knowledge of sources of drinkable water is a matter of life and death for sailors, and the Straits of Melaka, with their sluggish estuaries and broad mangrove fringes, do not afford many obvious watering points. In addition to tenth-century Fansur on the northwest coast of Sumatra, a sixteenth-century capital of Johor up the Johor River bore the same name. A modern town called Pancur on the northeast coast of the island of Lingga contains approximately 10,000 inhabitants, nearly all of Chinese ancestry. They earn their main livelihood from *kelongs*, fishing platforms in the large bay on which Pancur is situated. The entire town, including the sidewalks, is built on stilts over tidal mudflats. It would not have been unusual for a place with a source of fresh water such as Singapore to have been called Pancur.

When the British arrived in Singapore, a spring of water gushed from the slope of the Forbidden Hill overlooking the Singapore River. According to Raffles’ Malay teacher, Munshi Abdullah, the Temenggung or chief of Singapore in 1819 told Col. Farquhar:

There is a story dating from the kings of ancient times, that it was on this hill that their palace was built. So it was forbidden for any man to ascend the hill except at the ruler’s command or summons. For this reason it was known as the Forbidden Hill. Behind it is a stream known as Forbidden Stream, for it was the place where the consorts and the wife of the king used to bathe, and no one was allowed to approach. (Hill 1970: 142).

This spring became the main source of fresh water for all ships calling in Singapore harbour. An aqueduct was built from the site of the spring, which was recorded as being 500 feet (approximately 150 metres) from what is now the corner of River Valley Road and Hill Street (Fig. 0.13). A tank, shown on early maps, was built at the edge of the river, which was automatically filled by water flowing from the spring. Ships in harbour only had to send their rowboats up the river and fill their barrels with fresh water without having to step ashore.

This system was adequate until 1830. Thereafter the demands of steadily increasing shipping exceeded the capacity of the spring. Wells were dug around the foot of the hill, and the spring gradually dried up. The memory of the Forbidden Spring is faintly echoed by the River Valley Road Swimming Pool and Tank Road.

No remains of a bathing place have been discovered on Fort Canning. A fourteenth-century bathing place in Sumatra however had a spout in the form of a woman from whose breasts water flowed (Fig. 5.05). This sculpture, in the Minangkabau highlands, was probably commissioned by Adityawarman, a king who had spent his youth in east Java, where a similar statue still exists at Belahan, on Mount Penanggungan. Though no physical evidence of a bathing place on Fort Canning survives, Abdullah was not fabricating his story. Such bathing places had been integral parts of early Indonesian palaces for centuries before Singapore was founded. A bathing place would not have been out of place in

the environs of the palace of Singapore's fourteenth-century ruler. Thus Wang Dayuan's Pancur can be identified with high probability as a reference to Fort Canning Hill.

Springs on hills were often thought to be sacred in early Indonesia. In east Java, for example in the Lumajang-Jember area, at least 16 inscribed stones are scattered around a spring, Rawa. At least two are dated 1459. Others include a *yantra* or mystical diagram, and a marker for the boundary of a meditation spot where it was forbidden to fell the forest. The short inscriptions read *Siddhiyatra* and *tirthayatra*; *siddha* means "success", *yatra* is "journey, pilgrimage", and *tirtha* is "water" (Sukarto K. Atmodjo 1986). Rawa was most likely a pilgrimage spot where people believed they could obtain good fortune.

There is no spring on Seguntang Hill in Palembang, but numerous stones found there were also inscribed *siddhiyatra*. Hills, whether or not they had springs, were frequently considered to have sacred qualities in Asia, as in much of the ancient world. The image of Mount Meru at the centre of the universe, a place where the gods were present and easily contacted, at the summit of which Indra, king of the gods, resided, is closely connected with Asian symbols of kingship. All three early Malay capitals (Palembang, Singapore, Melaka) had identical geographic features: a hill overlooking a river. In order to be considered suitable for a Malay capital, a site no doubt had to have such a natural layout. In each case the hill probably represented Mount Meru. The king's palace symbolized the palace of the gods on top of that mountain.

A Vietnamese Record

As early as the seventh century, a monk from *Chiao-chih* (north Vietnam) was said to have been fluent in Malay (Wheatley 1983: 372). Thus communication between Vietnam and the Malaysia-Sumatra-Singapore area may have been established long before 1300. In the fourteenth century, another source refers to a direct connection between Temasik and Vietnam:

In the second year of Khai Huu (1330) . . . the Prince Nhat Duat died, (at the age of 77). The Prince enjoyed spending his time with foreigners . . . Foreigners arriving to the Capital usually came to see him at his house. . . .

In the reign of Nhan Tong (1279–1293, vol. 2, 44 and 71), an ambassador from Sach Ma Tich (probably Temasik) arrived with presents and no interpreter could be found. Only Nhat Duat was able to translate. When asked why he could understand their language, he said: "In the reign of Thai Tong (1226–58, vol. 2, 7) an ambassador of their country arrived and I befriended him, that is why I can understand a little of their tongue" [*The Vietnamese Royal Chronicle Dai Viet Su Ky Toan Thu* on Temasik, Record of 1330 (vol. 2, 118). The Ha Noi 1998 edition of the chronicle was used for reference.].

If the prince was 77 in 1330, he must have been born in 1253. This is possible, since he was Thai Tong's son. However, he would have been five when his father's reign came to end. Therefore, the above statement can hardly be correct. If the story about the earlier ambassador is true at all, it could have happened only in the reign of Nhat Duat's eldest brother, king Thanh Tong (1258–1278, vol. 2, 30, and 44), probably not before 1268, when the prince was fifteen. Because the prince also spoke Cham, he may have learned the Malay of the Tumasek envoys quickly.

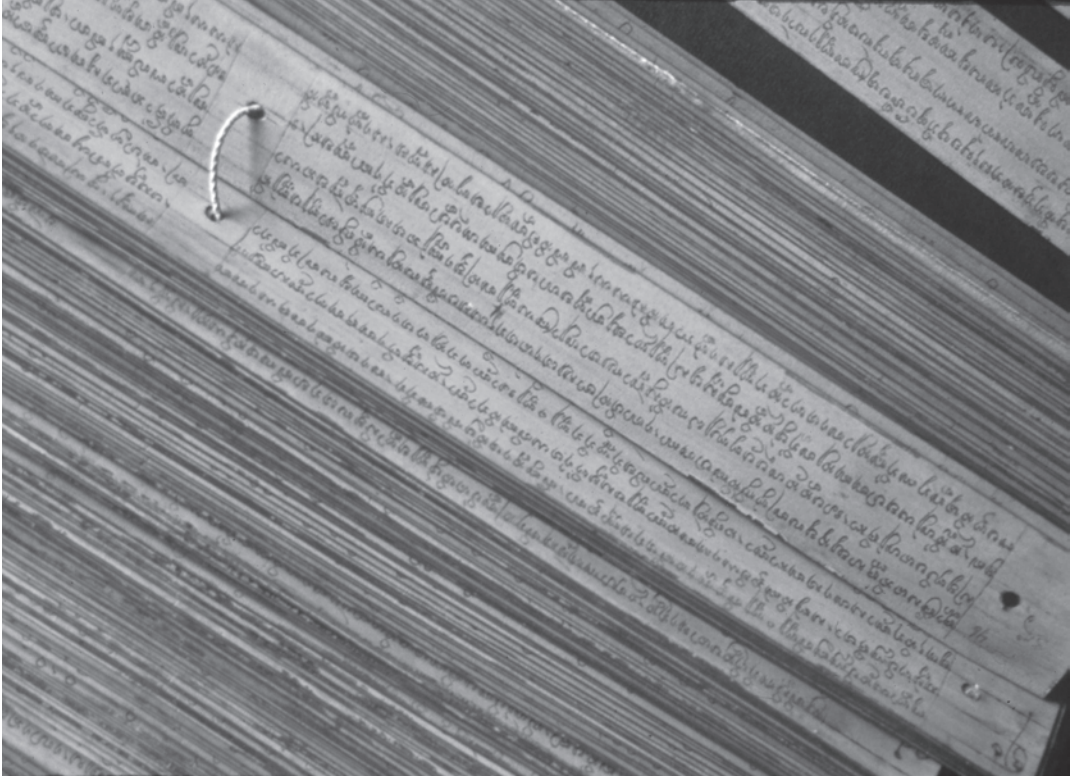
“So, according to the author of the chronicle, who worked with earlier records, there may have been two arrivals of ambassadors from Tumasek, one in the period of 1268 to 1278, and another one between 1279 and 1293, but none in 1330” (Dr. Ivo Vasiljev, pers. comm., 10 December 2000).

This information (for which I am indebted to Dr. Vasiljev) is suggestive but also raises questions. It establishes that Temasik was known to the Vietnamese court. Temasik (*Tumasik* is the Old Javanese equivalent) was sufficiently well-organized that it sent ambassadors to several foreign kingdoms. Several scholars have previously noted the existence of this record, and established that *Sach-ma-tich* is the Vietnamese phonetic rendering of Temasik (Wolters 1982: 48, n. 45). Could Temasik have been founded as early as 1278?

The name Longya men appeared in Chinese records as a place where a mission was sent in 1320 to procure tame elephants. Perhaps stimulated by this contact, Longya men sent a mission to China in 1325. This information may indicate that elephants were being caught and tamed on the Malay Peninsula, and offered for sale in Longya men. Singapore may have had a commercial relationship with Vietnam predating the early fourteenth century, and the mission from Temasik to Vietnam may have arrived in the late thirteenth century. Ivory was a product of “Jong”, probably Wang's pronunciation of Ujung, short for Ujung Tanah, the south end of the Malay Peninsula. Ivory may have been one of Temasik's ancient exports.

Wang's account of Singapore's economy, slight though it is, is instructive when we put it in the context of the other places he described. He listed 25 countries in Southeast Asia that imported cotton, of which he distinguished many types. In the Singapore area, *Lung-ya-bo-di* (an unidentified place which, partly because of the *Lung ya* or “dragon's tooth” and partly because of its context, most scholars are inclined to locate it in the Riau-Lingga area), Jong (the southern Malay Peninsula), Longya men, and Pancur, all imported cotton. Some places both imported and exported cotton. Singapore, for example, exported cotton and imported “green cotton stuff”. Of all these places, only Longya men imported fancier material (satin). The pirates, if such they were, seem to have had expensive taste. Pancur by contrast imported “cotton prints of local manufacture”, presumably less valuable.

Longya men also exported some high value merchandise. Among these was tin, which was probably obtained from Singkep, near Lingga. Nine countries, including Pancur, exported cranes' crests (which the Chinese used for carving small articles such as snuff bottles).



4.14 The Nagarakrtagama or Desawarnana palm-leaf manuscript, or lontar, rescued by a Dutch scholar, J. Brandes, from the smoldering ruins of a Balinese palace in Lombok in 1894, just after it had been demolished in a Dutch attack. The text, written in 1365, claims that “Tumasik” was then a Javanese vassal. Reproduced by permission from Nijhoff for KITLV.

Javanese References

Two ancient Javanese texts mention *Temasik* very briefly. The name *Temasik* is Malay, rather than Javanese. This word perhaps is derived from *tasik*, “lake” or “sea”; here it may signify “place surrounded by the sea”. The *Nagarakrtagama/Desawarnana*, composed in 1365, contains a list of vassals of the Kingdom of Majapahit. The name *Temasik* appears among them (Pigeaud 1960: 11) (Fig. 4.14). The *Pararaton* (“Book of Kings”), a Javanese poem written in the sixteenth century, purports to recount events at the courts of Singhasari and Majapahit. In a famous episode, the prime minister of Majapahit, Gajah Mada, takes an oath to conquer a list of countries. These are listed in geographical order; *Temasik* appears among places located in Sumatra and west Borneo (Krom 1931: 36).

Several independent documentary sources demonstrate that fourteenth-century *Temasik* existed, had some sort of political and economic organization, and had a Chinese segment among its population. The name *Temasik* appears only twice in the *Malay Annals*: once in the story of Raja Chulan, and once during Sri Tri Buana’s first visit when he renamed it *Singapura*. When did the name actually change? All fourteenth-century sources refer to *Temasik*. The Portu-



4.15 Mid-fourteenth-century relief depicting a man carrying objects on a pole, or *pikulan*, on a Majapahit shrine, Candi Tegurwangi, Pare, Kediri. Such scenes first appear on Javanese reliefs of the Majapahit period, and may be evidence of the increasing importance of trade in fourteenth-century Java.

guese in 1511 only mention Singapore; Temasik seems to have been forgotten. Chinese sources continue to use *Temasik* in the fifteenth century, but Chinese authors and editors often retained old names after they had gone out of use elsewhere; the archaic use of *Zhenla* for Cambodia in the Ming Dynasty is one good example.

Singapore's Two Overlords: Majapahit and Siam

Majapahit was founded in 1294 on the ruins of Singasari. By the mid-fourteenth century, it reestablished Javanese dominance over Sumatra. The Acehnese equivalent of the *Malay Annals*, the *Hikayat Raja-Raja Pasai*, mentions Javanese attacks on Pasai, Jambi, and Palembang, among other places (Krom 1931: 390 n. 2, Hill 1960: 157–60). The *Nagarakrtagama* records that Majapahit claimed dependencies spread over an area larger than modern Indonesia. Although the kingdom probably had little influence over internal affairs in most areas outside Java, it did take

a direct role in administering some of its far-flung vassals from time to time.

At the same time as the Javanese were encroaching on the Straits of Melaka, the Siamese (to use the term found in Javanese and Chinese sources) were also attempting to establish suzerainty in the region. In the fifteenth century, an Arab navigational text calls Singapore “the extremity of the Siamese mainland” (Tibbetts 1971: 183). Thus Singapore lay at the intersection of two growing spheres of influence. Chinese sources, including Wang Dayuan, supply incontrovertible evidence that Singapore experienced a Siamese attack. On the other hand, the *Malay Annals* paint Java as the aggressor who attacked twice. The *Pararaton* gives some credence for this in the story of Gajah Mada’s oath in which he is said to have sworn not to enjoy *palapa* until he had conquered a list of places in *Nusantara* (insular Southeast Asia), including Temasik. (We do not know what *palapa* actually was, but the term *Sumpah Palapa*, “Palapa Oath”, has become a key patriotic expression in Indonesia. Several Indonesian communications satellites are named *Palapa* in honour of the oath’s significance in bringing about Indonesian unity, just as communications satellites do today.) The *Nagarakrtagama*, apparently a very reliable source for 1365, implies that Gajah Mada successfully implemented his oath.

It is therefore not impossible that Singapore was attacked from both the north and the south. Singapore’s location at the south end of the Straits attracted attention from the two main empires of the fourteenth century, one based on the mainland, the other on the islands. This position underscores both Singapore’s historical potential and its vulnerability, which are two sides of the same coin.

Majapahit

Majapahit’s territories were divided into three administrative areas: the palace and its vicinity, areas in east Java and Bali that were directly administered by officials appointed by the king, and more distant dependencies which were internally autonomous. Zhao Rugua in 1225 reported that the commander of the Javanese army and 30,000 of his soldiers were paid in gold. This indicates that Majapahit had created a professional full-time army, an achievement which few other ancient Southeast Asian kingdoms could match. We have no details of Majapahit’s army or navy, but there is evidence that it was an effective instrument for imposing tributary relationships on local rulers spread over a huge area for much of the fourteenth century.

Majapahit conducted an active program of diplomatic relations with mainland Asia. Vietnam was considered a particularly close ally, echoing Temasik’s diplomatic relations with Vietnam. Until 1368, China was still under the Mongol Yuan Dynasty. Contacts with the Mongols were understandably cool after Kublai Khan’s expedition, but missions were occasionally exchanged.

Java’s economy had been at least partly monetized since the late eighth century, as shown by the many discoveries of coins in central Java (Wicks 1992: 221), but in about 1300, in the reign of Majapahit’s first king, an important change took place: indigenous coinage was replaced by Chinese copper cash in both official and everyday transactions. Javanese sources do not explain why this change was made, but it was probably connected with the greater efficiency of a cheaply-produced



4.16 Fourteenth-century statue of a Tantric Buddhist deity, probably portraying Adityawarman. Found at Padang Roco, west Sumatra, it was perhaps imported from east Java, where he lived before moving to this place around 1345.

currency system with small denominations suitable for use in markets. Gold and silver are cumbersome to use in such situations.

Java's domestic economy in the fourteenth century was based on integration of a broad area. The Canggal inscription of 1358 mentions 78 ferry crossings in East Java, an indication of the scale of local transport (see Fig. 4.15). Majapahit inscriptions mention a large number of occupational specialties, from gold and silver smiths, to drink vendors and butchers. According to the *Nagarakrtagama*, Majapahit attracted foreign merchants from far and wide, including Indians, Khmer, Siamese, and Chinese among others. Some foreigners, possibly those who had become semi-permanent residents and were engaged in occupations other than foreign trade, had to pay a special tax (Christie 1997, Sri Soejatmi Satari 1985, Machi Suhadi 1985).

Adityawarman: Lord of the Land of Gold

Of Majapahit's vassals outside Java, one of the most important was Malayu, in Sumatra. The *Pararaton* gives us some information about the situation in Malayu in the fourteenth century. Although the veracity of the *Pararaton* cannot be assumed, it asserts that the Javanese force that conquered Malayu in 1275 captured a Malay princess and took her back to Java, where she married a Javanese prince and had a son, Adityawarman.

Adityawarman is one of the few fourteenth-century inhabitants of Sumatra about whom we know some personal information. He spent his early life in East Java, where he left an inscription at a Buddhist temple, Candi Jago, near Malang. He was probably sent to Sumatra as a viceroy by the Javanese around 1343, perhaps in the expectation that he would be accepted there due to his descent from a Sumatran royal mother. He left an extensive record of his religious activities there in over 30 inscriptions.

Adityawarman's first Sumatran inscriptions were erected in the eastern lowlands, but most of them, written later, come from the highlands of West Sumatra. In these inscriptions he refers to himself as an independent ruler. Adityawarman must have renounced his allegiance to Java, and moved his capital into the hinterland where he would be safer from Javanese attacks.

Adityawarman refers to himself in one inscription as *Kanakamedinindra*, "Gold Land Lord". The mountains of West Sumatra have yielded much evidence of gold mining in ancient times. The Minangkabau highland is the only region of Sumatra where intensive rice cultivation was practiced in the precolonial period. Sir Stamford Raffles, who visited this region in the early nineteenth century, was impressed by its fertility. With a surplus of rice like the kingdom of Java, Adityawarman must have thought it possible to found a new, prosperous, Javanese-style kingdom. Although he must have attained a measure of success in his lifetime (he ruled for about 30 years, and one inscription mentions a crown prince) it seems that his young kingdom did not long outlive him. Sixteenth-century visitors to this region note the existence of a Sumatran-style polity based on consensus, highly respected by other local kingdoms, but bearing no resemblance to Majapahit.

Adityawarman was a devotee of esoteric Buddhism. A gigantic statue (4.3 metres tall) found in West Sumatra depicts a Bhairava, a demonic being embodying destructive impulses, holding a skull bowl and sacrificial knife, standing on a pile of skulls and a corpse (Fig. 4.16). Some of Adityawarman's inscriptions describe visions experienced while inhaling the stench of burning bodies on a cremation ground. By the fourteenth century, Srivijaya's Mahayana Buddhism, like that of Java, had evolved into a more esoteric ("Tantric") form. It is not necessary to see Javanese influence in this; at Padang Lawas, north Sumatra, and Muara Takus, in the hinterland of Riau, stand brick temples for esoteric Buddhist deities built during the eleventh and twelfth centuries. Sumatran Buddhism evolved in this direction after the Chola invasion of 1025, when no permanent architecture was erected in Java.

Despite the remote location of Adityawarman's kingdom, he had channels of communication with the outside world. At Bandar Bapahat, near Adityawarman's former palace at Bukit Gombak, a channel for water was hewn into rock. On one side was an inscription in a peculiar form of Sanskrit typical of Sumatra during Adityawarman's time which violated many rules of grammar and spelling. On the other side of the channel was an inscription in Tamil. This may or may not signify the existence of "an important south Indian component among the subjects of Adityawarman" (Krom 1931: 414–5, *Oudheidkundige Verslag* 1912: 46); it does however indicate continued contact with India.

Adityawarman's deputation to Sumatra was a Javanese attempt to control an important region of Sumatra in the fourteenth century. Their effort does not, however, appear to have been successful. Whereas Adityawarman's inscriptions give the impression of considerable religious activity, few archaeological traces of foreign trade, such as fourteenth-century Chinese ceramics, have yet to be discovered either in the highlands or in the Malayu lowlands. This situation probably represents a dearth of research, which may be rectified by future archaeologists. Research and restoration at Padang Roco, where the Bhairawa statue was discovered, have yielded Chinese porcelain of the Song and Yuan Dynasties in recent years (Peneliti 1992), proving that these ceramics were transported hundreds of kilometres up the Batanghari before Adityawarman arrived, and that they continued to reach the site during his reign.

Ayutthaya

Various Tai chiefs (the word *Tai* is used to denote people who speak languages belonging to this family, as opposed to *Thai*, meaning "citizens of the kingdom of Thailand") began to form large, complex kingdoms in the thirteenth century. The most well-known of these, Sukhothai, was located in the hinterland of the Chao Phraya valley. Sukhothai does not seem to have been a major maritime power. It is impossible to ascertain which Tai (or Siamese) groups were attacking the Malays in the thirteenth century, since there were several Tai kingdoms capable of dispatching well-organized military expeditions all the way to Singapore.

Ayutthaya was founded in about 1351 and quickly became the most powerful



4.17 Ruins of Ayutthaya founded around 1351

Tai kingdom (Fig. 4.17). Ayutthaya may have been the instigator of the punitive attack on Singapore around 1396; succeeding generations of Malay kings, the fifteenth-century Melaka rulers, sent tribute to its rulers.

THE FALL OF THE MONGOLS AND THE RISE OF THE MING

In 1368, the Mongol-dominated Yuan Empire was replaced by a Chinese dynasty that immediately set out to reinstate Chinese identity. As part of this revival of pre-Yuan culture, the government reverted to an ultra-Confucian trade policy. The first Ming emperor, Zhu Yuanzhang, who came from a conservative rural background, reinstated harsh penalties for unauthorized contact with foreigners and had a low opinion of trade and traders. Not everyone was happy with this return to the old ways; the early Ming court was marked by debate and discord concerning trade and tribute. In the first year of the Wu reign (1363), before the Ming Dynasty was formally founded, orders for a maritime trade supervisory office were issued. In the first year of Zhu Yuanzhang's reign (1368), this office was established at Nanjing. It was quickly closed in 1370, ostensibly because it was too close to the palace. Nanjing was badly damaged in a civil war after Zhu Yuanzhang died in 1398. The capital was moved to Beijing in 1420. In 1371, the Hongwu ruler severely punished Fujian officials who sent traders overseas. New laws banished minor offenders to hard labour at the frontier; major offenders were executed. In 1402, a law was passed, threatening to send a fleet abroad to kill

all Chinese peoples who refused to return to China (Nie 1997: 70–2).

Three new maritime trade supervisorates for tributary relations were established in 1374. Ningbo was designated for missions from Japan; Quanzhou, missions from Ryukyu; and Guangzhou, to missions from Champa, Siam, and all countries in the Western Ocean. These were closed in the same year, reopened again, and then closed in 1394. Thereafter, only Ryukyu, Zhenla (Cambodia), and Siam were allowed to bring tribute.

Official support for private trade came to a crashing halt. All communication between China and foreigners had to be conducted through official channels. Three centuries of gradual relaxation was suddenly reversed and the new policy had a very negative effect on China's Southeast Asian commerce.

According to Ming official philosophy, China should not seek profit from tributary relations. China needed nothing from overseas. Foreign countries wishing to pay tribute to China had to use the Chinese calendar (as a way of acknowledging Ming legitimacy) and their rulers had to be officially invested by China. Very complicated ceremonies were devised to symbolize the superior status of the emperor.

Ming emperors promulgated the principle of “giving much and taking little” in tribute exchanges in order to express “imperial grace”. Tributary matters were part of political-religious theatre; the emperor's semi-divine status was the organizing principle for international diplomatic exchanges, as opposed to the sordid nature of mundane economic matters. Thus tributary ceremonies were managed by the Bureau of Receptions, part of the Ministry of Rites. Maritime Trade Eunuchs were appointed who were directly responsible to the emperor. Intervals between visits were fixed, varying from country to country: some were allowed to send tribute each year, others every two, three, or ten years.

The numbers of tribute personnel and ships that a mission could send were regulated to reduce the expenses that the Court had to meet. Tribute ceremonies were held in Nanjing until 1421, after which they were moved to Beijing.

Early Ming authorities worried about “northern caitiffs and southern dwarfs” (*pei-lu nan-wo*), in other words, Mongols and Japanese pirates, as well as Chinese who disregarded the new laws against foreign contact. In 1373 the government began building many ships in Zhejiang and Fujian, and endeavoured to improve coastal defences. In 1394, an edict stressed the need to eradicate illicit sea trade; this suggests that the ban on private trade and smuggling efforts was not totally successful. The emperor became angry because many Chinese were still going abroad illegally to buy foreign incense for worshipping ancestors (Wolters 1970: 67–8). Common people were forbidden to use foreign spices and other products, and were ordered to destroy them within three months. Local wood instead of foreign incense was supposed to be used to pray to the spirits. In 1380, after a mission arrived from Java, the Emperor expressed disappointment that the barbarians came to China ostensibly to pay tribute but in reality sought profit.

The Late Fourteenth Century: the Silk Road of the Sea in Transition

These official actions threw the Silk Road of the Sea into turmoil in the late fourteenth century. Siam and Majapahit both tried to exact tribute from ports in the Straits of Melaka, private trade with China was cut off, and overseas Chinese communities in the region found themselves in a very awkward position. From being tolerated or even encouraged, suddenly Chinese traders became criminals as in earlier times.

By 1400 a large community of Chinese (mainly of Cantonese origin) lived in Palembang. Although there are no earlier references to it, either in the *DYZL* or other writings, it had probably existed for some time. They were left in political limbo by the change of regime in China. To avoid punishment, several thousand people, perhaps the entire community, which may have numbered as many as ten thousand, chose to remain in Palembang rather than return to China.

The reinstatement of the ancient tributary trade system perhaps instigated Jambi and Palembang to try to rebuild Srivijaya's monopoly. Several missions from Jambi reached China between 1368 and 1377. Apparently the Malays harboured thoughts of obtaining Chinese recognition for their independence from Majapahit's overlordship. Majapahit however violently put down a Malay attempt to gain Chinese support in about 1377; Javanese intercepted and murdered Chinese envoys sent to Jambi. In an odd twist of events, the Hongwu emperor felt embarrassed that a foreign country had fooled him into granting recognition when they did not deserve it. Instead of punishing the Javanese, Hongwu turned his back on Sumatra for 20 years.

The period 1380–1400 is not well documented in the Ming Annals due both to this isolationist policy and to internal political turmoil in China. The second Ming emperor was overthrown by his uncle, and his reign was written out of existence in official records. This rewriting may have extended back into the fourteenth century, obscuring the history of Sumatra (Wade 1991: 13).

Around 1391, the Malay chief of Palembang, Parameswara, tried to assert independence from Java (Wolters 1970). The attempt failed again; a Majapahit fleet wiped out Palembang's defences on Bangka Island. Parameswara decided to evacuate the ancient port and shift the capital of the Malay realm several hundred kilometres northward. Why he chose Singapore will never be known, but he must have thought it possessed the best combination of attributes to be Palembang's successor. He might have succeeded, but the murder of Singapore's Sang Aji or chief, perhaps occurring accidentally or in a quarrel between locals and newcomers from Sumatra, brought down the wrath of either the Siamese or their Malay vassals from south Thailand, and he was forced to flee again around 1396. Then he made a third and ultimately successful attempt to establish an independent Malay port: his settlement at Melaka survived threats from the Javanese and the Siamese, and weathered the commercial turmoil caused by the adoption of the new tributary trading system.

The Rise of Melaka and the Yongle Emperor

Melaka was no doubt given a boost by two factors: the visits of imperial Ming fleets, and the expansion of trade with northwest India. In 1402, Zhu Di seized the throne from his nephew. As part of an effort to legitimize his usurpation, he sent many envoys abroad to proclaim his accession. Eunuchs, who had been of especial assistance in his usurpation, were frequently used. Zhu Di (Cheng Zu or the Yongle Emperor) reopened three maritime trade offices in 1403. He gave more generous gifts in exchange for tribute goods; expanded tribute trade; and was more tolerant of the custom of allowing members of tribute missions to conduct some private trade while in China than his predecessor had been. Envoys often purchased Chinese goods illegally, conducting secret deals with the help of interpreters, some of whom were overseas Chinese employed by foreign kingdoms (Chang 1983: 47). However, when a foreign envoy privately purchased some porcelain in 1404, the emperor rejected his own Ministry of Right's recommendation not to confiscate it.

As a consequence of various factors, the number of countries sending tribute increased from 17 under Hongwu to over 30 during the reign of Yongle. Melaka alone sent 12 missions.

The Ming Voyages

One of the most famous aspects of early Ming foreign policy was the dispatch of large fleets on voyages as far as east Africa. The most famous voyages, seven in all, took place between 1405 and 1433. Six of these (1405–1421) were sponsored by Yongle. Hongxi, who succeeded Yongle, did not sponsor any voyages. His successor, Xuande, sponsored one voyage that left China in January 1432. They were organized by Zheng He, a famous admiral who was both Muslim and a eunuch—very un-Chinese qualities that ironically made him eminently suitable for his task in the context of that period. Foreign relations had been the preserve of eunuchs since the Han Dynasty, and many important trading ports along the Silk Road of the Sea were dominated by men of the Islamic faith.

Although Zheng He's fleets are the best-known now, they were not the only maritime missions sent by Yongle. At least 12 other admirals who led similar missions to Southeast Asia and the Indian Ocean are named in the Ming chronicles (Wade 1994). The first one was led by another Muslim, Ma Pin, who went to Java, Aceh, and India in 1403. Wu Bin and Zhang Koqing also led sea missions around the same time. Hou Xian led a fleet to east India in 1415, having previously led missions to Tibet and Nepal between 1403 and 1413; "The *Ming Shih* ranks him next to Zheng He among the famous Chinese envoys of this period" (Kwee 1997: 84).

Zheng He, the most famous of the administrators who led the Ming fleets, a Muslim whose original name was Ma He, was born in Yunnan in about 1371. His great-grandfather had been a Mongol and his father had made the pilgrimage to Mecca. In order to increase his chances of becoming an important official, Zheng

He was castrated by his family. He eventually became a successful soldier, was promoted, and given the honorary surname Zheng.

Zheng He's voyages were largely the brainchild of Yongle. After Yongle's reign, China cut itself off even more completely from the outside world except for one expedition under Xuande. Yongle's policy of encouraging foreign contacts was exceptional in the Ming Dynasty. His motivations are not clearly understood, but some theories can be proposed. First, since the famous conqueror Tamerlane ruled central Asia and controlled the overland silk route, Yongle needed an alternative: the Silk Road of the Sea. Probably the nobility on whom Yongle depended for support continued their traditional habit of demanding foreign luxury items such as incense and spices which were an integral part of their lifestyle.

Yongle's motives are clarified by the fact that his vessels were termed "ships (for fetching) precious stones from the western ocean", or "jewel-ships" (Mills 1970: 2 n. 8). One fleet consisted of as many as 63 "jewelships" and 28,000 personnel. The main fleet usually sailed to Qui Nhon in Champa, then to Surabaya in east Java, remaining there for about four months. When the wind changed, the ships sailed up the Straits of Melaka via Palembang, then to India. Detachments of ships visited smaller ports. On the way back, the fleet and its detachments rendezvoused at Melaka, where they built a stockade (like the one mentioned by Marco Polo in north Sumatra over a century earlier). When it was time to return, usually after about two years abroad, the fleet passed through the Singapore Strait and into the South China Sea (Mills 1970: 9–10).

In addition to the commercial motive, with which internal politics related to the desire to obtain luxuries to distribute among the nobility, Yongle may have intended his voyages to secure his reign against possible challengers from among the overseas Chinese communities. Zheng He's first expedition had a special mission to accomplish. It fought a large force of local Chinese at Palembang, killing over 5,000 of them, and capturing their leader, Chen Zuyi, who was taken back to Nanjing for execution. The fact that a Chinese community still existed after 5,000 were killed gives some idea of the size of Palembang's Chinese population.

The mission to Palembang was couched in terms of suppressing piracy. However, the attack had been preceded by an order issued in 1405 for the Chinese in Palembang to return to China. The Chinese in Palembang refused to obey, were consequently labelled "pirates", and were attacked in 1407 by Zheng He's first fleet. The Palembang ruler Chen Zuyi who was accused of being a pirate chief had seized control of Palembang from another Chinese, indicating that the ancient port had already been ruled by an overseas Chinese community for some time. The precise date when overseas Chinese took control of Palembang is unknown, but it was sometime after 1377 (Wolters 1970: 71).

Palembang is the first known place to be governed by overseas Chinese. After Chen Zuyi was captured, rather than forcing the remaining inhabitants to return to China or killing them, Zheng He appointed another local Chinese governor:

Shi Jinqing, the “Pacifier of Gugang” (“Old Port”, a term that Ming sources often use for Palembang). In 1406, Ah Lit (probably Arya, a Buddhist title) Jinqing sent tribute to Japan. His son Shi Jin-sun in 1424 requested Chinese investiture as his father’s successor. In 1421, he sent a mission to Japan, as his father had done before him. By this time if not before, the Chinese in Palembang had come to perceive themselves more as permanent residents in Southeast Asia than a community of sojourners.

Yongle decided to encourage them in this posture, and created a special office for Palembang in 1407: a Pacification Commissioner (Kobata and Matsuda 1969: 131–2). Only Palembang received this status, suggesting that no other Chinese-ruled settlements then existed in Southeast Asia.

Information for the period after the end of the Ming voyages in 1435 comes from documents from an unexpected source: the Ryukyu Islands, the largest of which is Okinawa. At that time, Ryukyu was an independent kingdom that maintained regular diplomatic and commercial relations with Southeast Asia. Many Ryukyuan ships and their crews came from Fujian (Murray 1994: 99). Ryukyu kept Chinese-style archives that pick up where the Chinese records leave off. Ryukyu sent six trade missions to Java between 1430 and 1442. Records for the following 20 years are missing; when they resume, the centre of Ryukyuan trade had shifted to Melaka. In 2004, a *keris* thought to be from either Melaka or Java was discovered in the royal Enkakuji Temple grounds near the fifteenth century Shurijo Castle. Fragments of fifteenth-century Thai porcelain have also been discovered at several sites in Ryukyu.

In 1428 Ryukyu sent an ambassador to Palembang (Gugang). Contacts with Palembang were made on behalf of the Prime Minister of Ryukyu, because of Palembang’s special status. Ryukyu archives record that a “passport” was issued for a voyage to Palembang (Gugang) in 1428 to transport “a cargo of porcelain and other products”. Similar voyages were dispatched in 1429 and 1430. Ryukyu was thus able to exploit its position as one of the few countries with permission to visit China regularly to become a middleman for trade with Southeast Asia.

Palembang Chinese absorbed a significant amount of Southeast Asian culture. Many residents of these communities were Muslim. Shi Jinqin apparently had at least two daughters, Pinati and Shih Er Chieh. Pinati later became the ruler of Palembang. The fact that a woman could be chosen as for this role is more akin to Southeast Asian than Chinese custom. Perhaps the Palembang Chinese community was formed through Chinese immigrants marrying local women, a pattern common in later times. If this were the case, Pinati would have had the support of her mother’s Sumatran relatives during her rule.

According to the Ryukyu *Dynastic Documentary Records*, Shi Ta Niang (*Ta Niang* = “Great Lady”?) Ci Pi Na Ti was related to Shi Jinqin (the Pacifier of Gugang). In 1430, Ryukyu sent a letter to “Your Ladyship, Ben-mu-niang, Palembang, San-fo-qi [*Pao Lin Pang* of *San Fu Qi Kuo*]”. This was answered in a Letter from “Her Ladyship, Ben-tou-niang of Palembang, Country of San-fo-qi” in 1431. Her actual name may have been Pun (perhaps from Malay *puan*, “lady”) Tau Mu

Niang. She was the leader of Gugang at the time, having somehow displaced Shi Jinsun.

Ben-mu-niang may have been a sister of Ben-tou-niang (Kobata and Matsuda (1969:139 fn. 8). One of these two was possibly the wife of Qiu Yen-cheng, son-in-law of Pacification Commissioner Shih Jin-cheng; Qiu went to Peking in 1407 as envoy of Shih Chi-sun. The *Yingya Shenglan* records that when Jinqing died, instead of being succeeded by his son Jinsun, his second daughter became queen. Ma Huan described how Shih Er Chieh succeeded her father and ruled as a Tau Mu Niang (female chief) in 1431. But the *Huang-Ming Shihlu* says that Qi-sun was confirmed as his father's successor in 1424. Thus the two accounts contradict each other.

Pinati also became an important figure in fifteenth-century Java. After she was deposed from her position in Palembang, she reappeared in Gresik, eastern Java, another Chinese Muslim stronghold, near Surabaya, where the jewel-ships spent several months during each voyage. One of Zheng He's officers wrote that a thousand Chinese families lived at Gresik, ruled by a Cantonese. Raffles in his *History of Java* quoted a Javanese text that says that Pinati was the wife of the prime minister of Cambodia, but was then banished to Java for practicing sorcery (Raffles 1817: vol. II, 115, 119). Dutch historian P. J. Veth however recorded another version in which she had been married to Kyai Sambaja, regent of Majapahit. After the death of her husband, she moved to Gresik and embraced Islam. Tan Yeok Seong interpreted Sambaja not as Kamboja/Cambodia, but as San foqi.

According to the legend, Nyai Ageng Pinatih may even have become the harbourmaster (shahbandar) of Gresik. According to one version of the legend, she is the widow of a court official from Blambangan at the eastern tip of Java (Fox 1997). In another version of the story, a trading ship belonging to her rescued a baby who had been set adrift on the sea in a basket. The baby became Sunan Giri, a great figure with both spiritual and temporal authority (Tan Yeok Seong 1975) while his adopted mother became known as Nyai Gede Pinati, Javanese for "Great Woman". Her tomb near that of Sunan Giri in east Java is still a pilgrimage site.

What happened to the Chinese Muslim community in Palembang after 1435? We have very little information about Southeast Asia during this critical period between the end of the Zheng He voyages and the arrival of the Portuguese. Tomé Pires describes Palembang in the early 1500s as culturally Javanese/Malay. One source says that after Palembang was cut off from China, overseas Chinese leaders urged their people to assimilate to local culture (Ma 2002). In Zheng He's time, overseas Chinese were already changing their names to local ones (Kobata and Matsuda 1969: 151, 153). Some served as diplomatic envoys, especially on missions to China. People with Chinese names are mentioned in Chinese records as envoys from Java as late as 1465. On the other hand, people with Chinese surnames but non-Chinese given names came from Palembang as early as 1425 and Java in 1447, indicating that a process of assimilation was under way (Wade 1991: 117–8). In 1444 a Chinese record mentioned 55 people from Guangdong

who went to Java illegally to trade. Twenty-two of them apparently decided to remain there, and the rest were arrested when they tried to return to China (Wade 1991: 118). One Sino-Javanese envoy, Ma Yong-liang, returned to China five times between 1436 and 1453, but seems to have preferred to reside in Java.

The Ryukyuan archives contain two letters sent by the Laksamana of Melaka in 1480 and 1481. One reports that he had sent a ship to Champa where they rescued two Ryukyuan men who survived a fight with some Vietnamese. The Laksamana requested that the Ryukyu's ruler send him a sword, a "bow adjusting tool", and a horse saddle. In 1481, the Laksamana signed the letter acknowledging receipt of presents and arrival of envoys, and included a list of presents sent in return. Such letters were normally sent by the Sultan himself; the fact that this Laksamana could write on behalf of the king is indicative of his high status. The phrasing of these letters is also different and the tone more effusive than two other similar documents.

In the *Commentaries of the Great Afonso D'Albuquerque* written soon after 1511, the Laksamana of Melaka (whom d'Albuquerque confirms was stationed at Singapore) is described as a great man, about 80 years old (Kobata and Matsuda 1969: 119 n. 36, 120). One is tempted to wonder whether this was the same man who wrote to Ryukyu in 1480 and 1481, and whether this man was Hang Tuah himself.

Ming Texts on Southeast Asia

The first important Chinese reference work to be written on Southeast Asian commerce after Wang Dayuan's *DYZL* was entitled *Yingya Shenglan* [*YYSL*], "A Comprehensive Survey of the Shores of the Ocean". It was probably written between 1425–1432 by an otherwise unknown Chinese Muslim named Ma Guan, who served as an interpreter and recorder with Zheng He's 1413 expedition. The text was edited by Chang Sheng around 1436, so it must have been written sometime before then.

Other Ming texts from this period which deal with Southeast Asia include the *Xingcha Shenglan* [*XCSL*], "Description of the Starry Raft", written by Fei Xin in 1436; he was an officer who made several voyages with Zheng He, but we do not know what position he held. A navigational manual with the subtitle *Shun feng xiang sung*, "Fair Winds for Escort", was written around 1430. Another work written about the Zheng He missions is *Hsi Yang Fan Kuo Chih*, "Description of Foreign Countries of the West", dated 1432, by Kung Chen, a secretary on the last expedition. Later Ming works include *Xi Yang Chao Kung Tien Lu*, "Record of the Tributary Nations of the West", written by Huang Sheng-ts'eng in 1520.

Wu Bei Zhi, "Records of Military Preparation", has a preface dated 1620 and was presented to the emperor no earlier than 1628. The work contains a navigational chart known as the "Mao Kun" map. The *Wu Bei Zhi's* preface states that geographical and navigational details in the map were based on the *Yingya Shenglan* and *Xingcha Shenglan*. This is the nearest thing to a map from the voyages of the jewelships that may have survived. Place names on it include *Dan-ma-xi* (Singapore Island), and *Dan-ma-xi men* (Temasik Strait), which could have been either



4.18 Part of the Mao Kun map, based on the voyages of Zheng He's armada, 1405–1433. This section depicts Sumatra at the bottom, and the Malay Peninsula at the top. Singapore is shown at the top centre; the characters for Melaka at the upper left are shown in a rectangle, indicating that it was a political capital. Collection of National Museum of Singapore.

north or south of Belakang Mati (Mills 1970: 221). Sailing directions written on the map mention Longya men. Most authors (Wheatley 1961: 94 ff., Gibson-Hill 1956) agree that the route passed through Keppel Harbour, though Mills (1970: 317–8) argues that Longya men was actually Singapore Main Strait, south of Pulau Satumu. The evidence of the pillar of rock, and the narrowness of the waterway that some accounts stress, strongly favour the conclusion that this was the western entrance to Keppel Harbour, between Labrador Point and Fort Siloso.

Although Zheng He's fleets were the most spectacular, they were not the only missions sent out in the early Ming period. Ma Pin was dispatched to Java, Aceh, and India in 1403. Wu Bin and Zhang Koqing also went on sea missions around the same time. Hou Xian went to Tibet and Nepal between 1403 and 1413; in 1415, he went by ship to eastern India.

Emperor Xuande was the last emperor to send fleets out on the Silk Road of the Sea. After the last voyage, many of the expeditions' records were intentionally destroyed in a political backlash against foreign culture and the eunuchs' dominance; the ships and even the shipyards where they had been built were broken up. Chinese authorities made no effort to encourage foreigners to come to China and the tributary trade system declined in importance.

The internal political situation was affected by the fact that China's security was once again under threat. The capital was moved north to Beijing in 1421 because of threats from the north. Chinese forces occupied Vietnam for some time but were driven out in 1428. The Chinese government's view of the outside world became very defensive. Between the 1430s and the 1450s, emperors issued laws against private trade with increasingly drastic penalties for violators (Elvin 1973:

218). In 1443, according to the *Ming Shilu*, the emperor told Java to send missions not more frequently than once every three years; a memorial from Guangdong said frequent missions from Java caused “great expense to China” (T’ien 1981: 33). By 1500, when most Chinese communication with the outside world took place through smuggling, a new law specified that anyone who built ships with more than two masts or traded in foreign countries would be executed. Those convicted of chartering ships to seafarers, sharing foreign goods, or trading in over 1,000 *kati* of sapanwood and pepper, were banished to serve as frontier guards (Chang 1983: 49).

The Ming ban on private trade coincided with the decline of Quanzhou. The city lost much of its population, and surrounding markets were closed (Murray 1994: 102, Skinner 1985: 276). The city’s decline may have been caused by the silting of the harbour as well as declining trade (Murray 1994: 102 fn. 27).

Pepper and sapanwood, imported by sea, became items of mass consumption in China in the fifteenth century. This created new pressure for openness just when the Chinese government was trying to prohibit maritime trade. Thus trade between Southeast Asia and China was mainly carried in Southeast Asian ships owned by Javanese and Malay merchants based in Melaka rather than in Chinese ships. One island in the Pearl River estuary was designated as the docking point for ships from Melaka, and another for ships from Siam (T’ien 1981: 34).

The long isolation of the Ming Dynasty had disastrous effects on China: this country which in 1400 had been at the forefront of global development in culture and technology fell behind. For two hundred years Chinese authorities fought smuggling, but this only led to instability. Finally in 1567, laws against private trade were changed. A new emperor, Muzong, yielded to appeals from Fujian authorities and gave permission for 50 Chinese ships a year to sail to Southeast Asia.

Although we have less historical information on Singapore in the fifteenth century than for the preceding 100 years, Singapore was not abandoned after Parameswara was expelled. According to the *Shunfeng Xiangsung*, “Fair Winds for Escort”, which Joseph Needham dated to about 1430 (Mills 1970: 182): “after Ch’ang Yao island had been sighted, the ship ‘on the inside’ passed Tan-ma-hsi strait, where passengers could change ship” (Mills 1970: 325). It was common for traders to transfer from one ship to another (Reid 1993a: 64). Thus, during the Ming Dynasty, Singapore performed the function of linking smaller regional ports to a larger network, very much like the role which Singapore’s harbour and airport still play today.

Underwater Sites of the Ming Period

By 1360, Chinese vessels must have been a relatively common sight in Southeast Asian waters. Unfortunately, the destructive forces of the tropical seas and the depredations of treasure hunters have ruined many opportunities for studying early Chinese shipbuilding. Southeast Asian shipwrights may have begun to borrow Chinese designs during the Yuan period (Reid 1992: 181, 1996: 18). After 1368, however, the ban on foreign trade severely curtailed Chinese shipping. The amount of smuggling from 1368 to 1567, when the ban was in force, no doubt

varied from time to time, depending on the level of enforcement activity by the Chinese government, but very little Chinese porcelain reached Southeast Asia during these two centuries. Shipwreck archaeology confirms this conclusion.

The idea of a Ming gap in Southeast Asian archaeology is well-known (for examples, *see* Harrisson 1958, Ho and Smith 1999). The “gap” refers to a sudden cessation in the export of Chinese porcelain that lasted for over 100 years. Roxana Brown (2004) refined this concept through a statistical study of shipwrecks. Between 1368, when the Ming Dynasty was founded, and 1430, the last of the Zheng He voyages, the proportion of Chinese ceramics in ship cargoes fell from 100 per cent to 30–40 per cent, and blue and white porcelain was almost nonexistent in the cargoes of this period. During the next 60 years, Chinese ceramics constitute no more than 5 per cent of cargoes. Chinese wares only increased again during the Hongzhi reign (1488–1505).

It is difficult to identify early Ming trade ceramics, partly because so few pieces exist. Land-based archaeologists are sometimes forced to deal with the fourteenth to sixteenth centuries as one time period because of the uncertainty surrounding the dating of wares from the late fourteenth through mid-sixteenth centuries (e.g., Junker 1999).

Indeed very little work has been done in the study of the ceramics produced during this period, as so far no reign marked pieces coming from the imperial factory in Jingdezhen has been known. Various schools of dating the provincial blue and whites of this period have developed during the last few decades, sometimes contradicting and confusing. (Lam 2001: 35)

Southeast Asian shipwrecks from the fifteenth century are plentiful; over 30 have been discovered, indicating that trade along the Silk Road of the Sea remained active. Although many shipwreck sites from the early Ming Dynasty are known, few have been properly published. Some of the known wrecks are in deep water and have not been intensively studied; others have been destroyed by looting. Only two, Rang Kwien (1400–1425) in the Gulf of Thailand, and the Royal Nanhai (1460/70) off the east coast of Malaysia, yielded blue and white ware (eight pieces in total). Some pieces found in Southeast Asia can be ascribed to the reigns of Zhenghua (1465–1487) and Hongzhi (1488–1505), but the date of their arrival in the region is impossible to determine.

Chinese ceramics were almost nonexistent on board the Rang Kwien but its cargo may have included at least three tonnes of Chinese coins. The Thai Fine Arts Department salvaged about 200 kilograms of coins from a wide range of dates, the fourth century through the Hongwu reign (Brown 2004: 23).

Almost as soon as the Ming Dynasty came to power, glazed ceramics made in Thailand and Vietnam began to appear on shipwrecks. This suggests that Thais and Vietnamese were quick to pounce on the commercial opportunity offered by China's sudden isolationism. Shipwrecks from the period 1368–1428 with Southeast Asian glazed ceramics have been found at Turiang, Ko Si Chang II, Rang Kwien, Song Doc, and Maranci (Bakau).

Shipwreck: Turiang

This site lies off the east coast of Peninsular Malaysia. One radiocarbon date has a 95 per cent confidence interval of 1305–1435. A current theory is that the ship sank just before 1371, when the Chinese ban on foreign trade was imposed. The ship is probably of Chinese construction: it had bulkheads, no dowels were used, and some planking displays remains of probable nail holes.

The ship's ceramic cargo consisted of 46 per cent Sukhothai, 11 per cent Si Satchanalai, 8 per cent Vietnamese, and 35 per cent Chinese monochrome ware. No Chinese blue and white ceramics were found. At least four Suphanburi jars, common storage vessels, were also discovered, along with two earthenware pots. Non-ceramic cargo included iron ore and four elephant tusks. This is the oldest known ship with a principal cargo of Southeast Asian glazed pottery (Brown and Sjostrand 2000, 2002).

Shipwreck: The Bakau [Maranei]

This sunken ship was found in the Karimata Strait between Belitung and Borneo (Flecker 2001). The vessel had sailed to south China, called at a Thai port, and then sank in the early fifteenth century in the main shipping lane between the South China Sea and Java. Most of the cargo had already been looted when it was visited by scholars. The remainder consisted of storage jars, made in Suphanburi, which contained grain.

The ceramic cargo is similar to the thirteenth/fourteenth century Ko Si Chang II and Rang Kwian sites, Thailand, and the *Turiang* and Longquan sites, Malaysia. According to looters, the cargo included Thai, Vietnamese, and Chinese ceramics, with Sukhothai bowls and dishes outnumbering those from Sawankhalok (Flecker 2001: 226). Vietnamese ware was limited to a few pieces with underglaze blue decor. Chinese wares consisted of Longquan celadon, brown ware, some *qingbai*, but apparently no blue and white. The ship also carried Fine Paste Ware *kendis* with mammiform spouts, thinner, redder bodies, and different designs from the examples of Fine Paste Ware on the Intan and Java Sea wrecks. Some took the form of double or triple gourds. "This is one of the only wares that did not occur on the contemporary Turiang wreck" (Flecker 2001: 227). From this description, the *kendis* sound more Javanese than southern Thai, but the fact that they were on a ship obviously heading to Java makes it likely that they were nevertheless from Pa-O or somewhere nearby in southern Thailand (Pattani).

The best evidence for estimating the ship's date is a dozen coins, of which all legible examples but one (from the Northern Song) were minted during Yongle's reign. Other cargo included bronze gongs, mirrors and handles (all detached), copper alloy tweezers, anvil-type grindstones and rollers, and stacks of iron *woks*. Other copper artifacts that occurred in small quantities could have been trade items or crewmembers' personal possessions. These included fishhooks, a tanged spearhead, a hanging lamp, dishes, bowls, spoons, a bell, scale weights, and a lime container.



4.19 Earthenware *kendi*, probably made in south Thailand, found on the Bakau/Maranei shipwreck, which dates from the early fifteenth century, probably during the period of Zheng He's voyages

Shipwreck: Nanyang

This ship lies at a great depth, preventing extensive study. As far as can be ascertained, the cargo consists entirely of Si Satchanalai and Suphanburi ceramics; only two Chinese celadon bowls have so far been recovered from the site. The ship may date from the decade just after the end of the Zheng He voyages (Brown 2003), but cannot be confirmed till proper research is conducted. The presence of bulkheads and dowels mark this as a hybrid ship. However, present data indicates that hybrid ships appear only after about 1424 (the end of the Yongle reign).

Shipwreck: Longquan

This is another hybrid ship made of tropical hardwood, thus probably from Southeast Asia. Like the Nanyang, it lies in deep water and no sustained excavations have taken place. It is estimated that the cargo consists of 100,000 ceramic objects, of which Chinese white and green-glazed wares appear to constitute 40 per cent; an equal amount originates from Si Satchanalai. The non-ceramic cargo included sapanwood. The date of the shipwreck cannot be specified, but it appears to be somewhat later than the Nanyang.

Shipwreck: Royal Nanhai

This vessel resembles the Longquan and Nanyang; it is made of tropical hardwood, and combines Southeast Asian construction traits such as dowels with

Chinese derived bulkheads. Its cargo includes more than 21,000 ceramics, most of which was Sawankhalok celadon, along with Singburi storage jars and some Chinese brown ware. Four Chinese blue and white bowls and two Vietnamese blue and white covered boxes were found hidden below floor boards. Roxana Brown (2003) argues that the blue and white ceramics on the Royal Nanhai date from the Chenghua reign (1465–1487). A radiocarbon date yielded a 95 per cent confidence interval for the ship's age of 1320–1460 (calibrated) (Brown and Sjostrand 2000: 52); the true date probably lies near the youngest date of this range. The cargo also included iron and tin.

Shipwreck: Bukit Jakas

This ship was found at the edge of the Bintan River estuary in Riau. It may have been intentionally beached and abandoned in old age. The wreck's carcass lies in mud where it is periodically exposed as the tide rises and falls. The ship was originally approximately 30 metres long. Radiocarbon dating places the ship in the critical period 1400–1460. Built of tropical hardwood, it resembles the Longquan, Nanyang, and Royal Nanhai ships in its construction techniques that combine wooden dowels and square nails. The discovery and excavation of this site by Pierre-Yves Manguin (1983a, b) enabled him to identify the hybrid South China Sea shipbuilding tradition (1984).

Shipwreck: The Pandanan

This ship was found off the southwest tip of Palawan, near Borneo in the southern Philippines, thus off the Silk Road of the Sea, and thereby affords an interesting opportunity for comparison with the better-known region around the Straits of Melaka. According to Philippine archaeologist Eusebio Dizon, the ship's hull suggests Southeast Asian origin (Diem 2001: 92). Three earthenware stoves and a few earthenware pots, probably for the ship's crew, reinforce this attribution. Among the artifacts on the ship, a coin of Yongle (1403–1424) shows that the ship must date from the fifteenth century (Diem 2001). R. Brown (2003) believes it dates from the Zhenghua reign (1465–1487); others estimate that it dates from around 1450.

Vietnamese ware comprised 75.6 per cent of 4,722 ceramic pieces recovered. Three-quarters of the Vietnamese ceramics are grayish or olive greenwares made in Go Sanh, now Binh Dinh, central Vietnam, formerly part of the culture zone of the Cham people. Their ceramic history is not well-known. The cargo also contained 63 Thai brown jars and a few Chinese wares, including blue and whites believed to date from the Interregnum period (1436–1464), which are extremely rare. Also of particular interest are two small cannons of Chinese origin. The remainder of the ceramic cargo consisted of Chinese and Thai wares. Sixty pieces of Chinese blue and white were recovered from the Pandanan wreck. This is the oldest large shipment of blue and white ware yet discovered in any shipwreck.

Cu Lao Cham

This ship had a huge cargo, with perhaps as many as 250,000 ceramic items. The ship displays hybrid construction with bulkheads made from teak that must have come from India, Myanmar, or Thailand. Implements for preparing betel nut (*sirih*) found on board suggest that the crew was Southeast Asian. Southeast Asian ceramics include large stoneware jars from Singburi, Si Satchanalai jars, four Cham jars, and an earthenware *kendi*. Chinese porcelains included blue and white wares and polychrome enamel, some with gold. A radiocarbon date gave a range of 1380–1499. One scholar infers from stylistic features such as bronze mirror handles and a Yongle coin, that the latest date for the ship must be the 1471 defeat of Vijaya in Champa. Another scholar, citing a small number of Chinese vessels decorated with vajra, detached vegetal clusters, and clouds with frilly edges dated to the Interregnum period (1436–1464), believes the vessel must have sunk no later than 1457 (Bui et al. 2001, Colomban et al. 2004, Guy 2000).

Shipwreck: Hoi An

This vessel, believed to have been a Thai ship, is dated by one scholar to the period 1435–1470 on the basis of C14, bronze handles probably from mirrors, and a Yongle coin. The terminal date of 1471 is proposed because the main Cham kingdom, Vijaya, was conquered by the Vietnamese in 1471 (Bound 2001: 101). Lam (103 fn. 3) favours a terminal date of 1457, while Guy (2000: 125) advocates a date in the late fifteenth or early sixteenth century. The cargo includes blue and white ceramics from north Vietnam, but also a few bowls decorated with vajras and other stylistic details typical of the mid-fifteenth century. A radiocarbon date yielded a range of 1380–1499 (Guy 2000: 126). Ceramics recovered include 30 large stoneware jars from the Ban Rachan kilns of Singburi, which have been found on wrecks in the Gulf of Thailand; five Si Satchanalai jars; an earthenware *kendi*; four small jars of Cham provenance, and important high-fired wares of blue and white and polychrome enamel, often embellished with gold.

Shipwrecks: Brunei Junk and Santa Cruz

The Brunei Junk, the Santa Cruz, and the Lena Shoal (*see* below), the oldest known shipwrecks with large quantities of Chinese blue and white porcelain, date from the Hongzhi period (1488–1505). These three shipwrecks contained significant amounts of Chinese blue and white ware, some Vietnamese blue and white ceramics, and many storage jars, mostly from Singburi, Thailand (Brown 2004). No Sawankhalok celadon plates are known from this period; instead the ships contain some celadon plates from Myanmar, possibly Twante in the Ayeyarwaddy delta. The ships have yielded Sawankhalok “coconut” jars and jarlets with ring-handles. The Brunei Junk contained a dish bearing a four-character mark, “made in the Ming dynasty” (L’Hour 2001: I, 38).

Shipwreck: Lena Shoal

This ship sank east of Busuanga in the Philippines. After looting, its remaining cargo consisted of 5,000 items, including ceramics, bronze cannon, spices, glass beads, lacquer, bronze bracelets, silver and iron ingots, iron *woks*, copper vessels, and elephant tusks. The ceramic assemblage contained a few Vietnamese porcelains (28), and Chinese celadons. Thai celadon included over 400 jars, which are not of the standard Si Satchanalai type. One scholar speculates that the jars come from the northern Thai Kalong kilns and dates the ship to around 1500 (the Hongzhi reign, 1488–1505) (Crick 2001). Also on board were storage jars from China, Thailand, Vietnam, and Myanmar (Crick 2001: 71). Crick (84) also notes that the cargo was not a normal one for the Philippines, and suggests that the ship was destined for the Middle East, perhaps via the Philippines where the Thai wares would have been unloaded.

As this wreck indicates, Chinese iron was still in demand in Southeast Asia in the late fifteenth century. The *Ming Shi-lu* mentions Javanese ambassadors who made two specific requests for iron. One, in 1429, was rejected by China with the explanation that iron export was officially forbidden (one wonders whether such a ban had existed previously). In 1452, when another Javanese mission asked for iron pots and nails as well as porcelain, their request was granted (Wade 1991: 77).

CAPITALS OF SINGAPORE, 1511–1720

In 1511, the veil of history obscuring events in Singapore lifts as Portuguese sources become available. Tomé Pires was not very enthusiastic about Singapore's prospects, but the place was significant enough for him to note its existence. Erédia thought more of its potential, particularly from a military point of view. The Portuguese never managed to obtain a foothold on the island. St. Francis Xavier signed letters from Singapore in 1551 (Mills 1997: 98). Probably he wrote them on board a ship anchored in the port, rather than while staying on land. At that time, the Portuguese were engaged in deadly competition with the Malay capital, Johor, which lay within a few kilometres of Singapore's shores.

Once driven from Melaka in 1511, the Malay court underwent another period of wandering in the wilderness before finding a refuge at Sayong Pinang in the Johor River estuary. The Johor River provided access far into the hinterland of the Peninsula. In 1535, a Portuguese caravel sailed beyond Kota Tinggi. In the 1720s, a British captain, Alexander Hamilton, sailed to Pancur and perhaps even further (Gibson-Hill 1955), indicating that the Johor River could be navigated far upstream.

From Sayong Pinang, the court moved downriver to a site then known as Kota Batu (Stone Fort), now called Old Johor (Johor Lama), where it survived for 28 years. Johor Lama was considered the best and safest anchorage on the river. However, Kota Batu was sacked in 1564. The villains in this case were not Portuguese, but Acehnese, one of several parties locked in cutthroat competition for control over the southern entrance to the Straits of Melaka. The court survived, however, and moved further upstream for about ten years before reoccupying Johor Lama. Erédia called Johor Lama the “celebrated Fort Kotabatu” and “the

stronghold of [Johor's] empire". In 1587, the site was attacked and destroyed again, this time by the Portuguese. For the next 30 years, the capital held out further up the Johor River at Batu Sawar before moving to the island of Lingga, far to the south. For the next 100 years, the court moved from place to place, once settling at another place called Pancur (in the Johor River system) before finally relocating permanently to Riau in 1720.

Table 4.4 Johor capitals 1530s–1720

1530s–1536	Sayong Pinang
1536–1564	Johor Lama; sacked by Aceh
1564–early 1570s	Bukit Seluyut
early 1570s–1587	Johor Lama; sacked by Portuguese
1587–1617/18	Batu Sawar area
1618–1625	Lingga; sacked by Portuguese
1625–1640	no fixed place
1640–1675	Batu Sawar area; sacked by Jambi
1675–1680	Sultan in Pahang
1680–1688	Sultan in Riau
1688–1700	Kota Tinggi
1700–1708	Pancur
1708–1715	Riau
1715–1720	Pancur
1720	return to Riau

Johor Lama

Of the Malay capitals of this period, only Johor Lama and Kota Sayong have been studied archaeologically, although important early gravestones and surface finds of Chinese porcelain exist at several other sites (Kamarudin Ab. Razak 1998). The archaeology of this period is relevant to Singapore since a settlement at the Singapore River mouth formed an outpost of the Sultanate until about 1600. Sultan Alauddin established his capital near a village on the Johor river's left bank where a hill on the riverside provided the requisite replica of Mount Meru, and also a good defensive position. Sometime around 1564, the Acehnese burned the city, took Alauddin to Aceh, and killed him.

It seems that his son, Ali Jalla, formed an alliance with the Portuguese to take revenge on Aceh. He reestablished his capital at Johor Lama in the early 1570s. Eventually, the relationship with the Portuguese soured and in 1582, Ali Jalla confiscated a Portuguese trading vessel's cargo when it was wrecked at the mouth of the Johor River. In turn, the Portuguese forbade traders from Melaka to have representatives in any port controlled by Johor. In time-honoured fashion, Ali Jalla sent out ships to force all passing merchants to stop at Johor Lama, causing food supplies in Melaka to become scarce. He then attacked Melaka in January



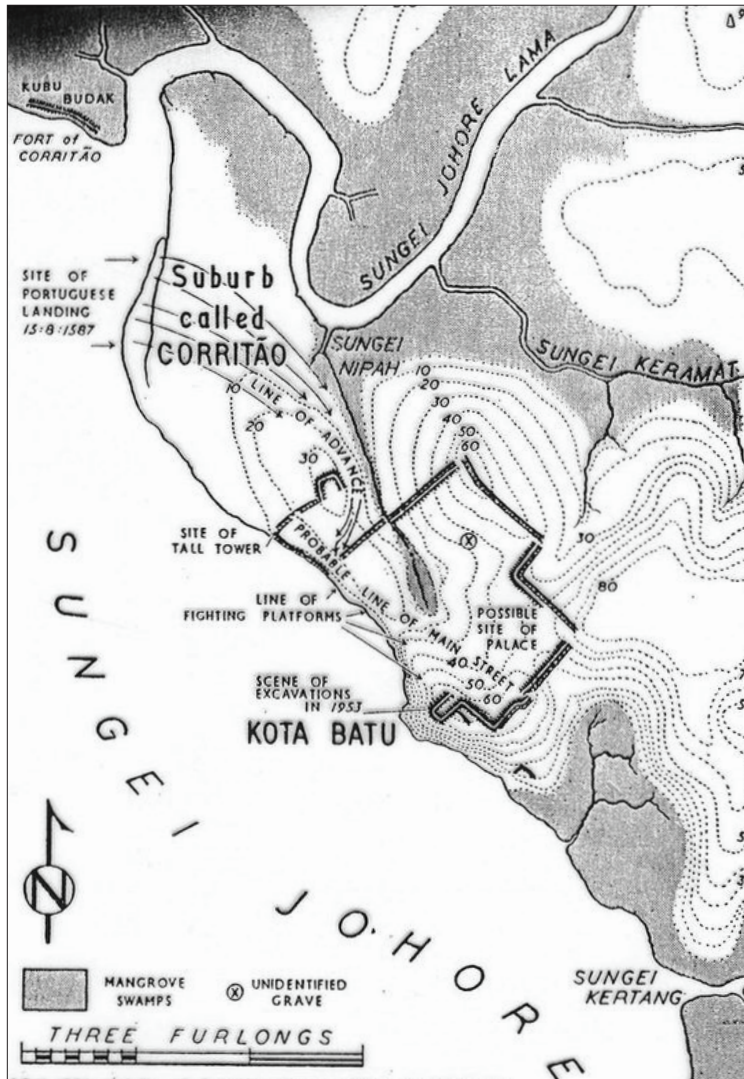
4.20 Restored bastion at the sixteenth-century fort of Johor Lama, demonstrating the use of earthen ramparts similar to the Malay Wall of fourteenth-century Singapore

1587 but the Portuguese brought in reinforcements from India and launched a counter-blockade of the Johor River.

Later that year, the Portuguese sailed up the river, bombarded Johor Lama for days, and raided towns further upstream. A Portuguese observer, do Couto, described Johor Lama at the time of the Portuguese attack as

a very fine city stretched along that river bank, although the walls were of wood and the houses covered with palm leaves; he also saw other towers, other bastions, and other architecture of greater beauty and strength, which was a numerous people and fine men . . . so much artillery that it could be seen even above the trees and on all the bastions, watch towers and emplacements, and different coloured silken flags spread out in the wind. The city lies on a hill that runs parallel to the beach for the distance of a falcon shot. [It was] surrounded by walls of very stout timber . . . surrounded with platforms for the fighting men. And in the middle of the side of the city that faces the anchorage was a bastion . . . which mounted a serpent and a camel. Immediately below it, where a tree stood, there was a Moorish lion, and above the tree there were many *chicorros*. On the seaward side of this fort was another which they called Cotabato, which means earth fort, for it was made of very thick walls of beaten earth, and roofed with great beams. [Serpents, camels, Moorish Lions, and *chicorros* are names for different types of cannon.] (Macgregor 1955: 106)

This fortress was defended by a breastwork and 12,000 men. A moat on the



4.21 Reconstruction of the Portuguese attack on Johor Lama (Macgregor 1955). Reproduced by permission from *JMBRAS*.

outside of the rampart was fortified with pointed stakes (*ranjau*). The rampart was equipped with wooden palisades, and platforms a metre from the top. The defenders fought well, but the fierce Portuguese attack overcome them.

Archaeological excavations were conducted at Johor Lama in 1936, 1953, and 1960; several investigators also collected surface finds at the site. A system of earthen ramparts constituting the remnants of the sixteenth-century fortifications still constituted the major feature on the site. The largest concentration of artifacts was discovered in one particular mound that consisted largely of potsherds.

The excavations yielded both Chinese and local (“Malay”) pottery. The Malay pottery consisted of three different types. At least 11 different paddle-marked designs were discerned. Portions of about 10 spouts indicate that *kendi* or some

other pouring vessels were still in regular use. An appreciable quantity of late Ming blue and white ceramics was also recovered (for illustrations, *see* Choo 1987: 86 pl. 84–6, and 87 pl. 87–90; Miksic 2009: 75, 78, 80, 83–4).

Kota Sayong

This area in Sayong Pinang, Johor, was excavated in 1998 and 1999. The tombstone of a noble here identified as *nenenda* (Sayid?) Almarhum Mansur is dated 857 AH (=1453 AD, thus the period of the Melaka Sultanate (Asyaari 2001: 30, 45). Earthenwares were discovered scattered over a surface area of approximately one square kilometre near the graves, along the Sayong River, and in the Poh Lee Sen Felda district (Asyaari 2001: 66). Excavations were conducted at five main sites. One artifact appears to be a lid of a Thai covered box (Asyaari 2001: 104, photo 36), but other datable objects are from the nineteenth century.

CONCLUSION

The second phase of Johor Lama occurred just after the Ming ban on foreign trade was rescinded. Late Ming porcelain was found in appreciable quantities on the site (though no quantitative data was published), indicating that Chinese potters began exporting their wares as soon as it was safe to do so. Vietnamese and Thai glazed ware disappeared from the scene almost simultaneously.

Singapore was occupied up until the early seventeenth century. Then, the settlement at the Singapore River estuary seems to have come to an end. According to Erédia's map, a shahbandar or harbourmaster was still stationed in Singapore until around 1600. After the fall of Melaka, Singapore continued to form a part of the administration of the Malay rulers of Johor and Riau, and shared the fate of its rulers wherever they were located. Singapore then seems to have been almost completely depopulated, perhaps as the result of an attack by the Acehese shortly after 1600.

For the next two centuries, probably only bands of Sea People took shelter in Singapore's mangroves and estuaries. The memories of the Forbidden Hill and Forbidden Spring however never vanished. The names still existed in 1819, as did a number of the place names along the east coast that Erédia had known in the 1500s. Nevertheless, after about 1600, Singapore went into hibernation for two centuries, from which it was only to emerge in the early nineteenth century. Although Raffles was convinced that he had built his house on the site of an ancient civilization, O. W. Wolters considered the Singapore stories mere fabrications meant to convey information about Palembang's downfall in a disguised form. Only in 1984 did exploratory excavations near the Keramat Iskandar Shah on Fort Canning Hill reveal that, where Singapore's ancient existence was concerned, Raffles was right all along in believing that the *Malay Annals* was more fact than fiction.



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ARCHAEOLOGY IN SINGAPORE: HISTORY AND INTERPRETATION



On 3 February 1822, while in transit during a diplomatic mission in Siam, John Crawfurd took a morning stroll around the perimeter of an ancient city. Starting at the mouth of the Singapore River, he walked north along a sandy beach, now the seaward side of the Padang, until he came to the Freshwater Stream (Buckley 1984: 123–4). The mouth of the creek can no longer be seen; it has been paved over. However an iron plaque commemorating a bridge which formerly spanned it is still visible on the north side of Stamford Road, opposite the Singapore Recreation Club.

THE FIRST BRITISH VISITORS AND WHAT THEY FOUND

From this point, he turned west and walked along the bank of the Freshwater Stream, on an earthen rampart called the Malay Wall, which ran along the present course of Stamford Road. In front of the site of the former Cathay Building at the junction of Bras Basah, Orchard Road, and Handy Road, is a concrete drain called the Stamford Canal; this is all that remains of the old Freshwater Stream, the course of which can still be traced further toward the Istana Sri Temasik (*see* Fig. 0.06). A map made in 1822 depicts this stream and “The Old Lines of Singapore” (Fig 5.00). “Lines” here refers to a defensive wall.

Some earth had already been removed from the wall two years before Crawford’s tour of the boundaries of ancient Singapore. The *Asiatic Journal and Monthly Registrar* (1820, vol. 10, 198) [the author wishes to express his gratitude to Mr. Ronald D. Hill of Hong Kong for bringing this source to his attention] quotes the *Penang Gazette* as follows:

It is said, that in digging under the walls of the very ancient fort of Singapore, the engineer has discovered several brass Chinese coins. The legend on one of these, and on only one, is extremely perfect, or at least sufficiently so as to make out that it is about 700 years old.

The description of the coin continues on page 292:

It appears by the inscription that it was struck off by the Chinese government during the reign of Huing-tsung [the name appears to be thus written in the MSS, but whether it is Hwing-tsung or Huing-tsung, cannot be precisely determined.], an emperor of the Sung dynasty, also called Nan-sung or Ta-sung, who died A.D. 1125. He was contemporary with our Henry the first.

Lieut. Ralfe, acting engineer at Singapore, discovered this coin, with several others, digging at the remains of the old wall or mound which surrounded the once populous and large city of Singapore, but of which the only vestige is the wall in question.

The other coins immediately crumbled to dust on being touched after their exposure to the air, but the one at present in Calcutta remains, as we have before stated, uninjured by time, and its Chinese characters are in the highest preservation.

We understand it is to be forwarded to Gen. Hardwicke, of the H. O. Artillery, by who we have no doubt it will be kindly offered to the inspection of the curious in antiquities.

George Finlayson, a member of Crawford’s mission, also mentioned seeing this feature, which he went on to describe as a “mud wall, probably the remains of an ancient fortification” (1826: 298). Raffles, in a letter to his old friend and

mentor William Marsden dated 31 January 1819 (published by Raffles' second wife Sophia, 1991/1830: 376), referred to “the lines of the old city and its defenses”.

Crawfurd described the wall as the northern boundary of “the ancient town of Singapore” (1828: 44). It was sixteen feet (5 metres) wide at the base and eight or nine feet (about 2.75 metres) high. Where the stream passed the northwest foot of the hill, the rampart went up the hillside, augmented on its outer edge by a trench. Crawfurd notes that the wall was unbroken by any gates or embrasures such as would have been used for cannon; thus he concludes that “the works of Singapore were not intended against fire-arms” (1828: 45), implying that it dated from the period before the use of cannon.

The trench beside the wall and the Freshwater Stream correspond to the *parit Singapura* in Story 10 of Shellabear's version of the *Malay Annals*. In this *parit* or channel, the treacherous prime minister of Singapore was turned to stone, in divine retribution for his perfidy in opening the gates of the city to the invading Javanese. Wang Dayuan mentions that the city of Temasik “shut up its gates” (Rockhill 1914: 100) and held off the attacking Siamese for a month. Although the rampart had no gates, Singapore may have been defended by wooden palisades on top of the embankment or elsewhere, perhaps around the foot of Fort Canning Hill, which would have included gates.

Excavations in Bras Basah Park in 2001 prior to the construction of Singapore Management University (with financial assistance from SMU) found no evidence of ancient activity on the site (Figs. 5.01, 5.02). This supports the conclusion that the Malay Wall formed the northern boundary of the ancient settlement, obvi-



5.01. Bras Basah Park, now the site of the Singapore Management University, during the test excavation with backhoe



5.02. Stratigraphy of Bras Basah Park showing a white clay layer which nineteenth-century sources note was highly suitable for pottery-making

ating the need for any gates on this side of the city. The area of ancient Singapore enclosed by the rampart and stream, the hill, the Singapore River, and the beach in total measures approximately 84 hectares (1,200 by 700 metres). For comparison, in 1230 the area enclosed by a city wall in Quanzhou, then one of the largest cities in southern China, was 640 hectares (So 2000: 164).

Crawfurd's path took him past an orchard of very old fruit trees which grew in the vicinity of what is now Armenian Street; then he turned south to climb up the hill, then known as the Forbidden Hill, now called Fort Canning. On the north slope he saw the ruins of many brick buildings; the Keramat Iskandar Shah now stands on the site of the largest one. Perhaps Crawfurd had been inspired to inspect this site by Lieutenant Ralfe's earlier report (*The Asiatic Journal and Monthly Registrar* 1820: 477) of the Chinese artifacts on the hill:

Maj. Gen Hardicke laid before the Society an ancient Chinese coin of the Sung, or nineteenth dynasty of the Chinese emperors, and supposed to have been struck in the reign of Kwuy-tsung, the eighth emperor of that dynasty.

It was discovered by Lt. Ralfe, of the Bengal artillery, in clearing an elevated spot in the island of Singapore, the supposed site of a town or bazar. Several other coins were found, and some pieces of broken china-ware, shells, & c. None of the coins except the one now offered stood the test of examination, as they crumbled into fragments on handling.

Crawfurd descended the other side of the hill where the Forbidden Bathing Place once cooled the princesses of Temasik, and returned home along the left bank of the Singapore River. By crossing the Anderson Bridge and visiting the point where the Merlion originally stood, one can stand where the Singapore Stone, now shattered into many fragments, once proclaimed its message.



5.03 Fourteenth-century sites excavated in Singapore 1984–2009

Crawford saw no visible ruins on the plain. Only the hill northwest of the plain and the rocky point at the mouth of the Singapore River attracted his antiquarian interest. On the hill he saw “a sepulchre, and a supposed temple” (one of which was probably the Keramat Iskandar Shah), and at the river’s mouth, an inscription on a split boulder.

During the 190 years that have passed since Crawford compiled his inventory of Singapore’s antiquities, the vestiges of Singapore’s ancient inhabitants have been broken into many pieces or completely obliterated. The challenge facing the Singaporean archaeologist of the twenty-first century is by no means hopeless, however. The first 25 years of archaeology in Singapore (1984–2009) defined the limits of the fourteenth-century city (Fig. 5.03). Two and a half decades of excavation demonstrate that plentiful opportunities for archaeological work await future generations.

The Forbidden Hill became Government Hill when Raffles built his bungalow on its brow. It remained so until 1858 when the conical peak atop the hill was levelled to provide a foundation for the artillery bastion of Fort Canning. Although the fort site, covering three hectares, must have been full of archaeological remains, no discoveries were recorded. A large portion of Singapore's historical slate was doubtless wiped clean by the fort's builders, who like many subsequent builders apparently considered the numerous artifacts they disturbed unworthy of attention, minor inconveniences to be discarded.

Singapore's inhabitants in 1819 called the hill *Bukit Larangan*, "Forbidden Hill". The *Hikayat Abdullah* recounts a conversation between Tengku Abdul Rahman, who held the title *temenggong* and ruled over the island, and Colonel Farquhar. The Tengku described the hill as the site of an ancient palace, which common people could only ascend with permission. The Forbidden Hill was also regarded with awe because of ghosts and strange sounds that were still heard coming from there in the 1920s. Abdullah's account of Tengku Abdul Rahman's conversation with Col. Farquhar is similar to the *Malay Annals*' dialogue between Indra Bopal, representing the island dwellers, and Sri Tri Buana, both new forces in the region interested in developing the island. Abdullah's account may have been coloured by his literary intent to replicate the style of the earlier discourse.

On the north and east sides of the hill, Crawfurd saw foundations of "baked brick of good quality" covering "the greatest part" of the surface. Scattered between them, Crawfurd found fragments of Chinese and local pottery "in great abundance" as well as Chinese copper coins with dates including 967, 1067, and 1085.

The most interesting ruins stood on a terrace about 40 feet (12 metres) square. These were the ruins of a brick building, either a sanctuary or a hall with wooden pillars like the Javanese *pendopo*. Crawfurd found 14 square sandstone blocks (which have disappeared) analogous to pillar bases found in Sumatra, Java, Bali, and Kedah. The terrace lay approximately where a microwave station now stands.

Crawfurd was told that another large terrace was the gravesite of "a ruler". Raffles' letter of 21 January 1823 refers to "The tombs of the Malay Kings" near his bungalow on the hill (S. Raffles 1991/1830: 535). Neither Raffles nor Crawfurd recorded any details about the ruins on this spot. "A rude structure" was quickly built on the site, which is now known as the Keramat Iskandar Shah. In 1909, a domed structure standing there was described as resembling Islamic tombs in south Sulawesi which probably date from the seventeenth century (Rouffaer 1921: 64, 380).

This site was probably not a grave but a religious structure. Buddhist and Hindu temples with brick foundations and perishable superstructures were built in Sumatra and Kedah in the pre-Islamic era. Popular belief in Indonesia frequently associates remains of such edifices with burials. Singapore once contained over 50 keramat, mainly associated with Indian Muslim religious teachers of the nineteenth century. Most have now disappeared. The *Majelis Ugama Islam Singapura* (MUIS) discourages religious activities at such sites, considering them heterodox.



5.04 Belahan bathing place, thirteenth century, east Java



5.05 Spout from bathing place, fourteenth century, Batusangkar, west Sumatra

Rituals traditionally conducted at the keramat, such as burning incense, scattering flower petals, feeding pigeons, and praying for specific favours, contravene modernist rules of proper Islamic behaviour.

On the west side of the hill in 1819 was a *pancur larangan*, “forbidden spring” where the women of the ruler’s household had bathed in ancient times, according to folklore current when the British arrived. The *Hikayat Abdullah* mentions a “Forbidden Stream” (Hill 1970: 42). In Indonesia, several surviving or restored ancient bathing places are highly decorated, with brick or stone enclosures, statuary, and ornamental water spouts (Fig. 5.04). A fourteenth-century stone spout in the form of a woman’s torso from Batusangkar, West Sumatra, shows that a bathing place existed there during Singapore’s Temasik period (Fig 5.05).

No archaeological remains were noted at the *pancur larangan* in 1819, but the water flowing from this spring was plentiful and pure. The East India Company quickly constructed an aqueduct to carry its water to the foot of the hill, where it was stored in a plaster tank on the bank of the river at the corner of Hill Street. Ships in Singapore harbour sent their rowboats here with casks, which they filled without having to step ashore (Fig. 0.13). This convenience facilitated Singapore’s rise by attracting shipping. The aqueduct continued to function until 1830, by which time the demand for fresh water exceeded the capacity of the spring. Wells that were dug around the hill’s foot eventually killed the spring.

Wang Dayuan’s reference to *Banzu/Pancur* as the name of the trading settlement in fourteenth-century Temasik suggests that this spring played a major role in the early development of a settlement here. The place name *Pancur*, as noted earlier, has long been common in the Straits of Melaka.

The Forbidden Spring’s memory is perpetuated in two ways. Holding tanks for water built around the foot of the hill gave rise to “Tank Road”, the name of a street which still exists nearby. A large public swimming pool built beside River Valley Road provided enjoyment for the general public for many years.

Crawford found a grove of very old fruit trees growing at the foot of the hill. Gardens with fruit trees and flowering plants play a very important part in premodern Southeast Asian court literature and palace design. Numerous examples still exist in Indonesia: examples include Aceh, Cirebon, Yogyakarta, Surakarta, Bali and Lombok (Lombard 2008). A seventh-century inscription found at Talang Tuwo near Palembang mentions that Srivijaya’s ruler built a garden for the pleasure of mankind. The ruler of fourteenth-century Temasik inherited an ancient tradition of palace gardens. The *Hikayat Abdullah* interprets the old fruit trees at the foot of Fort Canning which included such varieties as *duku* and *langsap* (both of the genus *Lansium*), lime, pomelo, *jering* (*Pithocellobium*), and *petai* (*Parkia*), as the remnants of an ancient *taman* (garden) (Hill 1970: 168). These large trees must have stood forth prominently in early nineteenth-century Singapore, for according to descriptions of Abdullah and others, few large trees then grew on the hill itself. The esplanade was not heavily wooded either, but overgrown with such plants as *kamunting* (*Rhodomyrtus* spp.) and *kadadu* (*Melastoma malabathricum*?), both small shrubs which grow in abandoned clearings. Thus the

old plain was not covered by thick forest, but by a kind of *belukar* or secondary growth, further evidence of Singapore's ancient habitation.

There are several interesting parallels between Singapore's ancient topography and its modern usage and the early colonial settlement. In addition to the reuse of the Forbidden Spring site as a public pool, and the erection of the Merlion on the site of the ancient Malay inscription, Raffles decided to start a garden to encourage the planting of commercially valuable crops in his new settlement, and to establish it on the site of the old Malay palace garden. This extensive agricultural plot covering 48 acres (approximately 19 hectares), the first Botanic Garden of Singapore, is shown on the 1822 map. The hillside was cut into terraces about 18 feet (5.5 metres) broad and slightly sloping toward the hillside, to prevent erosion. The Freshwater Stream was useful for irrigating the plants. The garden did not prosper, however, due to lack of trained supervision and funding, and was abolished in June 1829. The land was allocated to the Armenian Church and a school. The Singapore Management University and the National Museum now lie within the boundary of the old Botanic Gardens. The precise boundaries of the ancient gardens were not mapped, but it is obvious that the early colonial settlement made use of this as well as several other features of the ancient site which still existed in the early nineteenth century.

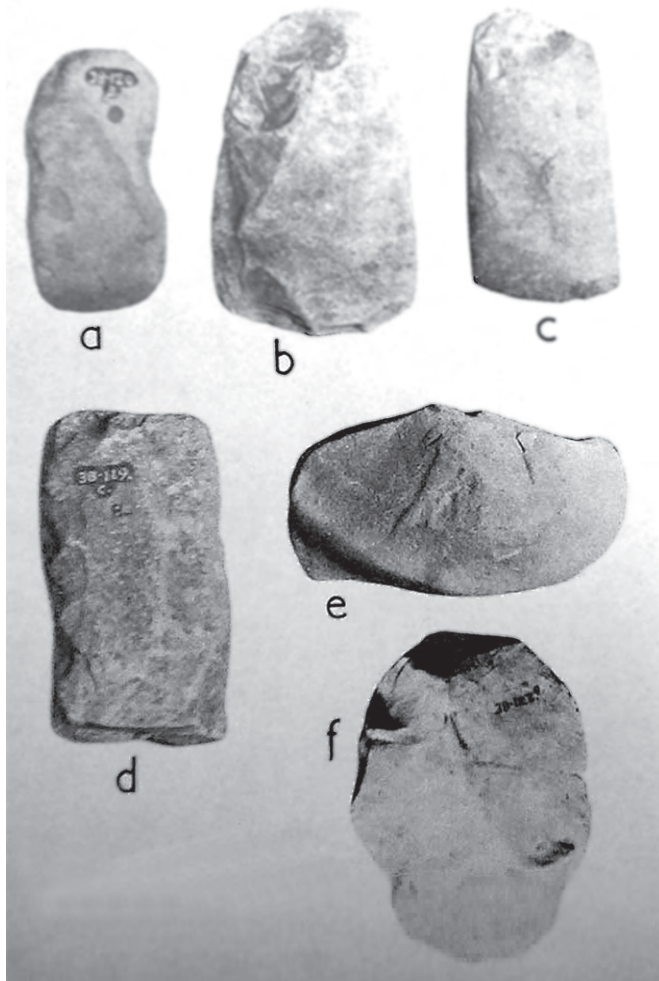
The *Malay Annals* may contain a reference to the inscription at the mouth of the Singapore River in the story of the strongman Badang who threw a large stone to the *Kuala Singapura*, "Singapore River Mouth", at *Tanjung Singapura*, "Singapore Point". Another stone nearby, called the *Batu Kepala Todak*, "Garfish Head Rock", by the Sea People because of its shape, was a significant religious object after a change of rulership in ancient Singapore, such as Parameswara's usurpation in 1392 (*see* Introduction). The stone was blown up in 1843. Colonel James Low saved some fragments which he sent to Calcutta (Low 1848: 65–6, Fig. 0.16). One fragment was returned to Singapore in 1918 and is now housed in the National Museum (Fig. 0.19).

SIGNS OF PREHISTORIC LIFE IN SINGAPORE

After Crawford, there was long hiatus during which no-one paid attention to Singaporean remains of antiquarian interest. In 1891, H.N. Ridley reported that a stone tool had been found on the beach at Tanjong Karang on the southwest tip of Singapore; it was "a fairly heavy edge-ground round-axe of dark brown stone, 117 mm in length" (Tweedie 1953: 69) (Fig. 5.06).

No excavations have been undertaken at Tanjong Karang. In the 1930s, archaeological research was carried out at Tanjong Bunga, on the south coast of Johor (near the Second Link to Malaysia at Tuas). No report of this project was ever published but a summary written in 1938 (cited in Tweedie 1953: Appendix III, "The excavation at Tanjong Bunga", 84–5) describes its findings, which were quite varied, including several kinds of stone tools, red and yellow ochre, and pieces of resin.

The composition of the culture found at Tanjong Bunga is completely different



5.06 Prehistoric stone tools from Tanjung Karang and Pulau Ubin, Singapore, and Tanjung Bunga, Johor

from any encountered previously in the peninsula. Ground Neolithic axes of rectangular shape are well known, but have not been found before in association with round-axes, which are rare in this country. The microliths are the first found in Malaya and may possibly have some cultural affinity with the obsidian microliths found near Bandung in Java.

Williams-Hunt found round axes and flakes on Pulau Ubin, but a test excavation yielded no further artifacts (Williams Hunt 1951: 191; Tweedie 1953: 69–71, “Anomalous Industries. 2. The Tanjong Bunga Culture”).

These pieces of evidence, though sparse, are proof that Singapore was occupied several thousand years ago. Further traces of prehistoric occupation may exist along Singapore’s northern and western shore facing the Johor Strait. The “anomalous” nature of the Singapore stone tools and their possible affinity with Java rather than the northern Malay Peninsular is intriguing, but until further evidence of this culture is found, no more can be said about it.

Who Is Buried Under the Keramat?

According to Tomé Pires, Iskandar Shah died at Bertam, in the state of Melaka. Ming sources call the second ruler of Melaka *Iskandar Shah*, but some authorities argue that they were misled by his change of name from Parameswara to Iskandar Shah upon his conversion to Islam. According to the *Malay Annals*, this occurred at a late stage in his life; at the age of 72, according to Pires (Cortesao 1944: II, 242). His profession of Islam is said to have been “nominal” (Wolters 1970: 161). He died around 1412 or 1413; his successor reigned for ten years and seems not to have been a Muslim, but his grandson, the third ruler of Melaka, Mahmud Shah, who may have been born in Singapore between 1392 and 1397, converted in 1436. This conversion may have formed the motive for the compilation of the king list which forms the core of the *Malay Annals*. According to Erédia, Parameswara’s tomb was still visible in the sixteenth century at Tanjong Tuan, north of Melaka. No records say that he or Iskandar Shah was buried in Singapore. There is no record of a tomb on this site when the hill was cleared of jungle in 1819. The Singaporeans in 1819, fearing the taboo against ascending the hill, were unaware of anything there. The tradition then arose that Iskandar Shah was buried there, but this cannot be confirmed by any evidence. When the present roof was built over the site in the early 1990s, a two-metre-deep excavation around the black marble slab found no ancient remains. All traces of ancient architecture, including those which Crawford saw, have been obliterated.

The ideas of keramat and tomb have been conflated in modern times. The word keramat comes from Arabic, and carries the connotation of something blessed or holy. Sites associated with particularly devout Muslims are revered throughout the Islamic world and sometimes become centres of pilgrimage. In some areas, unorthodox views of Islam harken back to pre-Islamic ideas that humans can become one with the divine through prayer and meditation. In most areas, however, keramat were originally seen as suitable locations where through meditation and prayer one can come to a fuller understanding of God. Keramat veneration in itself is not necessarily heterodox. A keramat can be any location associated with a devout Muslim, not necessarily a tomb. It is not clear why Iskandar Shah’s name became attached to this site.

The British did not disturb the Keramat, even though it lay near the walls of the fort. In Raffles’ time, the site became a centre of religious activity for all races; for example, Raffles’ sleep was disturbed by Chinese people letting off firecrackers there (Buckley 1965: 96). No early depictions of the site survive. Early maps of Fort Canning depict an embankment around the “Fakir’s tomb”. A picture of Fort Canning taken from the spire of St. Andrew’s Cathedral in the late 1800s shows a rather large structure on the site of the Keramat, enclosed by an earth wall. Maps of the period place “the *fakir’s* redan” (a military term denoting a fortification wall) here. An early twentieth-century photograph of “the tomb of Iskandar Shah, Singapore” (Braddell 1982: opposite p. 57) shows a wooden bridge spanning a trench, beside which stands a set of pillars forming an entrance to a compound with a low square roofed structure. An 1892 guide-book says that “crossing part of the old moat [the *parit Singapura*] by a wooden bridge, the visitor enters the said place [i.e., the Keramat]” (Reith 1892: 60).

The earliest photographs of the Keramat’s interior taken in the 1950s are completely different from those taken in the 1970s. By the 1980s the site had been renovated again. All these changes were made by devotees. A family of Indian Muslims served as hereditary caretakers of the site, acting as intermediaries with the spirit of Iskandar Shah for those who wished to have advice on how to behave and to pray there. In 1984 this office was filled by an elderly man who was reticent about himself. Another venerable man with a white beard was normally found sitting on the steps leading from the keramat to the road above it. He sold mung beans to devotees who wished to feed the flock of pigeons that was usually found nearby.

Singaporean Geology

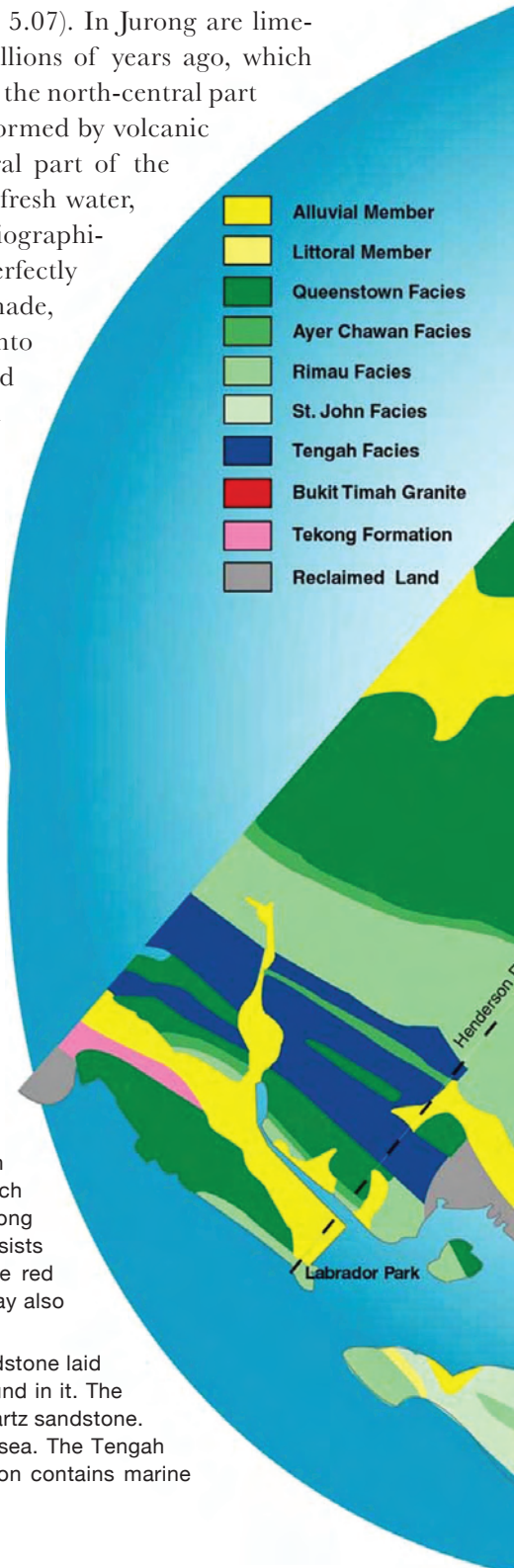
Singapore's small size belies its complex geology (Fig. 5.07). In Jurong are limestone deposits formed under the sea hundreds of millions of years ago, which contain fossils from the early history of life on earth. In the north-central part of the island around Bukit Timah are younger rocks formed by volcanic activity. The soils of Serangoon and the south-central part of the island consist of recent sediments, some laid down in fresh water, others deposited by ocean waves and currents. Physiographically, the Jurong and Kallang River basins are almost perfectly flat. The area from Fort Canning Hill to the Esplanade, the Littoral Member of the Kallang Formation, falls into such a category. This formation comprises well-sorted unconsolidated beach and near-shore quartz sand with minor lateritic, shell and lithic fragments, within which is also found iron-cemented beach rock (Anonymous 1976).

Ancient urban Singapore, between Stamford Road and the Singapore River, part of the Kallang Formation, consists of both marine and terrestrial sediments laid down over the last 20,000 years. Fort Canning Hill consists of sedimentary rock belonging to the Rimau facies of the Jurong Formation. Geologically the Rimau facies is "Transitional to marine quartz conglomerate and quartz sandstone. The clasts are usually angular to sub-angular and loosely packed but the rock is well cemented" (Sheet 6, City. Geological Maps of Singapore. Public Works Department, 1976).

5.07 Geological structure of southern Singapore

The Kallang Formation has two forms: an alluvial member, which is mainly sediment laid down by rivers, and a littoral member, which consists of beach sand and iron-cemented beach rock. The Jurong Formation has several subdivisions. The Queenstown Facies consists of red to purple mudstone and sandstone with some tuff. The red colour may be the result of weathering, but volcanic material may also be partly responsible for it.

The Ayer Chawan Facies consists of muddy sandstone and mudstone laid down in marine environments, often black. Some fossils are found in it. The Rimau Facies is made up of marine quartz conglomerate and quartz sandstone. The St. John Facies is muddy fine sandstone laid down in the sea. The Tengah Facies is more muddy marine sandstone. The Tekong Formation contains marine and littoral sand with pebbles.





Gold Discovered on Fort Canning

In 1928, Fort Canning was redeveloped. The 65-year-old artillery fort was demolished and a reservoir was dug on its site. This time an important discovery was recorded: a cache of gold jewellery that had been buried in some kind of container, perhaps a cloth bag. The ornaments were found at a depth of three metres, but much of the overburden consisted of earth dumped down the hillside when the peak was levelled in 1860. A report written in 1928 notes that the gold ornaments lay just below the surface of the original ground. This is important information: it suggests that there was a clear division of the soil into layers. The person who buried objects had not put them into a deep hole, but into a shallow pit, an indication that he or she was in a hurry. This may have occurred during one of several attacks launched against Singapore in the fourteenth century.

The jewellery included armlets, earrings, and a finger ring. The armlets are highly ornate, fabricated with a combination of methods, and include a complicated mechanism enabling them to be fastened and unfastened. They are decorated with a *kala* head motif (Fig. 0.22). The ring bears an incised design of a goose, the Hindu symbol of the vehicle of Brahma. Their quality is high enough for a member of high nobility, even a king. A very similar decoration is depicted on a girdle clasp on a statue from fourteenth-century Sumatra (Fig. 0.21)

No other discoveries were recorded during the excavation of the reservoir. Many artifacts from the fourteenth century must have been hacked to pieces as soil from the hilltop was again thrown down the slope. Some objects recovered in archaeological excavations came from the hilltop. They still provide useful information, but since their original location is lost, they are less useful than those items which are still found where they were discarded seven hundred years ago.

The jewellery was found a few metres uphill from the Keramat Iskandar Shah. The location now lies within a fence surrounding the perimeter of a service reservoir atop Fort Canning and is off limits to archaeological excavation.

CRAWFURD'S SUCCESSORS: FORMAL ARCHAEOLOGY RETURNS TO SINGAPORE

In January 1984, Singapore's first systematic archaeological excavation began on Fort Canning Hill (Fig 5.08). The project was conceived by curators of the National Museum: Ms. Connie Shears, daughter of Benjamin Sheares (President of the Republic of Singapore, 1971–81); Mrs. Eng-Lee Seok Chee; and Ms. Marianne Teo. Of equal importance to the formulation of the plan was Mr. Kwa Chong Guan, who later became Director of the National Museum (1989–94). The project, with financial support from Royal Dutch Shell Petroleum (special thanks are due to Mr. Lam Pin Foo who was then employed by that company), was urgent. A plan for extensive landscaping of the hill had recently been proposed to the Parks and Recreation Department. This would have led to the destruction of any archaeological information which still remained.

The team decided that the Keramat Iskandar Shah offered the highest probability of yielding archaeological information. The Keramat is a monument of quite recent reconstruction (Figs. 0.08–0.12), but its position marks one of the original terraces which Crawford described. An inscription on the Keramat identifies it as the grave of Iskandar Shah. In the *Malay Annals* the founder of Singapore, Sri Tri Buana, and chief or *Demang* Lebar Daun, were said to have been buried on the hill of Singapore; the *Tuhfat-al-Nafis*, or “Precious Gift”, adds Sri Tri Buana’s mother, the Queen of Bintan, to the list of illustrious persons whose tombs were said to be on this hill (Rajah Ali Haji Ibn Ahmad 1982: 13).

During preliminary exploration of Fort Canning in 1984, the team identified another possible location for excavation at the southeast corner of the hill, near the Hill Street Fire Station, in the vicinity of a trench about two metres deep and two metres wide, crossed by a wooden bridge. It was thought that a depression roughly 160 metres southeast of the keramat might have been the last remains of the old Malay wall and moat. Crawford had said that the wall ran up the side of the hill, and the moat became a dry ditch, so something like this would have existed at one time. The map of 1822 found in the Public Records Office in London in 1990 disproved that theory. We now know the wall and moat continued further north, approximately as far as Clemenceau Avenue. Later excavations near the former Fire Director’s Residence showed that fourteenth-century artifacts indeed are still buried near that trench, but the age of the trench has not been determined. It may have been dug during the nineteenth century.

It was decided that excavations would be undertaken as near to the Keramat as possible; however it was key that this was done without intruding on the activities of the devotees (Fig. 5.09). A few metres south of the Keramat was a mound, overgrown by trees and brush and covered with rubbish, including the remains of an old shrine of a type set up at sites where spirits are believed to reside. This mound formed a terrace consisting of at least three levels, at a slightly higher elevation than the Keramat. Some excavations were laid out here, in addition to others in the lawn between the Keramat and the brick wall of the old Christian cemetery. Another site was excavated as close to the service reservoir as possible. At that time, the perimeter fence ran up the hill slope near the keramat. The fence now runs right next to the road, so the site of the 1984 excavation is no longer accessible.

Fort Canning was chosen for excavation not because it offered the highest probability for recovering archaeological data, but because it was threatened by development. The hill was known to have been disturbed by the construction of a fort complex, a reservoir, roads, playgrounds, telecommunications installations, a European graveyard, and the Registries of Marriage, to name only a few projects. It would have been no surprise if no artifacts had been discovered; ancient Singapore’s population might have been sparse, and their houses and utensils might have been made of perishable material. Seven centuries could wipe out all traces of ancient activity. The Raffles Museum (now the National Museum) had stood at the foot of the hill since 1887. If any traces of earlier historical periods existed,

Keramat Iskandar Shah,
Fort Canning: 1984, 1987,
1988, 1990, 1991, 1993,
1994 (FDR), 1995, 1999 (dig
shelter), 2000 (sifting)



A National Serviceman at the first test excavation at Fort Canning, 1984

1992: October 12:
Percival Steps, Fort Canning



Young volunteer with small find

1998: January, April–June:
Empress Place



Friends of the Museum and other volunteers at work

CHRONOLOGY OF

1989: March: Duxton
Hill, Tanjong Pagar



Excavations in alleyways

Nov 1994–Jan 1995: Parlia-
ment House Complex



Shah Alam and Kristina
Gardin, 21 Nov 1994

2000: Istana
Kampung Gelam,
until mid-2003



Volunteer artifact washers at the former palace

2000: Colombo Court



Checking excavated soil for artifacts

2002: Old Parliament House



Cheryl -Ann Low, then curator at the National Museum



Ng Ching Huei at the King Chulalongkorn statue

16 September, 2003–March 2004: St Andrews Cathedral



Student volunteer sifting soil

SINGAPORE EXCAVATIONS

2001: Bras Basah Park



Before the construction of the Singapore Management University

April 2003: Singapore Cricket Club



A brief but productive excavation



Excavation for construction of handicapped access ramp

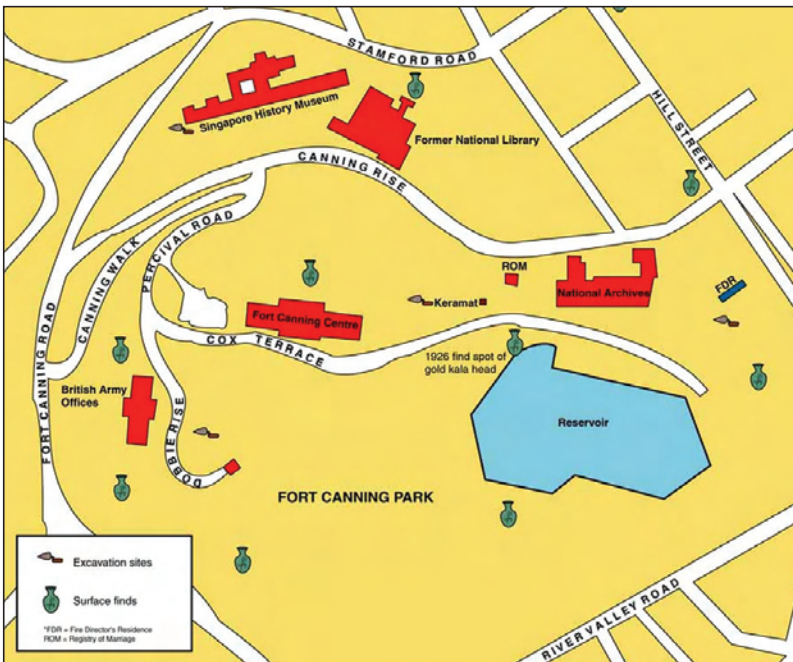
2010: April–May: Fort Canning Spice Garden

one would have expected museum staff to have discovered them in the hundred years they had been working next door to the hill. Thus the probability of finding usable archaeological information was estimated to be rather low.

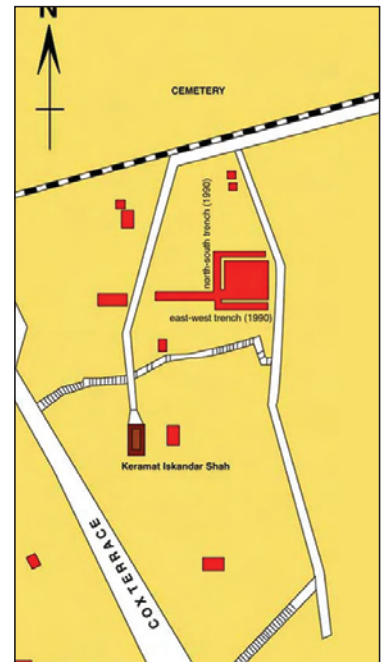
On the other hand, archaeologists have discovered that it is almost impossible to obliterate all traces of the past. New York City, London, Athens, and Rome have yielded discoveries older than those found in Singapore. Many sites are discovered accidentally by construction workers and are then reported to museum authorities and urban conservation officials. Many cities employ archaeological units who work together with the public, checking out their reports and providing interpretation for education, tourism, and entertainment.

Ten days were allocated for the excavation: a short time to justify the funds granted by Royal Dutch Shell, and to prove that Singapore possessed legible traces of a pre-Raffles civilization. The Singapore government provided assistance in the form of a group of National Servicemen. Other funds from the sponsor were used to hire foreign labourers. Additional museum staff, including Dr. Alexandra Choo, consultant to the National Museum, and Mr. Lee Chee Kheong, museum photographer, completed the fieldwork team.

Excavation began on 18 January 1984 and continued until 28 January. In ten days, eight pits were excavated. Square I, measuring five by two metres, was laid out 26.1 metres north and directly in front of the path which formed the entrance to the Keramat, at the foot of the terrace on which the Keramat stood. Squares II and III (Fig 5.10) were laid out on the mound southeast of the Keramat, Site



5.08 Distribution of fourteenth-century sites excavated on Fort Canning

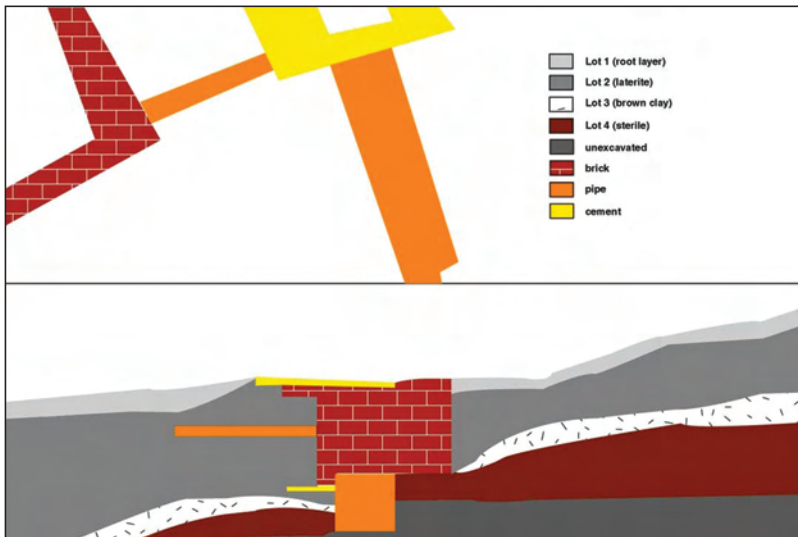


5.09 Excavation sites in the vicinity of the Keramat Iskandar Shah

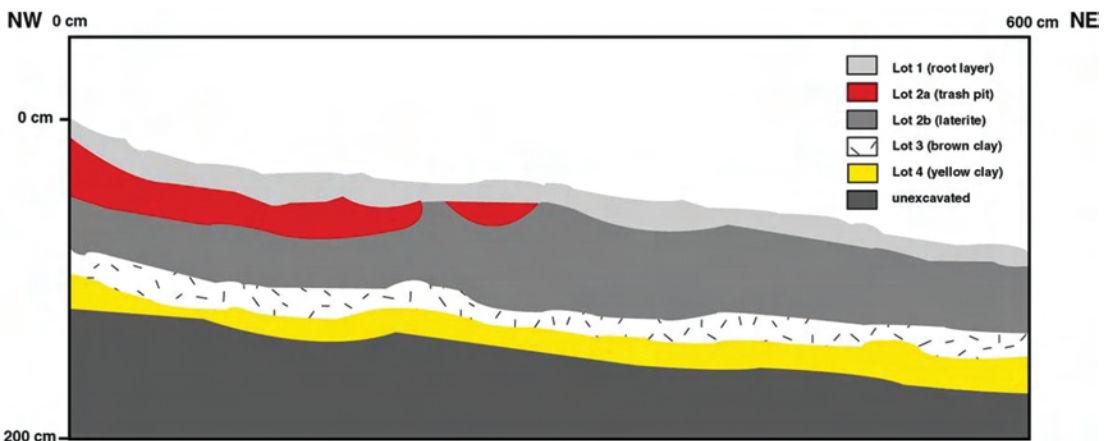
2. Square IV was laid out as close as possible to the spot where the gold ornaments were found in 1928 (Fig. 5.11). The square south of a cement structure, on a higher terrace above the keramat on the side of the hill near the reservoir, was called site 3.

Square V was excavated to test the upper end of the steep slope at the western edge of the lawn between the Keramat and the cemetery (at the bottom of the bank where an old cannon is now placed). This excavation was about 15 metres from square I. When this location yielded many artifacts still in situ, another pit, square VI, was laid out 60 centimetres north of square V. Two more pits, squares VII and VIII, were located one metre apart, 37 metres from square I. These two squares were dug at the lowest part of the slope near the Keramat.

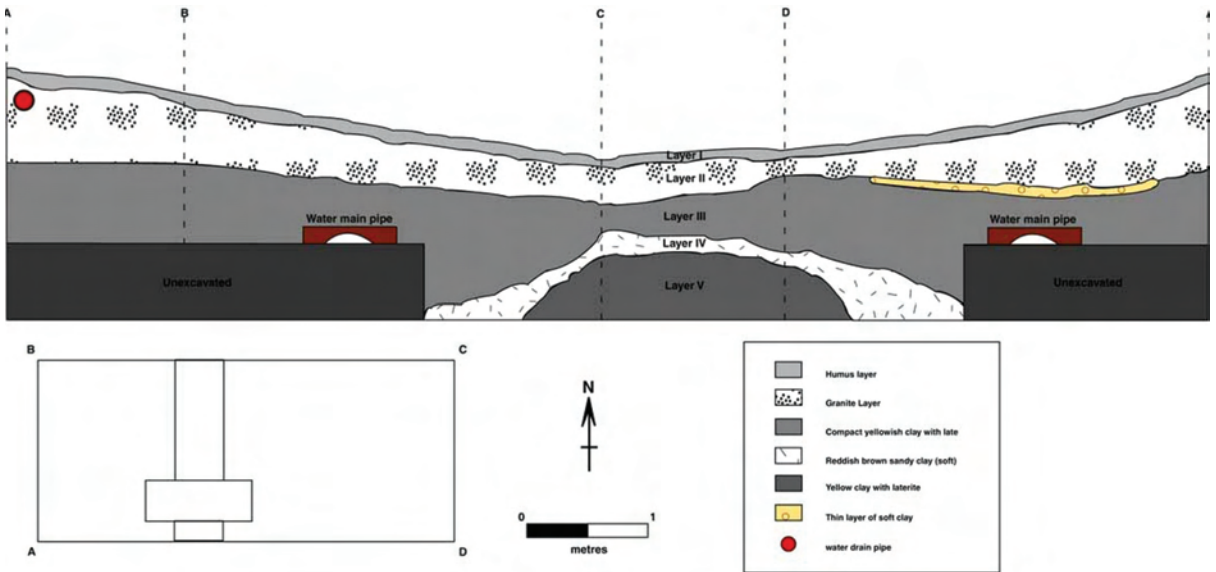
January is rainy in Singapore, and heavy rainfall forced excavation to be suspended for one to two hours each day. Squares VII and VIII, located at the



5.10 Excavation plan and profile, FTC square III



5.11 Profile of FTC square IV, North



5.12 K1 stratigraphic drawing, FTC

lowest part of the slope, had to be abandoned as they quickly collected water.

Square I quickly revealed an example of Fort Canning stratigraphy. It had been feared that the soil of Fort Canning had been so completely churned up by fort building, grave digging, and other recent construction activity that the soil would show no distinct layers. By the third day, it was obvious that the soil displayed ideal archaeological stratification: different layers of soil, each of different colour and texture, one lying atop the other. This indicated that the site had not been disturbed.

The top layer, which was about six centimetres thick, comprised grass, roots, and dark black humus. This layer contains recent artifacts: plastic, broken glass beer bottles, Singapore coins, etc. Beneath the roots was a layer of heavy red clay mixed with pebbles or mineral nodules. This layer was largely empty of artifacts. The next layer was quite different: a sandy loam, coloured yellowish-brown. This layer contains the same type of artifacts John Crawford found in 1822: sherds of pottery, Chinese and locally made; and coins of the Tang (618–906) and Song (960–1279) dynasties. This layer was intact, unmixed with soil from the upper two strata, and contained no identifiable items younger than 650 years. By a combination of luck and educated guessing, the first pit discovered a location that had not been disturbed since the time of Parameswara.

Excavations south of the Keramat yielded a very different picture. Excavation to a depth of two metres yielded no old remains. The entire mound had been created artificially in the recent past. After ten days, the bottom of this modern soil was still not reached.

The pit next to the reservoir eventually reached a depth of three metres. All that was found here was a thick layer of red clay streaked with white. Unfortunately, the pit had to be closed due to the expiry of the ten days allotted to the project just when excavation in this square reached approximately the depth where

the original soil surface was found in 1928. At a depth of 1.6 metres, a tobacco pipe made of white clay appeared, of the type used by Europeans in the early nineteenth century. Either the soil here had been dug up previously, or the pipe fell down a root hole into an older soil layer. No other artifacts were found with it.

Square V, near Square I, turned out to have similar soil layers. The fourteenth-century layer was darker in colour, indicating denser human occupation. Humans often stain soil with charcoal, decayed plants, and other material. The fourteenth-century layer of Square V was darker in colour and more densely packed with ancient artifacts than Square I. As a result, another pit was dug next to it.

After ten days, the team had to cease digging, but an important conclusion had been reached: Fort Canning Hill had indeed been occupied in the fourteenth century. The National Museum collected 1,346 sherds of ancient pottery weighing 14.51 kilograms from Sites I and IV. This was quite a large sample that confirmed that no disturbance or mixing with later material had taken place. If the soil had been disturbed at a recent date, recent artifacts would have inevitably become mixed up with the old ones. The fact that no modern artifacts were found among over a thousand sherds was excellent proof that the artifacts had been deposited where they were found in ancient times.

The pottery belonged to three different types: earthenware, stoneware, and porcelain. Almost all porcelain and stoneware was made in China during the Yuan dynasty. The only exceptions were two fragments of a covered box made in Thailand in the late fourteenth or early fifteenth century. Chinese porcelain and stoneware were most numerous, making up over 75 per cent of the total artifacts. Most of the earthenware was probably made in Singapore. The FTC earthenware resembles samples from fourteenth century sites in the Malay Peninsula and Sumatra.

Against the odds, the first archaeological research project in Singapore had succeeded in yielding meaningful data in the short span of ten days. Although the area excavated was small, and not all areas sampled yielded ancient remains, the area between the Keramat and the old European cemetery was clearly an undisturbed site which was far older than the first arrival of the British in Singapore, and older even than the famous port of Melaka. The inescapable conclusion was that Wolters' hypothesis of 1970 was not correct: the *Malay Annals* was not a pure fantasy, nor was it an attempt to falsify a period in history when the kingdom of Srivijaya in Palembang was subjugated by Malayu in Jambi. We will never know the names of the kings (or chiefs) of ancient Singapore, or why they abandoned the site, but now we know that they were not ghosts; they really existed, and Fort Canning was their home.

Further excavation was conducted on Fort Canning under the direction of A. Choo in June 1984 and January 1985. Two more pits were dug near the Keramat Iskandar Shah, and five were dug at the south end of the hill on the terrace above Hill Street. The report of those excavations (Choo 1986) is somewhat difficult to interpret. For instance, pit B2 is recorded as being 136.28 metres above sea level (Choo 1986: 27), much higher than the summit of Fort Canning Hill. Another



5.13 1987 ASEAN excavation, Cox Terrace

problem arises from the identification of a portion of a ruined brick wall as part of the earthen rampart which formed the Old Lines of Singapore (Choo 1986: 21). The photograph (Choo 1986: pl. III) clearly depicts a fragment of a nineteenth-century building made of bricks joined with thick layers of mortar, which did not exist in the fourteenth century. No early brick defences are known from any site in Sumatra or the Malay Peninsula, and Crawford's report clearly describes the rampart as made of earth. The structure shown is probably a remainder of a nineteenth-century building. The fragment was unearthed somewhere near St. Andrew's Cathedral, but the precise location is not reported.

The method of excavation used in June 1984 and January 1985 was rather unorthodox. Instead of excavating with trowels, large chunks of clay were removed and then broken by hand at the edge of the pit. This method, as the excavator notes (Choo 1986: 26), may have resulted in failure to recover all artifacts in the excavation. This method also precludes the documentation of artifacts in their original position in the soil. Common features such as root holes were not recognized as natural occurrences, and instead interpreted as "tunnels" (Choo 1986: 32). The list of artifacts discovered contains no stratigraphic data; it is impossible to determine which artifacts came from undisturbed soil layers (if any were encountered), and which were found in disturbed strata.

Three squares may have succeeded in locating fourteenth-century artifacts in their original position, although the lack of clear stratigraphic descriptions make it difficult to be sure of this; the supervisor of the excavations herself was doubtful on this point (Choo 1986: 63). These squares were located at the southwestern corner of the hill, above River Valley Road, at the edge of a very steep slope.

A total of 9,535 grams of ceramics was recovered in these two excavations. As in the excavation of January 1984, the ratio of Chinese ceramics to local earthen-

ware was approximately 3:1. Some of the sherds were identified as Khmer, but this is unlikely since very few Khmer sherds have ever been found outside Cambodia. One sherd identified as Cizhou (pl. XIX, p. 73) is probably from Quanzhou, Fujian (*see* Hughes-Stanton and Kerr n.d.: pl. 173, p. 34).

The next round of excavations took place in November 1987, sponsored by ASEAN as part of a series of archaeological workshops held in each member nation of the Association. In addition to excavations at FTC, the 1987 workshop included a survey of northwest Singapore and several offshore islands, including Kampung Maman, Ubin; St. John's Island; Pulau Semakau; and Kampung Permatang, Tekong Island. Only Kampung Permatang yielded indications of archaeological significance. Surface finds from an abandoned village included 16 earthenware sherds, 11 of which bore traces of traditional paddle-marked decoration, and British coins dated 1831/32 and 1845. Inspection of the top five centimetres of soil on 13 November 1987 yielded a sherd identified as of Sukhothai origin, thus probably dating from the fifteenth century (*Report of the Fourth Intra-ASEAN Archaeological and Conservation Workshop*, 1987: 36–54).

Five areas of Fort Canning were sampled in 1987. One pit was dug on the southwest side of the hill, above River Valley Road Swimming Pool. Another was excavated in the ASEAN Sculpture Garden, on the hill's northeast corner. A third was located on Cox Terrace, on the east side of the hill, between the road and the reservoir. The other two excavations were situated near the Keramat Iskandar Shah: one to the southeast, the other to the north.

The River Valley Road excavation bore out the assumption that very little was likely to be found on this very steep slope. Nothing but a few remains of nineteenth and twentieth-century life were recovered. The Sculpture Garden revealed an interesting find: a brick floor. According to nineteenth-century maps, a horse stable stood there. The floor was reburied. Perhaps someday it can be re-excavated in order to recover more information about life in colonial Singapore. A foundation of a brick wall was revealed on Cox Terrace (Fig. 5.13), along with fairly dense colonial period artifacts (fragments of brick, corroded metal, broken glass, and sherds of pottery).

Only the two squares near the Keramat yielded significant remains. The pit south of the Keramat revealed several large fragments of ancient bricks, in the context of a mixture of ancient and colonial artifacts, therefore useless for drawing any conclusions about the precise nature of that site. They may have come from any part of the hill.

Square K2, as it was temporarily denoted (K for Keramat), was located between the Keramat and the cemetery wall. Previous to the excavation, soil samples had been taken from various locations using a special auger. A soil sample taken from this location had revealed a stratigraphic sequence similar to that found in 1984 at the top of the slope, near the nineteenth-century cannon.

The first day of excavation at K2 revealed a foundation of a brick building just a few centimetres beneath the surface of the ground. This was rather discouraging, but since the foundation only covered part of the pit, a decision was taken



5.14 1988 excavation sponsored by Lee Foundation and the Department of Parks and Recreation (now the National Parks Board), which took the form of a long trench between the Keramat Iskandar Shah and the cemetery wall.

to excavate the rest of the square. Our persistence was rewarded when a dark greenish-brown sandy loam appeared beneath a layer of red clay with ferrous nodules similar to those found in previous excavations in the same area. This sandy loam was rich in fourteenth-century artifacts.

Despite the discovery of fourteenth-century artifacts in several pits, the archaeological potential of the area between the Keramat and the cemetery was still difficult to ascertain. Choo's excavations in the same area, her pit B4 in particular, (1986: 34) had yielded nothing of value. The brief excavation conducted as part of the ASEAN archaeological workshop suggested that this area contained more important artifacts from the Temasik period. Thus another excavation was planned for 1988, with more ambitious goals than previous Singapore archaeological explorations.

FORT CANNING (FTC), 1988

By 1988, various groups had become interested in the possibility that Singapore's ancient past was not a closed book, but a story which was only beginning to be told. The Southeast Asian Ceramic Society (SEACS), the Lee Foundation, and the Friends of the National Museum (FOM) were all interested in supporting archaeological research. With support from these groups, plus the Department of History, National University of Singapore, and the Parks and Recreation Department, permission was granted to me, and the Lee Foundation provided a grant to the Southeast Asian Ceramic Society to enable me to conduct a large-scale excavation.

I chose to dig a series of squares from the bottom to the top of the slope between the Keramat and the cemetery (Fig 5.14). This would give me a sample of the entire area between the two squares which had yielded the most data in 1984 and 1987. Volunteers including staff from the National Museum, the FOM, the SEACS, and NUS students, formed a sizable and highly motivated workforce. Together we excavated a trench 30 metres long and 2 metres wide, interrupted by a brick-surfaced pathway to the Keramat which crossed it at almost a right angle.

Lasting from 24 October to 18 November 1988, the excavation yielded important information. A large quantity of fourteenth-century artifacts was recovered.



5.15, 5.16 The same groups of volunteers took part in the 1988 excavation as in 1987, joined by students from Raffles Junior College.

A clearly defined fourteenth-century stratum appeared in both up and downhill segments of the trench. The central area (pit 3) was sterile. Instead of the fourteenth-century stratum, the red clay called layer 2 of the Fort Canning sequence lay directly on top of a layer of pale yellow clay, the natural subsoil of the hill, formed by the weathering of the sandstone bedrock. In other words, the central part of the slope has no evidence of human activity. This space might have formed a pathway to the shrine that stood on the keramat site in the fourteenth century.

No excavations were undertaken on Fort Canning in 1989. Archaeological attention that year shifted to another site (Duxton Hill, Tanjong Pagar; *see* chapter 12). The next major excavation at Fort Canning took place from 12 to 31 March 1990. The same groups of volunteers again took part, joined by students from Raffles Junior College (Figs. 5.15, 5.16).

By 1990, a true archaeological community had begun to develop in Singapore. Public interest had been aroused, and educational institutions were becoming aware of the possibilities for direct student involvement in research. Since that time, more individuals and groups have become involved in Singapore archaeology. Even though no official archaeological organization exists, both public institutions and private individuals have supported a regular programme of activities ever since. Singapore archaeology has become a community activity to which many segments of society have contributed. No other city in Southeast Asia, and few in the world, can show a record of such active grassroots involvement in urban archaeology.

Two other areas of Fort Canning Hill have demonstrated archaeological poten-

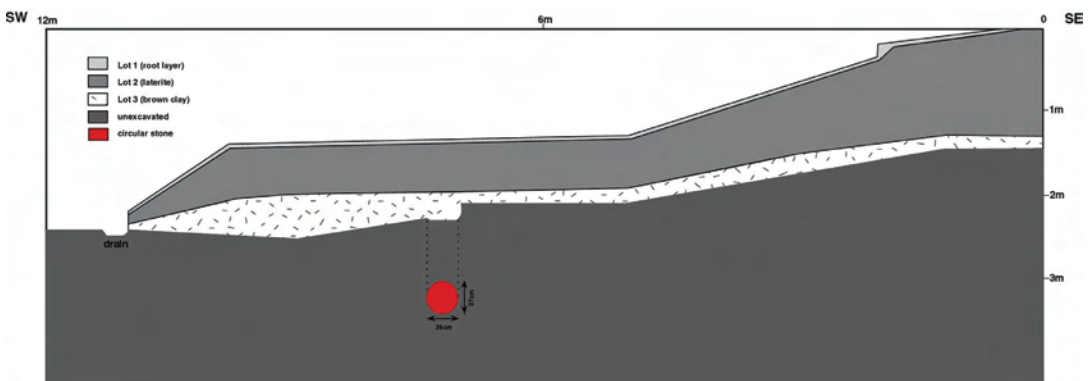


5.17 Construction of the Percival Steps revealed a layer of fourteenth-century artifacts buried beneath the nineteenth-century fortification wall of Fort Canning.

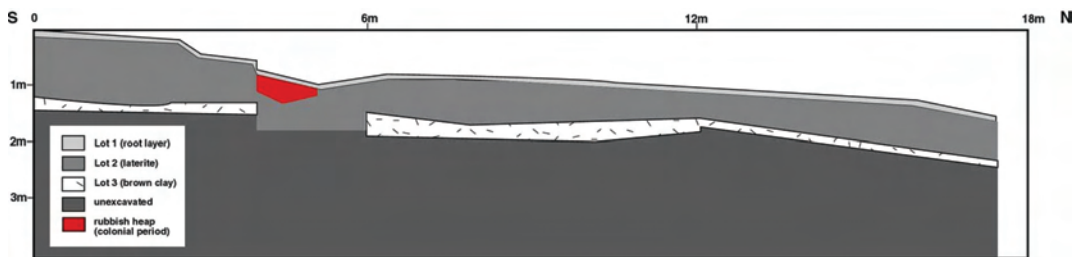
tial. One of these was discovered when a staircase (“Percival Steps”) (Fig. 5.17) was built on the north end of the hill, from the road behind the former Singapore Command and Staff College (now the Hotel Fort Canning) to the hilltop. This staircase lies beside the remains of the fort wall built of granite in 1860 which ran completely around the hill before most of it was demolished in the 1920s, except for a section between the fort’s main gateway and this staircase. The staircase construction revealed a lens of dark brown soil beneath the fort wall. Mr. Shah Alam bin Mohd Zaini, then research assistant at Fort Canning, and the present author cleared this profile on 12 October 1992, and confirmed that the wall lies on top of a layer containing fourteenth-century artifacts.

The other area where fourteenth-century artifacts have been found in situ lies on the opposite side of the hill. When the former Fire Director’s Residence behind the Hill Street Fire Station (Fig 5.20) was remodelled for the Singapore Nature Society in 1994, a road was cut into the hill slope (Fig. 5.21). This excavation revealed a long thin layer of fourteenth-century soil and artifacts. A small portion of this was systematically excavated by Dr. Goh Geok Yian, then an undergraduate in the Southeast Asian Studies Programme, National University of Singapore, as of 2013 an assistant professor at Nanyang Technological University. Approximately 700 sherds of the fourteenth century were recovered, including some large fragments of Chinese porcelain.

From time to time landslides have occurred on the west slope of Fort Canning, the steepest part of the hill. After a particularly heavy rainstorm in 1995, a large



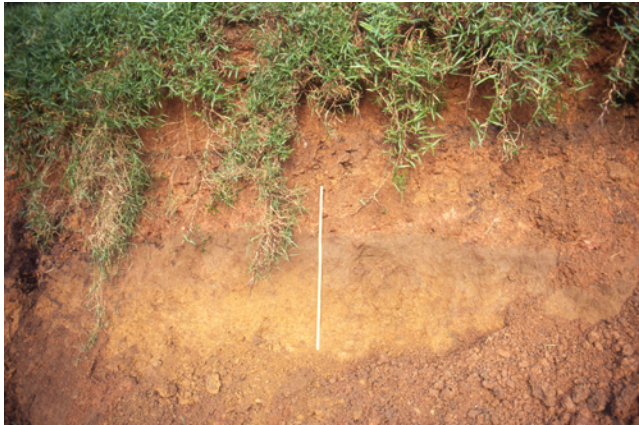
5.18 East-West Trench, FTC, 1990



5.19 North-South Trench, FTC, 1990



5.20 The Fire Director's Residence behind the Hill Street Fire Station during renovation



5.21 A fourteenth-century soil layer revealed by bulldozer on the slope of Fort Canning next to the old Fire Director's Residence (now occupied by a restaurant). The fourteenth-century layer appears as a black line about 15 centimetres thick, beneath the red upper layer.

landslip occurred, almost as if the Forbidden Spring were stirring after 150 years of hibernation. The old River Valley Road public swimming pool was damaged when much of this soil washed into it. These landslides (Fig. 5.22) sometimes expose isolated artifacts of the fourteenth century. Others have been recovered occasionally in the course of construction projects on the hill.

The Keramat archaeological site is protected by its status as part of Fort Canning Park. The protection afforded by this status made it possible to implement a very laborious but precise system of excavation and recording. Normally,



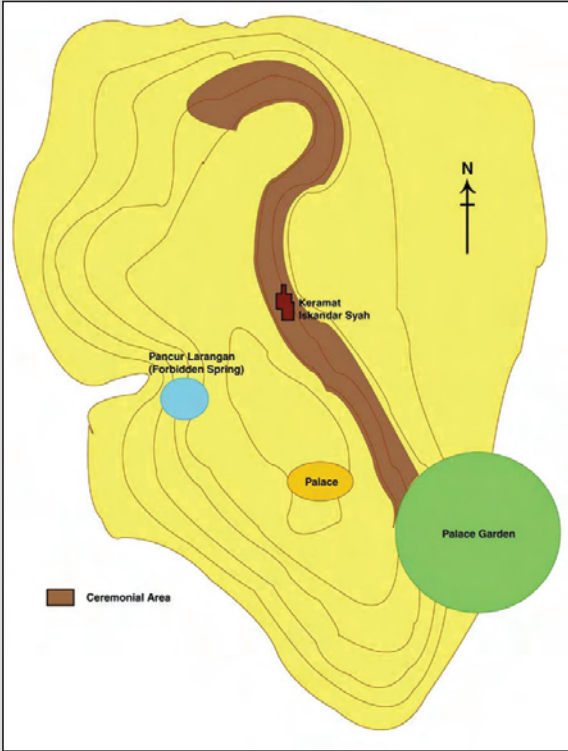
5.22 Landslide on River Valley Road slope of Fort Canning

excavators of historic sites record the stratigraphic position of artifacts according to their location in natural layers of soil; if the natural layer (a “lot”) is more than 10 centimetres thick, then artificial layers of 10 centimetre thickness (“spits”) are recorded. Horizontally, units measuring several square meters are the norm. Thus, it is usually possible to specify the original location of a particular artifact with a precise of 10 centimetres vertically, and several metres horizontally.

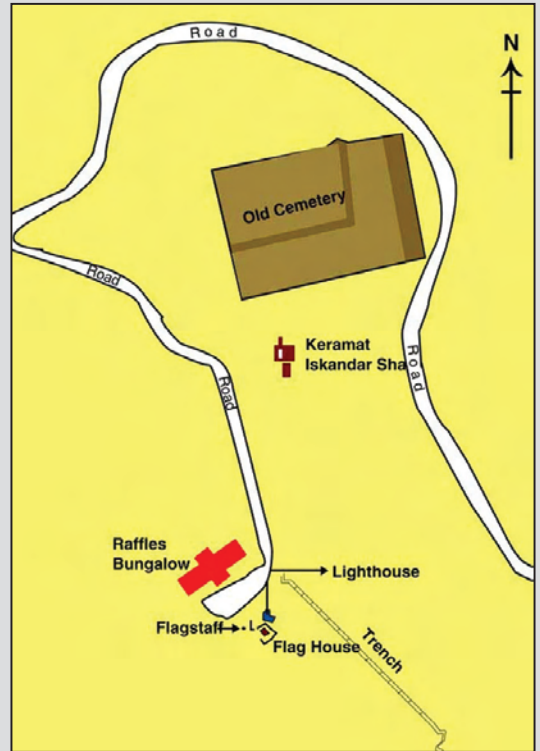
At Fort Canning, a more elaborate method of three-dimensional plotting has been employed: the location of each artifact is measured to the nearest centimetre both vertically and horizontally. This procedure is very time-consuming, but it generates a huge volume of data which can be used to answer very precise questions regarding site formation, stratigraphic relationships, site chronology, soil disturbance, and other problems. This method is normally used on prehistoric sites where artifacts number in the hundreds, but rarely in historic-period sites. At Fort Canning almost 30,000 artifacts have been individually recorded, numbered, and their location entered into a database which constitutes a unique resource for the study of early urban archaeology in Southeast Asia.

Fort Canning’s archaeological potential is far from exhausted. Only about 10 per cent of the area between the Keramat and the cemetery has been excavated, the Fire Director’s Residence and the fort wall have only been subject to preliminary exploration, and pockets of ancient remains may well lie undisturbed on other parts of the hill. Periodic excavations still take place on Fort Canning (now under the supervision and with the generous assistance of the National Parks Board). Since there is no pressure, no site on the hill has been completely excavated. This is meant to preserve as much of the site as possible for future generations of archaeologists who will be equipped with new techniques and theoretical insights.

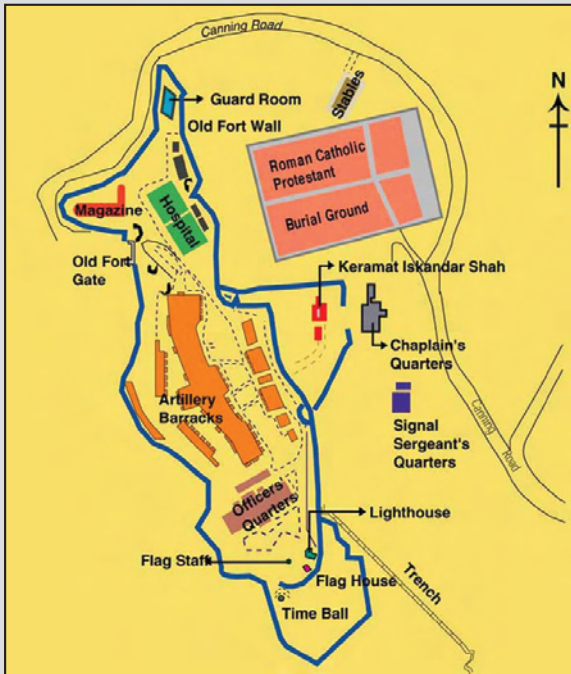
The five phases of history on Fort Canning



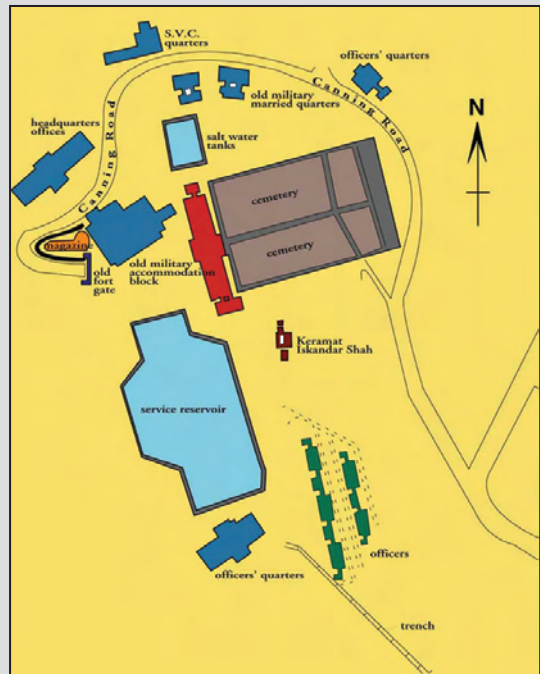
5.23 Fort Canning Hill, fourteenth-century phase



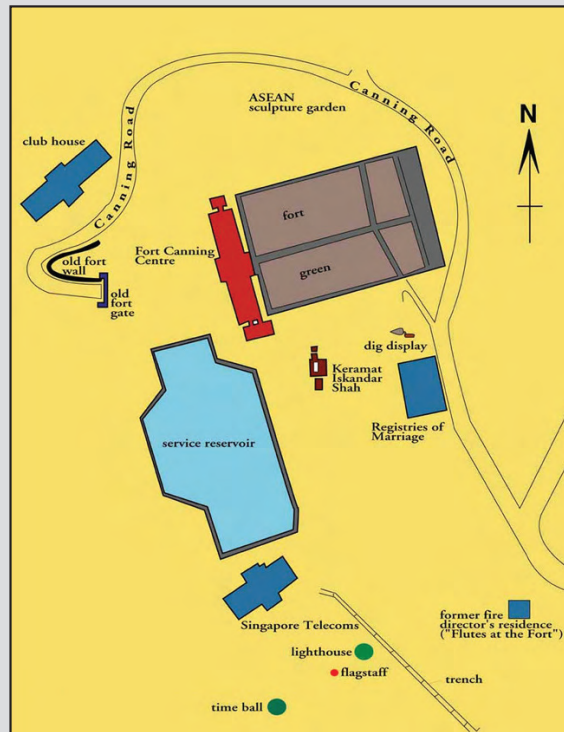
5.24 Government Hill phase, 1820-1860



5.25 Fort Canning Artillery Fort phase, 1860-1925



5.26 Fort Canning Underground Command Centre, Far East Command phase, 1925-1942



5.27 Fort Canning Park phase, 2000

A quarter-century of archaeological research has shown that there are at least five phases in the history of the hill now known as Fort Canning (Figs. 5.23–5.27). After 12 excavations, there are still several areas with great potential to yield more data about its ancient past. The major achievement of archaeological research on Fort Canning Hill has been to show that the hill was important, even unique among palace sites of ancient Southeast Asia. Fort Canning not only tells us about life in early Singapore; it sheds light on aspects of early life in the whole region of Southeast Asia that no other form of research can illuminate.

The construction and destruction of the nineteenth and twentieth centuries obliterated large portions of Fort Canning's archaeological record, but a few areas were spared. The brick foundation found in K2 north of the Keramat turned out to be the foundation of a house inhabited by families of men who maintained the lighthouse built at the south end of Fort Canning Hill in 1902 (it replaced a simple lantern that hung from the flagstaff since 1855). Like all early brick foundations in Singapore, it was built by digging a trench about 30 to 40 centimetres deep, which was partly filled by a layer of concrete. This provided a solid footing for the brick wall on top of it. This construction technique did not disturb archaeological remains at a deeper level; in fact, the house preserved everything buried under it as long as it stood, just as the fort wall protected the fourteenth-century stratum beneath it.

Future scholars will have plenty of opportunities to add new chapters to the gradually unfolding story of the archaeology of the Forbidden Hill.

EXCAVATIONS ALONG THE SINGAPORE RIVER

Parliament House Complex (PHC)

Discoveries that accidentally came to light in the process of construction work proved that the existence of fourteenth-century remains at other sites besides Fort Canning was more than a theoretical possibility. In 1989 Mr. Sidik of Singapore's old Parliament House informed the Singapore History Museum (SHM, now the National Museum) that ceramics had been discovered during excavations for a modernization project beneath the building. The old Parliament House (now called The Arts House) was built in 1826–1827 and is Singapore's oldest surviving building; it stands on the bank of the Singapore River next to the Victoria Concert Hall. Like other structures of its time, it had shallow foundations which protected deposits beneath it. Emergency excavation by museum staff succeeded in recovering 1,457 potsherds, including earthenware (338 sherds), stoneware (including “mercury jars”, 758 sherds), green porcelain (311 sherds), and five coins, two of which could be dated to AD 990 (National Museum Singapore 1990).

At approximately the same time, the Empress Place Building, near the mouth of the Singapore River, was converted into a space for a series of five exhibitions on ancient China. Renovation work included excavations for water and power lines between the building and Victoria Theatre. Inspection of these trenches showed that an intact fourteenth-century stratum still existed there. Finds included earthenware, stoneware, porcelain, and coins, one bearing the inscription *Shào Shèng*; this is the name of a reign which lasted from 1086 to 1100, but this script was only developed in 1094, so the coin could not be older than that.

In the early 1990s, land between High Street and the Singapore River south-east of North Bridge Road was occupied by a car park, which was useful for concert-goers at Victoria Concert Hall, and a hawker centre. In early 1994 the hawker centre was demolished, the car park closed, and the entire area hidden behind a hoarding. Inquiries revealed that this area was slated to become a new Parliament House Complex. From an archaeological point of view, the future PHC was prime real estate. If Fort Canning had been the ancient ceremonial centre of the isle, the holy mountain of Temasik, the riverbank would have been the area where the bulk of the population lived and everyday activities such as manufacturing and trade were conducted. In 1819 the area on the right bank of the river was a swamp. Soil from a small hill which stood handily nearby was used to reclaim this area, and by 1825 it was called Kampong China (“Chinatown” in Malay). It is unlikely that anyone lived in the swamp in ancient times; excavations there have revealed only nineteenth-century remains.

Shallow excavations at PHC had already been undertaken by the Public Works Department contractors. These pits, about 1.5 metres deep, promised the chance of finding undisturbed ancient layers. The Secretary of Parliament kindly gave us consent for a test excavation. The spot chosen was located near the corner of



5.28 Parliament House Complex excavation, sheltered by blue and white striped sheets. This picture was taken from the corner of North Bridge Road and High Street, looking toward the Singapore River.



5.29 Backhoe clearing topsoil from the fourteenth-century layer at Parliament House Complex. The layer of black sand containing fourteenth-century remains is just beginning to appear.

High Street and North Bridge Road, furthest away from the area where construction vehicles were entering and leaving the site, near the old Supreme Court building (Fig. 5.28).

Financial support from the the Museum made it possible to hire a backhoe. This was the only practical means of quickly discovering whether or not archaeological deposits existed on the site. Thus in November 1994 a few volunteers (led by Shah Alam and Kristina Gardin) and I watched as the mechanical bucket of the small excavator scraped away the topsoil (Fig. 5. 29).

At first the results were negative. At a depth of one metre, only rubble from nineteenth-century buildings had appeared. Safety considerations limited excavation to a depth of 1.5 metres; deeper holes would create danger from cave-ins. Then the digger took a deeper bite, and a new soil type and colour appeared: black sand (Fig 5.30). Since this was unfamiliar ground, at first the implication of this was unclear. After the digger had exposed a small area of this soil, a few pieces of pottery appeared. These were earthenwares; they were not datable, but were a good omen. The digger then carefully excavated a larger pit, and revealed more black sand. A few moments of trowelling revealed fragments of Chinese stoneware, possibly premodern. Then finally a sherd of green porcelain appeared, clearly identifiable as Yuan Dynasty, of the same type as found on Fort Canning.

The excavator enlarged the pit further, and more black sand and sherds appeared. As excavation continued, some lighter clay intruded into the black sand. Was this tantalizing fragment of possible fourteenth-century life going to be the exception, a small portion of a site in the midst of a big disturbed area? The excavator then dug into the opposite side of the pit, toward North Bridge Road and away from the disturbance. After a few minutes of suspense the surface of a satisfying carpet of black sand reappeared.

By the end of the day, the excavator had opened up a trench large enough for a group of people to work in. It was now possible to call in volunteers. My initial response was mainly one of relief: the SHM's money had not been wasted on a wild goose chase. The next emotion was cautious optimism that it might be possible to obtain detailed information from an area of Singapore where no remains had ever been reported by early explorers such as John Crawfurd. In addition to the palace and temple complex on Fort Canning, the prospect of viewing the lives of commoners, the majority of the population, was now in sight.

I decided to dig a longer trench parallel to North Bridge Road, starting near the corner of North Bridge and High Street and stretching toward the Singapore River. About 50 metres from the riverbank, a large pit full of wooden planks and other remains of nineteenth-century buildings appeared. Early maps showed that a road called North Boat Quay once ran from the spot where North Bridge Road crosses the river downstream to the area where Empress Place and Victoria Theatre were later built. It seemed likely that further excavation in this direction would be fruitless, so the trench was terminated at this point.

Three months were spent excavating PHC (November 1994 to January 1995). The trench revealed dense fourteenth-century remains, many of them new types (Fig. 5.31). The university vacation of two months was taken up with this work.



5.30 Stratigraphic layers at PHC. The black sand layer containing fourteenth-century artifacts is overlain by yellow sandy clay.



5.31 A dense concentration of fourteenth-century artifacts at PHC

By the end of January the teaching term at NUS resumed, and many volunteers disappeared into their classrooms. The project had to come to a halt at this point.

The excavation was carried out in difficult conditions. The sandy walls of the trenches continually threatened to collapse in almost-daily downpours. Thunderous storms and lashing winds frequently drenched volunteers working under the minimal shelter provided by plastic sheets supported by bamboo poles. Conditions were little better when the rain stopped and the sun shone. In airless trenches, temperatures reached 40 degree Celcius; energy was difficult to muster.

At PHC, unlike Fort Canning, it was necessary to work quickly since time was limited. Artifacts were recorded vertically according to their location in 10-centimetre-thick layers of soil (termed artificial levels in archaeology since they do not correspond to soil stratigraphy), and horizontally within squares averaging 4 metres on a side. This method is not as exacting as that used at Fort Canning, but it conforms to normal standards for urban sites. By the end of the project, the excavation trench was nearly 50 metres long and 6 metres wide. The black sand layer in the trench was approximately 50 centimetres thick. Chinese porcelain dates the bottom of the black sand to the end of the thirteenth century, and the top to the fifteenth century. PHC was probably inhabited a few years before Fort Canning Hill, and continued to be inhabited for some time after the hill was abandoned. The density of artifacts and the thickness of the ancient stratum at PHC are nearly as great as those of the densest areas on Fort Canning.

The PHC excavation added a new perspective to our knowledge of ancient



5.32 Omar Chen and Mike Flecker viewing the EMP construction site, January 1998. A thick black sand layer seemed to offer good potential, but archaeologists were not permitted to enter the pit to take samples of the soil or artifacts due to safety considerations.



5.33 Fourteenth-century artifacts found in 1990 during construction work near EMP indicated that the site had archaeological potential. It would be eight years before exploration could take place there.

Singapore. It demonstrated that the riverbank had been densely inhabited, and that this habitation area had extended at least as far from the river as High Street—a whole city block.

Empress Place (EMP)

In 1998, another riverbank site became available. It was decided that the new wing of the Asian Civilizations Museum (ACM) would be located at the Empress Place Building (EPB). Dr. Kenson Kwok, director of the ACM, and sympathetic Public Works Department officials in charge of the project, provided assistance for test excavations near the building. Since the ground between EPB and Victoria Concert Hall had been disturbed by redevelopment earlier in the decade, we chose the opposite side, between the EPB and the Singapore River, for the research project.

Excavations in January 1998 were made by a mechanical digger (Fig. 5.32). The ground was covered by a thick layer of concrete, making the initial phase more time-consuming. A deep trench revealed a thin layer of black sand containing fourteenth-century artifacts (Fig. 5.33). This area however presented several problems: the layer of concrete overlying the site, the considerable depth of the fourteenth-century layer, and the rather thin layer of remains.

Construction work further downstream revealed more promising signs (Figs. 5.34–5.36). Near some large trees where a hawker centre had previously stood, a deep pit revealed a thick layer of black sand, which resembled the fruitful layer at PHC. Archaeologists were not allowed to go near it because of the danger of a cave-in.

In April 1998 another excavator was borrowed to explore the area beneath the old hawker centre (Fig. 5.37). The black sand layer was found to extend to this point. Backing from the ACM made it possible to excavate a pit 45 metres long, 10 metres wide and 1.5 metres deep. The width of the pit made it possible to work far enough away from the excavation walls so that we would be safe from any possible soil collapse. April 1998 coincided with an *El Niño* weather pattern. For a month, volunteers excavated happily in the midst of a vast expanse of sand, with no threat of rain to disturb the work. Stratigraphy at EMP was the most complex of any Singapore site yet investigated. Fortunately, the large horizontal area and dry (although very hot) weather made it possible to discern many soil features.

In the 1820s, the site had been covered with soil in order to level it, and the stone retaining wall which still exists was built along the riverside. This deposition buried an early nineteenth-century occupation, and no more artifacts were deposited there. In the precolonial period the ground here sloped toward the river, and the western or lower edge of the site was frequently submerged by the river. In 1998, ground water rose through the sandy floor of the excavation at high tide, so that excavation could only be conducted at low tide.

The west edge of the excavation was a dense matrix of driftwood, shells, metal, and other detritus—typical deposits formed at the edge of a slow-moving river. Remains of wooden pillars were preserved, some still standing exactly as they had when they were buried. These could have been pillars for stilt houses, wooden



5.34 Skyscrapers loom over the test trench



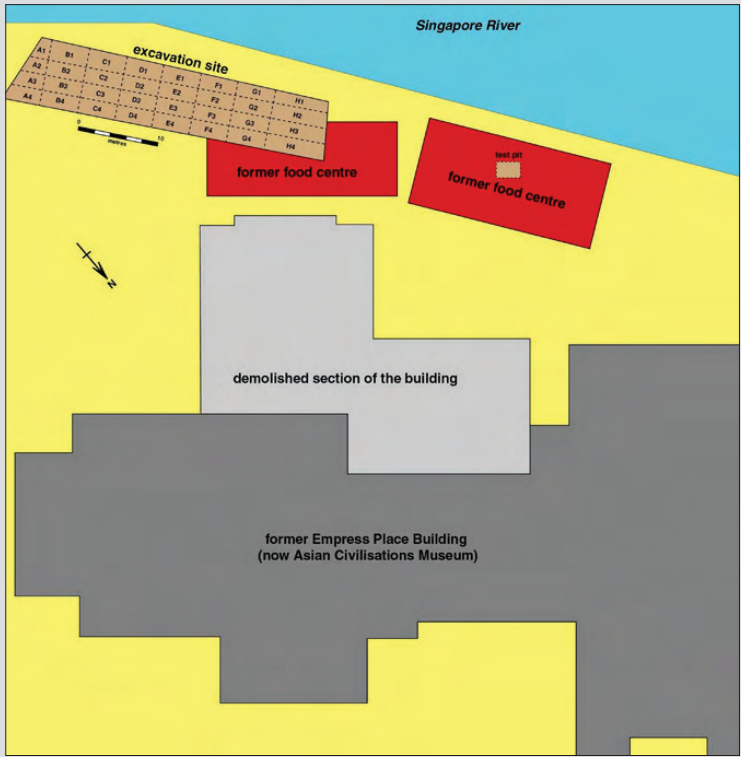
5.35 Omar Chen and Kyle Latinis in the first test trench, January 1998



5.36 Location of first test pits, January 1998



5.37 Demolition of the nineteenth-century treasury at Empress Place, beneath the former hawker centre



5.38 EMP site plan



5.39 This EMP feature was dubbed by Dr. Kyle Latinis as GOK, which stands for “God Only Knows” because of its unique nature: a square hole lined with wooden planks. Its function and age are unknown.



5.40 EMP Excavation square F4S1. The stratigraphy was similar to Parliament House Complex. An undisturbed layer of sand blackened by ancient human activity lay beneath 1.5 metres of soil deposited in the last 200 years.

piers, or tethering boats.

Beneath this early nineteenth century stratum are older layers. In the north-east sector, which constituted the upstream end of the site higher above the river, a dense concentration of fourteenth-century artifacts was found. In the middle of the excavation, this layer was less visible. Near the downstream end of the site, near the river mouth, two interesting features appeared. One was a square structure consisting of wooden planks forming a box more than a meter square (Fig 5.39). This could have been a well of some sort, but this is only one possibility. This was probably a nineteenth-century structure, but no radiocarbon tests have yet been conducted to verify this.

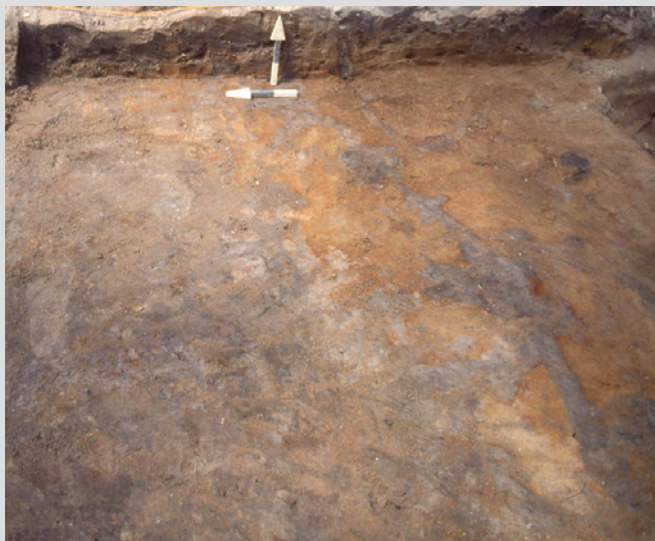
The other feature was an ancient sand bank. This consisted of a layer containing fourteenth-century artifacts which sloped up further and further toward the southeast corner of the pit. Geomorphologically, this would be consistent with the kind of sandbar that often forms near river mouths where the current meets the opposing power of the waves and drops the sediment borne by the river. People on this higher ground discarded many artifacts over the inner surface of this bank.

Another unique feature of EMP stratigraphy was a layer of orange sand mottled with many small circles of lighter sand (Fig. 5.42). The orange probably represents the original sediment; the lighter circles probably mark root holes created by plants such as mangroves and other brackish-water-tolerant vegetation.

In mid-May, El Niño conditions were replaced by frequent heavy rainstorms. Stratigraphy was no longer discernible. The excavation frequently became a lake



5.41 Volunteers at work at EMP. Excavation in the centre of the pit began to reveal black fourteenth-century deposits beneath light-coloured nineteenth-century fill.



5.42 Unusual soil colours formed by vegetation and sedimentation along the bank of the Singapore River during the past 700 years. The orange colour at left is sand mixed with iron oxide; the black area at right is silt containing much organic material.



5.43 One of the floods that struck in June 1998, significantly setting back research at EMP



5.44 EMP square f4, spit 3. Remains of wooden pillars preserved in the waterlogged soil of EMP. Some probably served for tethering boats, others for platforms at the water's edge.

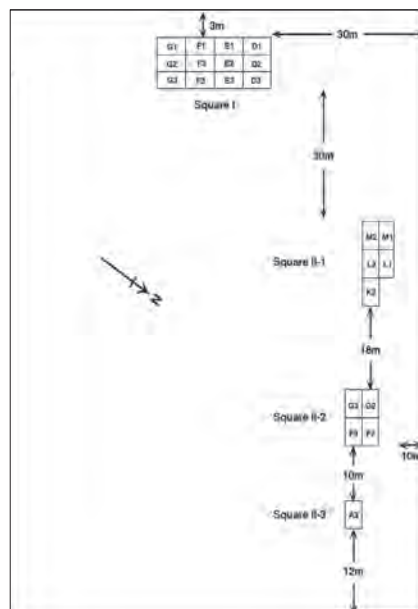
which had to be pumped out for an hour in the morning before work could begin (Fig. 5.43). The shelter constructed over the site began to sag dangerously, and the steel beams that supported the canvas covering protecting diggers from rain and sun collapsed several times. As a result, the volunteers were disbanded, and the rest of the excavation was conducted by me, my family, and a few special volunteers who accepted the danger of being hit by a falling steel beam.

EMP yielded new lessons about the lives of ancient Singaporeans. In the fourteenth century, riverbank dwellers discarded all types of rubbish in the mud and water. Many new types of artifacts of the precolonial and early colonial periods were recovered. We found provided solid evidence that Singapore had not been abandoned after the founding of Melaka in 1400. Although the city may have shrunk considerably from its fourteenth-century size to a small settlement clustered at the mouth of the Singapore River, it survived for another 200 years.

Colombo Court (CCT)

In 2000, a construction site across High Street from PHC provided another opportunity for rescue archaeology. A quick test trench excavated on 18 July with a large mechanical digger, provided by the contractor and the Public Works Department, indicated the existence of the same black sand layer we found at PHC. Much of the site had already been excavated for an underground structure that formed part of the previous building, but archaeological probing was possible in two areas. One of these, square I, was a trench 20 metres long and 6 metres wide, parallel to High Street; the other was 30 metres by 6 metres parallel to North Bridge Road.

Conditions were less than optimal for excavation. The major work at the site took place in November and December 2000, so the pits often were inundated by rainwater. The construction site was active, so work could only take place during lulls in the contractor's schedule. Despite these obstacles, the site produced evidence that this area had been inhabited in the fourteenth century.



5.45 Colombo Court (CCT) site plan



5.46 CCT strata in square 2(2). Recent construction had seriously disturbed the site, but pockets of undisturbed fourteenth-century remains still existed.



5.47 7 December 2000 excavation: site supervisor/archaeologist Ng Ching Huei of the National Museum of Singapore with Kyle Latinis

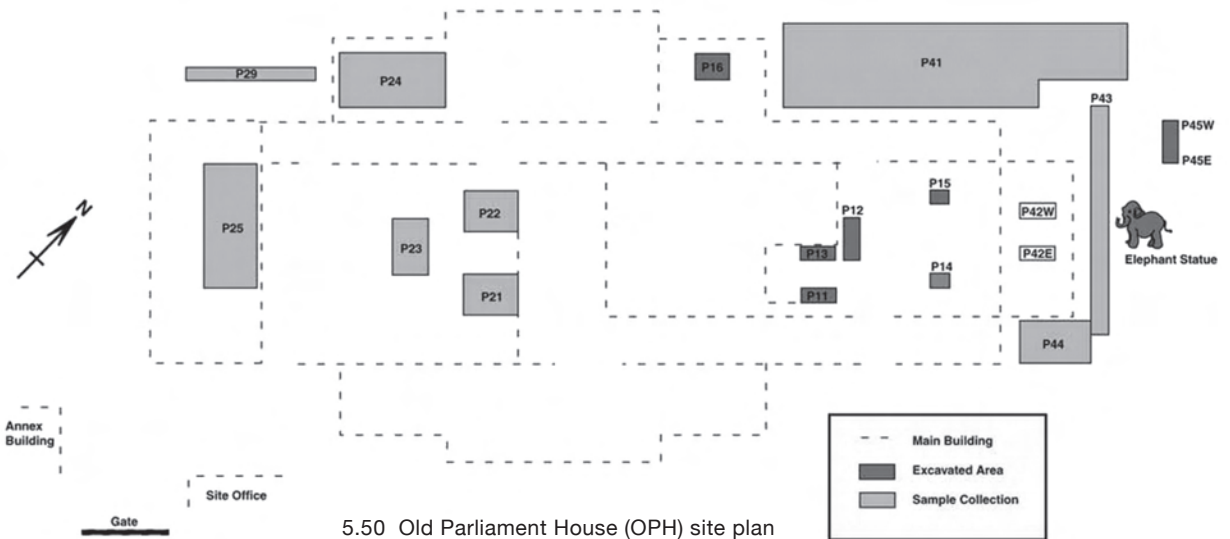


5.48, 5.49 Backhoe operations confirming the presence of fourteenth-century artifacts at CCT

Old Parliament House (OPH)

In 2002 more hoardings went up, this time beside the Old Parliament Building between Empress Place and the new Parliament House Complex on the north bank of the Singapore River. Part of this building was the house of a British trader, John Argyle Maxwell, built in 1826–1827. It was enlarged in 1839, bought by the government in 1843, and expanded again in 1847 to serve as government offices and a courthouse, where proceedings were sometimes interrupted by noise from Hallpike’s Shipyard next door (Hooi 1978: 10).

In November 1989, when the building was still Singapore’s Parliament House, renovation work revealed fourteenth-century artifacts beneath the building’s floor.



5.50 Old Parliament House (OPH) site plan



5.51 Excavations in progress inside OPH

(National Museum Singapore 1990). Soon after renovation work commenced, workmen discovered four intact fourteenth-century Chinese stoneware jars of a distinctive and common type, known for convenience as “mercury jars”.

Unfortunately, little systematic excavation could be conducted at the site. There were few gaps in the contractors’ schedule of renovation work when archaeologists could slip in. Excavation was limited to a few of the rooms once the thick concrete floors had been removed, and a brief excavation took place in the garden on the north side of the road near the elephant statue erected in honour of King Chulalongkorn’s nineteenth-century visit. Most finds were collected by construction labourers. Mr. Ng Ching Hwei of the SHM visited the site on a weekly basis and persuaded some workers to put aside artifacts which they found.

We will never know how much material was found at OPH. The objects surrendered to the National Museum indicate that the building stood on a particularly important spot. A total of 11 intact mercury jars were discovered. Since they were not found in the course of systematic excavations, we will never know why they were discarded when they were still unbroken. They may have been intentionally buried as part of a ritual.

Stratigraphy at OPH resembles that of PHC. A black sand layer at a variable depth between 75 and 120 centimetres below present ground level lies on top of the same beautiful white sand found elsewhere in the Singapore Plain which stretches northeast along the former coastline as far as Kampung Gelam.

Singapore Cricket Club (SCC)

For years, the archaeological community in Singapore hungrily eyed one of the greatest prizes in the study of ancient Singapore: the Padang. This great grassy expanse lies within the boundaries of the site described by Wang Dayuan and John Crawfurd. It constitutes a large proportion of the ancient city’s shoreline. A few sherds were found on the surface of the Padang in 1990, when a trench was dug across the Padang in a straight line from Coleman Street. This strengthened the conviction that someday the Padang would be integrated into the overall picture of Singapore archaeology. In 2003, through the assistance of Prof. Brian Farrell of the Department of History, National University of Singapore, the Singapore Cricket Club authorities, principally Mr. Mark James and Mr. Ray Parry, allowed an archaeological incision to be made into the near-sacred skin of the beautifully-maintained playing fields where generations of sportsmen and sportswomen have cavorted. This emerald jewel was scarred by trenches and gun emplacements during World War II, and a system of drainage pipes which was laid beneath it in recent times, but it seemed still reasonable to hope to hit upon a section which had not been dug into in the past two hundred years.

In April 2003, a site was selected outside the cricket pitch, near the hedge of the bowling green, and 22.5 metres from St. Andrew’s Road (Figure 5.52). Excavation was scheduled to begin at 9 a.m. on 16 April, 2003, but heavy rain began at 8 a.m. and only tapered off at 9:30 a.m. The top layer consisted of mottled orange clay of a type which groundskeepers in Singapore use to raise the surfaces



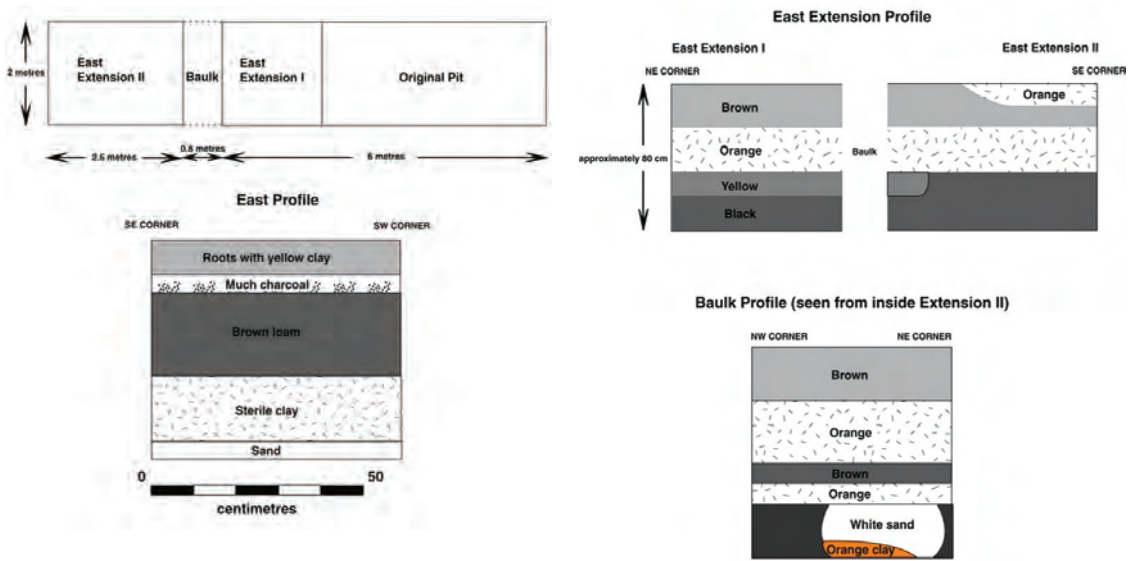
5.52 Site view, SCC

of playing fields. This changed gradually to darker brown loam in which artifacts were few, and consisted of the normal recent materials: fragments of floor tiles, Qing Dynasty blue and white porcelain, and green bottle glass, with some charcoal in the centre of the excavation (which at first measured 5 by 2 metres).

Removing the top 50 centimetres took more than one day. Excavation had to proceed slowly, since it was important not to miss any subtle clues that the soil features of this new area might provide. A brown loam appeared between 12 and 30 centimetres, similar in consistency to the artifact-bearing layer of Fort Canning. This was odd, because the soil of the Padang should have been sandy. This layer contained some fourteenth-century artifacts. This may have been redeposited soil brought from Fort Canning.

The next day, at a depth of 50 centimetres in the east end of the pit, black sand appeared. This is much more likely to have been the natural soil of the site. Fourteenth-century artifacts began to appear: a fragment of a dark red glass bangle with yellow stripes, a bead made of a kind of stone, carnelian, and a fragment of a Chinese coin of the late Northern Song Dynasty. The black layer proved to be more than ten centimetres thick, so it was divided into spits each 10 centimetres thick. Fourteenth-century remains became denser in the second spit of black sand.

On the third day of the excavation a find of more than ordinary significance appeared. This was a Chinese coin, intact, but like the fragmentary example found the previous day, it was bent as if distorted by heat. The layer of black sand proved to be quite thick. At a depth of 70–80 centimetres were such rare items



5.53 SCC site plan and stratigraphy. SCC stratigraphy was very well-preserved: it consisted of horizontal layers of soil, with sharply defined boundaries, showing no sign of recent disturbance.

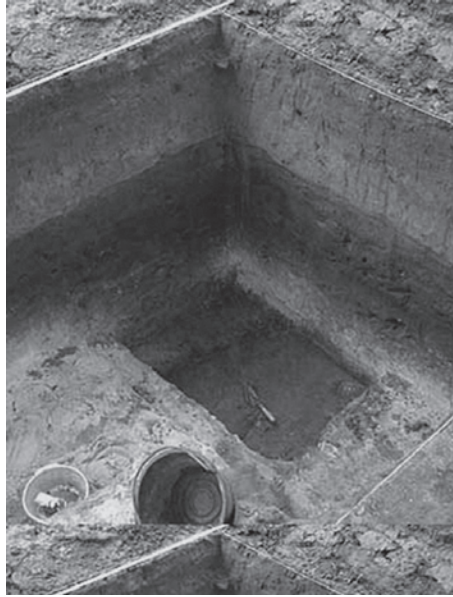


5.54 SCC square 1. The white sand at the bottom was beautifully unspoiled, reminiscent of the description of the Temasik beach in the *Malay Annals*.

as lids of porcelain jars (*celadon* and *qingbai*), and pieces of a moulded white box.

Excavation continued for two weeks. The artifact assemblage included several types of items not previously found in Singapore, and some which seem to be unique (these will be detailed in the various chapters dealing with categories of artifacts). The site was extended until the water table was reached at a depth of 164 centimeters. Artifacts became rare after 1.5 meters, and the lowest spit was completely sterile.

Excavation continued until 2 May 2003, by which time two extensions of the original pit had been excavated on the side toward the sea, forming a trench from the St. Andrew’s Road area toward the Esplanade. The stratigraphy of the site was quite straightforward: it consisted of horizontal layers, with no traces of



5.55 A feature in one corner of SCC 1 indicated that a pit had been dug at this spot in ancient times. No special artifacts were found here.

earlier buildings or other disturbances (Figs. 5.53–5.55). Artifacts were of a wide variety and considerable density. This confirmed the suspicion that the Padang is an enormous archaeological site. The new types of artifacts found there indicate that future excavations have a high probability of yielding hitherto unexpected information about ancient Singapore.

St. Andrew's Cathedral (STA)

Before the SCC dig took place, I was informed by Prof. Albert Lau, another colleague in the Department of History at NUS, that construction was planned for the site of St. Andrew's Cathedral, a national monument. Through his assistance, I made contact with The Very Rev. Dr. John Tay Sin Hock, Vicar of the Diocese of Singapore, St. Andrew's Cathedral. A committee consisting of NUS and SHM staff initiated discussions with the Cathedral's board, and informed the Preservation of Monuments Board of Singapore of the plans for a possible archaeological excavation.

Since the construction project was not imminent, it was possible to implement a systematic five-stage research project at the Cathedral. This began with (1) a review of existing documents such as old building plans and historical records, and liaison with such governmental bodies as the LTA, URA, and PWD; (2) surface survey; (3) auger testing; (4) test pits; and (5) full-scale excavation. Surface survey took place in March 2003, and formed the basis for detailed plans for the next phase. Survey and augering (soil coring) were intended to provide guidance on the locations which seemed to hold the greatest potential for yielding in situ



5.56 Site view, STA. Laying out the first test excavation.

precolonial artifacts.

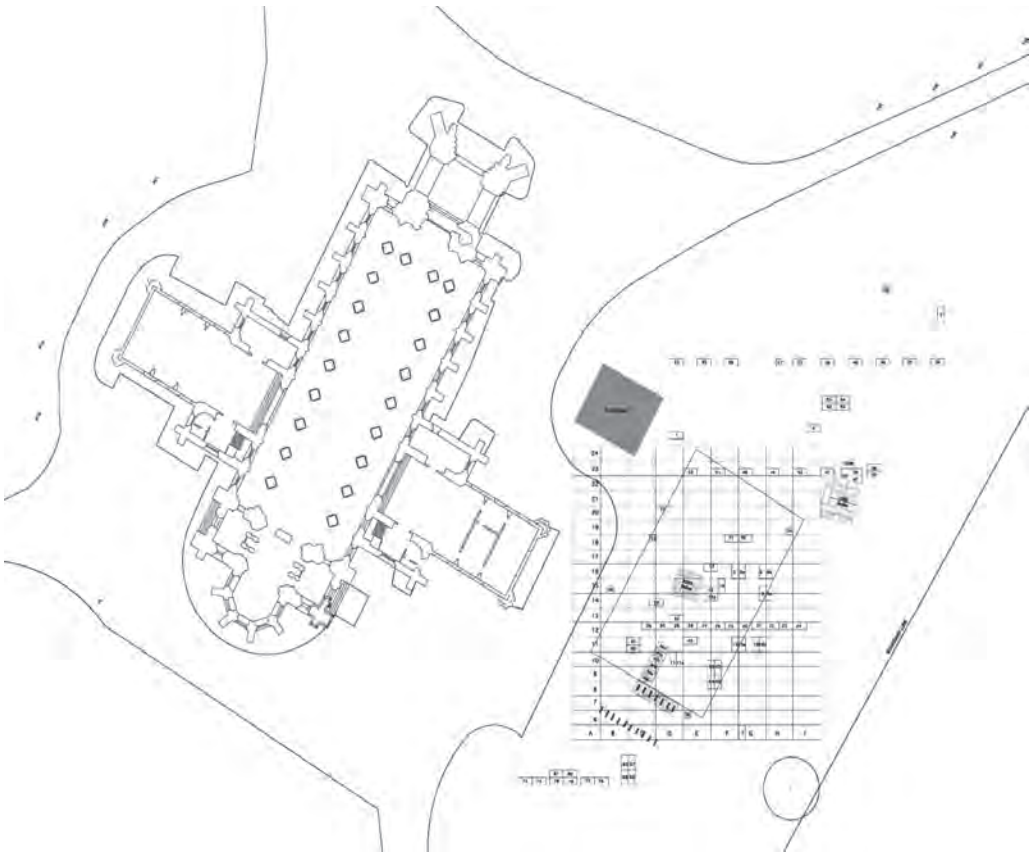
During the earliest phase of British settlement in Singapore, before the Cathedral was built, the site was used for houses. This is reflected in the archaeological record by dense clusters of colonial artifacts and disturbed strata in the churchyard. According to Munshi Abdullah,

The place where it [the English church] was built was in the middle of that piece of open ground which, when I had first set eyes on it, had been bare of jungle and tall trees, being covered with low shrubs and myrtle and rhododendron bushes. After Mr. Farquhar had spent a few days clearing the land it had been occupied by Indian troops and their officers. They had remained there up to that time when Colonel Crawford was Resident. [Fn 2: Colonel Nahuijs says that about thirty European houses were there in 1824, with a circular carriage-way (the Esplanade) running between them and the sea.] . . . It was used for horse-racing, and in the evening the white men used to go for walks there. Then soon afterwards one man after another built himself a house on the site. At the time of which I speak six or seven houses of the white men stood there.” (Hill 1970: 281–2)

The Cathedral was built between 1856 and 1863. It had been preceded by an earlier church which was demolished in 1855 after its tower and spire had been struck by lightning in 1845 and 1849 (Hooi 1978: 8).

In September, seven 50-metre transects were laid out within the area which the development project would affect, and soil cores were taken along these transects at ten-metre intervals. Additional transects were laid out on the south and east lawns, and augering tests were also conducted there. Supplementary augering tests were conducted later around test units.

The auditorium excavation was planned for the northwest lawn bordering



5.57 Site plan, St. Andrew's Cathedral (STA)

North Bridge Road. The area directly affected was extensive: 2,400 square feet (approximately 240 m²). In addition, the Cathedral authorities generously gave permission for excavations in other parts of the grounds.

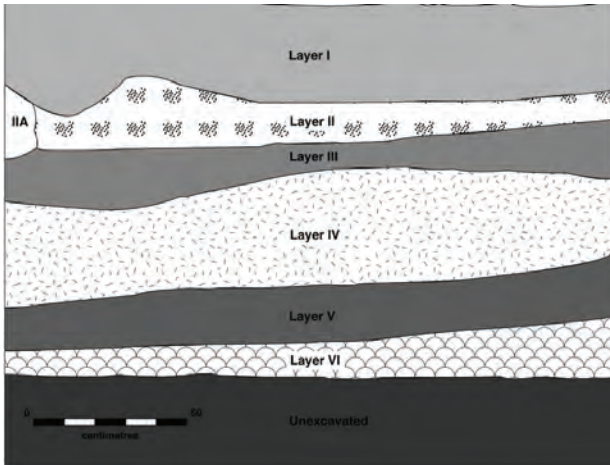
Main priority was given to excavation in the area which was to be directly affected by the construction project. Test pits were also excavated in the southern part of the grounds, near the Padang. Excavation began on 16 September 2003 (Fig 5.56), and continued until the end of March 2004 (Fig. 5.57). Further excavations are likely to expand our knowledge of the cathedral area, but the main goal of salvaging artifacts and information concerning their distribution and soil features in the construction zone was achieved.

In the first stage of excavation, test pits measuring 2 metres by 1 metre were excavated within the impact zone to confirm information regarding stratigraphy obtained from the soil cores, and search for artifacts. The test units were excavated to the water table, which was reached at a maximum depth of two metres.

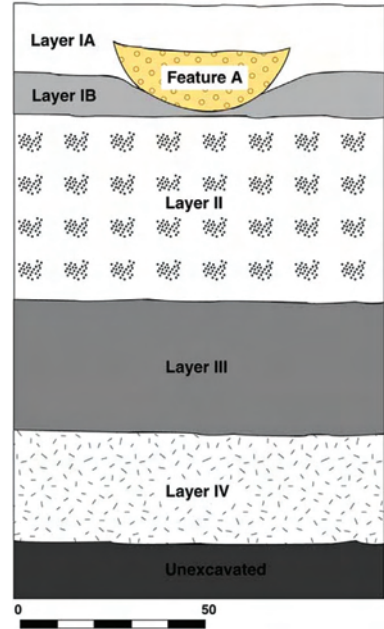
Test pits were followed by progressively more and more extensive excavations. In February 2004, a backhoe was brought in for a day to clear off the top 30 centimeters of soil from a large area of the future construction site.

The upper layer of excavation revealed a layer of dense colonial-period remains of many types: coins, military badges, buttons, glass, building materials, metals,

STA excavation profiles

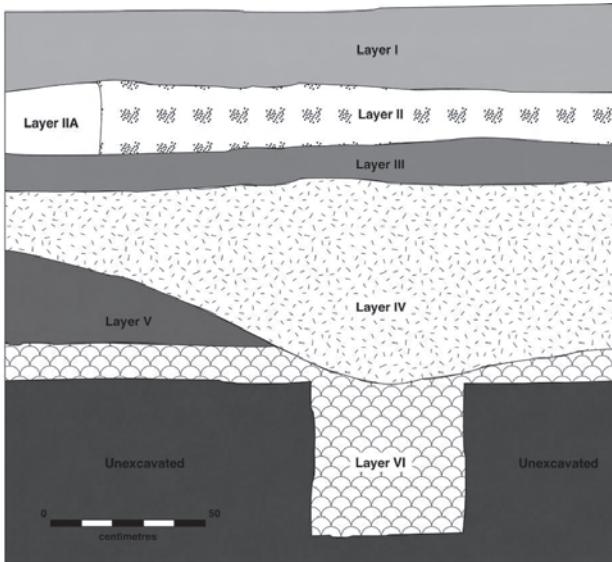


5.58 Site 3 south side: stratigraphy here was complex and indicated several phases of activity, some of which disturbed the earlier soil strata



5.60 Site 5, south profile

-  Lighter-coloured clay-sand mixture
-  Modern trash pit
-  Darker-coloured sand
-  Very light-coloured marine sand
-  Dark sand
-  Below water table



5.59 Site 3+3a, west side

-  Humus, clay and sand
-  Colonial period artifacts
-  Cache of bottles
-  Mixed colonial and precolonial
-  Precolonial (Pinkish-white sand)
-  Precolonial (Dark-brown sand)
-  Sterile



5.61 Stratigraphy: a layer of white sand found at STA demonstrated similar geology to the Padang

and ceramics. A significant number of examples of small arms ammunition (both for rifles and revolvers), mainly of the 1941–1942 period were discovered; these were surrendered to the police for safe disposal (Miksic and Lim 2004).

Beneath the colonial period stratum, abundant evidence of pre-Raffles occupation was found (Figs. 5.58–5.61). STA provided more examples of artifacts which had not previously been found in Singapore, and possibly anywhere else in the world. For example, three intact stoneware vessels were discovered there; these were the first intact fourteenth-century artifacts found in controlled archaeological excavations in Singapore. The intact “mercury jars” found at Old Parliament House were discovered by construction workers, so their associations were not recorded. Other unique artifacts found in the early phase of the excavations at St. Andrew’s Cathedral include a tubular carnelian bead, probably from India, and a Yuan dynasty ten-cash coin from China.

The excavation succeeded in demonstrating that the Cathedral grounds contained a large quantity of remains of ancient Singapore. One of the final pieces of the puzzle had been put in place. It was now possible to prove that the ancient city stretched the Singapore River to Stamford Road, the probable Old Lines of Singapore.

Almost one tonne of artifacts was recovered from STA. This amounts to an average density of 519 artifacts per cubic meter. Analysis of this huge quantity of data will take many years. A preliminary study has however been conducted (Lim 2012). In a sample of 8,681 artifacts (weighing 53 kilograms) from 20 archaeological units (squares), earthenware pottery constituted the largest proportion in terms of numbers (61.3 per cent) but since these were normally small, they ranked second in terms of weight (22 per cent). Chinese stoneware pottery contributed 30.5 per cent of sherds, but 64.8 per cent of the total weight of artifacts. The third category, Chinese porcelain, contributed 8.2 per cent by number, 13.2 per cent by weight (Lim 2012: 8, table VI).

A small quantity of metal, mainly iron, was also recovered. This included both finished artifacts such as hooks and wire, and slag. Whether iron was worked on the site cannot be determined. Two pieces of bronze were present in the sample, and six bronze coins. Five of these were Chinese (one dated 1101–1006, another 1032–1033, while inscriptions on the other three could not be read) and one from Sri Lanka, probably dating from the late thirteenth century (Lim 2012: 24–5).

Many more sites remain to be explored both within the bounds of ancient Temasik and beyond the ancient city’s fortifications. Singapore archaeology still has a long way to go before the complete record of ancient Temasik is known.

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PRODUCTS OF ANCIENT SINGAPORE



It is difficult to put ancient Singapore in its proper context because we have no comparable data from other sites in Southeast Asia. Was Singapore larger or smaller than other Asian cities of its time? Wealthier or poorer? Busier or quieter? Until more sites of this period are located and subjected to similarly intensive and systematic research, we cannot answer these questions. A quarter-century of archaeological research in Singapore has given us a comprehensive view of an ancient city unparalleled in Southeast Asia, and matched by few fourteenth-century urban areas in any part of the world.

6.00 Modern potter at Galogandang village, West Sumatra, using *tatap* (a paddle) and *pelandas* (an anvil), which are identical to implements used in fourteenth-century Singapore.

Major changes were taking place in the Straits of Melaka at the start of the fourteenth century. The modern notion of a “city” was beginning to take shape. Islam was beginning to spread through the region. Chinese coins were used as an efficient medium of exchange in several Southeast Asian kingdoms. The Chinese were beginning to reside for long periods, even for life, in parts of Southeast Asia. The archaeology of fourteenth-century Singapore gives us an insight into the very early phases of these processes.

Singapore played several roles in the fourteenth-century economy: as a provider of raw natural products; a collecting center for rare and precious objects found in its immediate vicinity, mainly in the Riau Archipelago; and a transshipment point for commodities from distant ports along both the Silk Road of the Sea and on side routes. Archaeological excavations have shown that Singaporeans processed raw materials to make finished products. These local industries were not particularly large, but their existence is sufficient to prove that Singapore was not a primitive society of fishermen and pirates. It was a place where planning and technological skills combined to create businesses dependent on long-term planning and investment. The evidence for this is found in hundreds of thousands of artifacts excavated in seven Singaporean archaeological sites.

EARTHENWARE POTTERY

Pots have been one of the basic utensils of life for thousands of years. Most utensils for cooking, eating, and storing of food and water since the start of the age of farming 8,000 years ago have depended on the skills of potters. From historic and ethnographic sources, we know that potting was conducted at the household level in the early stage of development. We also know that the potters in most pre-industrial societies were women. Potting only became a man’s job when large-scale ceramic production evolved, as in the Near East, and in China during the Tang Dynasty. Mass production of pottery entailed shifts in technology, from hand-forming to wheel-throwing, and the use of large kilns instead of open bonfires.

Earthenware pottery was a common Singapore product of the fourteenth century. All fourteenth-century sites in Singapore have yielded large quantities of earthenware pottery, showing that it formed an integral part of local culture. Like most other early cultures, Singapore utilized ceramics for a wide range of purposes. The techniques, decorations, and shapes associated with the pottery indicate that it was made within the geographical area of the Straits of Melaka, and probably right in or near the ancient city of Singapore.

Early pottery in Singapore as in other regions of Southeast Asia was hand-made and fired at low temperatures (below 900 degree Celcius). The vast majority of products made in fourteenth-century Singapore that still exist are earthenware ceramics. Ethnoarchaeological studies in many parts of the world have shown that this pottery was probably made by women, and that the distribution of earthenware designs reveals useful insights into the communication networks and movement of women between different settlements (for examples, *see* Deetz 1965).

Clay suitable for making pottery is abundant in Singapore. This was recognized in the mid-nineteenth century. The *Journal of the Indian Archipelago and East Asia*, published in Singapore, and often called “Logan’s Journal” after its publisher, John Logan, in 1849 included the following note (511):

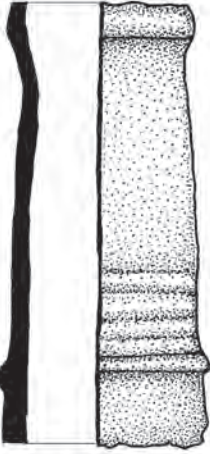
The fine kaolin which abounds has been found the best adapted of any in India for the manufacture of porcelain, but no manufactory has been established. . . . By far the best clay I have met is that given me by Captain Halstead and which he procured in Singapore . . . this clay is found in thick strata. . . . Unpicked, and simply worked up as it is dug, it gives a light yellow stoneware of the best kind as far as density, hardness, strength, lightness and colour are concerned.

Another article in Logan’s Journal on the “Geology of the Straits of Singapore” (1852: 194) mentions that “At the foot of Government Hill, near the Convict Lines [now the site of Singapore Management University, previously Bras Basah Park], there were found: White clays at 20 feet, red clays and laterite resting on a hard white clay at 30 feet”. This clay is suitable for making modern art pottery (Kemp 1997: 74). Thus the potters of fourteenth-century Singapore could have obtained raw material just outside the earthen wall, which provided protection for the northern flank of the settlement.

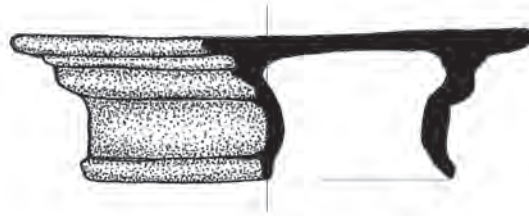
In a preliminary analysis of Singapore earthenware based on the 1984 excavations, four main types of pottery were discerned, distinguished by raw material (Miksic 1985). Further work on the pottery has yielded ten types:

Table 6.1 Typology of fourteenth-century Singapore earthenware

1. Fine Quartz Temper (Type A)
Varieties: (a) unslipped
(b) pink/white slip
(c) brown slip
(d) red slip/paint
(e) thin-bodied paddle-marked
2. Fine Paste
3. Dense quartz temper
4. Mica temper
5. Pyrite temper
6. Chalky
7. Eavesboard
8. Brick
9. Burnished
10. Red

(A) FTC 32532 neck
of vessel

(B) OPH 2428 stand



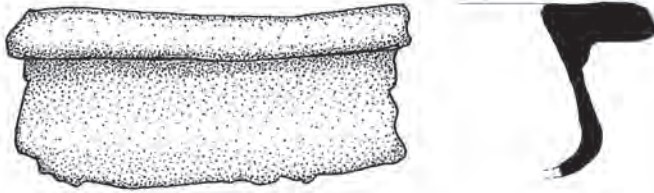
6.01 Unique fourteenth-century earthenware objects from Singapore

The first type, called Type A in 1984, is by far the most common. It has a sparse, fine quartz temper. Varieties within this type can be distinguished on the basis of texture and surface treatment. The pottery's exterior is pale in colour (white, pink, or orange) while the interiors of the sherds (seen in cross-section) are usually dark brown to black.

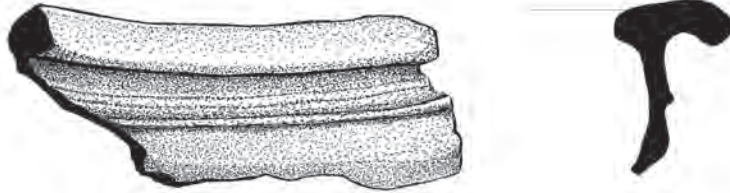
The colour difference between the exterior and the interior of the sherds is a result of two factors. The blackness of the interiors of the sherds is caused by the presence of carbon that was not completely oxidized during the firing process. This is normal with utilitarian pottery made for domestic use in agrarian societies today. Low temperatures (800 degrees Celcius) and a short duration of firing (usually no more than four hours) result in the incomplete oxidization of carbon, which occurs naturally as the result of the presence of organic matter in the clay sediments exploited by the potters. The exteriors turn white, red, or pink, because the exterior surfaces are exposed to more oxygen from the surrounding air, and become hotter, and because the potters often coated their pots with slip, a mixture of water and clay of purer consistency than that used for the main body (Singapore's early potters probably used clay from two sources: one that contained more impurities, and one that was composed mainly of nearly pure kaolin, which the nineteenth-century reports show could be obtained between Stamford and Bras Basah Roads, near Fort Canning Hill). In this way a white vessel could be obtained. A few sherds from Singapore indicate the use of a red slip. This could be obtained by including some iron.

White pottery seems to have had a special ceremonial significance in early Singapore. The same belief seems to have existed in Kota Cina in the previous century. In fact, Kota Cina, although 100–200 years older, seems to have shared many characteristics with fourteenth-century Singapore. Kota Cina in the twelfth

(A) FTC 31002



(B) OPH P2



6.02 Fourteenth-century cooking pots

and thirteenth centuries may have played the role of an early enclave of Chinese settlement in the northern Straits of Melaka much as Singapore did at the Straits' southern end in the fourteenth century. Much of the pottery found on Fort Canning is well-made white-slipped pottery of Type A, whereas white-slipped earthenware is rare at other sites in the ancient city. Cooking pots are rare on the hill; the ceramics found there seem to have included many small storage vessels. Utilitarian earthenware found at the sites in the Singapore plain between Fort Canning and the sea range from brown and orange to black. Apparently these are the natural colours of the fired clay and no attempt was made to modify them.

The earthenwares used on Fort Canning differ in several other respects from those found in the other sites of early Singapore. The temper used on Fort Canning is normally finer than that used in pottery found elsewhere, while the shape and decoration of vessels also differ. It is obvious that a few artifacts were once part of ritual items; these include a long neck which may have belonged to a vase, and a stand (Figs. 6.01a–b).

A common vessel form in both lowland Singapore and Kota Cina is a wide-mouthed round-bottomed pot much wider than it was tall. These vessels normally have horizontal lines incised into their bodies (Fig. 6.02a–b). They are also usually carinated, that is, the bodies curve gently outward from the rim, and bend at a sharp angle toward the base. These vessels often have been scorched by fire, especially on their bases. These characteristics resemble pottery still made and used in Indonesia and Malaysia as cooking vessels.

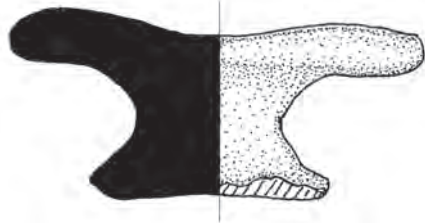
Cooking pots were equipped with lids that had knobs at the top to make handling easier. Fragments of these are numerous in all ancient Singapore sites.

More common than carinated cooking pots in all early Singapore sites were

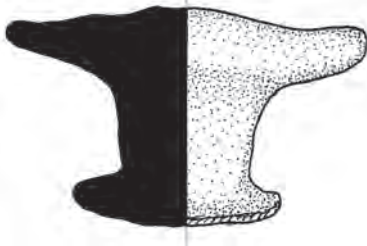
(A) FTC 1120 knob



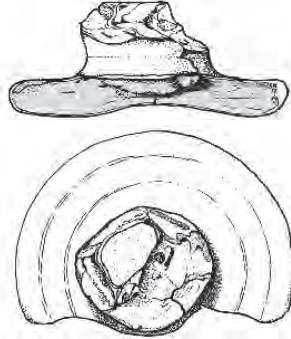
(B) FTC 22160 knob



(C) FTC 8675 knob



(D) OPH P35 knob



(E) lids FTC 15607



FTC 34354



(F) lids FTC 39038



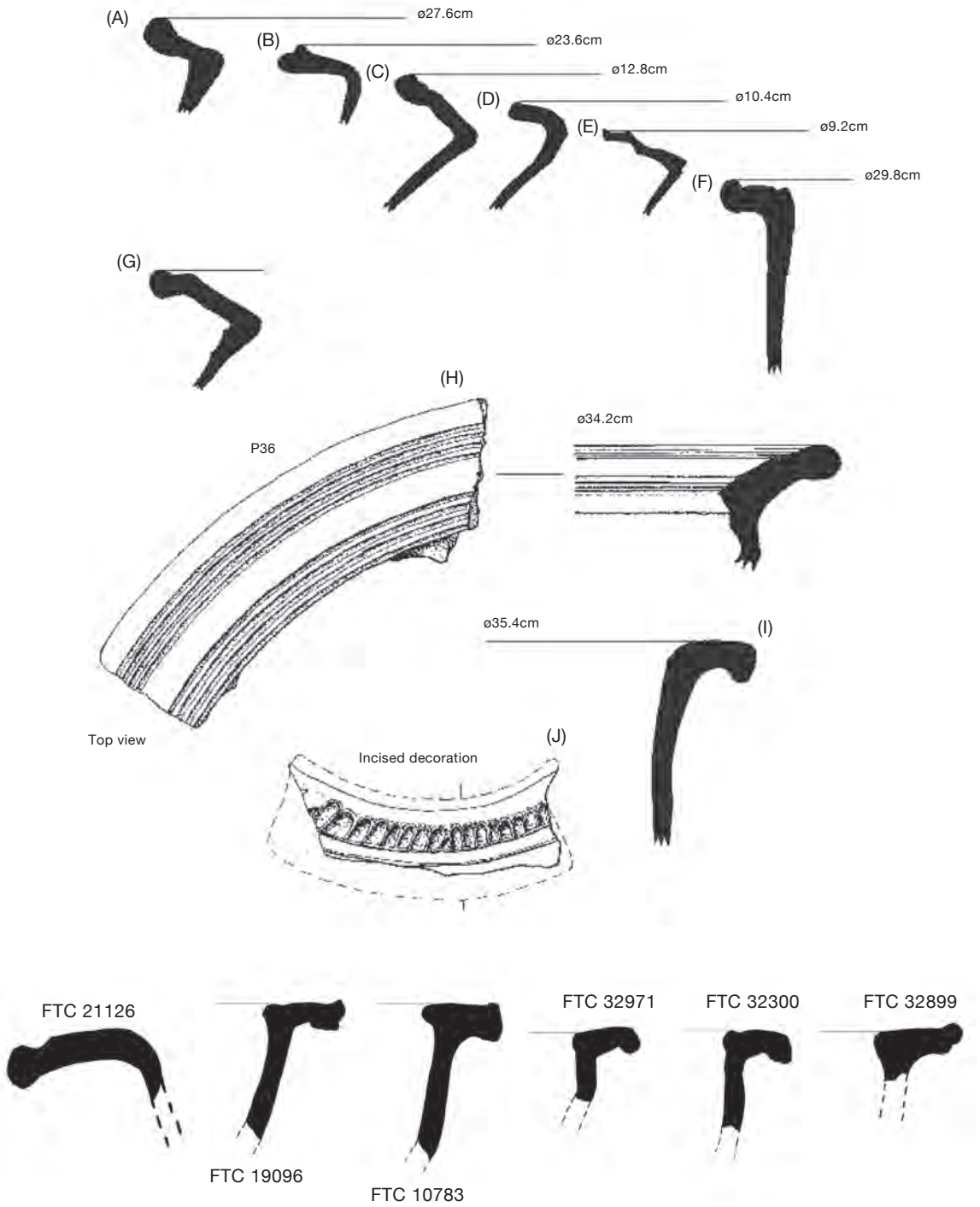
FTC 20649 lids



(G)



6.03 Fourteenth-century earthenware lids



6.04 Fourteenth-century earthenware rim sherds a-f) OPH; g-j) FTC

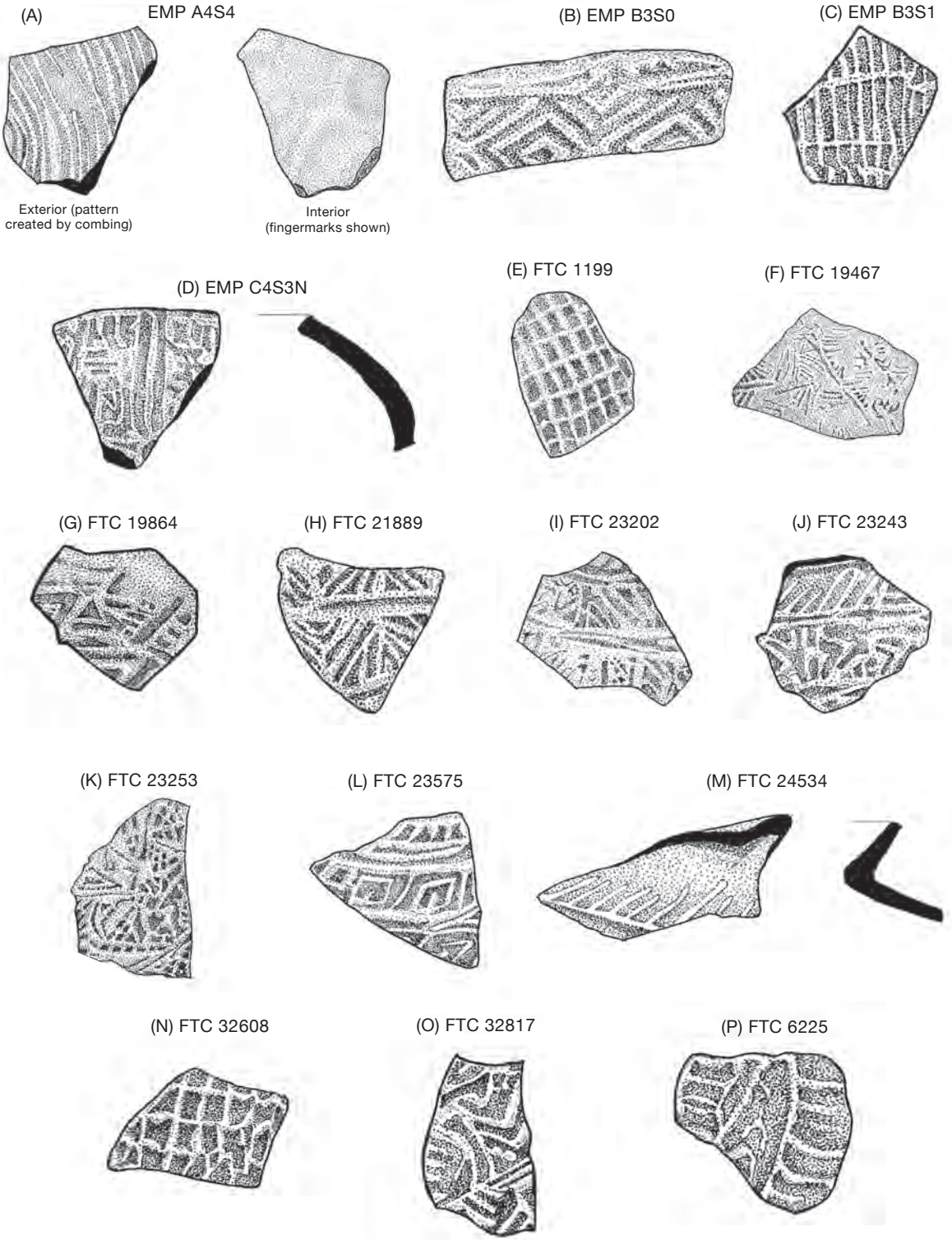
a kind of storage vessels taller than they are wide (Figs. 6.04a–i). These are similar to forms used in many parts of early Southeast Asia, but have largely been replaced in recent times by containers made of other materials, including stoneware, plastic, and metal.

Many sherds of these vessels found in lowland Singapore bear traces of decorations created by stamping the semi-wet clay with carved pieces of wood (Figs. 6.05a–x). This technique of production, normally termed “carved paddle impression”, is particularly characteristic of pottery found along the Straits of Melaka, from Kota Cina and Kedah to Sarawak in western Borneo. The history of this technique can be traced back to prehistoric times when such ceramics were made in Taiwan and south China in pre-Han times. From there, two different but related pottery traditions appear to have spread in different directions: one around the coasts of the South China Sea, from the Philippines to south Vietnam (the territory of the former kingdom of Champa), and the other via an unknown route to Burma (Solheim 2003). In Southeast Asia, pottery of this type has been classified as belonging to the Sahuynh-Kalanay tradition, after the sites in Vietnam and the Philippines where this pottery was first discovered (for illustrations of paddle-mark designs from Kota Cina, *see* Edwards McKinnon 1984: pl. 57–69). However, recent research by archaeologists such as Mariko Yamagata and Tsui Chi Hoang has stressed the differences rather than the similarities between the ceramics of late prehistoric south Vietnam and the Philippines, casting doubt on the notion that both areas share a common pottery tradition (Ian C. Glover, pers. comm., March 2011).

Certain pottery decorations persisted for a very long time in Southeast Asia. This poses a major problem for archaeologists. In most other parts of the world, ceramic designs changed quite frequently, making it easier to estimate the date of a piece of pottery from China, Mexico, or Iraq, for example. Although the situation may improve in future if more studies are conducted, at this time this is almost impossible in Southeast Asia where subtle differences may turn out to have major chronological significance. At the present time, however, a piece of paddle-marked pottery found in Indonesia or the Philippines can be anywhere from 500 to 2000 years old.

Although the present incomplete state of knowledge means that earthenware pottery types provide no help in dating sites, the geographical distribution of certain decorative techniques and styles probably had some cultural significance. However, this criterion remains imperfectly understood. Han-dynasty sherds from Vietnam and China bear some designs almost identical to those from Singapore and Kota Cina. Some of these designs, such as those labelled “b”, “c”, and “l”, resemble a fairly complex motif from Zhejiang, southeast China (Gibson-Hill 1955: pl. 11).

Despite this blurring of cultural boundaries, it is relatively easy to distinguish pottery made in the Straits of Melaka, west Java, and west Borneo, from that made in central and east Java. Paddle-marking is almost entirely absent in the latter group. The Javanese preferred pottery with smooth surfaces; they went to some trouble to make the surfaces of their pottery shiny through a technique



6.05 Paddle-marked sherds a-d) EMP, e-p) FTC

(Q) FTC 6226



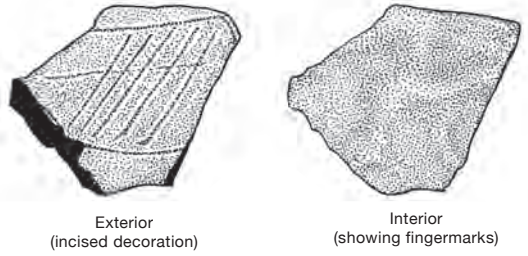
(R) FTC 6591



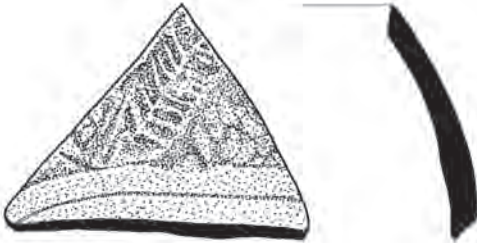
(S) FTC 9694



(T) FTC Surface Find



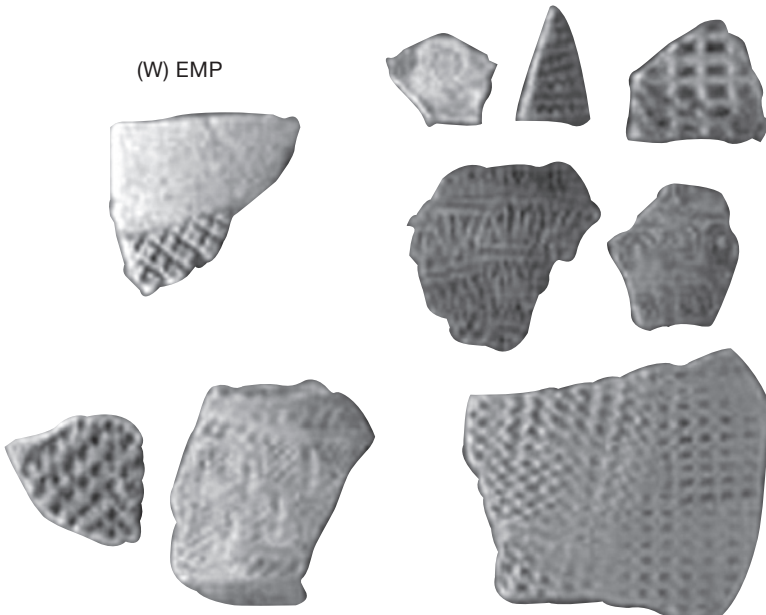
(U) OPH 2123



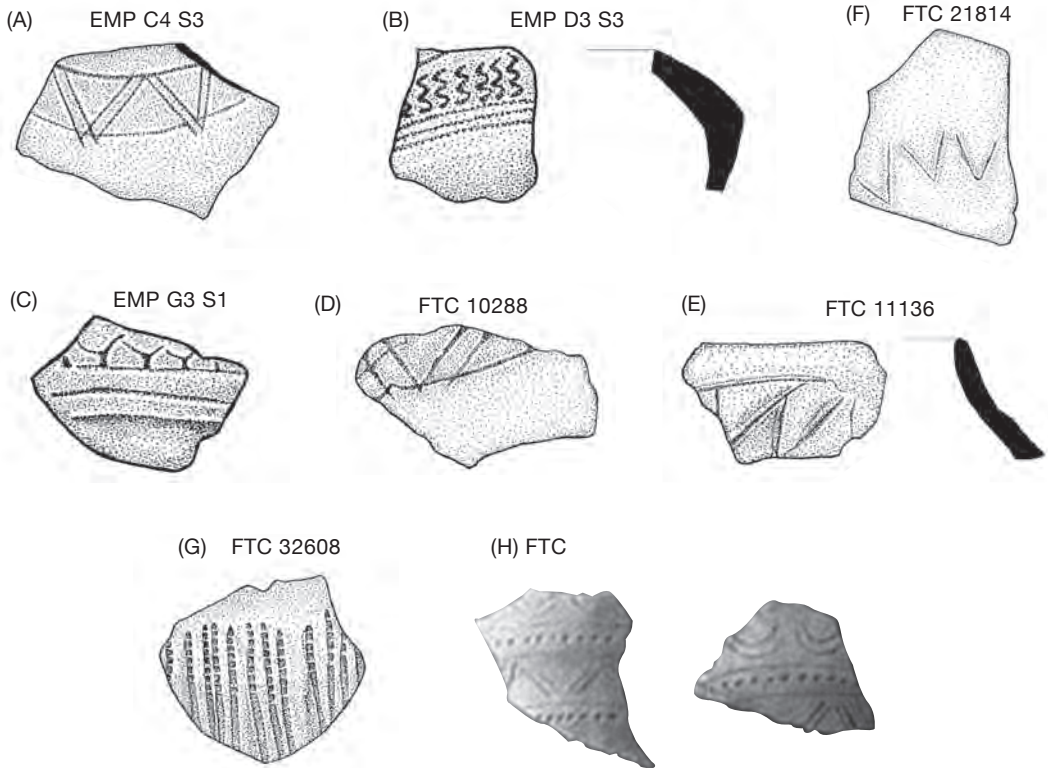
(V) OPH P29



(W) EMP



6.05q-w Paddle-marked sherds



6.06a-h Incised sherds a-c) EMP, d-h) FTC

known as burnishing, in which the surface of a semi-dry pot is rubbed with a smooth stone. Another difference is that Javanese potters often used red slip or paint to decorate their vessels (*see* chapter 8).

It is possible that slip or paint was more common in ancient Singapore than we think. The slip or paint found on a few sherds from Singapore washes off easily. This suggests that many more sherds may have been painted or slipped, but the outer layer of thin clay that yielded the more pleasant surface colours may have dissolved naturally over the centuries.

No identifiable potters' tools have been found in Singapore yet. This is unlikely to happen since these tools were normally made of wood (almost no wood from ancient Singapore has been preserved). Potters in the Straits of Melaka seem to have had a considerable degree of freedom in creating their own individual designs for carved wooden paddles, although certain patterns such as simple parallel lines or herringbones were popular in many different places and over long periods.

Another form of decoration which was widespread from ancient Taiwan to Micronesia, and which appears in the Philippines, Kota Cina, and Singapore, is described by Solheim (2003: Fig. 1.4) as "incised and impressed decoration of triangular patterns often hachured or with small circles or half circles at their

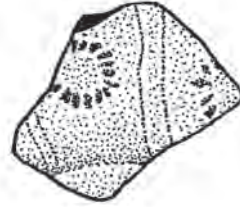
(A) EMP B3 S1 (00001)



(B) EMP B3 S1 (00003)



(C) EMP B3 S1 (00004)



(D) EMP C3 S3



(E) EMP C4 S3 N (00001)

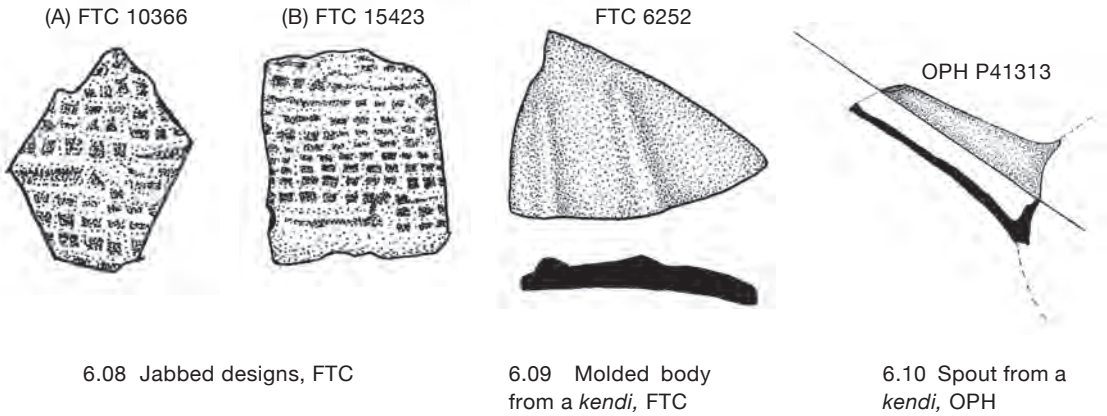


6.07a–e Stamped designs, EMP

apex, triangles varying to joined, curved, open at the bottom to straight line with the circles at their top”. This decoration seems to have been used for a specific type of small round-bottomed container at both Kota Cina and Singapore. It is impossible to say whether this particular decoration had any special significance, though the correlation between the decoration and a specific shape of pottery suggests that it must have had some significance.

Incising anything other than simple horizontal lines is very rare in early Straits of Melaka pottery. Less than 1 per cent of the decorated sherds found in Singapore show signs of this technique (Fig. 6.06a–h).

Some sherds seem to have been decorated by a related technique: stamping (Fig. 6.07a–e). Whereas paddling with a long-handled, flat piece of wood probably evolved originally as a technological means of smoothing and compacting pots made by the coiling method, stamping is a technique. Stamping implies a more careful, systematic application of a complex motif. Sherds with stamped design are only found in any appreciable numbers at EMP, suggesting that they were imported. Possible origins for most of the sherds include west Borneo, north-east peninsular Malaysia, and southern Thailand. The clay used is chalkier than the typical Singapore clay. One particular piece stamped with a kind of sunburst design [EMP B3 S1 (00004)] is made of yet another type of clay, and the distinctive motif is also unique, suggesting another origin for this sherd. Another decorative technique is known as jabbing. This simply involves stabbing the wet clay with a sharp object to form a pattern (Figs. 6.08a–b).



6.08 Jabbed designs, FTC

6.09 Molded body
from a *kendi*, FTC6.10 Spout from a
kendi, OPH

A few ceramic objects were made by modelling the body to form raised vertical ridges (Fig. 6.09). This technique is occasionally found in east Java at the same period, but the clay of the Singapore examples appears to be local.

Many spouts were discovered at Kota Cina. These were meant to fit onto rather elaborate vessels known in Malay as *kendi*, a name derived from the Sanskrit word used for such vessels, *kundika*. Such vessels were used to contain drinking water, and were also used as religious paraphernalia. A few spouts have been found at several sites in Singapore, but they seem to have been relatively rarer than at Kota Cina (Fig. 6.10). The significance of this finding, if any, is not clear.

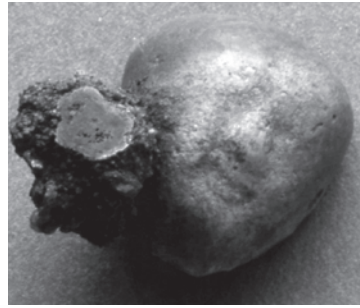
One important type of artifact, so far found in Singapore only at Empress Place and Saint Andrews Cathedral, provides one of the strongest pieces of evidence that a link existed between fourteenth-century Singapore and the Javanese capital of Majapahit at Trowulan, east Java. These are ceramic discs measuring between approximately three and six centimetres in diameter (Fig. 6.11). In Java, they are called *gacuk*. They were not made by potters, but by other people who seem to have used sherds of broken pottery to make them by chipping them into circular form. Some are of earthenware, while others are made of stoneware or even porcelain.

It has been speculated that they were used as some kind of token (Sumarah Adhyatman 1981: 48). Ming blue and white sherds are said to have been “smoothened into handy disc shapes for use as gambling counters’ in Malayan villages” (Sullivan 1961–2: 61). Their presence in Singapore suggests influence from or contact with Java in the fourteenth century. This is consistent with the claim of the Javanese poet Prapanca that Singapore was a vassal of Java in 1365. *Gacuk* were used in central Java as early as the ninth century, as demonstrated by archaeological research on the Dieng Plateau by Gadjah Mada University in 2010. Similar objects have been found in north Vietnam at the Thang Long citadel, and in Bagan, Myanmar.

In fourteenth-century Java, earthenware was commonly used to make figurines. These depicted humans, animals, temples, and dwellings. Their use is unknown, but it is quite possible that most of them had secular uses, since very few if any



6.11 *Gacuk*, EMP. Burnished Javanese ware (left), paddle-marked local earthenware (right)



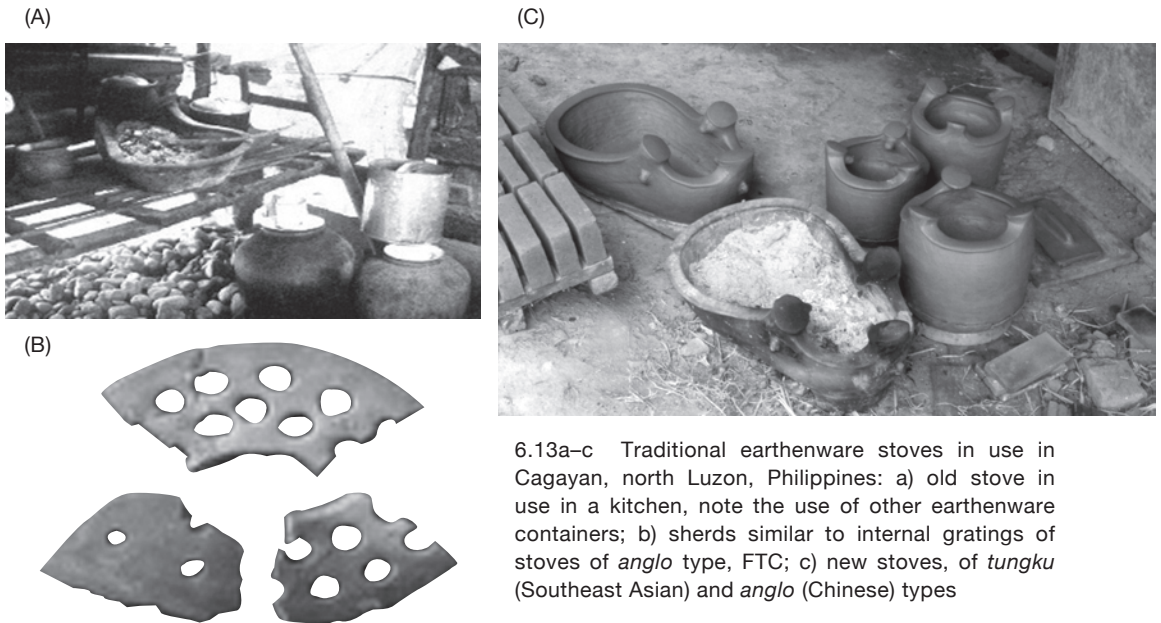
6.12 Terracotta head, possibly imported from Java, PHC. A piece of iron has become stuck to the piece due to oxidation.

represent deities. Some seem humorous, others decorative. They may have served as toys or even household decorations. One small earthenware head has been discovered at PHC (Fig. 6.12). The clay appears to be local; it is pale brownish-grey in colour, whereas the Javanese examples are red or orange. A piece of iron has become stuck to the clay through long contact in the ground. This find is so far unique in the Singapore context, so it is impossible to do more than speculate on its purpose. Its main significance lies in the fact that it exists at all; showing that clay was used in Singapore for sculpture as well as for cooking and storing food.

Numerous fragments of pottery stoves were discovered at Kota Cina. These were usually made of white clay. Such stoves, called *tungku*, were used until relatively recently in many parts of Sumatra, Malaysia, and the Philippines (Fig. 6.13a–c). In Singapore, a few fragments of similar artifacts have been found, though it has not been possible to reconstruct one. They may have been less common here than in Sumatra. It is also possible that Singaporeans used stoves of a different design, but they have not been recognized yet as such. The largest fragment of a probable stove from Singapore is also white in colour. FTC and OPH both yielded fragments of one-centimetre thick slabs of clay with circular perforations. These may have belonged to a different kind of cooking stove called *anglo*, a design which owes much to traditional Chinese burners.

Sherds of dark red clay full of very coarse temper which consists of large pieces of quartz and possibly other minerals as well have been found at Fort Canning, where they were termed Type D (Fig. 6.14a, b; and Miksic 1985: 63, Fig. 15; 64; 95, pl. VIII). Only three sherds of this material were found in the first excavation in 1984, of which one was an almost intact artifact. Based on this very small sample, it was theorized that they might have been used as eavesboard tiles (Miksic 1985: Fig. 16). This was partly based on the idea that the structures on Fort Canning in the fourteenth century might have had tile roofs like some contemporary structures in Java. Fragments of roof tile found in the first excavation were believed to have come from the fourteenth-century layer. Eavesboard tiles are specially designed to raise the lowest roof tiles in order to deflect rain water away from the foundations of buildings.

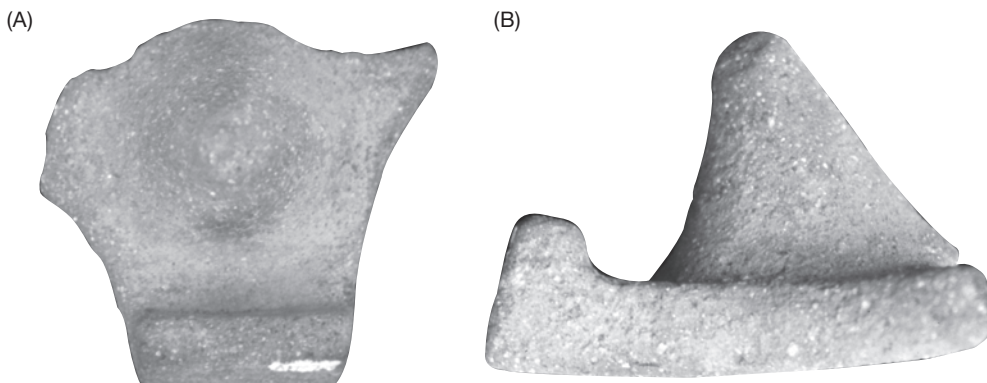
(B)



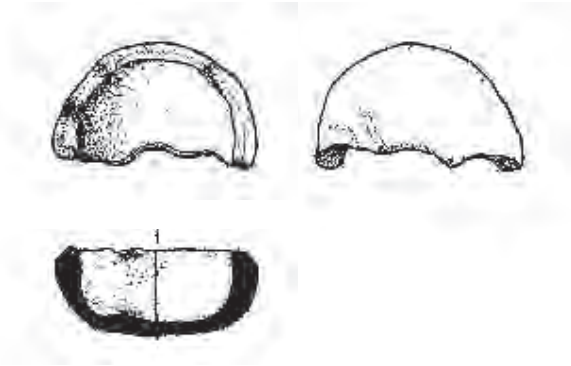
6.13a–c Traditional earthenware stoves in use in Cagayan, north Luzon, Philippines: a) old stove in use in a kitchen, note the use of other earthenware containers; b) sherds similar to internal gratings of stoves of *anglo* type, FTC; c) new stoves, of *tungku* (Southeast Asian) and *anglo* (Chinese) types

Further excavation and analysis has proved that the roof tiles found in 1984 are not ancient; they date from the nineteenth or twentieth century. They were probably used to roof the lighthouse keepers' quarters which once stood on the site. We now know that roof tiles, including special eavesboard tiles, were not used in fourteenth-century Singapore. The true function of these strange objects is a mystery. Other examples of these have been found at several other sites in fourteenth-century Singapore, including OPH and STA; thus they have no specific association with the Keramat site. No similar objects have been reported found anywhere else in Southeast Asia.

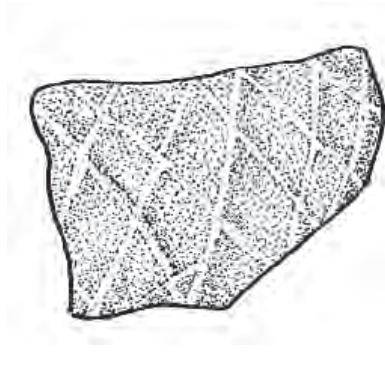
In addition to the oddly-shaped objects with conical projections found in 1984, the same sort of coarse material was also used for objects with other shapes. Some



6.14a–b Earthenware object of unknown use, FTC. It was originally thought to be an eavesboard tile, but no roof tiles of the fourteenth century have been discovered in Singapore, so this is unlikely to have been its function.



6.15 Crucible, EMP



6.16 Mat-impressed sherd, EMP

sherds of this Type D material have been slipped and even burnished on the exteriors. They may have been imported, or made locally for special purposes. Their complex forms suggest that they had important functions, perhaps as tools for some kind of industrial activity. Other industrial objects were found at FTC and EMP: small clay cups which were probably crucibles (Fig. 6.15). Their size and shape suggest that they would have been used in gold working, but unlike the crucibles found at Kota Cina, those from Singapore show no greenish traces of borax to support this theory.

In addition to the common types of earthenware mentioned above, many other earthenware types have also been found in Singapore. Many of these types however are represented by very few sherds. These were probably brought in from elsewhere in the Straits or further afield. For example, only one example of mat-impressed pottery has been found (Fig. 6.16). Some contain iron pyrite, either as temper or natural inclusions. In the sixteenth century, iron pyrite was described as an old and valuable trade item in Southeast Asia (Hill 1970: 205 n. 207).

The nearest site to Singapore where a large quantity of early earthenware has been found is Johor Lama. Almost 3000 earthenware sherds were discovered in the 1950s at this sixteenth-century site (*see* chapter 10). The excavators of that site divided the pottery into two, or possibly three types, based on the use of sand or grog (ground-up pottery) and possibly organic fibre such as rice husks as temper. The sand-tempered sherds often had mica inclusions.

About ten *kendi* spouts were found at Johor Lama. In the seventeenth century, the Dutch reported that Johor exported *kendi* (Gibson-Hill 1955: 192 n. 176). Johor's pottery industry was relatively well-developed by then and its pottery is described as highly variable; like Singapore, the assemblage there probably contained small numbers of ceramics that found their way there from many other ports. About 19 per cent had carved paddle impressed decoration (for designs, *see* Gibson-Hill 1955: pl. 8, 9, 10). Incised decoration, like that from Singapore, was limited to horizontal lines around vessels. Approximately 15 or 20 sherds had vertical ribs, possibly made by the appliqué method, but some look like they were mould-made (Solheim and Green 1965). A few sherds decorated with this technique were also found at Kota Cina and in Singapore.

BRONZE/COPPER

Bronze, an alloy of copper and tin, rapidly decays in the acidic soil of Singapore. Bronze objects were expensive and rare in Southeast Asia, though copper is found in Sumatra, and tin is found in various places in Riau and the Malay Peninsula.

A few fragments of bronze objects were found at FTC, including a relatively thick, slightly curved fragment, probably from a bowl. At EMP, a bronze projectile point and a small fishhook were recovered. A few fragments of small bronze objects and scraps of wire were found at SCC.

In contrast, the PHC site yielded relatively large quantities of copper and bronze. Pure copper wire was the most common type of copper artifact: 233 fragments were found, some tightly braided. The fishhooks found numbered 11; there were small ones with a curve diameter of 25 millimetres, and large ones with a curve diameter of 30 millimetres (Fig. 6.17). All are barbed. The larger examples are bronze while the smaller ones are made of pure copper. One fishhook has a copper or bronze leader wire, attached to an eyelet. Much of the bronze wire may have been used as leaders for hooks. The largest fishhook, with a length of 46 millimetres, has an eyelet with copper leader wire attached. Microstructural analysis indicates that the hook was made by drawing (a relatively sophisticated technique in which a lump of soft metal was pulled through a hole in a drawplate to produce a wire with round cross-section and consistent thickness in a brief time) (Shah Alam Zaini 1997: 27).

Other copper/bronze objects take the form of small bars a few centimetres long and 2 or 3 millimetres in diameter. A pointed object, probably for a spear or arrow, was found at PHC (Fig. 6.17). Two small bells, one decorated with a face, were also found. These are similar to artifacts found elsewhere in Southeast Asia worn by children. Another bronze object from PHC measures 7 millimetres in diameter, 2.4 millimetres thick, and weighs 0.52 grams. Borell (2000: 10–1) speculates that this may have been a measure of weight since it is close to the unit of weight known as a *kupang*.

Ten copper prills (small spheres of copper produced by the copper-working process) and 799 grams of slag were recovered from PHC (Shah Alam Zaini 1997: 13 and Fig. 11). These show that copper was processed at PHC, probably to make the wire and fishhooks. These may either have been used by local fishermen, or exported. Perhaps this question may be answered someday when Singapore-made hooks are found in the context of an ancient fishing village, either here or elsewhere.

No associated artifacts such as crucibles for melting metal and tools for working the copper and tin have been positively identified yet. Only a sample of the earthenware from PHC has been analyzed (*see* Chen 2001). Many iron objects were discovered, but they were too corroded to reveal their original forms or functions. Sherds of crucibles suitable for metalworking were discovered at the Singapore Cricket Club. Perhaps the sherds of crucibles were disposed of just a few metres away from the small PHC excavation and were therefore destroyed when the new Parliament House was built.

Since Singapore has no deposits of copper or tin, the raw material for this

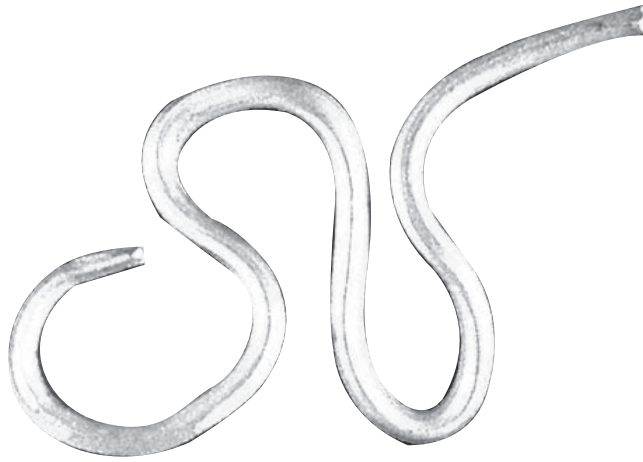


6.17 Fishhook and arrow head, EMP

industry must have been imported. Chinese sources contain little information on trade in coins or other forms of copper. No doubt this results from the strict prohibitions against the export of copper and its relative scarcity in the Southern Song. At the end of the twelfth century, San foqi made a request for 30,000 copper tiles, or a shipload of copper and Chinese workmen to make them into roof tiles, but it was rejected, according to Zhao Rugua (*see also* Sastri 1949: 87). There are nevertheless indications that copper slipped through Chinese customs. Probably the records greatly underestimate the true volume of the copper trade. No copper ore has yet been recorded found on ancient Southeast Asian shipwrecks, but tin and lead have been discovered on ships which sank near Singapore.

Wang Dayuan mentioned several places which imported copper items from China: *Xia-lai-wu* (somewhere near the Malay Peninsula), Palembang, Belitung Island, Demak (north-central Java), Dung Demak (unknown), and Tanjungpura, Borneo, imported cauldrons. Jong (the area of the southern Malay Peninsula) and Geram Island imported “copperware”. Jambi (San foqi) imported copper pots. San Dao, in the Philippines, imported copper beads. Siam, Pahang, and Baduma (in Java) imported copper in unspecified forms.

Copper and bronze are easily recycled by melting them down and casting the metal into new shapes. These finished items from China which made their way from China to the Singapore area in the fourteenth century could have then been recycled here. Another source of copper consisted of Chinese coins. Chinese coins found in the fourteenth-century stratum at SCC had been distorted by heat. Fragments of ceramic crucibles and a stone object which may have been part of a smelting operation were also found, in addition to various pieces of scrap copper.



6.18 Gold wire, STA

GOLD

Small fragments of gold were discovered in excavations at the Keramat and PHC. At the Keramat, small globules, snippets of thin sheets, and fragments of gold wire were found. Three gold flakes were discovered at PHC. These are the types of scraps which could have fallen off a goldsmith's workbench. Several gold artifacts have also been found. At EMP a fragment of a gold band encrusted with corroded bronze was recovered. At FTC, a small gold triangle with a gold wire through a perforation was unearthed (for illustrations, *see* Borell 2000: 12–3). At STA, a gold wire with an ornate twist was excavated.

Chinese merchants exported different forms of gold according to local market demand. In the thirteenth century, Zhao Rugua recorded that China supplied gold to Cambodia, Jambi, the Malay Peninsula, Borneo (trade gold), and Java. Wang Dayuan provides considerable evidence that gold remained an important Chinese export in the fourteenth century. According to Zhao, consumers in Tanjungpura, Borneo, preferred pure gold dust. In Annam (Vietnam), gold and silver head ornaments were saleable while gold plates and bowls were said to have been staple articles of trade in the northern Malay Peninsula. Lopburi, Thailand, imported gold of unspecified form.

Zhao and Wang mention different forms of gold: red, dark red or purple, and “straw gold”. Wang and other early Chinese authors refer to a commodity called *chijin*. The word *chi* literally means “red”, and *jin* is gold, but sometimes, for example by Wheatley (1961: 83) in the context of Banzu, has been translated as “trade gold”. The meaning of *chijin* has never been clarified. Ibn Battuta said that in Samudra, where he stopped in 1345–1346, people used “unsmelted Chinese gold” as well as money made of tin (Krom 1931: 395). It is not possible to be any more specific regarding the meaning of this phrase.

Longya men and Banzu (Pancur) both sought “red gold”. Rockhill (1916: 133 n. 2) quoted a Chinese source written in 1388 which states that *chijin*, “red gold” “was anciently the name of a half tael coin. At the present time (i.e., AD 1388) it is made with red copper mixed with gold. Real *tzu chin* [i.e., *chijin* in the romanization system used in this book] is not often seen nowadays”. Ibn Battuta, who visited north Sumatra around 1345, mentions “red tanga” found there; “They were made I presume of the [Chinese characters for *chijin*] 赤金 referred to frequently by our Chinese writers” (Rockhill 1914: 154: n. 1). *Chijin* was quite popular; it was also traded in Tamiang, northeast Sumatra; Lambri, Aceh; Baduma (also “straw gold”) while Brunei imported “red gold” and Sulu bought “dark gold”.

One possibility is that “dark red gold” corresponds to *suasa*, a Malay word for gold mixed with copper and treated with acid to produce a dark red or purplish colour. Since it is an alloy, it is less expensive than gold of high purity. Modern Chinese in Singapore discern three forms of gold: white, red, and black, in order of decreasing purity.

Chinese sources do not mention gold coming from or being mined in Sumatra or the Malay Peninsula. This is strange, because abundant evidence of ancient gold mining has been discovered in these areas (Miksic 1990). Kota Cina yielded gold in several contexts. One of these was a fragment of gold leaf found in a ruined ceremonial structure, perhaps a base for a statue of Siva’s bull, Nandi. Most gold artifacts were mixed with broken pottery, shells, charcoal, and other habitation debris. Various gold-working tools were also found, including a touchstone, a stone mould for casting rings, another for making *caping* or chastity covers, clay crucibles, and many fragments of so-called “mercury ware” jars which may have been used to transport mercury, used to separate gold from impurities. Sherds of this “mercury ware” are very common in all fourteenth-century sites in Singapore (see chapter 7).

Finished gold artifacts at Kota Cina included a *tali* (a south Indian pendant in the form of an imitation Egyptian coin of the eleventh or twelfth century) (Edwards McKinnon 1980), beads, and beaded wire. Most gold items found in Kota Cina were probably scraps intended to be melted down and recast. These include many fragments of gold foil, two of which bear punch-marked Chinese characters including *fen*, “measure”, *jin*, “gold”, and *shi*, “ten”. Acehnese goldsmiths in the early twentieth century measured gold purity on a scale of ten (Stammeshaus 1946), so these may have been assayers’ marks. Some of the artifacts are 24 carat but most are 70–85 per cent gold, mixed with silver and a small amount of copper. Rings and beads were of 22 carat purity, the foil fragments included both 18 and 20 carat metal, and the wire had the lowest gold content at 16 carats (Manning, Edwards McKinnon and Treloar 1980; Edwards McKinnon 1984; Swan and Scott 1990).

Gold-smithing was probably conducted on Fort Canning and perhaps one or two other locations in early Singapore. As with the case of copper and bronze, gold ore was imported. According to Wang Dayuan, some came from China, but nearer sources are now known to exist in the Malay peninsula, Sumatra, and west

Borneo. The gold items found on Fort Canning in 1928 may have been made locally but there is no way to verify this. Gold from different sources was often mixed, and the practice of alloying gold with other metals and other problems make it impossible to trace the gold to its source at this time.

PERISHABLE MATERIALS

Several ancient Singapore exports left no archaeological traces. For instance, Wang mentions that Banzu exported cotton. However, cotton prefers a dry climate, and the nearest place where suitable conditions exist is Java. Several attempts were made to plant cotton in Singapore in the nineteenth century. In 1836, a man named Crane obtained some seeds from the original Botanic Garden on Fort Canning, where they were apparently grown. Jose d'Almeida, who was buried on Fort Canning, also tried to grow cotton at Tanjong Katong. Later attempts were also made from time to time, but all these trials failed, either because of excessive rain or pest infestations (Burkill 1966: II, 1123–4). Apparently cotton was once grown in Riau (Burkill 1966: II, 1123). The reference to cotton as a Singapore export may therefore betoken reexport of Javanese cotton.

Lakawood, according to Wang Dayuan, came from both Longya men and Banzu. Longya men lakawood was coarse while Banzu's was fine. In the early sixteenth century, Pires recorded "black wood" as one of Singapore's principal products. The term *laka* can refer to trees of several types. One of the largest groups belongs to the genus *Dalbergia*, which includes varieties known as rosewood from South America and India. In the early twentieth century, China imported black wood of this genus from Thailand (Burkill 1966: I, 765). *D. latifolia* was grown commercially in Jurong, Singapore. This is a tree that grows up to 20 metres in height.

Another type of wood also called "laka" is a vine gathered from the forests of Sumatra and the Malay peninsula and used for incense. Burkill (1966: I, 766) identified this as the variety mentioned by Zhao Rugua in 1225. Singapore was also exporting this in 1920, but Burkill does not state whether it originally came from Singapore or somewhere else and was then reexported. The Melaka tree which gave the fifteenth-century port its name is also one of several trees called *Kayu laka* in Malay (Burkill 1966: I, 935). A related tree, *akar laka* in Malay, which grows in Singapore and the southern Malay Peninsula, is "reddish, durable, heavier than water, and used for house-posts" (Burkill 1966: II, 1638).

Among Singapore products, Wang reserved his highest praise for casques of the hornbill crane. These birds, called *burung enggang* in Malay, belong to the *Bucconotidae* family, of which eight genera are found in Malaya. All eight genera have large bony crests or casques between their eyes, forming part of their bills. Most are hollow, but it is solid in one species. This material can be carved like ivory. In China it was used for small items from brooches to snuff boxes; in Southeast Asia it was made into rings, ear plugs, and magical potions (Burkill 1966: II, 1214–5). These birds were denizens of the forests that covered most of the island of Singapore at that time.



6.19 Tortoise shell, PHC

Of Singapore's natural products, the only one to survive in archaeological contexts is tortoise shell. This item was an imperial monopoly in China, meaning that the elite reserved the right to use it for such items as combs and other decorative ornaments and jewellery. A large piece of this material was found in the fourteenth-century stratum at PHC (Fig. 6.19). Sea tortoises may have laid their eggs on the sandy beaches of Singapore in the past, just as they still do on islands near Bintan and in other parts of the Riau Archipelago. This tortoise shell may have been brought to Singapore by Sea People in the fourteenth century to exchange for Chinese porcelain or beads.

Other Singapore products included salt, made by boiling seawater, and alcohol made by the fermentation of rice. No trace of either of these products is likely to be discovered, but since both involve the processing of raw materials, it may be possible to identify some of the artifacts used to make them, such as a special form of earthenware.

Wang does not mention one item found on fourteenth-century Fort Canning that was known to have been a major Chinese import while the *Ying-ya sheng-lan* only lists it as a product of Melaka. This is tree resin used as incense, a substance normally known as *damar* in Malay. Dictionaries give the word "dammar" as an English word, adopted from Malay in the seventeenth century. In the early twentieth century a particular variety was termed "Singapore dammar", but it is not known whether it actually grew here or was only reexported (Burkill 1966: I, 774).

Excavations near the Keramat recovered numerous fragments of dammar from the fourteenth-century stratum. They normally appear as brittle lumps, yellowish white and powdery on the outside, but dark red, shiny, and hard on

the inside. It has not yet been possible to determine which of the many trees which yield dammar produced this particular variety, but it might also have been imported.

CONCLUSION

Fourteenth-century Singapore was the home of people pursuing a wide variety of occupations. Several of these depended on imported raw materials; others utilized locally-available commodities. The economic system included both full-time and part-time specializations. Although none of these businesses may have been particularly prosperous, the evidence indicates that Singapore was firmly attached to a network of suppliers and markets stretching as far as Java, Sri Lanka, and China. Participants in this network would have needed a wide range of information about techniques of production, prices, market conditions, and sources of materials. Wang Dayuan and Tomé Pires both stress Singapore's lack of agricultural potential; thus the inhabitants must have been largely dependent on trade for subsistence.

It is possible that some Singapore-manufactured products travelled to distant lands. The site of Kottapatnam, on the southeast coast of India (near India's rocket-launching complex), serves to reinforce this point. Out of a sample of artifacts collected from the surface, an area of about 20 hectares, 30 per cent consisted of what K. P. Rao called "stamped ware", earthenware made with the carved paddle-impressed technique. According to Rao, such stamped ware was not made in India, but has close parallels with sites such as Johor Lama and Tanjong Kubur, Sarawak (Rao 2004: 12–3). X-ray diffraction and neutron activation analysis also indicated a non-local origin for the earthenware. Surface remains found at Kottapatnam include an assemblage of Chinese wares similar to that found in Singapore, including greenwares of the fourteenth century, blue and white porcelain of the late Ming, stoneware, glass bangles, and a coin of Yongle (1408). Many of the earthenware decorations are identical to those found in Singapore (Karashima 2004: pls. 5:1, 5:2, 6:1, 6:2, and 12 :48–9). Kottapatnam seems to have been utilized by people with a very strong connection to the Straits of Melaka.

This chapter has identified the range of wares Singapore had to offer. The next chapter will describe what Singapore received in return. Archaeology shows that Singaporeans were able to enjoy a surprisingly luxurious lifestyle despite the unpromising nature of the local environment that lacked major natural resources.

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SINGAPOREAN IMPORTS OF THE FOURTEENTH – SIXTEENTH CENTURIES



The fourteenth-century artifacts found in Singapore are almost evenly divided between locally made items and imports. Singapore imported raw materials which were converted into finished products, some of which (such as the bronze and copper fishhooks) were probably reexported to nearby areas. Singapore also probably acted as a transfer port for cargoes from India and China which were reexported to nearby areas in the Malay Peninsula and Indonesia. None of this economic activity is mentioned in the *Daoyi zhilue* or other historical sources. The *Malay Annals* mentioned that Singapore was a thriving port, but otherwise was not concerned with economic activity; the chroniclers' interests lay elsewhere, principally in the religious and political spheres.

Archaeological data on the other hand is mainly useful for studying economic matters. Some items, particularly glass and ceramics, can easily be traced to their sources. Others, such as earthenware pottery, are more difficult to recognize. The

range of artifacts found in Singapore sites confirms the historical documents that record connections with China, India, Java, Thailand, and Vietnam, and adds Sri Lanka to the list. Archaeology does more than merely clarify history, because it provides an insight into the surprisingly rich variety of possessions which Singaporeans owned in the fourteenth century. The artifacts also enable us to draw rough conclusions regarding the importance of trade in the lives of the inhabitants of this island 700 years ago.

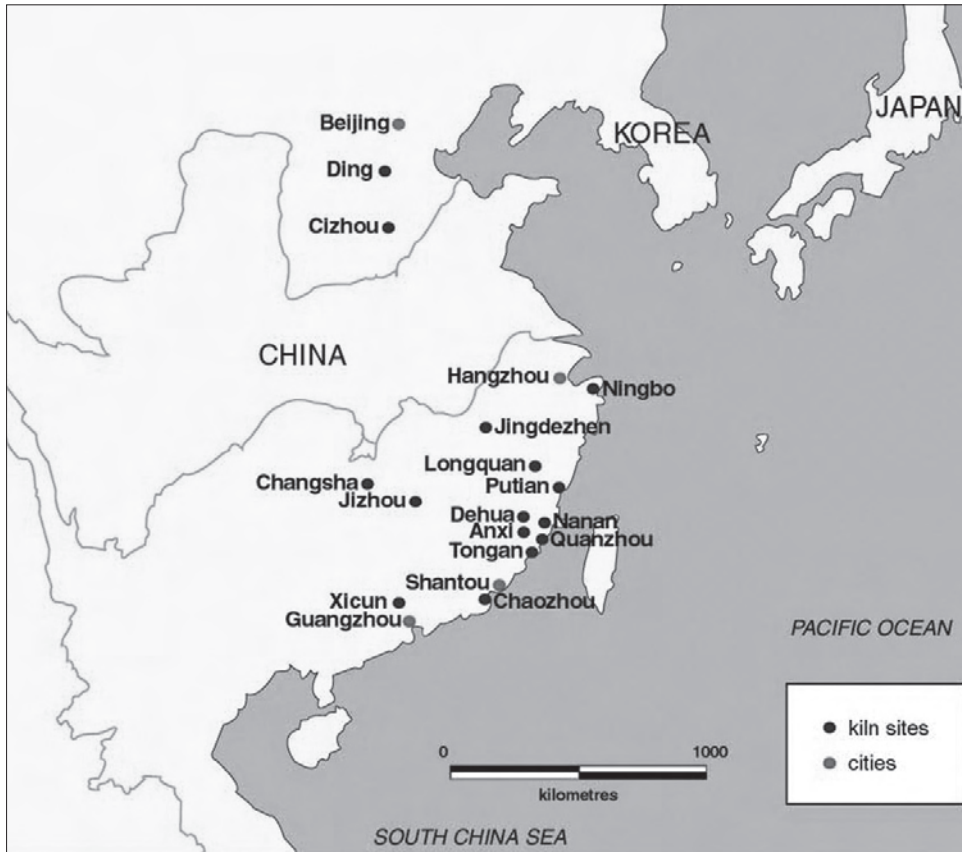
THE HISTORY OF PORCELAIN TRADE, SONG-YUAN AND EARLY MING ERAS (AD 1000–1450)

Ceramics are by far the largest category of imported items preserved in Singapore. Pottery may be broken into hundreds of sherds, but these fragments themselves are so hard that they are nearly indestructible. Pottery does not of course provide a complete picture of ancient economic activity; no doubt perishable materials such as cloth and wooden objects formed a larger portion of the cargoes of ships calling at Southeast Asian ports in ancient times, but these are almost never preserved. Ceramics are a useful source of data to evaluate the volume and nature of commerce, but it is necessary to realize that ceramics alone cannot answer some very important questions about Singapore's ancient trade. An example of such a vital question is the relative importance of India versus China in early Singapore's balance of trade. Porcelain and stoneware have been China's most famous commodities for a thousand years. The identification of the country with ceramics is so strong that the word "china" in English refers to both the country and a type of ceramic. Indian exports were made of different materials did not leave long-lasting traces. Without historical documents, however, archaeological data is the only information we have.

Large-scale export of Chinese pottery began in the Song Dynasty, though the discovery of the Batuhitam shipwreck near Belitung Island, Indonesia, shows that some large shipments were made in the late Tang. China officially encouraged the export of porcelain, especially after 1216 (Wheatley 1959: 39). At the end of the eleventh century, China opened a customs office at Quanzhou. This act stimulated the export of Fujian ceramics, which may have become more popular in Southeast Asia than those from Guangdong or Zhejiang despite their relatively mediocre quality (Dupoizat 1998).

Of the Song-Yuan porcelain kilns, the greenware of Longquan in Zhejiang and the white ware of Dehua in Quanzhou Prefecture were considered best in quality (Fig. 7.01). In 1225, Chinese ceramics were exported to north Vietnam, Cambodia, San foqi, the northern Malay Peninsula, the Philippines, south India, and even Zanzibar. There were different markets for different colours of porcelain: green and white wares were popular in Java, white ware in the eastern Indonesian archipelago, and green porcelain in Borneo.

During the Song-Yuan era, Quanzhou may have been the largest seaport in Asia, with a population of a million people (Chaffee 2001: 20). There were 160 pottery kilns in the seven counties of Quanzhou Prefecture (Quanzhou, Jinjiang,



7.01 Chinese kiln sites

Tongan, Anxi, Yongchun, Nanan, and Dehua), “ranking Quanzhou as one of the most important ceramic making centers in China, along with Jingdezhen in Jiangxi and Longquan in Zhejiang” (Chen Peng 1998). Data from Nanan County show that the ceramic industry went through a cycle of boom and bust. From only four kilns during the Tang and Five Dynasties, the figure rose to 50 kilns during the Song-Yuan. The great age of porcelain production then came to an end; only four kilns survived into the Ming. Nanan produced *qingbai*, green, and white wares, many examples of which have been found in the Philippines (Yang Xiaochuan 1998).

Similarly, Jinjiang County, which included a major kiln center, Cizao, supported five kilns during the Southern Dynasties, ten in the Tang, nine during the Song-Yuan, and just two in the Ming. Although the number of kilns declined slightly, ceramic production in Jinjiang reached its peak during the Song-Yuan as a result of more intensive exploitation of fewer kiln sites. At the Tuweian site, the Song-Yuan layer is 4.6 metres deep, twice as thick as the Tang stratum (Huang Shichun 1998). It has been estimated that 100,000 people, or 10 per cent of the population of the Minnan region, worked in the ceramic industry during the late Song-early Yuan (So 1994: 14). The growth and decline of Fujian’s ceramic industry was

probably fuelled by new access to overseas markets, just as its decline was probably due to the Ming policy against foreign trade.

In the Yuan, the Longquan region of Zhejiang contained 300 kilns (Zhu Boqian 1998: 44). It is difficult to distinguish Fujian greenwares from those of Zhejiang, and many greenwares found overseas and attributed to Longquan may actually have come from Fujian (Pearson et al. 2001: 192). Longquan porcelain declined in popularity in the Yuan period, and Dehua replaced Jiangxi and Zhejiang as the largest ceramic production centre in China. Dehua's industry began in the early Yuan when Quanzhou was a prosperous trading center. Quanzhou's decline was intertwined with the contraction of Dehua's porcelain industry. Production was low in the first half of Ming, but recovered in the sixteenth century, and reached a new peak of production in the late Ming-early Qing, precisely when overseas trade was again permitted. Dehua later declined sharply again in the nineteenth century due to competition from European ceramics.

Dehua's best-known products were plain white. White ceramics may have held a special place in Singapore and the Straits of Melaka during ancient times. White earthenware was often used to make spouted ewers or *kendi* which had ceremonial connotations. A particular type of white porcelain called *shu-fu*, produced at Dehua in the fourteenth century, originally used for ceremonial purposes in China, was converted into an export destined for Southeast Asia (Mao 1979: 22, Addis 1968).

The most famous porcelain-producing area in China since the Yuan Dynasty has been Jingdezhen. This valley has the advantage of huge deposits of kaolin, but lies in China's interior; the finished product had to be transported over Wu-i Mountain, then by boat down the Min River to ports in Fujian, or down the Yangzi to the ocean, then by coastal vessel to the Fujian ports where foreign trade was allowed, from which it was sent to Southeast Asia.

Wang Dayuan devoted much attention to the ceramic trade. His book contains much detailed information on the precise types of wares in demand in each foreign port. Chinese merchants wanted to adapt their exports to regional markets. Wang's *Daoyi zhilue* contains a veritable catalogue of porcelains for sale in the 1330s in Southeast Asia. Most of the porcelain buyers lived in or near the Straits of Melaka. He mentioned many types of ceramics, consisting of many different combinations of material, shape, size, colour, and decoration. Customers in the north eastern Malay Peninsula imported earthenware pots, "big jars", and *quzhou* porcelain, while those near Surabaya, east Java, wanted water jars, vases, and green porcelains. Palembang, which in Wang's time was apparently not very prosperous, could only afford big and little water jars and pots, the same range of products as minor markets in Madura and Tanjungpura, Borneo (although Tanjungpura imported blue and white cups too). Coarse cups were suitable for *Ri-li* (south Vietnam?) and *Ling Shan* (north Vietnam); coarse bowls for *Xia-lai-wu* (somewhere in the Singapore area), and Tamiang, northeast Sumatra. Demak, north-central Java, was content with "common bowls", while "common cups" were acceptable in Madura. Annam, being close to China, had a taste for more

refined shapes such as “decorated cups” and “wine cups”. (In the early Ming, however, Kelantan also imported “decorated cups”.)

“Blue porcelain” was widely distributed from north Vietnam to *Wendan*, tentatively identified as Banda, (important because of its cloves and nutmeg). “Blue porcelain jars” were in demand in Maluku, a term which encompassed a wide area including Banda. Blue porcelain is not a common category among Yuan ceramics; we do not know exactly what Wang meant by this term. Perhaps he was using it to refer to a bluish-green colour.

“Black jars”, which Wang reported were in demand in distant *Wendan*, were probably common stoneware containers, but although these are found at archaeological sites all over Southeast Asia, he only mentions them in connection with the fact that they were in demand in *Wendan*. Perhaps he was referring to some special variety.

Wang’s *DYZL* contains the first known textual reference to the white porcelain decorated with designs painted under the glaze in cobalt blue, produced mainly in Jingdezhen, which for several centuries were one of the world’s premier consumer items. It seems that these ceramics were first made with cobalt imported from Persia, and that their early export period was limited to the 25 years between 1327 and 1352 (Liu 1999). After 1352, it would be over a century before this blue and white ware was generally available again (Brown 2003). Thus at the time Wang was writing, they had just been introduced to the market. Their immediate popularity is indicated by the wide range of types made in China and the number of foreign ports where they were sold.

Blue and white porcelain was first produced in large quantities in Jingdezhen, Jiangxi Province, in the early fourteenth century. It was considered vulgar at that time, and only became popular among the Chinese elite in the early fifteenth century (Joseph 1975: 26–7).

No shipments of blue and white ware have yet been discovered on Yuan shipwrecks. This presents something of a mystery but suggests that not much blue and white ware was being produced. The biggest known Yuan shipwreck, found off Sinan, Korea, sank in the early fourteenth century. Its cargo, destined for Japan, contains many porcelains very similar if not identical to those on FTC and other Singapore sites (cf. Anon. 1977–84), but no blue and white ware.

According to Wang, blue and white porcelain was sold in Terengganu and Lambri (Aceh). Blue and white bowls were popular in *Lowei* (perhaps in the upper Malay Peninsula) and Jong (southern Malay Peninsula). On the other hand, blue and white cups were favoured in Tambralinga, Jong, Java, Tanjungpura, and San Dao, Philippines. Bottles and “pots” were also exported to Jong.

Wang’s account shows that the Singapore region was one of the first in the world to take a liking to this new consumer product. It is not therefore surprising that a numerous sherds of this ware have been found in fourteenth-century sites in this region. The brief time span during which blue and white ware was available—that is, the second quarter of the fourteenth century—serves as evidence that the sites where they were found were probably in use during that period.

Wang’s description of ceramics exported to Longya men and Banzu is much more limited than the range of artifacts found in excavations in Singapore. Although his work was written in 1349, his description is probably based on his visits here in the early 1330s, when Singapore was in its early phase of development. The Lion City expanded considerably in the mid-fourteenth century.

Banzu is the only place in Wang’s book where he simply says that the people imported “pottery”, without specifying the type(s) popular there. He specifically stated that Longya men was a market for *ci qi* pottery. As noted in Chapter Three, Wheatley believed that *ci* was a name for a major kiln site but no such placename has been connected with a kiln. Wade believes that the word is meant to mean “local”, in order to distinguish the ceramics sold here from higher-class porcelain made at more famous kiln sites. This ware was also popular in Palembang, among the *Huamian* (“painted face people”, perhaps the Batak of north Sumatra), and Sulu. Wang used the more generic term, “greenware”, for ceramics sold in *Xia-lai-wu*, also near Singapore, and Madura.

ANCIENT PORCELAIN IN SINGAPORE: ARCHAEOLOGICAL DISCOVERIES

Materials

Ancient Chinese pottery in Singapore can be divided into three types: porcelain, stoneware, and earthenware. This division corresponds to physical changes connected with firing temperature. Earthenware is only heated to a temperature high enough to drive off all water in the clay; no physical changes affect the clay itself. Earthenware is highly porous. Water can seep between clay particles to the external surface, where it evaporates. Evaporation cools the vessel naturally, giving pleasure to those who drink from *kendi* on hot days. At the same time, these vessels also have negative qualities: the interstices can trap food particles and are difficult to clean. Some materials can be used to give a glossy appearance resembling glaze to earthenware. Tin and lead can yield white, green, or brown colours, but tend to decay or devitrify over long periods. Organic resins can also give pottery a shiny surface.

Stoneware is fired to temperatures of 1,100–1,200 degrees Celcius, at which the surfaces of the clay particles in the ceramic body melt. On cooling, they fuse together, making the pot less porous and harder. It is also possible to use glaze to decorate it, giving the pot a shiny, glassy appearance that lasts almost indefinitely.

Porcelain is fired at temperatures up to 1,300 degrees Celcius. At this heat, clay particles melt completely. If the temperature goes over this level, the vessels will collapse. The secret of successful porcelain production lies in the ability to attain the precise temperature at which vitrification, the formation of a glass-like substance, can occur. True porcelain is nonporous; all gaps between clay particles are sealed. Porcelains can be glazed with a wide range of materials, producing an infinite range of colours and other effects.

By the late Tang Dynasty, Chinese potters had mastered most of the techniques needed for the mass production of porcelain. The relaxation of trading policy in

the Song period came at an opportune time for the new industry. Porcelain was not made outside of China until about 1800; this allowed Chinese craftsmen to enjoy a monopoly of the commodity for centuries. Southeast Asians, thanks to their proximity to the kilns where porcelain was made, were able to obtain it for comparatively low prices. Thus one of the first major consumer export industries in the world was born shortly before Singapore was founded.

Further archaeological research is needed to chart the rise and fall of different kiln areas and designs inside and outside China. This cannot be done yet because the quantity of reliable data is insufficient, and not enough is known about specific kiln sites to trace pottery to its place of manufacture.

Types of Porcelain

Greenwares

Green-glazed porcelain was very popular in Southeast Asia during the Song and Yuan Dynasties, and many kiln sites in China produced wares of this colour. The term “celadon” is often used by western connoisseurs to describe its appealing bluish-green glaze. The term is derived from the name of a character in a medieval European play who wore a robe of this colour. In Chinese, all green porcelain is simply *qing ci*, “greenware”.

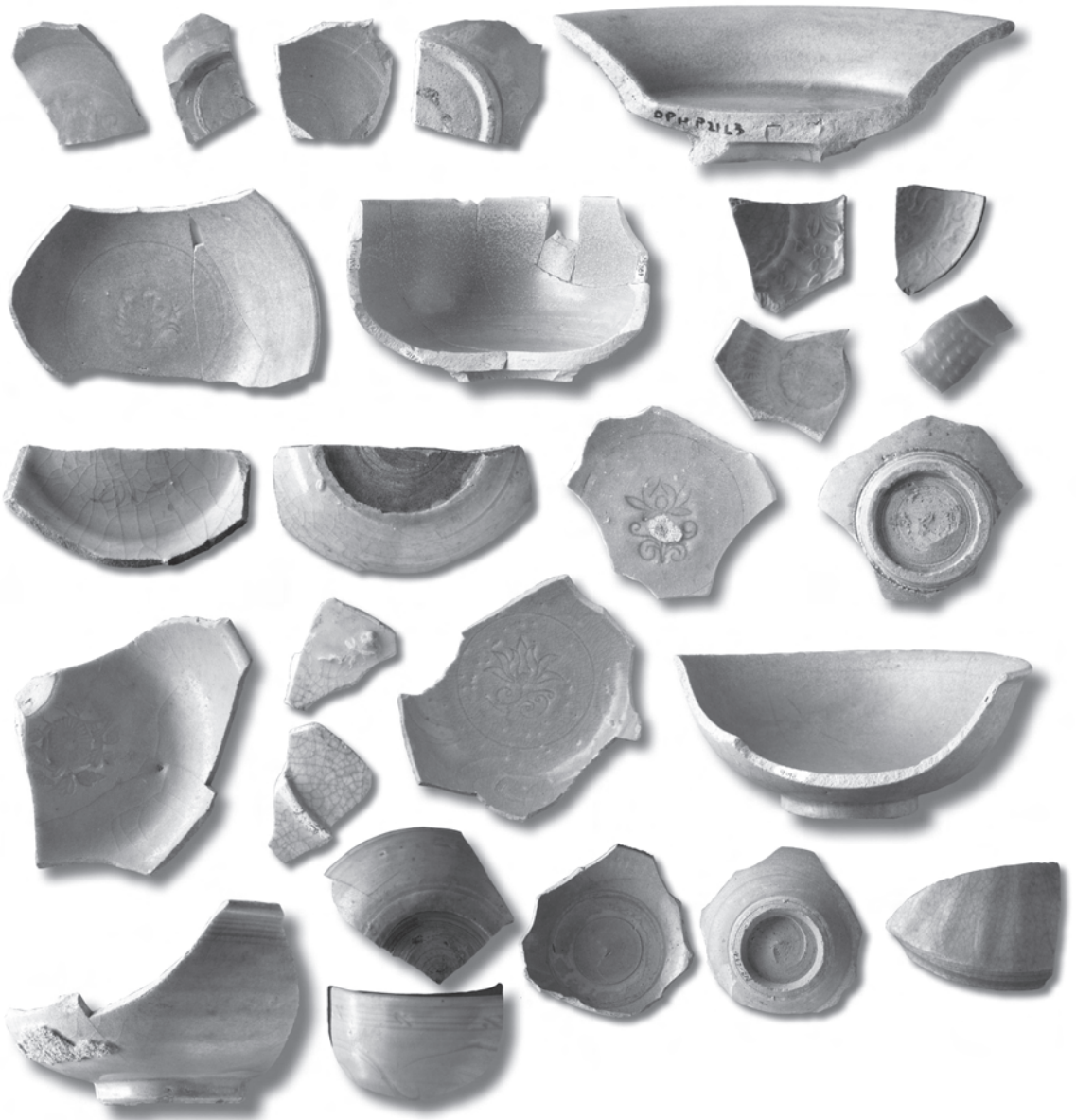
The wide distribution of greenware kilns in China holds out the interesting possibility that research aimed at charting the distribution of various wares through Southeast Asia will illuminate patterns and processes of trade. Unfortunately,

Paste is not of great help in attempting to attribute pieces to specific kilns as the body material varies, even with pieces from the same kiln. This practice of using different pastes at the same kiln seems to be quite widespread throughout South China and complicates to an extreme the task of making specific attributions. (Edwards McKinnon 1984: 252)

The most highly regarded green porcelains were made in the Longquan area, Zhejiang province, but many kilns in Fujian and Guangdong produced similar wares. Sophisticated analytical techniques might be able to detect trace element signatures which can be used to trace objects found outside China to their kiln; several laboratories are now engaged in the search for such trace elements. It is however too early to ascertain whether such a procedure will succeed in discriminating reliably between wares of different areas.

Bowls form the most common green porcelain shape (Fig. 7.02). At EMP, Mr. Ang Yik Han divided the greenwares into Longquan, which comprised 7,247 sherds weighing 58 kilograms (of which 56 kilograms belonged to plates and bowls, with other shapes contributing just 2 kilograms), and non-Longquan sherds, which totalled 18 kilograms. This division was based purely on visual criteria. Further analytical testing, such as techniques like EDXRF (*see* chapter 9), is required to strengthen this hypothesis.

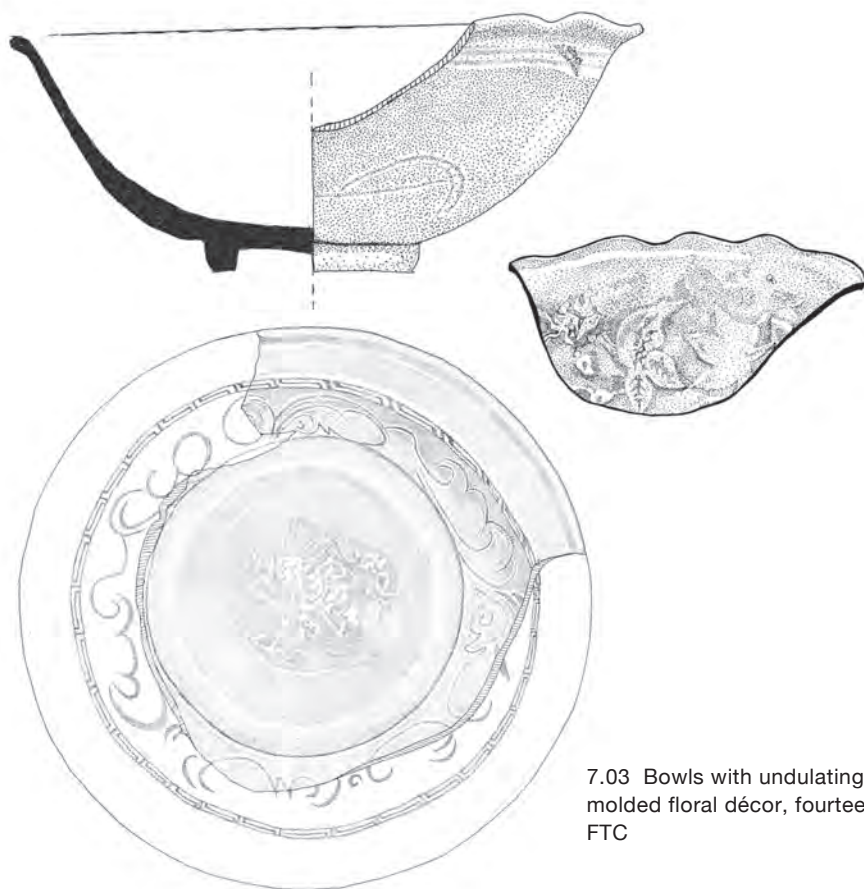
Unusual but beautiful moulded decoration was used to make green bowls that were found in several Singapore sites. Floral motifs stand out in raised relief and



7.02 Chinese greenware bowls, fourteenth century, from Singapore sites

are lighter in colour than the dark green background where the glaze is thicker. The sherds are similar in style to a bowl from the Philippines which is attributed to the Yaozhou “type”, possibly from Guangdong (Brown 1989: 105, pl. 85). These are sometimes dated to the Ming Dynasty. Similar examples were traded as far away as Fustat, Egypt (Gyllensvärd 1975: pls. 40–4).

The most common green porcelain shape in fourteenth-century Singapore was a bowl with a simple rim, about 15 centimetres in diameter. There were numerous variations on this theme. Exteriors and interiors were often decorated with incised

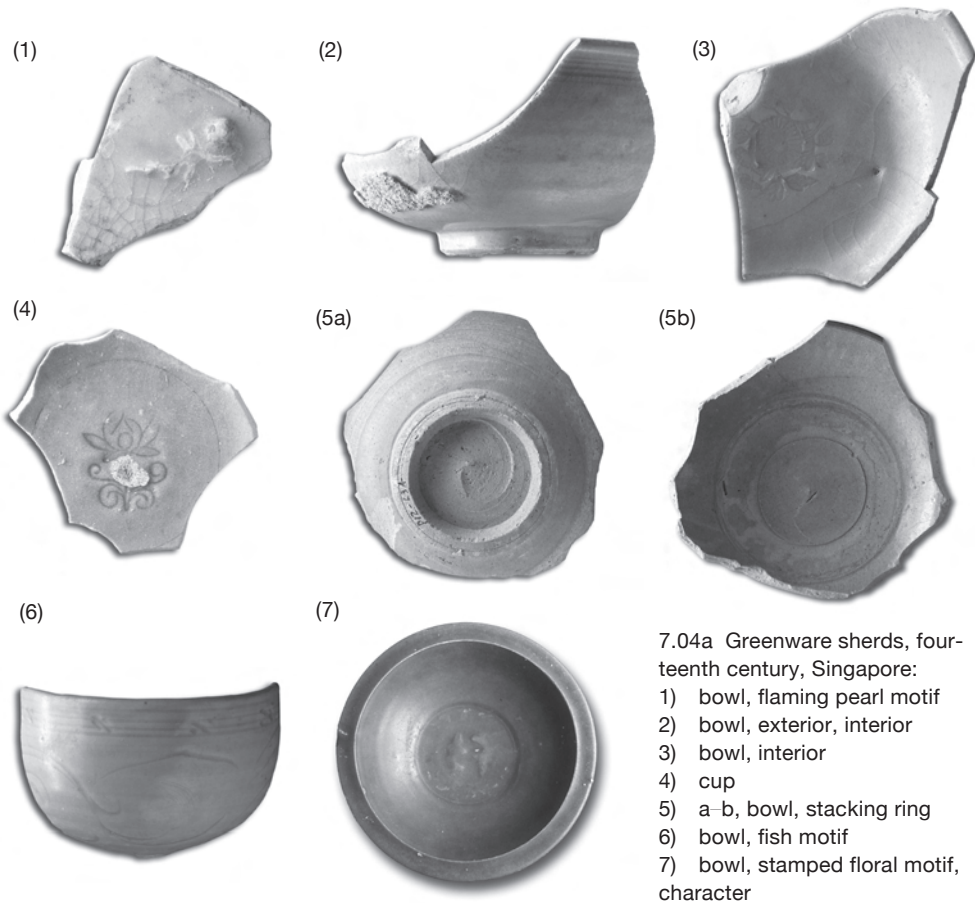


7.03 Bowls with undulating rim and molded floral décor, fourteenth century, FTC

lines forming simple but pleasing curvilinear patterns. Flowers were often stamped in the interior centers. These are usually difficult to see clearly since the glazes in the bowl bottoms tend to be rather thick. Rims are undulating, pinched into pie-crust forms, or carved into bracket shapes. Sometimes bodies were moulded to form floral patterns in relief (Fig. 7.03).

Spur-marked Yueh-type bowls with light grey paste resembling forms known from the Tang period continued to be made during the Song and into the Yuan. Some examples were found at Kota Cina, but only one has been discovered in Singapore (as a surface find at PHC).

One rather coarse bowl form is typified by an unglazed ring on the interior. This was a utilitarian feature that allowed bowls to be stacked on top of each other in order to save space in the kiln during firing. Fifty-two such bowls were found at OPH, 56 at EMP, ten at FTC, and nine at PHC. Only one (from EMP) had a stamped decoration under the glaze in the interior center. Such bowls were also found at Kota Cina, where one had a stamped swastika in the interior (Edwards McKinnon 1984: pl. 133). Such bowls are quite common in Trowulan, the fourteenth-century capital of East Java and claimant of suzerainty over Singapore;

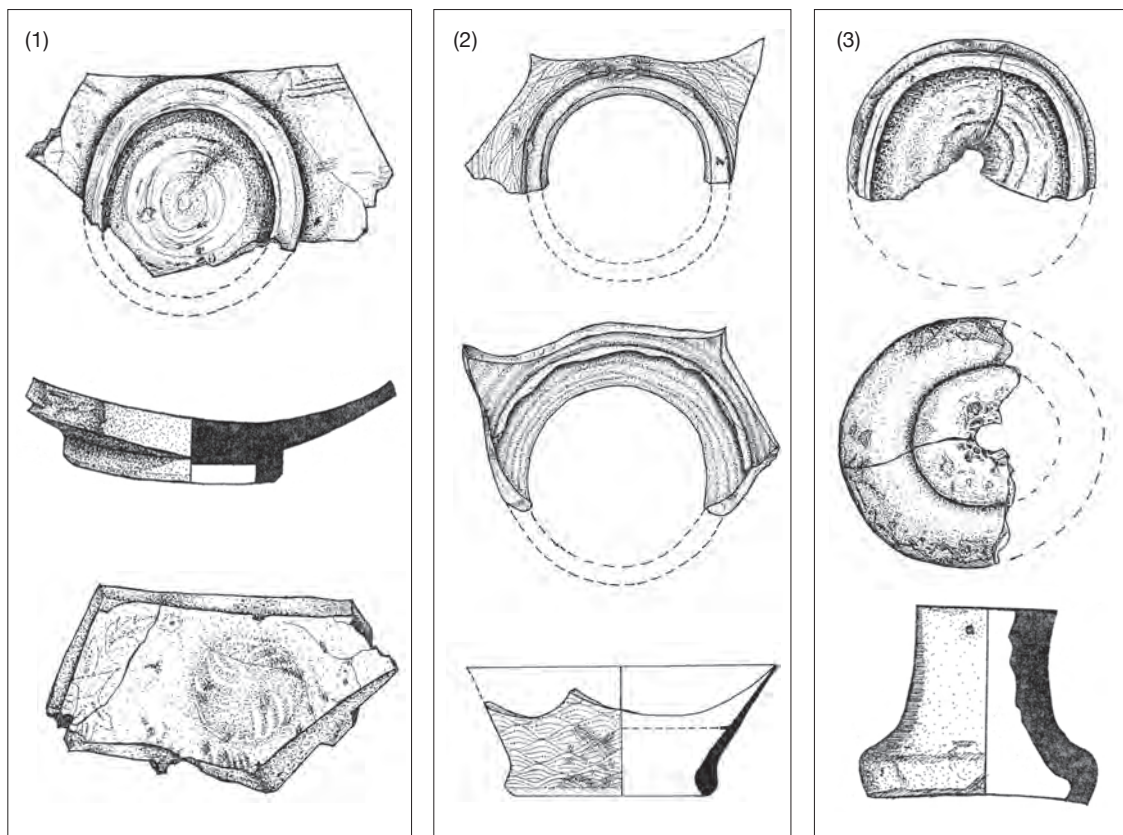


examples from there are much more frequently decorated with stamped designs than in Singapore. Is this difference meaningful, and if so, what does it mean?

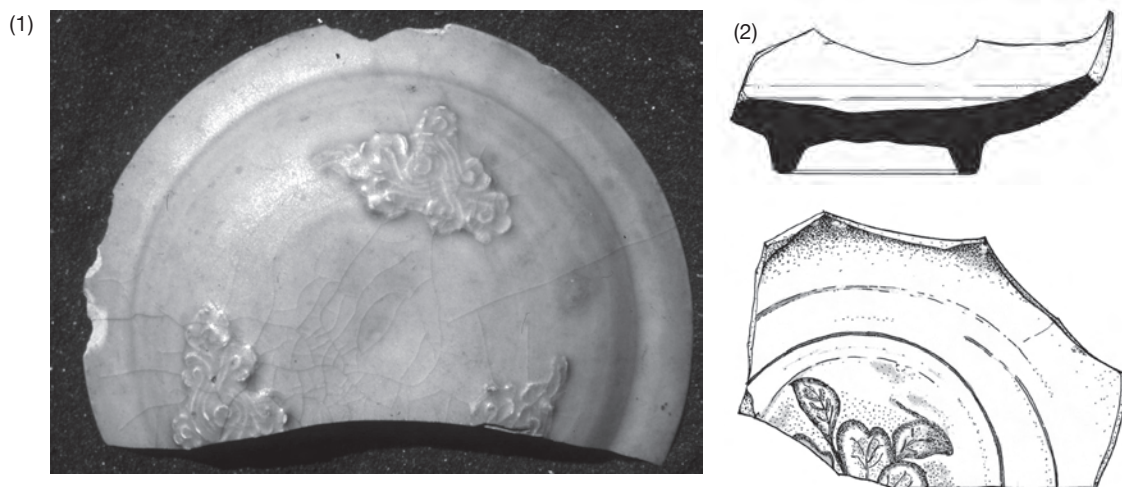
Another bowl variety, normally displaying a high quality glaze, is sometimes termed a “washer”. This variety displays a moulded body with interior vertical grooves and an exterior formed in such a way as to resemble a bamboo basket held together by a horizontal string around the midsection. These are perhaps unique products of Longquan (*see e.g., Aga-Oglu 1975: 30*).

Saucers with moulded double-fish designs are quite popular at Song period sites such as Kota Cina, but double-fish designs were uncommon in fourteenth-century Singapore. None are known from Fort Canning; only three were yielded at PHC; but 38 examples were found at EMP. This variation must have meant something, but it is impossible to tell what. One bowl at Fort Canning bore decoration of two stamped (rather than moulded) fish.

Large plates, some with ornate foliated rims, were also omnipresent in various sections of fourteenth-century Singapore. A fragment of one unusual plate was discovered during the widening of Hill Street in front of the Armenian Church: it is of the golden-yellow colour that sometimes emerged from the Chinese kilns, perhaps as a lucky effect of slight fluctuations of temperature and atmosphere in the kiln during firing. The plate was decorated with a dragon in raised relief (for



7.04b Greenwares found at FTC 1) bowl base with impressed design, 2) base of large jar with wavy design, 3) thick stand, perhaps for a pedestal dish



7.04c 1) Green porcelain lid, PHC. This large lid with cloud appliqué décor was probably made in the Longquan kiln complex of Zhejiang. It would have been used with a large flat-bottomed jar called a *guan*; 2) Greenware base FTC 7961; 3) celadon lid and jarlet, found in Riau

a similar example but of a normal green colour, *see* Aga-Oglu 1975: 28).

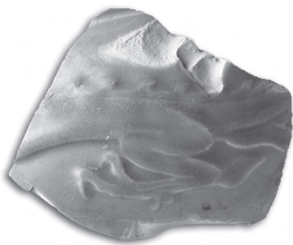
Covered jars with lids, called *guan* in Chinese (often termed “wine jars” in English) “appear to have been quite popular in the Kota Cina area” (Edwards McKinnon 1984: 271). They are present but not common in Singapore. Examples include two lids and fragments of one jar from OPH, six jars and one lid from EMP, one vase and one lid from PHC (Fig. 7.04c), and a sherd of a *guan* (short, wide-bodied jar) with a three-clawed dragon moulded on the exterior from Fort Canning (Fig. 7.05) (data on shapes is not yet available for STA). One domed lid from a greenware *guan* was found at Fort Canning (for examples of identical types of *guan* with lids acquired in the Philippines, *see* Aga-Oglu 1975: 25; *see also* Joseph and Brown 1979: 60).

Jarlets were relatively common and came in many sizes and varieties—plain to moulded, with or without loops on the shoulders. Ten jarlets of various forms were found at OPH; approximately 20 at EMP, ranging in size from 20 to 32 millimetres base diameter, and 11 at PHC. Fort Canning yielded fragments of at least seven jarlets (Figs. 7.06–7.08).

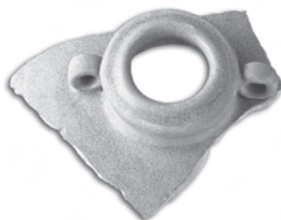
Other common forms of green porcelain imported to Singapore in the Yuan Dynasty include large plates, some over 30 centimetres in diameter, dishes, saucers, jarlets, ewers, wine jars with lids, vases, and incense burners. A few green vases have also been found in Singapore: one, with a flaring mouth and high neck, and another with molded decoration at OPH; and two at PHC.

Compared to the white and blue and white wares, the greenwares produced few unique pieces. One base of a covered box from OPH, one possible piece of a sculpture from EMP, and one base of a possible footed bowl from FTC comprise the most ornate greenwares yet discovered.

A fragment of the rim of a greenware bowl from PHC with raised circular knobs near the rim may have been an incense burner; a green object with a zoomorphic foot is almost certainly part of another incense burner, almost identical to one from Kota Cina (Edwards McKinnon 1984: pl. 165) (for another similar incense burner from the Philippines, *see* Aga-Oglu 1975: 27). A fragment of a covered box in the shape of a duck discovered at OPH is probably from Xicun, Guangdong (cf. Joseph and Brown 1979: 63, Brown 1989: 104). Similar sherds have been found at Muara Jambi.



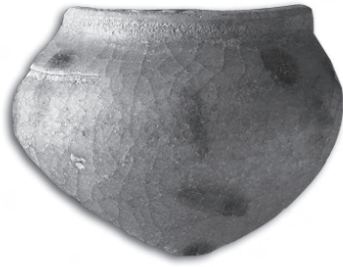
7.05 Sherd of *guan* with dragon's claw



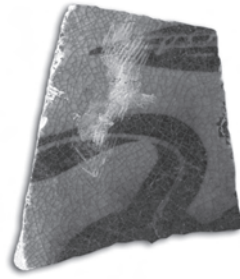
7.06 Mouth of green jarlet with two lugs



7.07 Rim and body of a wide-mouthed jarlet



7.08 Iron-spotted greenware jarlet, FTC. It resembles examples found in the Philippines.



7.09 Black and green lead-glazed earthenware from Cizhou, Hebei, Song-Yuan Dynasty, FTC



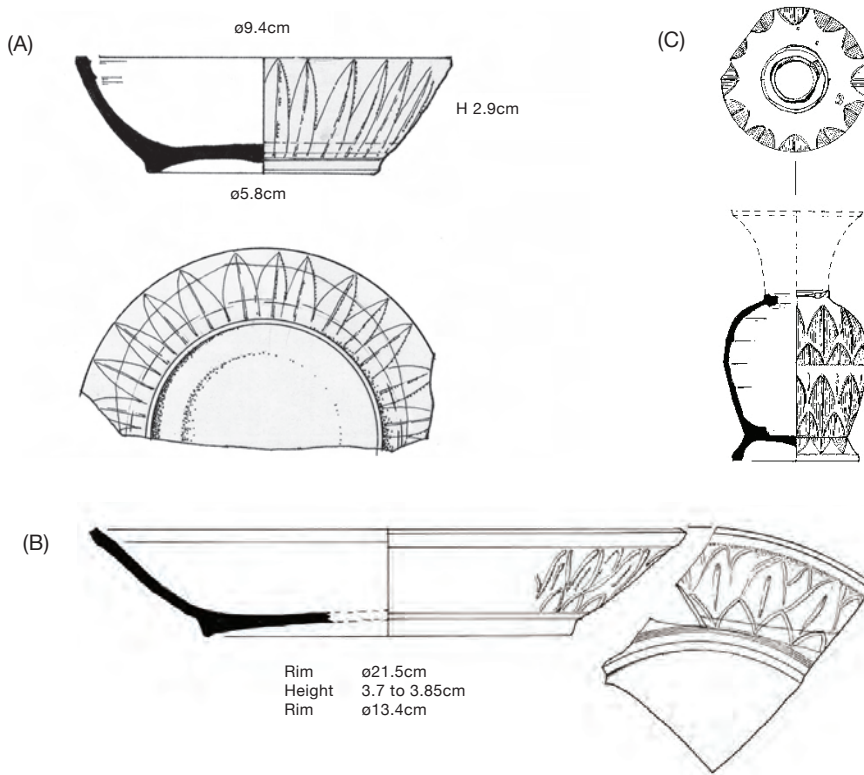
Yuan-Dynasty potters in Longquan and Fujian experimented with the addition of other colours to green porcelain. One expedient sometimes used was to splash drops of iron oxide over the green glaze. This produced irregular dots of dark reddish brown to an almost black colour. Very few examples of this have been found in Singapore. One of these represents a type also found in the Philippines: a small jarlet (Fig. 7.08).

One other category of Chinese ceramic is lead-glazed earthenware, probably from Quanzhou. While not common at Kota Cina or any other site, including Singapore, examples do exist. These objects are green with a pale body. Sherds from Fort Canning belong to a moulded jarlet (Fig. 7.09); fragments of several objects including a *kendi* were found at PHC (for a comparable example, see Brown 1989: pl. 135.)

White wares

Yuan Dynasty white wares found in Singapore can be divided into two types, one soft and yellow, the other hard and either bone-white or faintly bluish. The soft and hard wares come in different shapes. The soft type was used for boxes and shallow bowls decorated with molded plantain leaves on the outsides. Hard paste ware was used for high-sided bowls with smooth exteriors and molded decoration on the interior. The hard wares probably came mainly from Jingdezhen (Jiangxi Province) and Dehua (Fujian). Since the Northern Song until today, Dehua pottery is produced by being fired for a long time at a very consistent and narrow range of temperatures (Zeng Fan 1990: 33–4). Dehua clay contains much silicon, some aluminium and titanium, and very little ferric oxide (less than 0.5 per cent). Dehua's name has become synonymous with a range of white glazed wares which were very popular in Southeast Asia. The shapes of Dehua wares found in fourteenth-century Singapore are quite similar to those found in the Philippines: vases, bowls, and covered boxes (Fig. 7.10) (for illustrations, see Li Z.-Y. 1993: Fig. 1).

The source of the soft ware is unknown. Several pottery centres appeared in Fujian around the time that Quanzhou rose to prominence as a trading port.



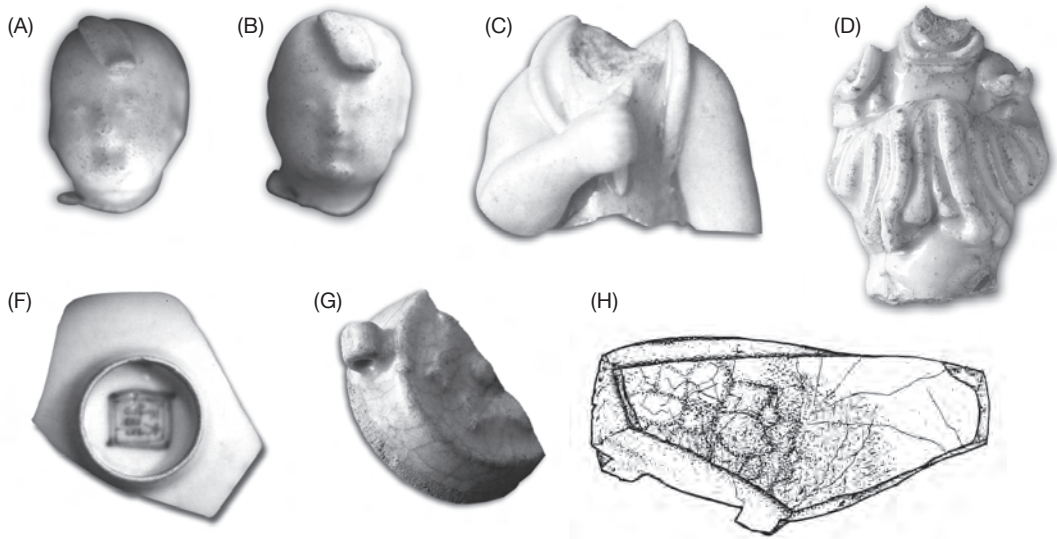
7.10 White porcelain, fourteenth-century (a) EMP B4-1, B4-5; (b) EMP shallow dish; (c) Lead-glazed molded white ware, jarlet body (FTC 2891, 1/3)

Kiln complexes in the Quanzhou region which exported wares to Southeast Asia during the Song and Yuan Dynasties include Dehua, Anxi, Nan 'an, and Tongan. There is reason to suspect that the soft white ware was not made in Dehua. It may have come from Anxi.

One of the specialties of kilns at Jingdezhen, Jiangxi Province, was a kind of white glaze termed *qingbai*. The word *qing* refers to a particular shade of blue, and *bai* is white. Other names such as *ying qing* are sometimes applied as well; the phrase implies a faint bluish-white colour. This type of porcelain was made during the Song, and continued into the Yuan. Appliqué decoration found on some Singapore *qingbai* artifacts only came into use in the late thirteenth century (Borstlap and Teske 1995: 61). Singapore examples represent the early phase of this development (Fig. 7.11).

Both hard and soft white porcelain were used to make small round boxes with covers, often with molded vegetal decoration (for examples, see Aga-Oglu 1975: 36), and flat-bottomed small bowls, perhaps made in moulds, with plantain leaf designs on the exteriors (Aga-Oglu 1975: 58). Another common shape is a small jarlet, also with plantain leaf decoration on the exterior, with a relatively long neck and flaring mouth (Fig. 7.11; for other examples, see Aga-Oglu 1975: 85).

Some shapes were made only in hard white porcelain. One is a bowl with a small foot, a lower body which is almost horizontal, and a carination which



7.11 Fragments of *qingbai* porcelain a) head of a figurine, EMP; b) head of a figurine, PHC; c) torso, PHC; d) torso of a robed figure, EMP; e) white wine cup with character stamp on exterior bottom, EMP; f) *qingbai* cover with lug; g) bowl, molded floral décor in centre, FTC

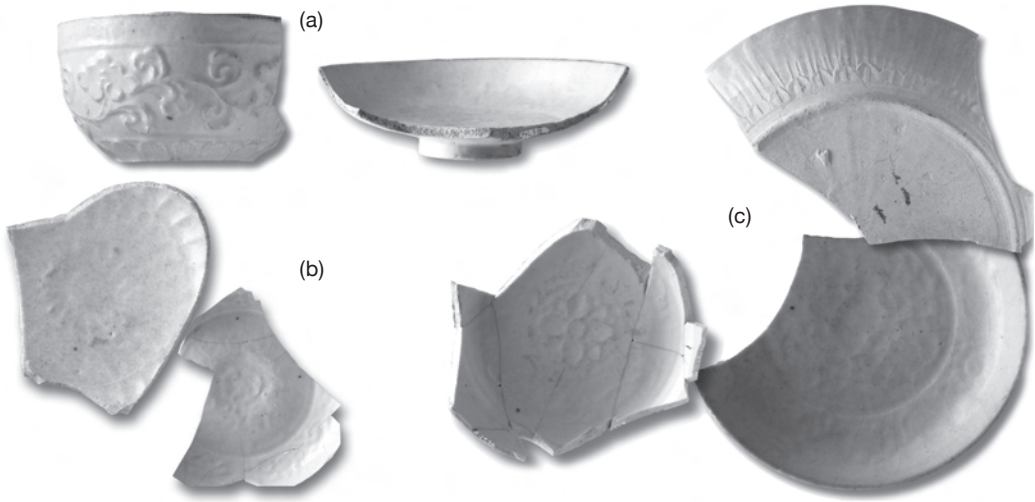
joins the lower body to the cavetto and rim. These are often called *shu-fu* bowls because these Chinese characters are sometimes painted on their bases (for examples similar to the Singapore finds, *see* Addis et al. 1984: 123, pl. 86; Aga-Oglu 1975: 37). These were made at several kiln sites, including Dehua.

Another form unique to the hard white ware is a small wine cup. These are identical in shape to specimens decorated with underglaze blue. The soft white porcelain was used to make slightly larger cups with molded exteriors (for examples, *see* Aga-Oglu 1975: 38).

One common vessel, the *kendi* or spouted water container, was often produced in China and exported to Southeast Asia. An ornate spout made of white porcelain was discovered on Fort Canning, near the building originally used as the Fire Director's Residence, behind the Hill Street Fire Station. The spout appears to issue from the mouth of a monster, perhaps a dragon (for an intact example, *see* He and Xu 1973: 579).

White wares from Fort Canning include extremely rare types. One special object was shattered into fragments consisting of delicate curlicues resembling miniature cords or ropes; fragments of balusters of a tiny railing; and two small busts of human beings, one depicting a robed monk, the other a non-Chinese person, possibly of Persian or Arab origin, wearing a turban. These are the remains of a porcelain pillow in the form of a Chinese opera theatre, complete with actors (Fig. 7.13a). Similar pillows found in China have almost identical fittings such as railings and curtain cords. Examples are dated to the Song (Tregear and Vainker 2000: 186) and Yuan Dynasties (He and Xu 1973: 378–9).

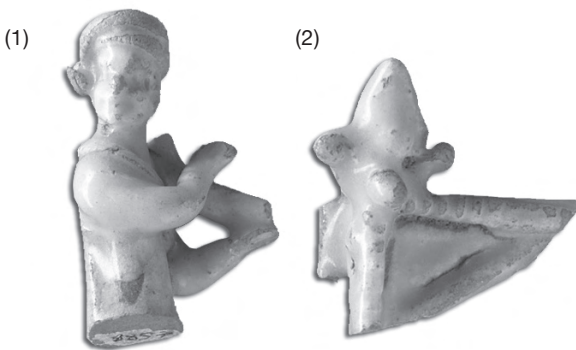
Two other white porcelain objects are represented by massive sherds one centimetre thick, bearing incised designs, including one with a dragon pursuing a



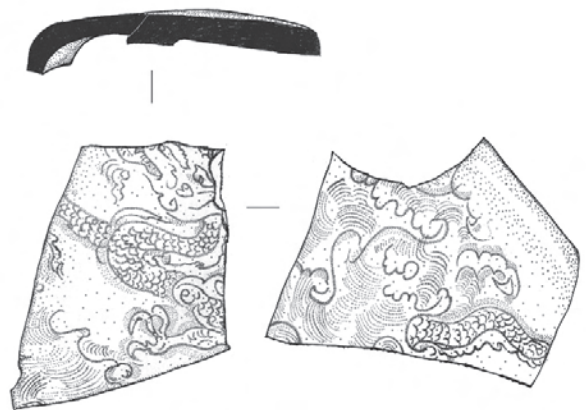
7.12 Dehua wares from Singapore sites a) small cups, b) saucers, c) flat-bottomed dishes

flaming pearl. Another had some sort of attachment, either a spout or a handle, but neither can be reconstructed (Fig. 7.13b). Another very large white porcelain object was a rectangular incense burner with large feet at the corners; it imitates forms normally found in bronze.

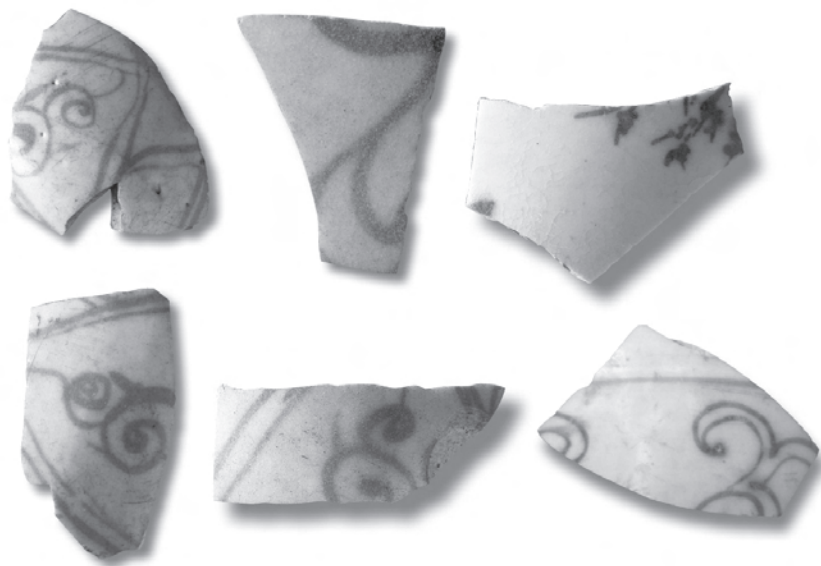
Edwards McKinnon (1984) distinguished between white and grey porcelain at Kota Cina. Similar grey sherds have been found at Fort Canning. It is difficult to be sure that the grey type was a separate type, because objects of this colour share their shapes (mainly simple bowls) with white ware. This hypothesis can be tested with more research if consistent differences in composition between grey and white sherds can be detected. The grey ware may have come from Fujian.



7.13a Fragments of a *qingbai* pillow in the form of an opera stage, FTC: “foreign” man wearing turban, clove-shaped finial of stage railing



7.13b Thick white porcelain slab with dragon motif, FTC



7.14 Rare examples of copper-red wares of the Yuan Dynasty, FTC and PHC

Copper-Red Wares

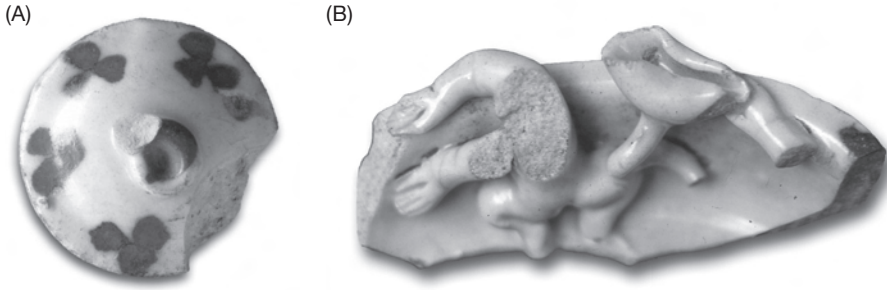
Chinese potters experimented with several minerals besides cobalt during the Yuan Dynasty. One of these was copper. Under the proper conditions, copper can yield a beautiful soft red colour. This technique proved very difficult to control, and few pieces were made. About a dozen copper-red sherds have been found at FTC, STA, and PHC (Fig. 7.14). These formed parts of small bowls, jars, and cups (for similar examples, *see* Addis et al. 1994: 154, pl. 154; 155, pl. 147).

Iron-Spotted Qingbai

Chinese potters sometimes used iron oxide to create brown or black spots on white glaze, producing iron-spotted *qingbai* which was apparently mainly for export. Five pieces found at Fort Canning belonged to miniature jars and covers (Fig 7.15a; cf. Addis et al. 1984: 118, pl. 76). One impressive example was found at PHC: a fragment of a small dish decorated with figurines of boys playing in a lotus pond (Fig 7.15b; for intact examples, *see* Joseph and Brown 1979: 46, 89; Guy 1990: 90, pl. 43). A similar artifact has been found in the Philippines. A small jar found at STA imitates a starfruit (for a similar example, *see* Addis et al. 1984: 60, pl. 75).

Blue and white

Although Chinese potters experimented with blue designs on white backgrounds in the ninth century, the oldest blue and white artifact with a firm date comes from a tomb built in 1319 (Gotuaco et al. 1997: Fig. 2, Peng Shifan et al. 2002: pl 1). According to Liu (1999; cf. Borstlap and Teske 1995: 60), all Yuan porcelain decorated with underglaze blue design found in the Middle East was made



7.15 Iron-spotted *qingbai* a) lid for a jarlet, FTC; b) flat-bottomed dish with boys in a lotus pond, PHC

during the period 1328–1352. This provides a date for the inception of export of this ware, based on the origins of some decorative motifs used on the porcelain. Yuan-dynasty blue and white export is thought to have ceased in 1352, when the Mongols lost control of Jingdezhen, and the Fouliang Porcelain Bureau there was shut down. Almost all the early blue and white porcelain found in Singapore must have been made during these 25 years.

Yuan blue and white was mainly (though not exclusively) made in Jingdezhen. Potters there began by making white wares, competing with more established centers such as Dehua. Then they began to experiment with blue underglaze decoration. These quickly became popular in overseas markets, so production was rapidly expanded.

The blue colour is produced by using cobalt. This mineral exists in China, but the cobalt used in Yuan-period Jingdezhen contains a high concentration of iron and a small amount of manganese, qualities typical of cobalt imported from the Muslim countries of the Near East. Many potters working for the Imperial Bureau of Manufactures, which was responsible for making porcelain for the court at Zhushan, one of the kilns of Jingdezhen, came from Islamic countries (Liu 1993: 36).

One or two other locations also attempted to make early underglaze blue decoration. The glaze of some bowls found at Fort Canning became highly degraded over 700 years of burial, whereas normal Jingdezhen glaze remains unaffected. Comparisons of the mineral content of the shiny and the degraded varieties suggest that they originated from different kiln areas. Research on this subject is still in progress, but it is quite possible that fourteenth-century Singapore was receiving this ware from two sources.

The location of the second source is still uncertain, but it may have been in southern China, perhaps in Yunnan. Cobalt has been found there, and a kiln at Yuxi, near the mines, produced blue and white ware in the fourteenth century (Hughes-Stanton and Kerr 1980: 68, Feng 1981). Chen, Guo, and Chen (1993/94) studied 12 sherds of Yuan blue and white porcelain using X-ray fluorescence (XRF): 5 from Yuxi and Jianshui kilns of Yunnan, and 7 from Jingdezhen. The Yunnan cobalt has high manganese content while the Jingdezhen cobalt has high iron and low manganese content. The decorations on the Yunnan sherds in this article do not resemble those found on the FTC examples; more research is needed.



7.16a Yuan and early Ming Dynasty blue and white sherds from Singapore sites

Early cobalt blue decoration is found on a number of ceramic forms, including already-familiar shapes such as bowls that in other respects are identical to plain white bowls from Dehua. Within a few years, they began to experiment with different shapes, such as small vases and jarlets with loops on the shoulders.

The range of designs found on Yuan blue-painted porcelain found in Singapore is rather limited (Fig. 7.16). Most of the objects were bowls with lotus petal designs on the lower exterior part of the body; leafy vines depicting chrysan-

themum flowers and blackberry vines on the exterior; classic scrolls or vines on the interior of the rim; and in the center of the interior, the most prominent part of the bowl as it is usually seen by the viewer, either ducks in ponds surrounded by water plants, or simple vegetation patterns. The duck-pond motif was also popular in India, where bowls with this décor comprise 38 per cent of all Yuan wares excavated (Liu 1993: 37).

More unusual forms include small cups, very finely made, possibly for wine; vases, some with flaring trumpet-shaped mouths; lids of two types, one carinated, two or three others with an undulating rim; and ewers with handles. One stem-

Yuan Blue and White Sherds

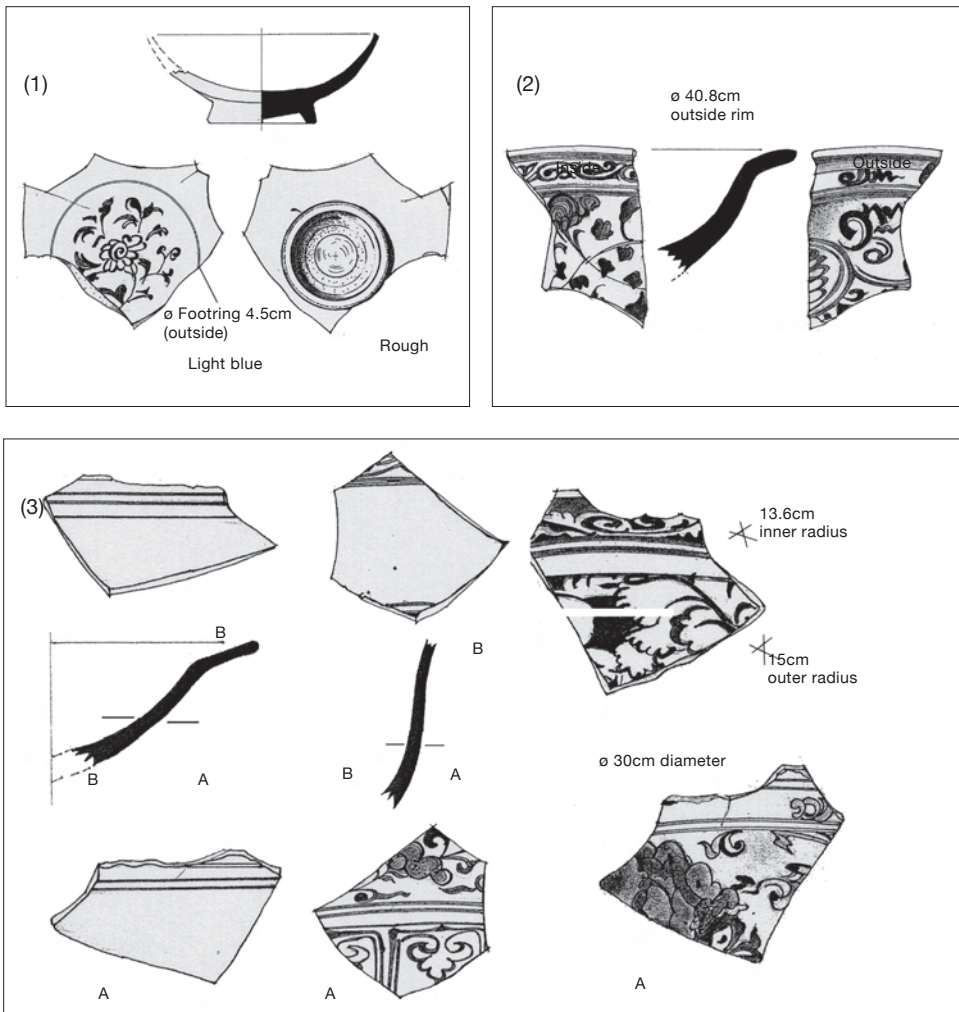


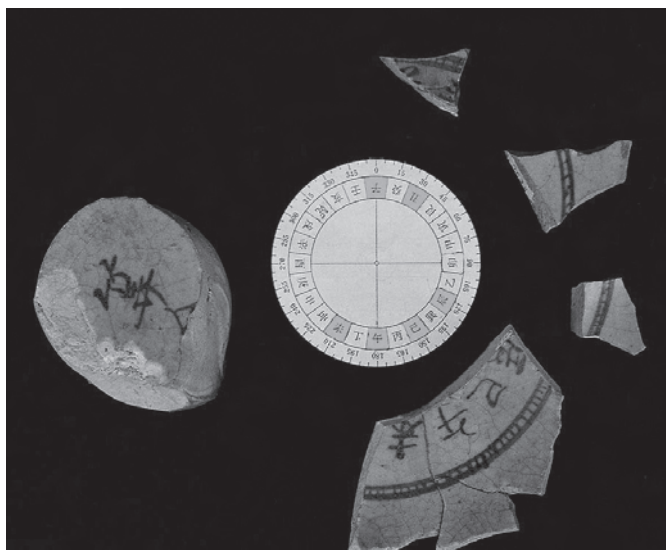
Fig 7.16b 3 views: 1) EMP A2-2 bowl; 2) BW EMP B2-S3, C4 S3; (3) EMP C4-3, B4-4

cup has been found on Fort Canning (for similar examples, *see* Carswell 1985: 63–4). Similar stemmed cups have been found in Trowulan. Sherds of a small ewer similar to that illustrated in Aga-Oglu (1975: 61), an early export to the Philippines, have also been found on Fort Canning.

A sherd found at Fort Canning probably once formed part of a type of ewer often called a “monk’s cap” in the West, *to-mu-hu* in Chinese, which imitates a wooden prototype. Sherds of these objects have also been found in the Philippines (*cf.* Gotuaco et al. 1997: 61); similar wares made of metal are still used in Mongolia.

One of the most important discoveries on Fort Canning consists of sherds from a bowl with underglaze decoration in the form of Chinese characters for compass directions (Fig. 7.16c). These are arranged around the base of the bowl’s interior in correct sequence, and are enclosed in a ring divided into many small units. In the center of the bowl is a character which has been identified as *suan* (“computation”).

The Chinese invented the magnetic compass. The *Meng-xi-be-tan* written by Shen Gua between 1085 and 1093 states: “When a *fang-jia* or a geomancer rubs the point of a (sewing) needle with the lodestone, the needle acquires the property of pointing to the south The needle can be placed on the surface of water and made to float; it is very restless” (Li Shuhua 1956: 90). Zhu Yu of Zhejiang in *Ping-zhou-ko-tan*, written in the early twelfth century, gives the first description of the use of the compass for navigation: “In clear weather, the captain ascertains the position of the ship by looking at the stars at night, or at the sun by day; in dark weather, he looks at the south-pointing needle” (Li Shuhua 1956: 98). According to the *Fu-zhi-tang-tan-hui* by Hsu Yingqiu, governor of Fujian in



7.16c Compass bowl with underglaze decoration, FTC. This is one of the most important finds in Singapore because it is the only example of this type of object yet discovered.

the Wanli period, “The mariner’s compass ordinarily used is the compass of the geomancers” (Li Shuhua 1956: 104); the instrument could be used by both sailors and *fengshui* masters.

At this time, the Fort Canning specimen is the only one known in the world. The underglaze decoration is black rather than blue; it may have been made of iron rather than cobalt. The bowl might have been used on a ship, but it could also have been used for geomancy. Perhaps the rulers who lived on Fort Canning Hill used it for the latter purpose.

A unique bowl found on the Intan shipwreck is made in an unusual manner: by luting together two parts that were made separately. On the exterior is an incised depiction of a hawk-like bird with outstretched wings. Flecker speculates that this may have been a compass, but no definite proof exists for this theory (Flecker 2002: 90–2). The Intan bowl bears no appreciable resemblance to the Fort Canning artifact.

Another unusual sherd takes the form of a *ruyi*, a Chinese ceremonial object. This may have formed the upper part of a ewer imitating a wooden shape, such as a *qingbai* example illustrated in Joseph and Brown (1975: 80).

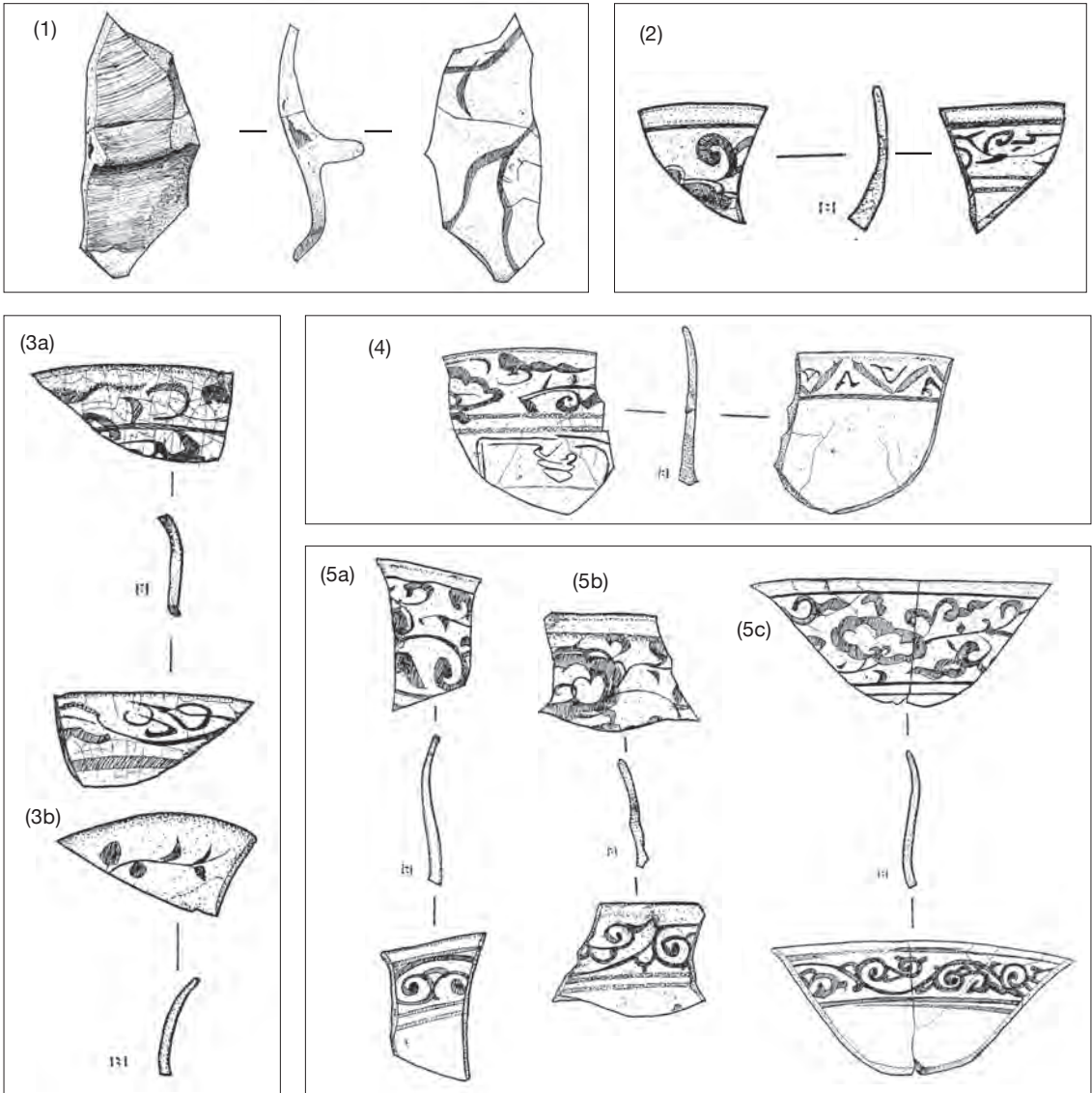
Ming Porcelain in Singapore

Some sherds found in Singapore date from the early Ming Dynasty. Scholars are still uncertain about the dating of Chinese ceramics from this era. The porcelain made during the period between 1436 and 1464 is particularly obscure. No Jingdezhen porcelains with reign marks from this period have been found. Porcelain made during the reign of Zhengtong (1436–1449) perpetuated late Yuan and early Ming style. “Various schools of dating the provincial blue and whites of this period have developed during the last few decades, sometimes contradicting and confusing” (Lam 2001: 35). Even for the Hongzhi reign (1488–1503), little porcelain from Jingdezhen is known (Fig. 7.17a).

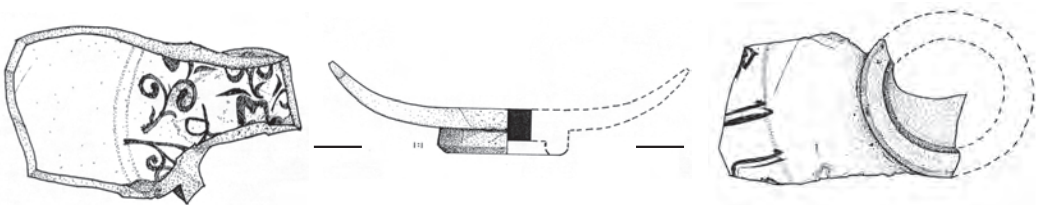
Late Ming sherds found at EMP prove that a trading port existed here after Melaka fell to the Portuguese and the Malay capital returned to the Johor-Riau area. The office of the shahbandar or harbourmaster shown on Erédia’s map of Singapore in 1604 (Fig. 4.09) was probably located in this vicinity. Most of the Ming items were small bowls, though some other shapes, such as vases with long thin necks (cf. Carswell 1985: 122), also appear (Fig. 7.17b).

STONEWARE

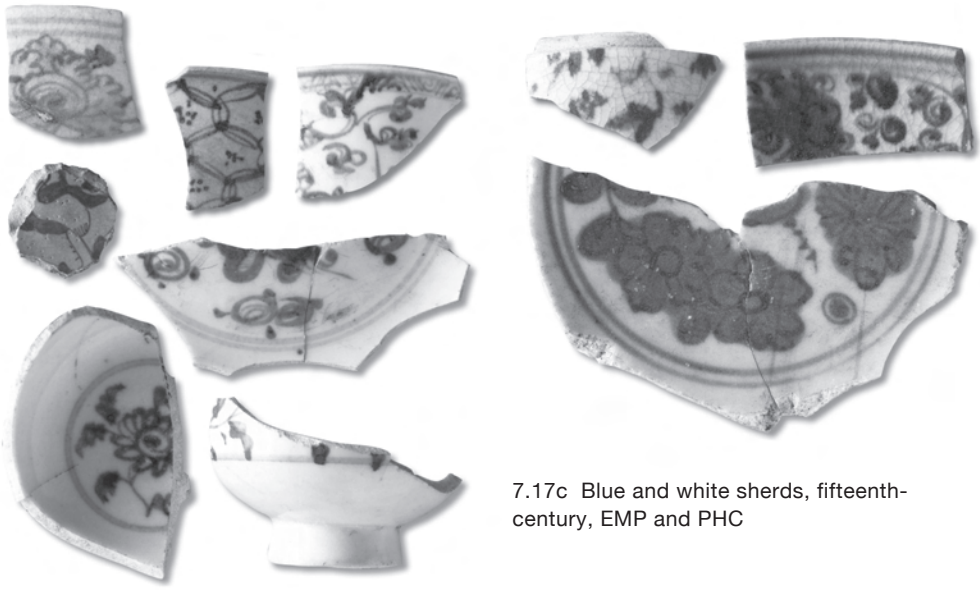
Porcelain was both a useful and a decorative commodity in the fourteenth century. The other main type of Chinese pottery which Singaporeans imported, stoneware, was utilitarian. The number of stoneware items was probably equal to if not greater than the number of porcelains found in the city. The most common artifacts which survive from ancient Singapore are bottles (one might also call them jars or vases) made of coarse grey stoneware with narrow but thick flat bases, and bodies flare outward to a height of about 25 centimetres, becoming thinner, and



7.17a 1) Lid for a large lid (FTC 982, square 2 lot 4); 2) small winecup (FTC 1761, 1, 3); 3a) rims: bowl (FTC 1828, 1, 3); 3b) trumpet-mouthed vase (FTC 412, 1, 3); 4) bowl rim (FTC 777, 2, 4); 5) bowl rims a) FTC 1002, 2, 4; b) FTC 1020, 2,4; c) FTC 990 and 1318 (conjoining)



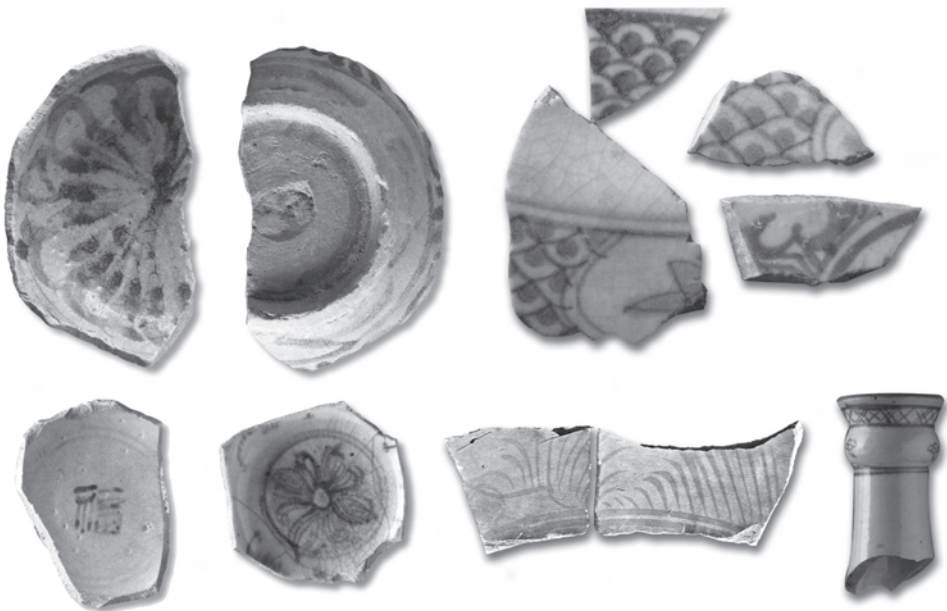
7.17b Bowl base (FTC 2835, 2, 3)



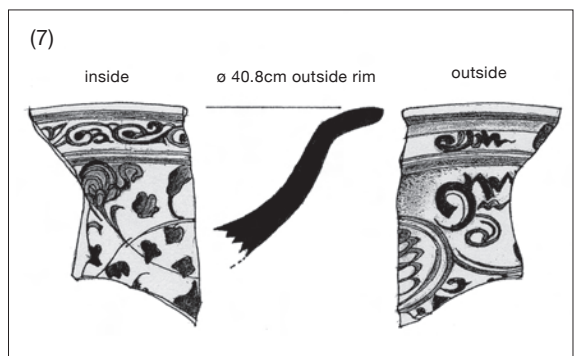
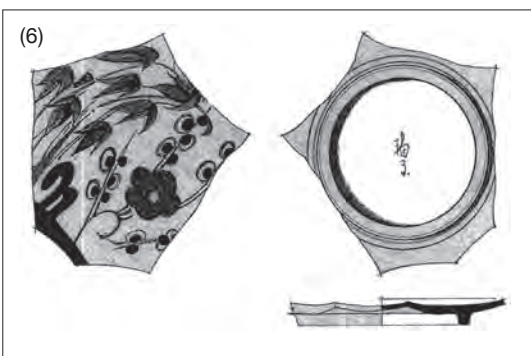
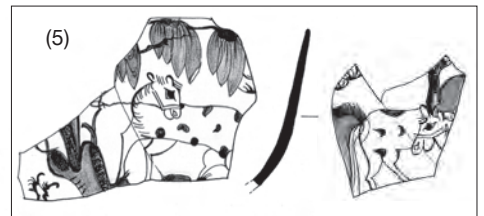
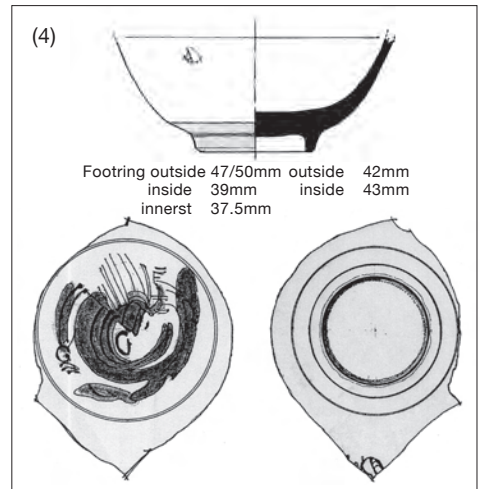
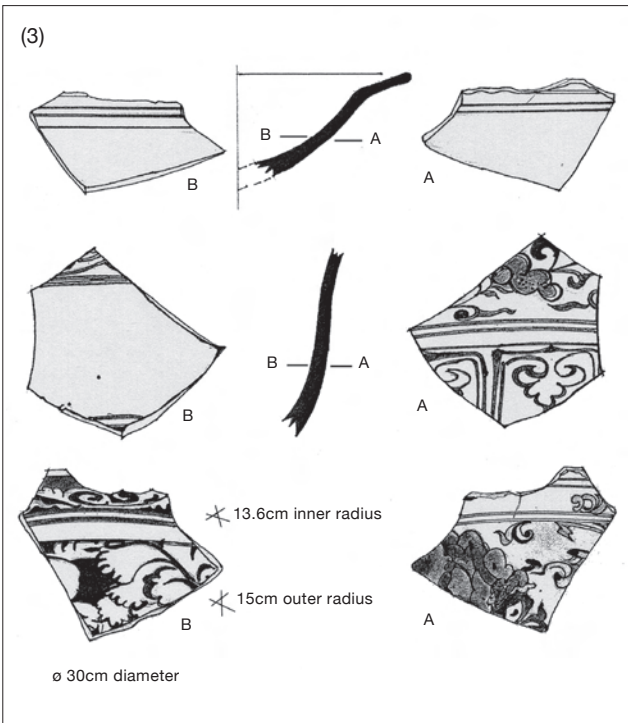
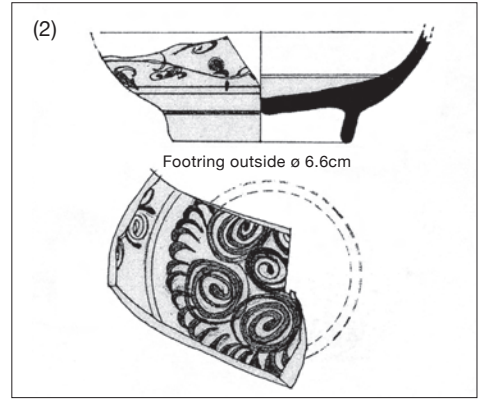
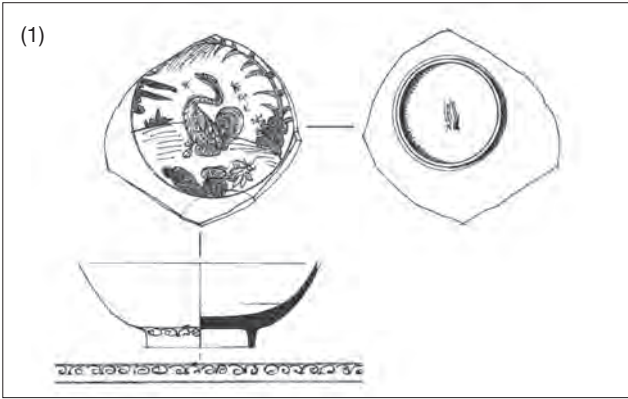
7.17c Blue and white sherds, fifteenth-century, EMP and PHC

then curve suddenly inward to a small mouth about one centimetre in diameter with the barest suggestion of a neck. They are sturdy but not very stable when placed upright.

These bottles were made with minimal care. The shapes of the bodies are irregular, a clear sign of the haste with which they were thrown on a potter's wheel. The upper portions of the jars often sag due to their thinness. These bottles were made with no aesthetic qualities; they lack decorative attributes and had standardized shapes, suggesting that their forms were determined solely by functional considerations. These bottles began to be made in the twelfth century. Early



7.17d Ming dynasty blue and white sherds, EMP and PHC



7.17e 1) Blue and white bowl made in the reign of emperor Zheng De (1522–66): goose pattern, scroll on exterior of foot, 2) blue and white, late Ming, base of bowl (EMP B3-1/2); 3) sherds of Ming dynasty bowls (EMP B4-4); 4) base of bowl with whirling animal (*chi* dragon); 5) Ming sherds depicting horses (EMP C3/0, C3-1); 6) base of Ming plate with character “white jade” (EMP E3 S1); 7) rim of Ming shallow bowl (EMP B2 S3)



7.18 Four mercury jars found intact, OPH

examples usually had a small area of glaze surrounding the mouths, but in the fourteenth century this gesture toward decoration becomes rare or absent; only one example bearing this decoration has been found in Singapore at PHC.

A clue to the purpose of the bottles is the exaggerated angle at which the body tapers from the shoulder to the base. If the potters had paid more attention to the finish of the vessels, this feature would be taken as a stylistic trait, but given the lack of evidence that potters were concerned with the appearance of these vessels, it is more likely that this attribute was purely functional. Chinese archaeologists term these vessels 小口瓶 (*xiǎo kǒu píng*, “small-mouth bottle”). They were made at the 曾竹山 (*céng zhú shān*) kilns which formed part of the kiln complex at Quanzhou (Kwan and Martin 1985: 74). These sturdy bottles were very cheap and plentiful so it is not surprising that they were used to contain various substances, including lime (remnants of this substance have been found in one such jar in Singapore). It is often assumed that they were designed as all-purpose containers for other liquids such as wine and sauce. Heng suggested that they were specifically meant to contain southern Fujian rice wine (Heng 2009: 188–9; *see also* cover illustration).

F. E. Treloar (1974), a metallurgist, speculated that the particular shape of these vessels might have been dictated by the need of the vessels’ designers to create a container that could contain substances heavier than normal liquids. A thick narrow base and sharply tapering body would be well-suited to this requirement. The narrow mouth would also be useful if the substance were a volatile liquid. Mercury fulfils this criterion. A bottle of this size filled with mercury would weigh approximately 20 kilograms.

DISTRIBUTION OF “MERCURY WARE”/ “SMALL-MOUTH BOTTLES”

Sherds of this ware have been found at many Song-period archaeological sites in Southeast Asia, including Pengkalan Bujang and Angkor (Treloar 1974), Kota Cina (Edwards McKinnon 1984: 294–8), and Trowulan, east Java. Treloar also

asserted that such ware was found in nineteenth-century Singapore and modern Myanmar, but none of this ware has been found in undisturbed nineteenth-century Singapore contexts, nor has anyone else reported sherds of this ware in Myanmar. It is common at fourteenth-century sites in east Java such as Tuban (Ho 2001: 248), but not in central Java, where most sites date from the eighth to ninth centuries. These jars have been found in thirteenth-century contexts in Angkor, where mercury is known to have been imported (O'Connor 1985: 68). They are also noted as common finds in pre-Ming sites in Sarawak (Zainie 1967: 81–2), and in the Penghu Islands between Luzon and Taiwan (Liu Liang-yu 1994: 249). Sherds have also been found at Palaiya-Kayal (“Old Kayal”), in Tamil Nadu, south India, together with other sherds of the thirteenth to fourteenth centuries (Karashima 2004: pl. 22: 1). Marco Polo described “Cail” (his spelling of Kayal) as “a great and noble city”. These jars may well have been found elsewhere but went unreported due to the general indifference most archaeologists have displayed toward utilitarian stoneware.

Evidence for Early Mercury Trade

In its pure form mercury is a highly volatile, silvery liquid which evaporates in the open air, and explodes with potentially lethal force if subjected to heat. It is commonly found in the form of red ore called cinnabar (HgS, sulphide of mercury). If cinnabar-containing rock is roasted over a fire, drops of mercury run out of crevices in the stone. If cinnabar is ground up and heated in a container, vaporized mercury condenses on the sides of the container.

Mercury is found in several places near Singapore. In AD 802 a north Sumatran kingdom was said to yield gold, camphor, and mercury (Wolters 1967: 192). A Dutch mining engineer reported that the people of Jambi mined cinnabar between 1906 and 1912 (Tobler 1921: 463–4). Mercury is associated with gold mining because mercury can be used to extract gold from rock. Another engineer, Hovig, described traditional gold mining in the Lebong valley in the highlands of Bengkulu, southwest Sumatra, where legends trace the discovery of gold mines to the time of Majapahit. At Lebong Donok, gold ore was crushed with stone hammers and mortars, and “a fairly large quantity” of mercury was found, but Hovig could not determine whether it had been brought there by natives in pre-colonial times or by the first Europeans (Hovig 1914: 111). He did not describe the containers in which the mercury was found.

Cinnabar is found in Sarawak (Treloar 1972: 233). Erédia listed mercury and gold among the minerals mined in “Ujuntana” (the southern Malay Peninsula). The mercury was used in “the very prolific ‘Calem’-mines in Perath [Perak?] and Calan [Kelang?], and many other parts” (Mills 1997: 51–2).

Mercury was mined in China (in the provinces of Guizhou, Hunan, and Sichuan), but may only have begun in the early Ming (Tegengren 1920). On the other hand, Treloar (1974: 191) believed that mercury production began in Hunan and Shanxi during the Tang. Regardless of the period when China began to produce mercury, documents prove that it was a major importer of mercury

throughout the early historic period. Vietnam sent cinnabar to China as tribute during the Tang (Schafer 1967: 157) and, according to Zhao Rugua, was a staple of the trade with Java during the Song. On the Quanzhou shipwreck that sank in the late Song (1256–1279)—among the mainly Southeast Asian cargo of fragrant woods, black pepper, betelnut, frankincense, ambergris, and tortoise shell—were “small-mouth jars” of the same type found in Singapore, together with cinnabar and mercury (Pearson et al. 2002; Ting 1996: 87, illustration 3.17). During his stay in Cambodia in 1296/97, Zhou Daguan noted that mercury was that one of the commodities sought by Chinese traders there. Wang Dayuan records mercury as a product of “Siam”, and says that it was traded in Java as well.

Mercury was an important item of trade in Europe as well. In 1592, a British ship captured a Spanish vessel carrying 1,400 chests of mercury (Spence 1985: 186–7). The Portuguese became involved in the mercury trade: they bought it at Guangzhou and shipped it to India and Japan. Gujeratis sold mercury at such ports as Pasai and Pegu in the early sixteenth century. In the same century, Melaka imported mercury from several sources, including Cairo via Gujarat (Cortesao 1944: I, 269). Melaka also exported mercury. Melakan traders at Martaban in 1512 wholesaled pepper and opium, but mercury, porcelain, and vermilion were sold by retail. In 1514, 27 per cent of the total value of a cargo ship from Melaka sailing to Martaban was mercury which had originated from Aden (Bouchon and Thomas 1988: 94, 99, 100, 102, 105). Vermilion, mercury, and fish were shipped in glazed jars sealed with pitch. Lac and benzoin were transported in mat bags, opium in goatskin bladders, and rice in baskets.

Mercury, both in pure liquid and solid sulphide form, was a major item of trade along the Silk Road of the Sea. Jars were sometimes used to transport it, but these were not described in detail. Mercury is not among the list of items in Wang Dayuan’s list of Chinese goods sold in Singapore, but since mercury was not found in China, it is possible that the jars were made in China and then filled with mercury at an intermediate location.

Given the ubiquitous nature of mercury trade during the Yuan Dynasty, it is highly probable that some of the hundreds of thousands of fourteenth-century potsherds found in fourteenth-century Singapore are from containers in which mercury would have been shipped. The “mercury jars” are the principal candidate for this role. It is quite likely that they would have been reused for other purposes once the mercury they originally contained was exhausted. Two fragmentary jars of this ware found in Singapore contained lime. This probably represents a reuse of the vessels; such heavy containers would not have been necessary for this white powder. The lime may have been used in preparing *sirih*, the mildly stimulating concoction containing sliced betel nuts. Lime was also found in fragments of a similar bottle from Kota Cina (Edwards McKinnon 1984: 289).

Uses of Mercury

The use of mercury to separate gold from quartz has been known in China since the Han Dynasty (Treloar 1974). China has never been a major gold producer;

thus this was probably not the reason why China sought mercury so avidly. According to Zhao Rugua, cinnabar's red colour made it useful as a cosmetic and dye. It was sometimes known as "dragon's blood".

Mercury was also of use to artisans who wished to gild metals such as copper. This property was known to ancient Chinese, South Asians, and Southeast Asians as well. X-Ray fluorescence analysis has proven that a Khmer dagger dated AD 940 and several other ancient Cambodian and Cham artifacts were gilded using this method (Bunker 2004). It is not known whether this technique was used by other Southeast Asian craftsmen too. It was developed by Chinese alchemists in their endeavour to turn base metal to gold in the fourth century BC (Bunker 1994: 47–8), but the Khmer do not seem to have been interested in alchemy. Mercury is not found in Cambodia, so the raw material for this process must have been imported.

A miniature Siva *lingga* and semi-circular disk found at Candi Bukit Batu Pahat, probably erected in the aftermath of the Chola invasion of the Straits of Melaka, have an unusual composition: 55 per cent gold, 30 per cent silver, and 15 per cent mercury (Treloar 1967: 396, 1972: 233). The high mercury content may have resulted from the rubbing of mercury on the *lingga* in a ritual described in an Indian alchemical text of the eleventh or twelfth century, *Rasaratnasamuccaya* (O'Connor 1985: 52–70, Treloar 1972). A twelfth-century Indian text entitled *Rasarnava*, "Ocean of Mercury", gives instructions for making mercury elixirs. Siva is quoted in the text as saying that "Mercury is composed of the five elements and is Siva himself". Mercury is sometimes called Rudra-virya or Harabija, "Rudra (Siva)'s semen" (Eliade 1978: 133, Treloar 1967). Sins were supposedly absolved by the sight of the "lingga of mercury". In Kundalini yoga, mercury is located in the Throat Cakra, seat of inspiration, creativity, and speech.

In Chinese mystical practice, the theory of circulation of *jing* (essence) and *qi* (vital energy) was depicted in diagrams. The central part of the "Diagram of Outer Medicine", "the fruit of the first stage of the practice", was called the Cinnabar Field. The head was considered the "Upper Cinnabar Field", the thorax was the "Middle Cinnabar Field", and the area below the navel the "Lower Cinnabar Field"; in these three Fields, the contents of the human being were refined (Wan 2003: 213, fn. 69).

Chinese, Muslim, and Jewish alchemists shared the belief that mercury was the First Matter, the fundamental element from which the universe was created. Chinese alchemists spent centuries concocting mercury pills in attempts to discover the elixir of eternal life; "Countless Daoist practitioners ingested mercury in every conceivable form in their search for immortality" (Bunker 1993: 35). During the fourth century, a Chinese mandarin, hearing that cinnabar, a main ingredient in the elixir of immortality, was produced in Jiao Zhi (north Vietnam), asked to be transferred there (Taylor 1983: 119, fn. 74). Marco Polo records that the Chinese took potions combining mercury and sulphur in the belief that they would help the drinker attain longevity. In the Ming Dynasty, mercury was taken together with ambergris, imported from Southeast Asia. During his residence in Singapore

in the early nineteenth century, Sir Stamford Raffles took mercury in an attempt to cure himself of intense headaches. Some Chinese medicines are still banned in Singapore because they contain mercury.

When cinnabar is heated in a flask, a white powder will collect at the neck while red crystals form below. This white powder is highly toxic, but the red crystals have genuine therapeutic uses, for example making antiseptic mercurochrome. Calomel (mercury chloride) can be a powerful medicine but becomes poisonous when exposed to light.

Sulphur aureum heated with red mercuric oxide and nitric acid creates an amalgam called red solaris. The results of this process reminded ancients of bezoar stones, lumps of hair or food found in the intestines of certain animals and believed to have medicinal properties. Gold was believed to be analogous to bezoar in the bowels of the earth. Ancient chemists believed that was possible to transform base metals into gold using red solaris.

Mercury thus symbolized several important concepts. Many of these ideas would have been known in Singapore and it is possible that mercury from Sumatra was transhipped along the Singapore River; it may also have been used locally for one or more of the purposes mentioned above.

Theories on the Functions of “Mercury Jars”

Several scholars have suggested other possible uses for “mercury jars”. It has been suggested that narrow-mouthed “earthenware urns” recovered from the Houzhu shipwreck glazed bluish yellow to purplish brown were used to contain gunpowder or flaming oil for use in combat, perfume, mercury, or wine (Pearson et al. 2002: 49). Items resembling mercury jars made during the Qing dynasty are said to have been used as bombs (Cheng and Zhong 1990), but no evidence is given for this attribution. Xu refers to a legend which states that these jars were used to store gunpowder on board ships when Zheng Chenggong reconquered Taiwan during the Ming Dynasty. This could have been an instance of reuse.

In the Minan region of Fujian, the jars were said to have been termed “Guo Xing Ping” (Nation Named Bottle/Jar). Another term for the shape of these jars is “chicken drumstick” (Lu Yaw et al. 1983: 153, Fig. 168). Grau-Abaya called them “Brown wares”, form IX, type C (Grau-Abaya 1968: 27). She notes that “This is a well-known type as it has been found in many early sites throughout the country”. Apparently most Philippine examples have the brown glazed upper body typical of Kota Cina but rare in Singapore. The use of brown glaze to decorate these bottles was probably a Song practice which died out in the Yuan.

In 1976, archaeologists from the Fujian Provincial Museum and the Quanzhou Museum of Maritime Communications and Transport History conducted a test excavation in the hills near Quanzhou. The excavation yielded large quantities of ceramics, charcoal, various types of food remains such as animal bone and shell, and bronze coins. The Song strata were 4.25 metres thick, signifying intensive occupation. Ceramics recovered included “mercury jars” with brown glaze around the mouth. Whitish residue interpreted as traces of slaked lime stoppers appeared around the jars’ mouths. These jars were evenly distributed in all strata,

intermixed with sherds of bowls, plates, and other utilitarian artifacts. These jars are similar to examples found among the cargo of the Song-period shipwreck found in Quanzhou Bay.

Xu considered four main hypotheses for the uses of these jars. The first is that they were used for storing gunpowder. It is possible that the use of these jars continued into the Ming (although no archaeological evidence for this exists, either in China or Southeast Asia). However, although gunpowder was in use by the Ming, there is no direct evidence that it was stored in jars of this type. The Song-period context of the jars at Quanzhou seems to have been a domestic or residential sector, not a military area.

A second hypothesis advanced by some Chinese scholars is that these jars were used for storing rose water, an import listed in the thirteenth-century *Zhu Fan Zhi*. Other Chinese archaeologists argue that such crude vessels would not have been used for such a luxurious commodity. Song dynasty historical sources explicitly state that during the Song period “pots fashioned out of white gold” or “glazed *fou* storage jars [with very round body and tiny mouth], wax hermetic seal on the exterior” were used for this purpose.

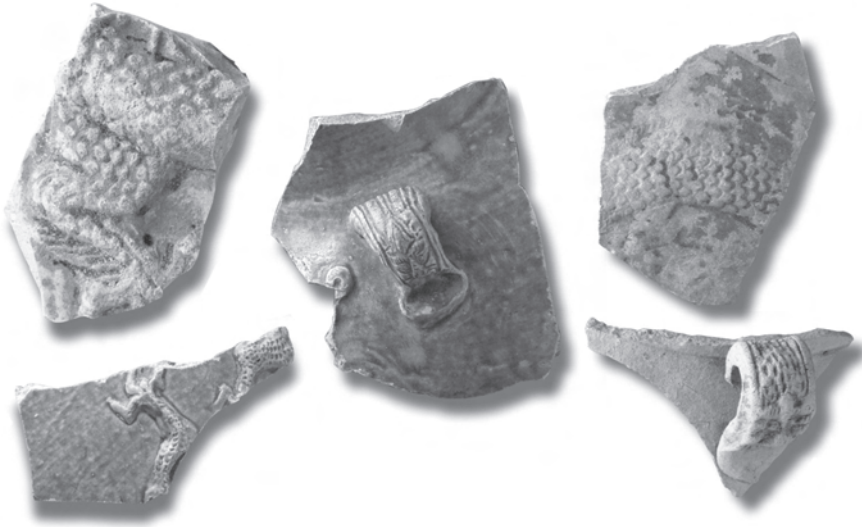
The final hypothesis is that they were used for mercury. Mercury was found near the small-mouthed jars excavated from the Quanzhou ship. Other scholars believe that, jars with such small bases and high bodies would not be appropriate due to the great weight of mercury.

The final possibility is that the jars were containers for wine (*see* Ho Chuimei 2001: 248). Once again, there is no direct evidence of wine containers of this shape during the Song Dynasty. However, Xu concludes that they were probably in fact wine containers, judging from their presence in domestic refuse along with porcelain, some of high quality. Once again, this could have been a reuse, possibly connected with the mixing of mercury and wine to make a supposed elixir.

Another minor use of mercury is connected with early Chinese compasses. In these instruments, a magnetized needle was floated on a bowl containing either water or mercury (Temple 1986: 154). The fourteenth-century bowl found on Fort Canning with compass directions written on it could have been used in conjunction with mercury.

Mercury is known to have been an important trade item in medieval Europe. If these jars were specially designed to contain a heavy liquid, then such a form might have been independently invented elsewhere. A special type of jar which is found from Fostat to Tashkent is characterized by a small mouth and a wide shoulder which tapers to a rounded bottom (Yolande Crowe, pers. comm., June 2008). A common assumption was that they were made as containers for “Greek fire”, an early form of artillery projectile. Greek fire containers however have projections on the sides, whereas these examples are smooth-sided.

A Greek Fire jar that contained mercury was discovered as early as 1871. In 1908, another one found in a central Asian site contained mercury and was sealed with a wooden stopper and wax. Two more which also contained mercury were found in Russia in 1914. Ethnohistoric evidence from central Asia demonstrates that such vessels had been used for mercury transport. Russian scholars noted that



7.19 Five sherds of large buff-ware storage vessels with brown glaze, buff-ware molded dragons and monster masks, FTC

the thickness of the vessel walls was suitable for transporting a heavy liquid metal while the small mouth was suited for pouring. The small bottom made it easy to ship these vessels by storing them on their sides in a dove-tailed pattern.

An Arabic pharmacopical text of 1541 described such mercury containers. In Arabic medicine, mercury was used for skin salves and ointments, for headaches, paralysis, palsy, deafness, insanity, blindness, vermicide and poison against lice, snakes, and scorpions. A medieval Armenian physician mentions 20 names for mercury in a treatise. Goitein (cited by Ettinghausen 1965) notes that Arabs had a special term for mercury jars: *fugqa'a*. Arabs had many special names for bottles: for musk, for salt fish, for fruit juice, etc., suggesting that bottle shapes were specifically designed for each type of contents.

Special containers for mercury are documented in other Asian societies. Small earthenware vessels (12–17.4 centimetres high) called *simab-khouzetche* were containers for mercury (Ettinghausen 1965: 68). These have been found at the



7.20 Bird whistle, OPH. Such toys were common in China and in Southeast Asia during the Qing period, but are rarely found in fourteenth-century sites in Southeast Asia.



7.21 Stoneware lid, incised décor with traces of brown glaze, FTC

site of Samarkand, central Asia, where the latest date for their deposition is 1283 (Mouliérac, Marin, and Rey-Delqué 1993); Dr. Yolanda Crowe’s information on these objects is gratefully acknowledged).

Although the name “mercury jar” cannot yet be demonstrated to be accurate, there is considerable circumstantial evidence which supports Treloar’s theory. Such bottles would of course have been reusable, and could therefore easily have found their way into other contexts such as the domestic refuse heaps in Quanzhou. The special shape of these bottles seems to have been a design requirement for a particular function. Why make a special form of container when common storage jars could be used for a multitude of purposes, from water, wine, and sauce, to dried fish and fruit, and even to contain finer ceramics? Why would a special form have been designed when the standard shape was more efficient in terms of the use of labour and materials? The evidence supports the idea that these jars were made for a special purpose, and later reused in many contexts.

The jars were probably manufactured at several sites. One may have been the Zhengongshan kiln complex near Quanzhou (Heng 2004: 78). The Tuweian kiln of the Cizou complex is another candidate. Some kilns in Cizao and Nan’an may have specialized in the production of these jars (Ho 2001: 249).

OTHER STONEWARE

Stoneware storage jars of larger dimensions than the “mercury jars” have been found on most shipwreck sites of the Silk Road of the Sea. Many were broken (often by looters), empty, or full of sand, but some still bore traces of their contents. These ranged over a broad variety of organic and inorganic substances, from food to smaller finer ceramics.

Most sherds of such jars found in Singapore and other Yuan-period sites are plain except for glazes of earth tones (green, brown, and yellow) which often failed to adhere to the jar bodies. Most jars were equipped with four or six lugs on the shoulder, probably meant for securing a wooden cover. These lugs often bear *tao-tie* or “monster head” masks (Fig. 7.19). A few have bodies decorated with molded dragon designs, incised curvilinear lines, or flowers (Fig. 7.21).

Another form of decoration consists of stamped potters’ marks or *kuan*. They represent an evolution of a Han Dynasty practice of painting propitious characters on the bases of good quality wares using Kaishu script or seal script. During the Tang and Song, stamped *kuan* included names of emperors or pottery kilns; dedications or good wishes; marks of commendation; potter’s signatures; and mythological symbols of good fortune (Kenderdine 1995: 256–7). The characters, enclosed in rectangular borders, are often difficult to read. Comparable examples were found on the Sinan shipwreck of the early fourteenth century (Anonymous 1977–84: 312–5, 497–8).

Stamped *kuan* have been excavated at numerous sites in Singapore; at Fort Canning alone, 25 *kuan* have been identified (Wong Wai-ye 2011) (Figs. 7.22–7.24). Most were probably produced in Guangdong, but some may have come from other provinces. Words and phrases stamped on the sherds include *qing xiang* (“clear fragrant”), *baihuachun* (“hundred flower spring”), *tushengjin* (“earth grows

Jars with character stamps, FTC

7.22 *Bao* (treasure), incorrectly formed7.23 *Huan chao* (exchange for cash)7.24 *Gong hua chun* (to give spring flowers)

gold”), *huozhang* (“navigator”), and *zhugu* (“master”). A more decorative example bears the character *bao*, which conveys such meanings as “treasure”, “precious”, or “jewel”, inside a border resembling a *pipal* or bodhi tree leaf.

Stonewares from the Song-Yuan period can be divided into two main types according to material. One type consists of buff-coloured clay with little or no temper or other coarse material. This type of stoneware is usually associated with the province of Guangdong. Potters’ marks and dragons are exclusively associated with this type of stoneware. The other type is usually called “brittle ware”; it was probably fired at a higher temperature, and is consequently harder but more prone to shattering. Brittle ware usually contains sand and other extraneous material, possibly intentionally added, possibly as natural inclusions.

Whereas brittle ware seems to have been used mainly for storage jars, Guangdong ware comes in a variety of shapes, including flat-bottomed basins with nearly vertical walls, sometimes glazed brown. Abu Ridho and Edwards McKinnon (1997: 18) describe an example from the Pulau Buaya shipwreck but are unsure if it comes from Xicun (a kiln site in Guangdong) or Fujian. Lam (1989) depicts examples from Xicun which belong to the buff-colored group. Similar forms are found in private collections in the Philippines (Brown 1989: 108, pl. 97).

Another form found in Singapore is a bowl with many criss-crossed sharp-edged incised striations on the interior. Usually termed “grating bowls”, they were also apparently made at Xicun. Similar examples are documented from Kota Cina, North Sumatra, and Sungai Buah, Sarawak. In China and Japan, these bowls are thought to have been used to prepare condiments such as sesame (Abu Ridho and Edwards McKinnon 1978: pl. 19, Edwards McKinnon 1984: 302–3).

Stoneware *kendis* are rare but some were discovered at Kota Cina. One spout, probably from a stoneware *kendi* with an iridescent crackled and flaking green

glaze, was excavated at PHC (square 4 lot 2).

One distinctive form consists of jars with a tapering base, a short neck with projecting flange, and two loops on the shoulder, made from coarse purplish paste. Such jars were found at Kota Cina; Santa Ana, Philippines (L. and C. Locsin 1967: 117, pl. 92); and on the early fourteenth-century Sinan shipwreck (Li, Jiang, and Guan 1980: 50; Anonymous 1977: pls. 253–6; Anonymous 1984: 504, pl. 472)

Stonewares make up a significant proportion of the artifacts found at sites along the Silk Road of the Sea. Although they can be divided into two main types, there is considerable variation within each. There is no doubt that many kilns were involved in their production. Stonewares from historical sites are rarely analyzed in detail as this is time-consuming, given the volume of material to be processed, and there is little comparative literature on kiln sites in China. The stonewares from Singapore still remain to be analyzed in detail. This is an important if somewhat prosaic task.

More patient excavation and recording, and more analyses of the types of stoneware (and porcelain) that is found may be able to answer many interesting questions regarding the importance of the ceramic export trade to the economy of southern and southeastern China during the Yuan Dynasty. Few studies have attempted to compare the distribution of ceramic types at sites within China with their distribution in foreign regions. The little data that exists has led some scholars to conclude that the export of ceramics was a significant source of income for the Chinese regions that produced it. The shift of ceramic export trade from Guangdong to Fujian in the Yuan period, indicated by both historical and archaeological data, possibly also meant a shift of prosperity.

A sample of stonewares from EMP has been subjected to detailed analysis by Dr. Derek Heng. He used a sample of 55 kilograms of sherds from the A and B sectors, the densest concentration of fourteenth-century artifacts at the site. He discerned 15 different types which he combined into three major groups: Guangdong, dark grey, and brittle, on the basis of material. The Guangdong ware comprises 60 per cent of the assemblage (Heng 2004b). If this type of analysis can be applied to other sites, it will enable us to answer many basic questions regarding commercial practices along the Silk Road of the Sea.

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BEYOND CERAMICS: METAL, COINS, AND GLASSWARE



Both Singapore societies of the fourteenth century—the unsavoury pirates of the Dragons’ Tooth Strait and the honest merchants of Pancur—coveted many imported products in addition to Chinese ceramics. Due to differential preservation, most archaeological data comes from ceramics. The few written records indicate that commerce along the Silk Road of the Sea included a broad range of items, few of which survive in archaeological deposits. Chinese products which Wang Dayuan said were saleable in Longya men included red gold, blue satin, cotton prints, iron cauldrons “and suchlike things” in addition to porcelain. Profitable exports to the nearby port of Pancur (Fort Canning Hill and the Singapore River) were almost the same: porcelain, cotton, gold, lengths of iron, iron pots “and suchlike”.

China's iron industry represented a high level of pyrotechnology. Iron can be made in two ways. In one process, ore that contains iron is heated until impurities such as silica and other minerals melt and are drained off. The ferrous material that remains, which still contains some impurities with a high melting point, is heated until it glows red and becomes malleable; it is then hammered to remove as many of the other elements as possible. In this method, the iron is not melted, merely softened, and can be forged or wrought by hammering into various shapes. Wrought iron is particularly good for making sharp tools and weapons. Southeast Asian wrought iron often approximated the quality of steel, because charcoal (mainly carbon) accidentally became incorporated into the metal during the process of heating and beating.

The Chinese succeeded in heating ore in blast furnaces to the point where the iron itself became liquid. It could then be cast in moulds to make various shapes such as flat frying pans and round-bottomed cooking pots (*wok* and *kuali*). Chinese industry achieved levels of efficiency and economies of scale which made it possible to export large quantities of cheap iron objects. Cast iron is brittle and not suitable for making items that need sharp cutting edges like axes, knives, or machetes. Thus Chinese iron augmented but did not replace Southeast Asian iron industries.

Some densely-populated islands in Indonesia, such as Java, have little or no iron. The geographical imbalance between sources of supply and centres of demand stimulated local trade in iron centuries before China began to export this metal. A second stimulus of demand for Chinese iron stemmed from the difference between the techniques used for making iron in Southeast Asia and India, and those that were invented in China. Southeast Asians produced their own sharp-edged objects, but were ready buyers of Chinese *woks*. By the third century, Funan in the Mekong delta was importing iron from an island near Borneo, probably in the southern Philippines (Wolters 1967: 52).

Ancient iron-working in the Sarawak River delta, northwestern Borneo, has been studied in detail (Harrisson and O'Connor 1969). Remnants of iron-working using local techniques in the Sarawak delta are associated with Chinese coins, stoneware, and porcelain from the Tang to the early Yuan Dynasty. Iron-working and the importation of Chinese pottery in this area peaked in the twelfth and thirteenth centuries.

Although no iron sources in Borneo are commercially viable now, the early- to mid-nineteenth-century Bornean societies were renowned for making iron artifacts with simple techniques from low-grade iron ore. In the twentieth century, villages such as Nagara, south Kalimantan, still produced large quantities of iron tools for export to Java. A similar phenomenon in Luwu, Sulawesi, may have given the island its name (*wesi* in Old Javanese means "iron").

China imported wrought iron; according to Needham (1958: 48), the Chinese sought "hyper-eutectoid wootz steel of India in relatively small amounts, from about the sixth century AD onwards. . . . This trade seems to have taken several routes; for example, Persia and Kashmir as well as Malaya and Indonesia". Harrisson and O'Connor (1969: 203–4) postulated that the people living in the

Sarawak River delta were involved with this trade, and perhaps used Indian production methods. Data from Kedah, northwest Malaysia, suggested that the copper, silver, mercury, diamonds, coal and tourmaline found in reliquary boxes excavated in Kedah came from the Bau mining district, at the headwaters of the Sarawak River (Treloar 1968, 1972), which may date from the eleventh century. This discovery supports the notion that Sarawak exported wrought iron and imported cast iron.

Zhao Rugua in the thirteenth century listed iron as an export from *Po-ni*, the Philippines, Java, islands of the eastern archipelago, and Srivijaya. However, not everyone agrees that the Sarawak Delta was a centre of iron production for export. Christie (1985) agrees that Santubong is the site known in Chinese sources as *Po-ni*, which may have had ten thousand inhabitants (Hirth and Rockhill 1911: 155). Christie believes that the site only had a moderate-sized iron industry producing for local use, and that the majority of items that Harrisson and O'Connor interpreted as slag are natural concretions.

Arab sources record that Indonesians sailed as far as east Africa in search of iron (Ferrand 1922: 66). As China expanded its involvement in maritime trade, iron became one of the main commodities exported to Southeast Asia. According to Wheatley (1959: 117),

Iron and ironmongery were among the commonest commodities shipped from China to the South Seas, but Chao Ju-kua mentioned them on only five occasions, so we may safely regard his account as incomplete. Iron, presumably in bar form, was used by Chinese traders as an article of barter in Srivijaya, Fo-lo-an (on the Malay Peninsula) and Hainan.

Zhao records that iron was exported from Tongking, but Wheatley thinks “it must have been a reexport” (Wheatley 1959: 117).

Iron needles were another important item which Chinese methods were suitable for producing in large quantities. Zhao records that needles and censors were exported to the Philippines. According to Wang Dayuan, China exported various forms of iron in the early fourteenth century: “bits of iron” were sent to *Rih-li* (perhaps in the Malay Peninsula or southern Vietnam). Iron “pieces” were good items of trade in the Philippines and Pancur. Ironware was exported to many locations in western Indonesia, including Tamiang, northeast Sumatra; Lambri, Aceh; Pahang; Java; Pajekan, east Java; Madura; Dung Demak; Baduma (in Java); Timor; Maluku; and Brunei. Iron wire (an unusual item) was specifically sought by *Xia-lai-wu* (somewhere near the Malay Peninsula).

Iron bars were sometimes used as currency in various parts of Southeast Asia. In 1282/1283 China granted permission to Chinese merchants to use iron as a medium of exchange, but forbade them to use gold and silver (Rockhill 1914: 424). Iron bars were in demand in the Batak area of north Sumatra and Belitung Island (they might have been used as a medium of exchange there). Iron bars, and also “faggot iron”, were still traded and used as currency in Borneo in the nineteenth century (Crawfurd 1856/1971: 158–9).

Iron pots were popular in Pancur, San foqi, and *Lung-ya-bo-di* (thought to have lain in the Riau-Lingga area). Longya men, just to be different, perhaps, preferred cauldrons, along with *Ma-li-lu*, in the north Malay Peninsula, and *San Dao* and Sulu in the Philippines.

According to Zhao Rugua, iron swords were made in the Lesser Sundas. Srivijaya and Java, according to Zhao, also imported them from the west.

ARCHAEOLOGICAL DATA ON IRON TRADE

Recent excavations at Kota Kapur, Bangka, off South Sumatra, found five piles of twelfth-century *qingbai* bowls lying on top of five piles of iron woks, facing upward, resting on three piles of woks, facing down, at a depth of nearly two metres in a Vishnu temple of the sixth or seventh century (Koestoro, Soeroso, and Manguin 1998: 73). Only future research will be able to solve the mystery of the use of iron woks as a ritual deposit. Iron seems to have had supernatural connotations for early Southeast Asians (Harrisson and O'Connor 1969). The closest ethnographic analogy may be the custom, still practiced today, of burying small pieces of metal (iron or copper) under wooden posts during the construction of pile dwellings in Sumatra in order to safeguard the structure and its inhabitants.

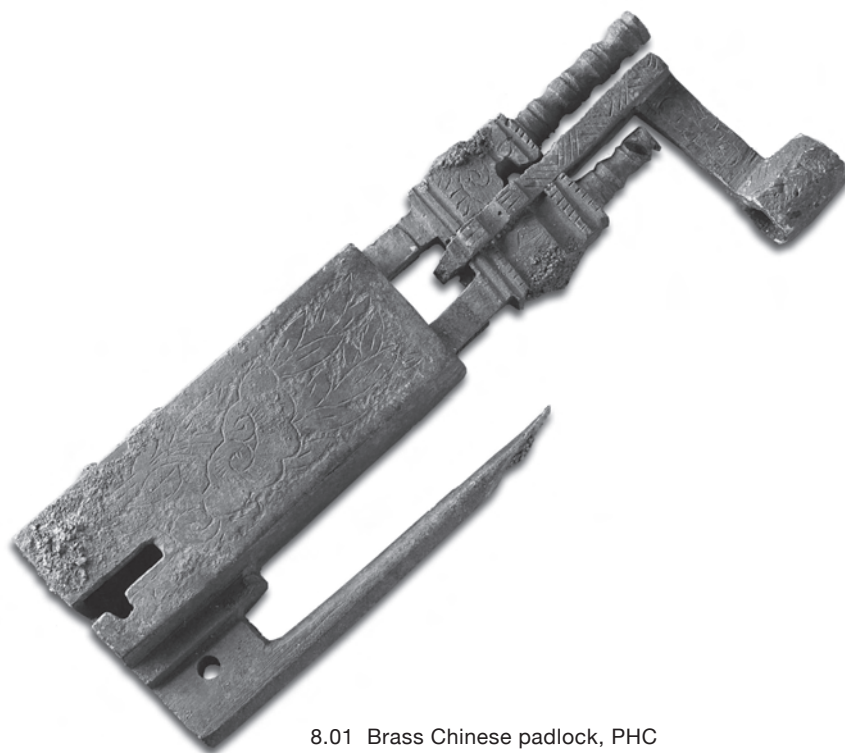
The Intan shipwreck of the tenth century contained bundles of iron blades, wrapped in cloth and tied together with rattan, and other concretions. Only three iron pots were found; they were probably used by the ship's cook (Flecker 2002). Cast iron vessels were found in larger quantities on the Batu Hitam wreck of the early ninth century off Belitung.

The Song Dynasty Dinghai wreck included two concretions of iron, probably corroded artifacts, 1.5 metres by 1.5 metres by 1 metre high (Kenderdine 1995). The late Song Dynasty Pulau Buaya wreck, found near Bintan Island, had carried iron woks in large stacks, as well as bundles of iron machetes or *parang* still tied in bunches with some type of rattan-like fibre. The Java Sea shipwreck of the late Song or early Yuan contained hundreds of tonnes of iron in the form of bars and cauldrons. "The most prominent feature of this wreck site is the iron cargo. Concreted blocks of iron up to 4 metres long, 1.5 metres wide, and projecting up to 1.5 metres above the wreck mound mark the position" (Flecker, in Mathers and Flecker 1997: 77).

In the eighteenth century, royal proclamations or *piagem* indicate that the sultan of Palembang was the main importer for his sultanate of iron, salt, and cloth, which he distributed as a kind of royal bounty to groups in the hinterland who depended on him for imported commodities. Control over the distribution of imported iron must have been an important source of sociopolitical power in the Straits of Melaka for many centuries.

Iron in Fourteenth-Century Singapore

Iron artifacts have been found in all early sites in Singapore. However, few can be identified due to the corrosive soil and climate. Thirty-three fragments of iron, possibly all originating from a cauldron, were identified at PHC. One fragment



8.01 Brass Chinese padlock, PHC

retained enough metallic content to be analyzed by metallography and proved to be cast iron (Shah Alam 1997), demonstrating that it was imported from China.

One of the artifacts found by workmen at OPH was an iron blade 25.5 centimetres long, 4.7 centimetres wide and 2.7 centimetres thick at the centre. The blade may have had a curve reminiscent of the typical wavy-bladed Malay stabbing weapon, the *keris*. X-ray analysis of the artifact failed to prove this conclusively, however; the apparent curvature may simply be the result of random oxidization. The blade may have been fitted with a short handle, but it is also possible that it was once fixed to a long handle, thus serving as a spear-point. The blade was found in three pieces, together with a knob/handle 6 centimetres long and 3.7 centimetres in diameter. The total weight of all four pieces is 415 grams, a substantial weapon.

BRASS

Brass was not one of fourteenth-century China's principle exports. Most copper alloy items found in Singapore were probably made locally or in Sumatra. One brass artifact excavated at PHC is a complex padlock of a traditional Chinese type: a rectangular box into which a separate piece consisting of a bar affixed to flexible prongs is inserted (Fig 8.01). The bar can be passed through loops to lock a door or a chest. The prongs spring apart once they are inside the box, making it impossible to remove the bar without the use of a key, which compresses them

together again. The body of the box is decorated with incised floral decoration. This is not common on modern Chinese padlocks. This artifact is however almost identical to one found on the Sinan shipwreck of the early fourteenth century (Anonymous 1984: II, 509, pl. 483). Similar brass padlocks were found on the Rang Kwien shipwreck in the Gulf of Thailand (Prishanchit 1996: 295).

COINS

The Chinese economy became fully monetized around the same time as Java: after the An Lu-shan Rebellion in AD 755. Chinese coins were made from bronze rather than gold or silver: it was practical for everyday use, and relatively cheap and easy to produce. Money made of silver and gold, like that used in early Indonesia, was impractical for activities such as buying food. When the first Europeans arrived in Southeast Asia, they too struggled to supply enough coins to facilitate economic activity. Metal was so valuable in places like Java that it quickly disappeared from markets and was converted into other forms such as jewellery, setting back efforts to enlarge the money supply.

China had to import tin, but domestic copper was relatively abundant. During the Northern Song era, over 100 copper mines were active in China. As older deposits were exhausted, copper mining gradually shifted from Fujian and Guangdong to Hunan. After the fall of the Northern Song in 1126, the Southern Song still had abundant copper sources. The Khitan and Xixia kingdoms used Song coins rather than minting their own (Ch'en 1965: 615).

In China, copper was used for two competing purposes: to cast ceremonial and household objects, and for producing coins. The Chinese government tried to restrict the private use of copper; in AD 960 the emperor of the Later Zhou kingdom ordered that

Apart from ceremonial objects and weapons and such articles as bells, cymbals, and handbells used in temples, other copper ware and statuettes must be surrendered to local officials within 50 days at an estimated price. Those who fail to obey will be punished by death if the amount of copper secretly kept at home exceeds five catties. (Ch'en 1965: 615)

Apparently this proclamation was not completely effective; it was reissued in 969 and 977. "Because of the acute shortage of the metal, in the 976–983 period people were digging up copper articles from ancient tombs or destroying Buddhist statues in order to obtain copper for illicit minting" (Ch'en 1965: 617). An edict issued in AD 991 "forbidding people from melting down coins for manufacturing purposes" (Ch'en 1965: 615) indicates that this practice occurred in China as well as in Southeast Asia.

After a period of relative equilibrium between supply and demand, the problem arose again in the mid-twelfth century. To set an example, the emperor in 1154 gave

the mint 1,500 bronze articles from his palace to melt down to make coins. The general population contributed two million *kati* (over one million tonnes) of bronze items. Brass and bronze items used in temples had to be registered, and were taxed (Ch'en 1965: 618).

The number of coins made in China rose and fell. Years of major coin production are correlated with periods when many coins were exported. Annual coin production of the eleventh century was more than ten times as great as during the twelfth century. The following table (Ch'en 1965: 619, Table 3) gives the numbers of coins minted in particular periods.

Table 8.1 Coin Production in China, Tang through Song Dynasties

Tang

742 – 56:	327,000	(almost 20,000 per year)
804 – 05:	135,000	(62,500/year)
820 – 21:	150,000	(75,000/year)
834 – 35:	100,000	(50,000/year)

Northern Song

995 – 98:	800,000	(200,000/year)
1000 – 01:	1,350,000	(675,000/year)
1007 – 08:	1,830,000	(915,000/year)
1016 – 17:	1,250,000	(625,000/year)
1021 – 22:	1,050,000	(525,000/year)
1023 – 32:	1,000,000	(100,000/year)
1041 – 49:	3,000,000	(333,333/year)
1049 – 54:	1,400,000	(233,333/year)
1064 – 68:	1,700,000	(340,000/year)
1073 – 74:	6,000,000	(3,000,000/year)
1080 – 81:	5,949,234	(2,974,317/year)
1106 – 07:	2,890,000	(1,445,000/year)
1124 – 25:	3,000,000	(1,500,000/year)

Southern Song

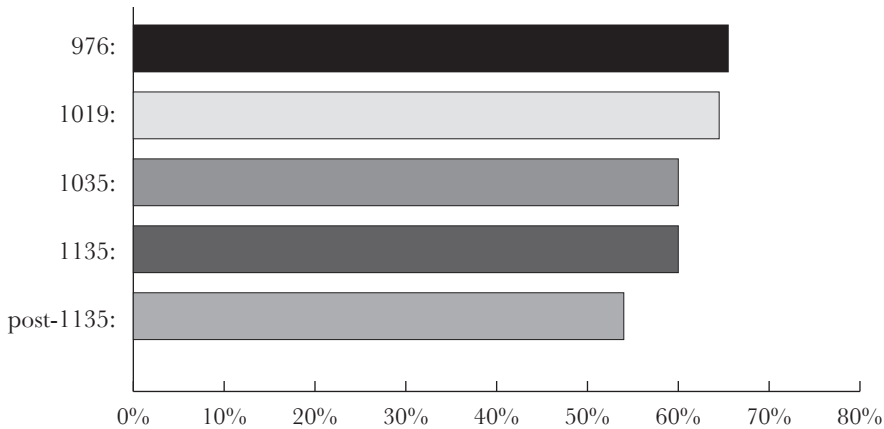
1131	: 80,000	80,000/year
1132 – 33:	100,000	50,000/year
1155	: 140,000	140,000/year
1156	: 220,000	220,000/year
1157	: 230,000	230,000/year

The Southern Song suffered almost continuous inflation. A low level of coin production was partly offset by the production of “big coins” worth several coins

of small denominations; iron coins; and paper notes. In periods of serious copper shortages, cash could only be minted in small quantities (Ch'en 1965: 619–20).

Song coins became increasingly debased, as copper became scarcer (Ch'en 1965):

Table 8.2 Copper content of Song cash



The Intan carried ingots of Chinese silver. Some of these bore inscriptions indicating that they had been made to be used to pay Chinese salt tax. Dr. Chuimei Ho translated one inscription as “Sword office high grade silver of 52 liang certified by the official Chen Xun”, and another as “Supervised by the Huai Yang Office” (Michael Flecker, pers. comm.). These seem to have been smuggled out of China, indicating a drainage of precious metal from China to Southeast Asia. In other words, China imported more goods from Southeast Asia than her exports were worth; the difference had to be made up with precious metal.

The Song government issued numerous edicts in an effort to stem the haemorrhage of bronze from China. The first edict, issued in 960, stipulated that coins should not be allowed to pass north of the Great Wall or into the southern barbarian regions. Six more were issued between 970 and 1178. At the beginning of the Song Dynasty the principal leakage of coins occurred along China’s northern border, but the south soon surpassed it. In 1182, the seaports of Guangzhou, Quanzhou, Mingzhou, and Suzhou were specifically mentioned, and between 1234 and 1253 five more edicts forbade exporting from “all seaports” (Ch'en 1965: 621). An alloy known as *dan-tung* ($\text{CuSO}_4 + 5\text{H}_2\text{O}$, copper sulphate solution) was sometimes used to copper-plate iron coins. One edict specified that only iron coins were to be used in border areas.

As early as 1074, an official complained that coins were flowing out of China by the cartload. However, in 1079, the Chinese government gave an embassy from San foqi 64,000 strings of cash; they were probably melted down and used for other purposes. For Southeast Asians before the twelfth century, Chinese coins were a convenient source of metal rather than an artificial unit of exchange.

The Song government tried to encourage the export of silk as a way of offsetting China's unfavourable balance of trade. The export of cash was forbidden ten times between 1160 and 1265. Java was specifically mentioned once as a destination for much of the cash. Such trade imbalances occurred several times in history, starting at least as early as the first century when the Roman emperor Vespasian denounced the craze for oriental incense and other luxuries because it was bleeding the empire of its coinage. Another instance occurred in the eighteenth and nineteenth centuries; this time, China was on the receiving end of similar metal flows out of Europe, leading to the Opium Wars, the result of European efforts to redress the imbalance in demand for Chinese goods.

To conserve copper, the Southern Song began issuing paper money in 1121, but because it was not secured by metallic reserves it became greatly depreciated. Khublai Khan was more successful when he issued paper money as soon as the Yuan Dynasty came to power in 1260 (Kuwabara 1928: 25 n. 23). According to Wang Dayuan, this paper money made its way to distant places such as India.

In addition to repeated injunctions against the export of coins, private trade in gold, silver, ironware, military equipment, etc., was forbidden in 1293 and 1296. Incomplete historical documents suggest that despite the increased use of paper money, the Chinese economy became much less monetized under the Yuan than it had been during the Song, which represented a high point of Chinese economic development. Although coinage existed in the Ming, uncoined pieces of silver were the main medium of exchange (Von Glahn 2004: 163).

In Wang Dayuan's time, local coins in Java were made from an alloy of silver, tin, lead, and copper, "the size of a section of a small conch shell. They are called 'silver coins', and are used in business transactions in exchange for (Chinese) copper cash" (Rockhill 1914: 237). Java was the standard for wealth against which Wang compared other places such as Sri Lanka; this suggests that Java's economy was functioning well. Archaeological surveys of Majapahit's capital, Trowulan, between 1976 and 1988 yielded 864 Chinese coins. Most of these were fragmentary; only 162 could be dated. Of the legible coins, eight per cent were from the Tang period, 77 per cent from the Song, and 14 per cent were from the Ming (Amelia S. 1995: 99–106).

Although local coins existed, inscriptions indicate that Chinese copper coins became legal tender in Java in about 1300, and were used to pay taxes and fines. The year 1300 thus marks a momentous development in the interaction between the internal Southeast Asian economy and China. The conversion of the Javanese economy to Chinese currency was a significant watershed in the evolution of Southeast Asian society. By 1300 monetization in the region had reached a plateau of development; it could not evolve any further until an efficient base-metal coinage became available, and Chinese copper coins fitted this need perfectly.

Early Javanese inscriptions mention coins, paid occupations, and markets, but few records of specific transactions. In a rare account, the *DYZL* of 1349 records that girls of Banjarmasin, Borneo, who were trained as singers, dancers, acrobats,

and performers, went to other countries and were paid with coins. Wang Dayuan claimed that the Mongols demanded the Javanese use Chinese cash (Rockhill 1916: 237) which they routinely exchanged with native coins, meaning that native coins were still in circulation. It seems unlikely that the Javanese had to be forced to use Chinese currency; Javanese inscriptions as early as 1300 express delight at the ease with which commerce could be conducted using Chinese coins.

The *YYSL* reports that Chinese coins were used in Palembang, Lambri, and Java (specifically “old” copper cash!). In Aru, northeast Sumatra, according to the *YYSL*, pieces of cloth were used for currency. This contrasts with the large quantity of Chinese coins found in the nearby Song period site of Kota Cina. Why were coins the medium of exchange at Kota Cina, whereas nearby areas used cloth? Perhaps sites with greater exposure to Chinese trade, or Chinese settlement, were most likely to adopt Chinese coins.

The coming of Islam to Sumatra in the late thirteenth century coincided with new forms of coinage, such as tin coins used in *Sumendala* (Samudera-Pasai) and Aceh (*YYSL*). From 1400 to the early 1700s, local coins made in many locations in the Straits of Melaka were common means of exchange (Wicks 1992: 219). The severe restrictions on overseas Chinese trade must have meant a shortage of Chinese coins in Southeast Asia at this time. Nevertheless, there is evidence that old coins continued to circulate. Thousands of Chinese coins found on the Nipah Shoal wreck near Singapore span the period from the Chien Yuan (AD 756–762) to the Pao Yu epoch (1253–1258) (Warren Blake, pers. comm.). Ceramics on board the vessel date from the early fourteenth century. Archaeologists recovered about 200 kilograms of coins on the Rang Kwien shipwreck in Thailand; it has been estimated that the ship carried three tonnes of them (Brown 2004: 23–4). Research on the cargo of the Sinan ship, which sank off South Korea in the early fourteenth century recovered 28 tonnes of coins, estimated to number between six to eight million individual pieces (Seyock 2007: 336, 356 fn. 2).

Coin Finds in Ancient Singapore

Wang Dayuan includes *chijin* among the Chinese exports to Pancur. These characters have been glossed as “half-tael coins (Rockhill 1914: 133 n. 2). John Crawfurd in 1822 noted the existence of many Chinese coins on the surface of the Forbidden Hill of Singapore, which he dated to the Tang and Song Dynasties.

Table 8.3 Coins from PHC

Period:	Number of Coins	Percentage
Tang Dynasty:	1	0.8%
Northern Song:	91	72%
Southern Song:	6	5%
Unidentifiable:	29	22.29%

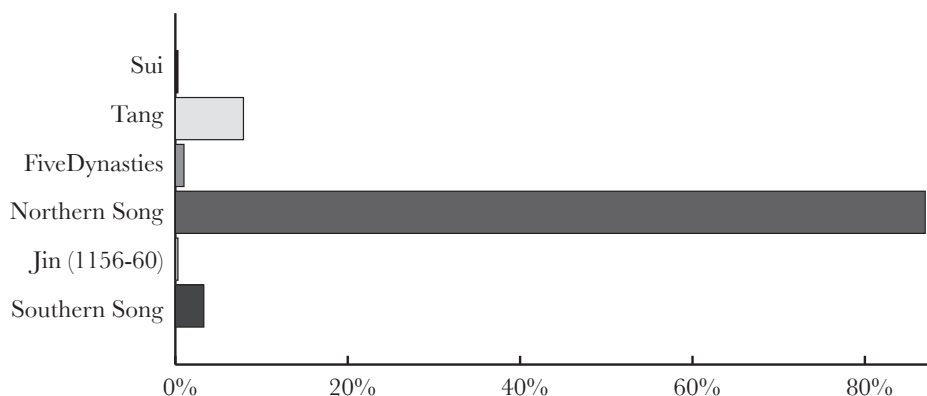
Archaeological excavations at FTC have yielded 16 coins, either partial or whole. Most date from the Northern Song (960–1126). Only one datable example comes from the Southern Song (1127–1130, reign of Gao Zong).

PHC yielded 127 Chinese coins, the majority of which date from the Northern Song. By value, 126 are of one cash denomination; 20 are worth two cash, and one was of the ten-cash size (I thank Dr. Brigitte Borell and Ms. Joyce Fan for analyzing the coins; cf. Borell 2000: 3, Table 1). This distribution of coins by period is typical of the hoards of Chinese coins found from Southeast Asia to the Near East (Borell 2000: 2, 4).

One Sri Lankan coin datable to the reign of Bhuvanika Bahu I (1273–1302) was found at PHC and another was discovered at STA in 2004 (see chapter 8).

One may compare this data to Kota Cina, where 1,064 Chinese coins were found in various contexts:

Table 8.4 A total of 1,064 Chinese coins in various contexts, Kota Cina (Edwards McKinnon 1984: 109–111)



EMP yielded six Chinese coins, which have not been dated. At CCT, 15 coins have been discovered in archaeological excavations, in addition to others discovered while sifting soil excavated by construction workers during the course of a building project. All but one date from the northern Song, and include two pieces of two-cash size coins, and one ten-cash coin. The other is dated in the southern Song. STA also yielded a ten-cash Yuan Dynasty coin.

Coins were found all over ancient Singapore, but were concentrated near the copper workshops at PHC (Fig 8.02). The coins there were neither deformed, nor was there other evidence that they were smelted for their metallic content. At SCC, on the other hand, several deformed coins and fragments of possible metal-working implements suggest that Chinese coins were being recycled into other objects there. It seems that Chinese coins circulated in Singapore as a medium of exchange, but that sometimes it was economical to melt them down. Borell finds that Chinese coins were probably not often recycled in Java, but at least one statuette potentially made from Chinese coins has been found in east Africa



8.02 Chinese coins, SCC. Although such coins were probably used as a medium of exchange, at SCC they may have been destined to be melted down to be recast in other forms.

(Borell 2000: 7, n. 20). She also suspects that one of the coins from PHC 10 (1) stamped *Kai Yuan Tong Bao* had a different composition from the other coins, and speculated that it might have a high lead content believed to be typical of Javanese copies of Chinese coins: 40 per cent copper, 40 per cent lead, 3–11 per cent tin (van Aelst 1999: 385, Borell 2000: 8). This coin was analyzed by EDXRF at the NUS Department of Physics, and the results proved that Dr. Borell was correct in her suspicion that it was anomalous. What was surprising was that the coin had much less lead than normal, and had very high copper content. The implication of this difference is obscure.

GLASS

In contrast with the wealth of information available regarding ceramic technology, little is known about early glass-making in China. Most authorities assume that glass-making was introduced to China from the west. The date when glass first appeared in China is conjectural; proposed dates range between the sixth century BC and the Warring States Period (481–221 BC), when Chinese glass-makers may have begun to produce beads. The *Tai ping yu lan* reports that China may have begun to make glass in the Han Dynasty when Emperor Wudi (140–87 BC) sent emissaries to “barbarians” in southwestern China to learn glass-making techniques (Francis 1986: 29–30). By the Han Dynasty, Chinese were using glass to make items for ritual and personal adornment. None of the surviving descrip-

tions of glass-making written in Chinese are older than the Qing Dynasty.

By the third century AD, glass was made in Guangdong and Guangxi, according to Wan Zhen (in *Strange Things of the South*) and Ko Hung. By the Western Jin Dynasty (AD 265–317), glass was made in Guangzhou, with methods that the contemporary author Ge Hong described as “non-Chinese”; he may have had the technique of glass-blowing in mind. Glass-blowing appeared in China about 500 years after it was invented in the Near East; China imported blown glass items such as bottles and vases from Rome, Syria, and Persia before Chinese craftsmen adopted the technique. Song-Dynasty sources say glass was made in Guangzhou (Brown and Rabiner 1987: 74), and the Arab traveller Al-Idrisi mentioned a glass-making centre in south China in 1154. This may have been Guangzhou but was more likely to have been Quanzhou.

From ancient times, Chinese esteemed foreign-made glass. A Tang Dynasty writer (Yan Shigu) compared the lustre of Roman glass favourably to jade (Shen 2002: 73). Chinese texts often specify whether the glass concerned was opaque (*liuli*) or transparent (*boli*). The Chinese term *boli* can either mean glass or rock crystal; the latter (*sphatika* in Sanskrit) was one of the Seven Treasures found in the Buddhist paradise (Shen 2002: 73, fn. 8). In Indian Buddhist reliquaries, rock crystal was used to contain Buddha’s relics. In China, glass took on this role. Foreign glass with colourful decoration was included in foundation deposits of Buddhist monuments in the Tang and Northern Song periods. The largest known ritual deposit, the *Famen* temple in Fufeng, Shaanxi Province, contained 20 glass vessels donated by the emperor. *Sarira*, relics of sanctified individuals including Buddha, were also deposited in glass vessels, but plain Chinese glass was used for this purpose instead of rock crystal or decorated glass (Shen 2002: 75). Translucent glass may have been a symbol of purity for the Chinese (Shen 2002: 78).

Influenced by this preference for foreign over local glass, some scholarly studies of early glass found in China (*see* An 1996) only discuss foreign glass. The *Han Shu* in AD 80 mentions that “opaque glass” was acquired by eunuch envoys going to foreign lands along with other expensive items such as pearls, gems, and “strange things” in exchange for gold and fine silk (Wang 1958: 19). The kingdom of *Panpan* in the Siamo-Malay Peninsula sent “opaque glass” as tribute in the mid-fifth century (Wang 1958: 55). A seventh-century source says that Funan ships brought glass mirrors to China (Hirth and Rockhill 1911: 228).

San foqi sometimes included Southwest Asian glass in its tribute to China, usually as containers for other commodities. One set of presents in 1156 included four *liuli* vessels of Arabian sugar, and 16 *liuli* vessels of Arabian dates. Another in 1178 brought four *liuli* vessels of foreign sugar, three containing foreign dates, and four with gardenias.

Zhao Rugua considered Arab glass superior to Chinese glass because it was more heat resistant, less brittle, and was sometimes engraved. Chinese glass was brittle because it often incorporated lead, which caused it to decay with time (Hirth and Rockhill 1911: 227), but Chinese did make some technical innovations in glass working: they were the first to use coal to fire glass furnaces, and to

create translucent ruby red glass beads, which they achieved by the early eleventh century. The ruby red beads were coloured with copper; a sample bead from Fort Canning analyzed at Harvard University by X-ray fluorescence was found to contain copper (Francis 2002: 75). Francis suspected that it might have been made in Suzhou.

Zhao Rugua only mentions exports of Chinese glass (beads and bottles) to one place, Borneo. The only form of glass Wang Dayuan mentioned as a Chinese export was beads. Beads were used by the middle class in the kingdom of Pahang (then denoting much of the Malay Peninsula) to make glass rings to dress their hair; the rich used gold rings.

Chinese glass-making during the fourteenth century is a particularly obscure topic; it has been assumed that this was not an important industry.

Little is known about glass production in China under the Yuan (1280–1368) and the Ming dynasties. The few attributions of known pieces to this period have been much questioned . . . little evidence of Chinese glass-making can be found, in either objects or literature, before the seventeenth century. (Macfarlane 2002: 2–3)

A compendium of analyses of early glass does not contain a single Yuan Dynasty example from China, though some glass from Southeast Asian sites of probable Song-Yuan origin was studied (Brill 1999).

The oldest known Chinese glass factory, discovered in 1982 at Boshan in Shandong Province, dates from the late Yuan or early Ming Dynasty, if not earlier (Yi and Tu 1991). Products included beads, hair clasps, and ornaments such as buttons. The factory is said to have been a large one. The beads of Boshan are unusual in China because they contain no lead. Instead, they are marked by high levels of potash and lime. Both the chemical recipe and the shapes of the objects are quite different from the glass believed to have been made in south China at the same time, but no southern factory has yet been found.

Southeast Asian Glass Working

Archaeologists have so far failed to discover any site where sand was melted to make glass in ancient Southeast Asia. The production of glass by melting sand requires nearly pure silicon and the ability to heat it to a temperature of about 1,400 degrees Celcius. Remelting glass only requires a temperature of 700 degrees Celcius, well within the capacity of early Southeast Asian technology. There is evidence that glass imported from South or Southwest Asia was reworked in Southeast Asia. It was common practice in South and Southwest Asia to make large chunks of glass from sand which were transported to other areas where they were used as raw material by local craftsmen.

Khuan Lukpad, a site in south Thailand inhabited around AD 500, has been extensively looted (*see* chapter 1), but large pieces of glass and many small glass “splashes” (similar to “blobs” found on Fort Canning) which could have served as

raw material have been found there (Bronson 1990). Glass-workers at this site may have imported raw glass from India. Glass bangles of several colours (light green, blue-green, light\medium blue) were also found at Khuan Lukpad, but Bronson does not comment on the possibility that they were made locally. No atelier has been discovered there. The site has also yielded a huge quantity of beads. One was made by the spiral technique typical of China; the rest were made by drawing out glass in a tube, in Indian style.

Much worked southwest Asian glass has been found at Takuapa and Ko Kho Khao, south Thailand, together with Arab and Chinese ceramics of the ninth century. Ports along the Straits of Melaka in the ninth and tenth centuries re-exported west Asian glass to China and Indonesia.

Glass punty-caps (left-over fragments from glass blowing) and partly finished beads have been found at Kuala Selinsing (Perak, peninsular Malaysia; *see* chapter 1) and Takuapa (Lamb 1966: 77–8) (south Thailand; *see* chapter 2). In 1961, Alastair Lamb recovered nearly three tonnes of artifacts from a square measuring 4.5 by 3 metres near H. G. Quaritch Wales' Site 18 at Pengkalan Bujang. Chinese ceramics date the site to the thirteenth century. The site yielded shards of blown glass bottles 5–7.5 centimetres wide and 10–15 centimetres high, and 5,000 glass beads, made by both the winding technique (Lamb 1961; Figs. 57, 83) and the drawing method (Figs. 58, 61). Much of the glass had been distorted by heat. Lamb also found debris left behind by the process of manufacturing glass items such as wasters and pieces of punty-cap, and concluded that these glass fragments as well as others found at Ko Kho Khao and Kota Tinggi were evidence of reworking glass to make beads (Lamb 1965).

The Archaeology of Beads in Indonesia

Beads have been found at several important sites in Sumatra. Karangagung, an early first millennium site, has been discussed in chapter 1. Ancient sites in south Sumatra have been mined for beads since at least the 1930s; in 1932, J. van Tuijn, a Dutch mining engineer, mentioned that beads were being dug up in the areas of Mesuji and Tulangbawang, north Lampung, and exported to Timor and Borneo. The beads were made of a wide range of materials, including glass, clay, and carnelian stone. They were associated with pieces of tin and many fragments of “coarse pottery” and were mainly found at a depth of about 50 centimetres on old beach ridges, never near modern villages, which are located along rivers. Two important areas, Gedongmenang and Bedaroninggal, were sited on old beach ridges ten kilometres long (van Tuijn 1932). This report shows that sites with ancient beads may not themselves be ancient: the beads may have been dug up elsewhere and transported to new locations in very recent times.

Kambang Unglen and Talang Kikim, Palembang, probably Srivijaya-period sites, have yielded evidence of possible reworking of imported glass to make beads (Manguin 1992: 67). At Karanganyar, Kambang Unglen, about 800 beads were found, made mostly of glass. Blue and black are the most common colours, followed by white, yellow, green, brown, and orange (Bambang Budi Utomo 1985).

At Muara Jambi, the centre of San foqi in the eleventh through thirteenth centuries, archaeologists found 938 beads, of which 736 came from one excavation square near Candi Astano. Some were fused together. Blobs of glass were found associated with the beads in the same square. This is *prima facie* evidence of local bead working using imported glass.

Table 8.5 Bead Colors from Candi Astano, Muara Jambi (Endang 1988)

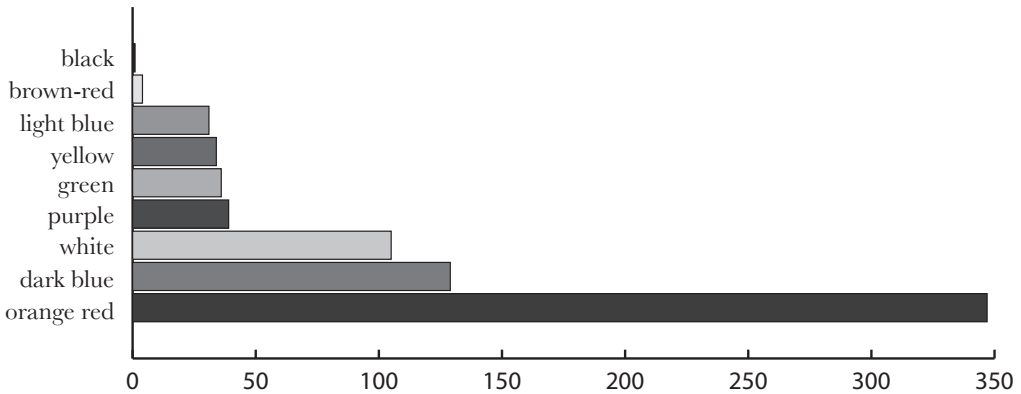
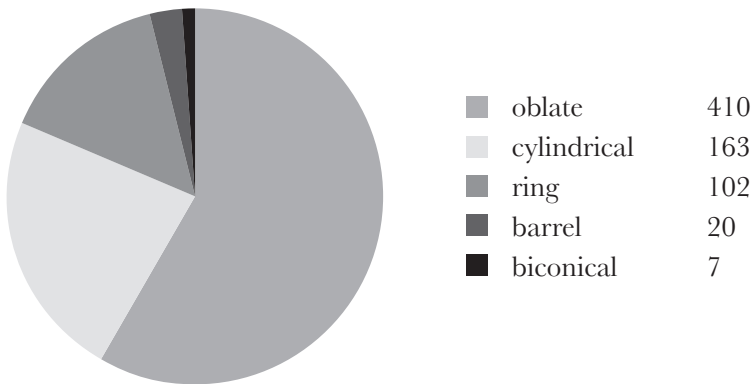


Table 8.6 Bead shapes from Candi Astono



Beads at Muara Jambi were made from a variety of materials including stone, terracotta, and glass. The glass beads measured 1–5 millimetres in diameter and 1–6 millimetres in length. Most were 1.5–2 millimetres in diameter. The terracotta beads were larger: 10–18 millimetres in diameter, 8–17 millimetres in length. These beads were mostly made by the technique of drawing out a long cane of glass which is then cut into short cylinders, a typical Indian technique, so these beads must have been imported from India.

In the east Javanese site of Trowulan, the probable capital of fourteenth-century Majapahit, the kingdom which claimed Temasik, about 50 beads have been found in excavations at the Pendopo Agung and Nglinguk sectors. The main

colours are yellow and blue. Some are segmented (probably they were meant to be separated into individual beads, but this part of the operation was not completed). One yellow bead was found inside an ancient brick during a survey by the Indonesian Field School of Archaeology in 1991; it was wound, so it was probably made in China, like the other examples from Trowulan.

Beads have been discovered at Gumuk Klinting near Banyuwangi, east Java, mostly as surface finds collected by locals, but some were excavated by archaeologists in 1976. About 500 beads, mostly glass, were recovered there in association with clay stupikas and seals. Blue and reddish brown are the most common colours; lengths vary between 2–6 millimetres (Endang S. H. Soekatno 1988).

“Eye-beads” were found on the tenth-century Intan shipwreck. Chemical analysis of the glass indicates that it probably came from south or west Asia. Similar beads have been found at Sungai Mas, Kedah, south Thailand, Sumatra, Java, and Borneo. Francis (1996: 146) believes that these may have been made in Java, but the evidence for this is weak. The Intan also carried a few blown glass vessels; archaeologists discovered one nearly complete bottle and 144 vessel fragments. The forms of the glass vessels are common in Southwest Asian artifacts of this period, and the low concentration of lead in the glass confirms that the *Intan* glass was not from China.

Energy-dispersive X-ray fluorescence (EDXRF) analysis of glass objects found on the Java Sea shipwreck indicate that they came from two origins. The dimpled glass base of an “onion bottle” is very similar to a sample from Fort Canning and falls into the Chinese-made category. A fragment of a “stick” of crumbly green and yellow glass however falls into a completely separate category; it is almost certainly not Chinese and may have been made in Java (Ho 1994: 45, Miksic 1996, Mathers and Flecker 1997).

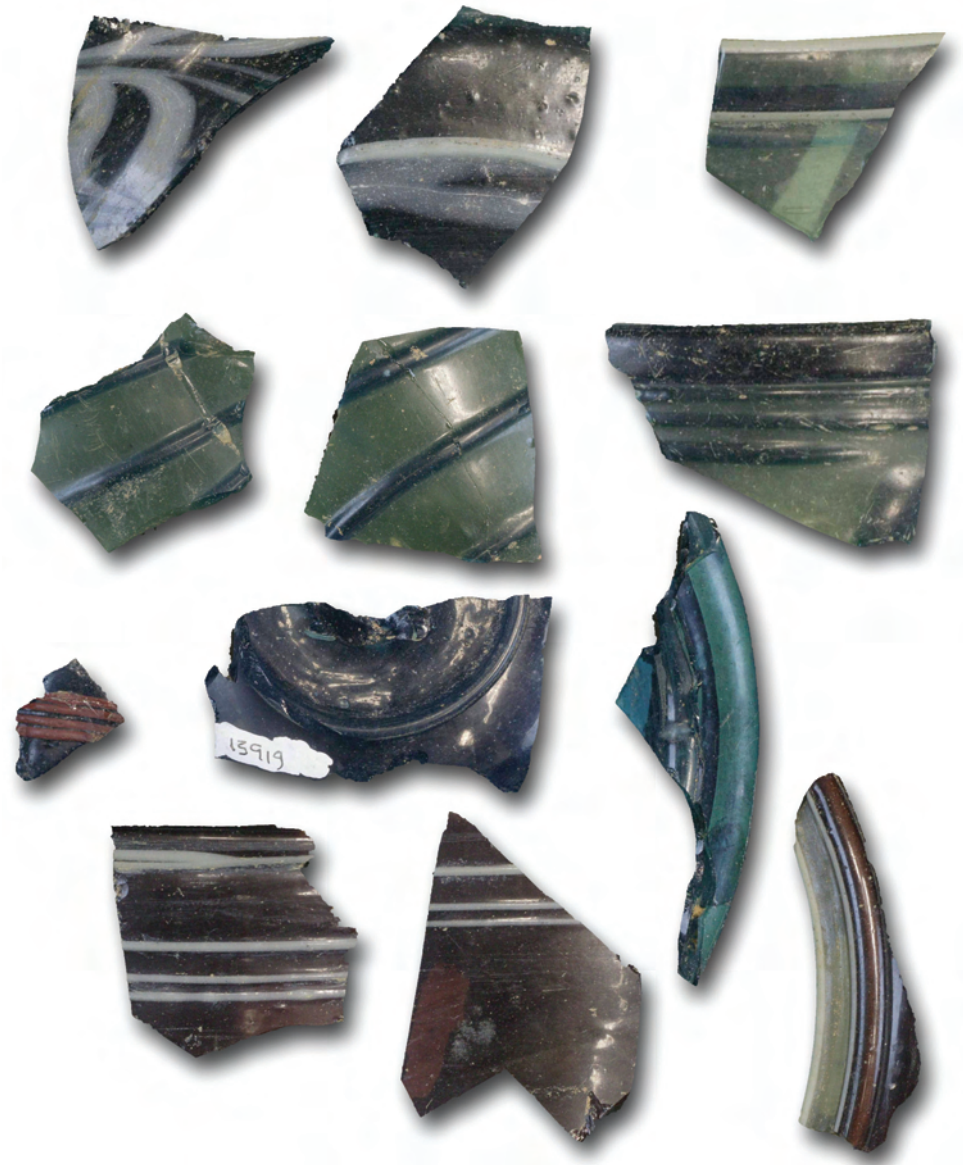
It has been suggested that east Java may have made beads from recycled glass derived from sources in Egypt and Persia as early as the fifth or sixth centuries (Lankton, Dussubieux, and Rehren 2008). Most beads of this type have been reported from east Java, but none have been recovered from datable contexts. The conclusion that they were made by around AD 500 is based principally on the fact that some beads of this type have been found in tombs from that period in Korea. Little other evidence of contact between Korea and Java in this period has been reported.

The fifteenth-century Xuande wreck carried an unspecified quantity of blue glass beads in a storage vessel, the origin of which is not given. The vessel carried both Chinese and Thai storage jars. The beads varied in diameter between 4–8 millimetres, and in length from 11–13 millimetres. They were strung with some sort of fibre, the precise nature of which was not determined (Sjostrand 1997: 14).

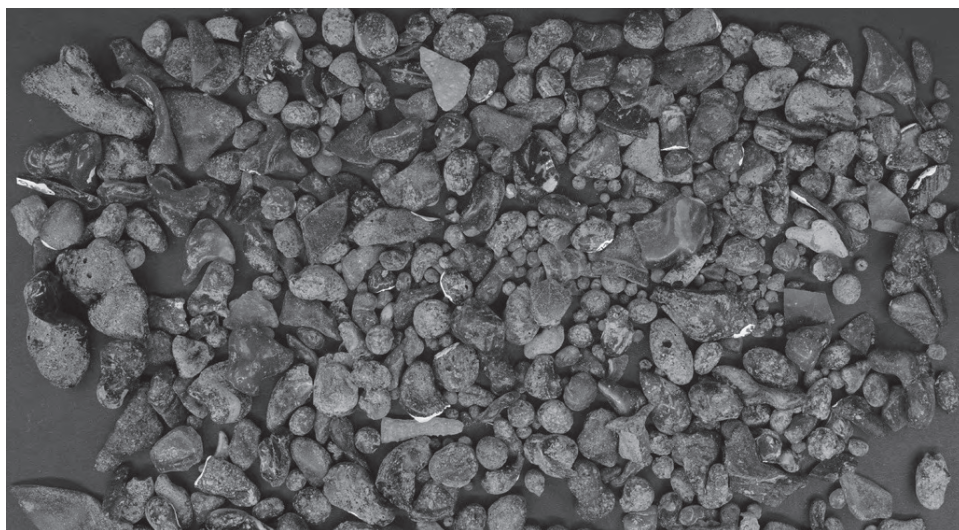
Thousands of Indo-Pacific type beads were found on the fifteenth-century Pandanan wreck in the Philippines (Bacus 2004: 268); Cayron (2002) states that these beads physically resemble those found at Sungai Mas. It is however unlikely that the Pandanan beads came from the same source as the Sungai Mas examples since the Pandanan wreck is about 400 to 500 years later than the Sungai Mas

beads. It is highly likely that the beads on the Xuande and Pandanan wrecks came from China; China monopolized the Southeast Asian glass bead trade by the thirteenth century.

Glass in Fourteenth-century Singapore



8.03 Glass shards from FTC. Top row: marvered blue and white bowl; translucent green bowl with white rim. Second row: translucent green bowl with blue stripes. Third row: blue vessel with red stripes; dark blue base with footrim; folded rim of a bottle or vase. Bottom row: maroon bowl with white stripes, yellow rim flange



8.04 Glass blobs, FTC. These are probably the detritus left behind by recycling of Chinese glass vessels to make bangles.

Table 8.7 Glass from Fort Canning

Beads:	12,413 intact examples; 558 fragments
Shards of vessels:	1221
Fragments of Bangles:	78
Blobs:	1,235

Excavations at FTC have yielded beads, shards of glass vessels (Fig. 8.03), fragments of glass bangles, and misshapen blobs of glass (Fig. 8.04). Much of this glass came from one location, excavation unit VI. Given the lack of information about early Chinese glass-making, the discovery of glass beads, fragments of bottles, and other China-made containers in a fourteenth-century stratum in Singapore is important. A few intact examples of Chinese glass vessels from the same period have been recovered from burial sites in Riau, indicating that Temasuk played a role in redistributing Chinese glass within its vicinity (*see* chapter 9).

Excavation unit I, which is next to unit VI, preserved clear signs of a hearth; this evidence consisted of several lenses of charcoal mixed with Chinese and local pottery, Chinese coins, and badly-corroded iron objects including an axe blade. Lumps of lime weighing a total of several kilograms, perhaps obtained by grinding sea shells, were also found in and near this hearth; they may have been used as a flux. Chinese glassmakers used calcium fluoride as an opacifier in white glass beginning in the Tang dynasty (Borell 2010: 149).

Chemical Studies of Glass Shards from Fort Canning

Energy-dispersive X-ray fluorescence analysis (EDXRF) at the Department of Physics, National University of Singapore, and the Field Museum of Chicago has shown that the glass found on Fort Canning was imported from four different sources. The bangles, blobs, and all but three vessel shards are all made of a single type of glass imported from China, and probably represent different stages of glass recycling in fourteenth-century Temasik. Three shards resemble Chinese glass in shape, but their composition is typical of India. The beads form a third group, also made in China, but in a different location from the vessels. Colourful shards of glass bangles represent a fourth source, India, distinguished by high concentrations of lead, zinc, barium, and tin.

Scholars have conducted XRF analysis of some samples of glass from sites in China. An (1987) analyzed 45 shards of both soda-lime and lead-based glass. Unfortunately, he only gave data for 16 elements in terms of small, average, or large amounts of the element. Such information is insufficient to determine whether the Fort Canning specimens came from China. An's specimens are all earlier than the fourteenth century and were mostly found in northern China. Most Chinese ceramics found at Fort Canning were made in southeastern China. Probably the glass came from that region too.

An (1987) found small amounts of barium in 14 of the 45 Chinese samples he studied (including 9 out of 23 from the Northern Song). This element was relatively common in the blobs, bangles, and shards of vessels from Fort Canning, but is present in only small amounts in the beads. In general, Fort Canning glass with barium has no lead; glass which contains lead has very little barium. The same relationship holds for known samples of Chinese glass.

Seligman and Beck (1938) noted that the presence of barium in ancient glass is a good sign that it was probably made in China. However, some Indian glass contains 3 to 5 per cent barium, so “[t]he presence of barium is not by itself absolute proof of the ancient Chinese origin of glass, but it remains a very important indication” (Francis 1986: 26). Lamb (1965: 38 n. 7) thought that “[t]he lead-barium criterion for Chinese glass applies, in general, to glass of the Han Dynasty period”; the data from Fort Canning indicate that it also applies to glass of later periods.

The mineral content of the glass found at FTC is different from that found at other Southeast Asian sites, such as Kuala Selinsing, Pengkalan Bujang, and Takuapa, where the glass has little lead and no barium (Lamb 1961: 55, 61, 62). Glass with low lead and no barium is probably from India or the Near East. All the sites mentioned by Lamb fall into the period before 1200. Chinese-style mandrel beads replaced Indian-style cane beads only after that date. Perhaps the source of scrap glass used in Southeast Asia also shifted from India or the Near East to China at the same time.

Chinese glassmakers lived in Banten, west Java, in 1600, and made blue beads to sell in Borneo (Francis 1985). Chinese goldsmiths may have worked in Kota Cina in the thirteenth century. It is however difficult to conceive of a way of



8.05 Ceramic sherds with blobs, indicative of local glass-processing at FTC

deciding who made the glass bangles on Fort Canning, since bead-making and gold-smithing techniques can be learned by any ethnic group.

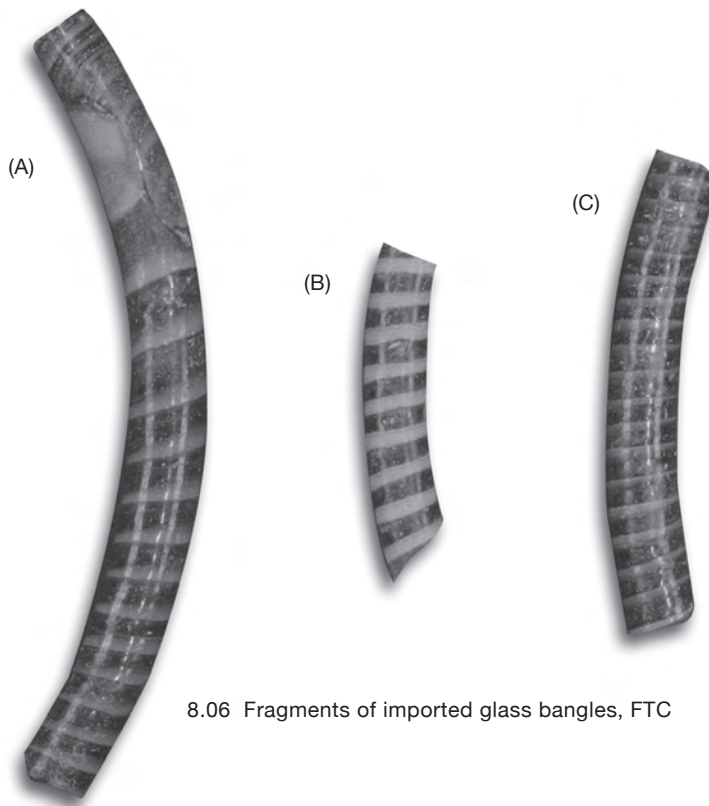
Blobs

The blobs were once shards of vessels that had been heated to a molten state. The blobs can be divided into several groups. Some are shaped like elongated tears or icicles; others are more like tubes or wrinkled plates, while the rest are more or less spherical. A number of blobs are stuck to sherds of porcelain (Fig. 8.05). The blobs are obviously created by melting broken glass vessels. Could the blobs have been produced accidentally by a fire that melted glass objects stored nearby? This explanation is not tenable. There were no remains of charcoal in the square where the blobs were found. The blobs do not form conglomerations of objects which have melted together; each seems to be a separate drop. It is unlikely that some shards would have been melted by a conflagration while others were preserved intact.

The simplest explanation is that the blobs were spilled when glass shards were melted to produce bangles. Results of the EDXRF tests provide strong circumstantial evidence to support this theory.

Bangles

Most of the bangle fragments are dark blue, with a semi-circular cross-section and measure four millimetres thick. The chemical composition of their glass shows that it came from China (Fig 8.06). Glass bangles made in China have been found in fourteenth-century graves in Riau. They are however different from those



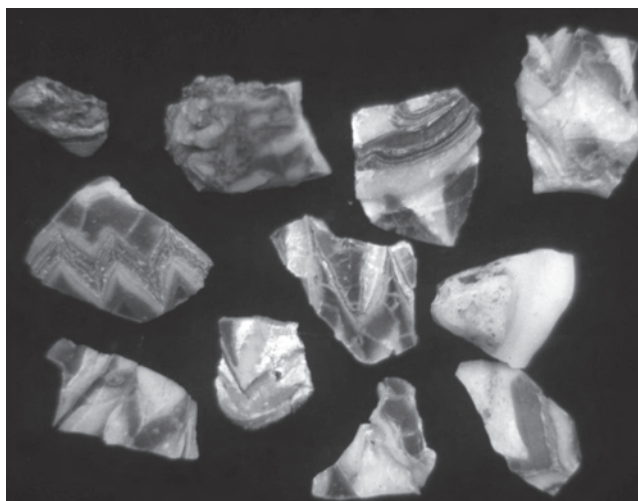
8.06 Fragments of imported glass bangles, FTC

found at Fort Canning: they are thicker. The bangles at Fort Canning may have been made by recycling broken Chinese glass bottles.

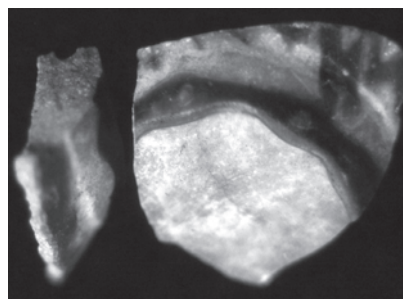
Two bangles are much different from the others: they are thicker (eight millimetres) and consist of glass of four colours—a core of light green, coated on the exterior with yellow; on the outer rim is a light brown stripe, on which are laid oval drops of white. Similar four-coloured glass bangles (yellow, green, orange, and blue) with white beads at the apex of the outer curve are known from northern India where they were made between the late twelfth century and the Bahmani period, 1435–1518 (Dikshit 1969: 69–71, pl. B, no. 1). Similar bangles were found in surface collections from Kottapatnam, south India (Rao 2004: 17 pl. 10, lower right). This multicoloured bangle from Fort Canning and a fragment of another found at St Andrew's Cathedral are probably Indian-made; other bangle fragments of two colours of glass with spiral design were also possibly imported from India (*see* chapter 9, Figs. 9.10–9.12).

Vessels

The glass shards are pieces of small vessels, mainly small cups and bowls. Most are thin-walled, approximately 0.5 millimetres thick, although some are as thick as 1.1 millimetres. Ninety per cent of the shards come from vessels made by the glass blowing technique.



8.07 Chevron-pattern polychrome glass bowl shards, FTC



8.08 Inlaid glass, PHC

The other forming technique, core-forming, was used to make an unusual glass with polychrome decoration (Borell 2010: 141–56) (Fig. 8.07, 8.08)

The core-formed sherds belong to small vessels, probably bottles or jarlets, with rim diameters of 4–4.5 centimetres. The glass of these shards is semi-opaque white, unlike the blown glass shards which are translucent. Brigitte Borell's study of the core-formed vessels yielded the discovery that some of the shards retained traces of iron wire. In addition to vessel fragments, one cylindrical bead of similar glass was also unearthed at Fort Canning (Miksic, Yap and Hua 1994: 37, Table 1). Intact vessels of this type have been discovered in the Philippines (one on Mindoro, the other near Butuan; Lamb 1965a; Borell 2001, 2010: 153).

Similar shards, but with green rather than white glass, were found at Pengkalalan Bujang (Jacq-Hergoualc'h 1992: 205–10; Lamb 1961, 1965a). The shards from Fort Canning are derived from at least three different vessels, possibly more. Another shard of similar type found at Parliament House Complex (PHC) brings the total of such artifacts in fourteenth-century to at least four (Borell 2010: 151). The technique of core-forming was used in the Near East and Egypt. Despite their unusual method of production, chemical analysis (especially high lead content in the shards) and shapes that resemble Chinese jarlets rather than West Asian artifacts support the conclusion that the core-formed vessels were made in China [Miksic, Yap and Hua 1994; (Borell) Seidel 2000: 4]. Borell (2010: 154–5) tentatively suggests Quanzhou as the precise place of manufacture.

The blown-glass vessels were decorated by several different methods. In one style, thin parallel stripes of coloured glass were laid on the outer surface of the body, forming raised ridges. In another method, darker coloured glass was laid on the surface of a light, usually transparent body, and the glass was heated enough to melt the entire vessel slightly, causing the two colours to run together. In a third pattern, represented by only two sherds, a line of white glass was laid over a dark blue body, which was then combed while still molten to produce a wavy pattern.

No combed-glass vessels have been reported from China, but Francis believes that combed-glass polychrome high-lead heirloom beads—used by the Paiwan of Taiwan, the Kayan of Sarawak, and the Toraja of Sulawesi, and found in excavations of Yuan-period sites in the Philippines, Sarawak, and Java—were made in Quanzhou for export. The combing technique may have been learned from Muslims, who used Quanzhou as their base (Francis 2002: 59, citing Ptak 1998c: 8–9). From there it is but a small step to applying the same technique to vessels.

A combed-glass bead has also been discovered at Fort Canning ([Borell] Seidel 2000: 3). All other sites where such beads have been found lie along the so-called “eastern” route from Quanzhou through the Philippines to Java, rather than on the “western” route from Guangzhou along the coast of mainland Southeast Asia. Singapore seems to be the point where the two routes joined (Francis 2002: 59).

One vessel was so badly shattered that it is difficult to reconstruct its original decorative pattern or technique. It seems to have consisted of a dark green body with a dark blue design, perhaps created by the remelting technique described above.

The blown glass found on Fort Canning belongs to two different types. Data on chemical composition of glass from other Song-Yuan period archaeological sites in Southeast Asia reported by Brill (1999) are quite varied. Glass from Lhokseumawe in Aceh, Sumatra, for example, included a vessel rim and three bangles. Three of them were characterized by low lead and barium, except for one bangle, which included a higher lead content. Two bases of vessels from Lubok Tua, Barus, from the eleventh or twelfth centuries, also had low levels of lead and barium.

The same result was obtained from samples at the twelfth to fourteenth century site of Tandem Hilir, Hamparan Perak, north Sumatra: all 5 beads had low levels of lead and barium; as did 7 glass samples from Muara Jambi; 9 beads from Pulau Kompei, Langkat; and 28 samples from Kota Cina. Sites from further east (Sarawak, Borneo, and the Philippines) included a few beads with high lead content (2 out of 11 on a Kenyah bark-coat, and 2 out of 4 beads from the Philippines). This data is only suggestive, however, because most of the materials tested did not come from contexts with good archaeological provenance.

Out of 31 shards analyzed at the Field Museum of Chicago, 28 were characterized as belonging to “the K₂O-PbO-SiO₂ system that was used in China from the Tang Dynasty to the Yuan Dynasty” (Dussubieux 2010: 200). Chinese glass is characterized as high in lead and containing potash. Three of the glass shards however yielded a very different chemical fingerprint: they are “soda-alumina-silica glass characterised by its high alumina and low lime content” (Dussubieux 2010: 198). Dussubieux studied the glass excavated at Bukit Hasang, near Barus, northwest Sumatra, which was occupied at approximately the same time as Temasik. She concluded that these three shards from Singapore and about one-third of those from Bukit Hasang were made in South Asia [Borell (Seidel) 2010: 163; Dussubieux 2009: 399–400, Perret and Surachman 2009: 328–30].

No examples of such glass vessels have yet been reported from either South Asia or China; the quest for the source of these rare and ornate artifacts goes on.

THE BEADS

Documentary Sources on Bead Trade in Early Southeast Asia

Zhao Rugua, harbourmaster of Canton in 1225, noted that Chinese merchants exported glass beads and bottles to *Poni* (“Borneo”) and the Philippines (Hirth and Rockhill 1911: 156, 160, 162). In the fourteenth century, beads were the only kind of Chinese glass in Wang Dayuan’s *DYXL*. He listed 11 ports where beads were sold, and noted the specific colours popular in those ports seven times: Xien (Siam); Cambodia (yellow and red beads; Kelantan (red and green beads); Jung (? south end of Malay Peninsula) (dark red beads); *Long ya bo di* (Riau?) (red and green beads), Jambi (red beads), Palembang (“small coloured *men-pang* beads”, Java, Aru, the Moluccas, and Sulu (blue beads) (Rockhill 1914: 100, 106, 108, 118, 122, 128, 129, 134, 136, 140, 142, 238, 260, 271). The archaeological record confirms Wang’s report. In the Philippines, and at Kuala Selinsing, Perak, white was favoured; at Gedong, Sarawak, yellow was preferred; at Sungai Mas, Kedah, most beads are translucent red (Francis 2002: 77). Interestingly, Wang did not include beads among the items traded at Singapore.

In addition to glass beads, coral beads were traded at Karimata (Rockhill 1915: 263), and copper beads at San Tao (in the Philippines) (Rockhill 1914: 269).

Beads from Singapore

The glass beads from Fort Canning are one to two millimetres in diameter and of various colours (yellow, black, blue, red, white, and green) and were made by winding molten glass around a wire (known as a mandrel) producing a spiral pattern on the exterior, and often leaving a small projection or trail of glass around the mouth of the perforation. The spirals were meant to be cut into individual beads; sometimes two to four beads were not cut, but remained attached to each other, presenting a segmented appearance. Over 12,000 have now been recovered from the site (Table 8.7).

Another type of bead found at FTC is made of highly devitrified wound red glass shaped like doughnuts. Similar beads are illustrated in Lamb (1964 no. 11; republished by Mohd. Kamaruzaman 1989: 90). Bronson (1990: 223) mentions a similar type of devitrified bead at Khuan Lukpad, south Thailand, but these were apparently made by the glass-drawing process.

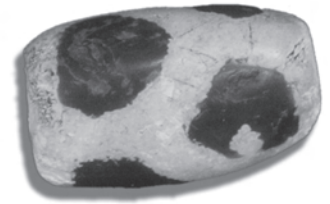
Since the beads from Fort Canning were made of a different kind of glass than the sherds of vessels, it is not clear why they were found together; this is either fortuitous, or an indirect result of some other combination of circumstances. For example, the glass workers may have worn beads, or made other objects with them. Glass beads were used to decorate lanterns in Suzhou during the Song; they also decorated a pillar in a Suzhou pagoda dated 1013 (Francis 1986: 14, 1986b: 6). It is also possible that they were sewn onto items of clothing, such as the famous Peranakan beaded slippers.

The beads contain greater amounts of lead, potassium, and calcium compared to the shards of glass vessels, and very little barium or caesium. Difference in chemical composition is sometimes linked to colour: black beads contain much copper and iron, yellow beads have a great deal of tin, dark blue beads and bangles contain high concentrations of cobalt, and a dark red bangle has high manganese content.

The technique of bead-making, by twirling molten glass around a mandrel, is strongly identified with China. Indian glassworkers made beads by drawing the molten glass into a long tube or cane which was then cut. The manufacturing technique used to make the Fort Canning beads (winding rather than drawing), and their high lead content, favour a Chinese origin. Documentary sources on Chinese glass-making from the twelfth to seventeenth centuries specifically require the addition of lead (Francis 1989: 11).

According to Francis (1989: 14–5), such beads are rare at Hitam, Bukit Sandong, Kuala Selinsing, and Sungai Mas, but common at Bongkissam, Gedong, Pengkalan Bujang, Sungai Lumut, Kota Batu, and Calatagan. They appeared in South-east Asia around 900 and completely replaced the Indian cane beads by about 1200.

Glass analyses of 78 samples (mainly of beads, but with some shards of vessels for comparison) were conducted at the laboratory of the Department of Physics in the National University of Singapore, in 1993. The glass could be divided into two groups: one with high lead (Pb) content, the other with low lead content. The low lead class can be further split into four subgroups, each probably corresponding to a different source. The high lead class can be split into two groups, as will be described below, suggesting strongly that two different sources of production were involved.



8.09 Unusual white bead with black dots, SCC

High Lead Subgroup I: Fort Canning, Midai (Pulau Tujuh Group, Riau Archipelago)

Ten beads from Fort Canning of “Chinese” style resemble samples from Midai (eastern Riau). Similar beads have been recovered from looted burials on several islands in the Pulau Tujuh area in association with Chinese, Thai, and Vietnamese ceramics made between the thirteenth and fifteenth centuries.

The Midai examples look different from the Fort Canning beads: they are doughnut-shaped, larger (13 millimetres in diameter, 6 millimetres thick) and dark blue in colour. Midai people may have preferred larger beads (Miksic and Yap 1992; Miksic, Yup, Li, and Wan 1994). The beads show a tendency toward devitrification, which has etched the surfaces in a spiral pattern, probably following the borders of the layers of glass in the order in which they were deposited as they were twirled around the mandrel during the manufacturing process. The devitrification is probably caused by particularly high lead content.

The analysis supports the conclusion that beads found in Singapore and Riau came from the same Chinese source. The historical evidence that will be reviewed in chapter 10 suggests that the Riau beads were first brought to Singapore and then reexported to Riau.

The first low-lead subgroup consists of three different types of objects which represent different stages of a recycling process: shards of glass vessels; “blobs” or congealed misshapen droplets; dark blue glass bangles; and one unusual bangle with spherical rather than hemispherical cross-section, pale green in colour, and a rough surface.

The second subgroup with low lead content consisted of beads from Pulau Tujuh and Kambang Unglen, Palembang (the latter found by Prof. Ian Caldwell). The beads all appear to have been made by coiling, and have a high ratio of barium to lead, criteria that mark them as Chinese-made. The fact that they do not fall into the same category as the beads from Singapore however suggests that a second Chinese bead-making center may have produced them. The association of these beads with Palembang implies that this centre was active before 1300, but this inference must remain speculative until similar beads can be obtained from a secure archaeological provenance.

A third low-lead subgroup from Riau is almost certainly of Indian rather than Chinese manufacture. It consists of dark brownish-red tubular beads sometimes called “Indo-Pacific”. Such beads have not been found in Singapore. Their presence in Riau indicates that there was probably a bead-using society there before 1200. It is also possible that the beads were imported to Riau centuries after their manufacture, but the fact that no low-lead beads have been found in Singapore casts doubt on this theory.

CONCLUSION

EDXRF shows that Singapore and Palembang belonged to separate bead trade networks. This is probably due to the fact that Palembang is older than Singapore. Pulau Tujuh appears to have taken belonged to both the older and the younger networks. Indo-Pacific beads were probably imported first, followed by Chinese beads with low lead content of the type discovered in Palembang, which were themselves later displaced by the high-lead type found in Singapore.

Pulau Tujuh is unlikely to have had much contact with merchants from outside the region. Wang Dayuan and other Chinese writings depict Riau as a pirate lair; they do not mention any attempts to trade with the inhabitants there. During the fourteenth century, Singapore probably obtained glass beads, vessels, and ceramics directly from Chinese merchants, and sent them to Pulau Tujuh in exchange for sea products. Before the fourteenth century, Palembang probably played the same role of middleman between Riau and sources of foreign goods.

The area on Fort Canning where the blobs were discovered was probably a glass recycling workshop. Craftsmen there may have made bangles, since those found in Singapore are much thinner than those known from China. Glass

recycling was common in Asia. During the late eighteenth century, Guangzhou glassworkers did not make their own glass; they imported broken European material. By 1863 however they were producing their own glass (Francis 2002: 58). Such an industry would have been consistent with Fort Canning's function as a palace; the glassworkers would have possessed a special skill and probably worked under royal patronage.

Other sites in Singapore have yielded miniscule amounts of glass in comparison to Fort Canning. None at all was discovered at PHC. At EMP, only two fragments of small bottles and two fragments of bangles were found. At SCC and STA, a few shards, bangle fragments and beads were found. The conclusion is that glass was almost exclusively the property of the elite who lived on the hill.

Glass vessels, beads, and bangles were also found in fourteenth-century graves in Riau. These are different from the bangles found at Fort Canning: they are much thicker, and closely resemble bangles found in Santa Ana, a fourteenth-century burial site in Manila, Philippines (L. and C. Locsin 1967: 141, pl. 5). The thicker bangles were probably made in China. Thus the Fort Canning recyclers did not imitate Chinese techniques. Why they made thinner bangles is a subject for conjecture; perhaps they were simply trying to conserve scarce raw material.

Only one shard of ancient glass has been recorded from the fourteenth century capital of Majapahit. At Bukit Hasang, Barus, a fourteenth-century site, shards of similar glass vessels have been found (Perret and Heddy Surachman 2009). It is possible that more sites have yielded such glass, but it may not have been recognized as an early Chinese product.

In Singapore, no such glass has been found in association with artifacts dating from the centuries after 1400. Such glass was rare, made only for a brief period, and owned only by members of the elite. The association of beads with the shards of glass vessels at the Keramat site has yet to be explained. There is no obvious reason why so many thousands of beads should be concentrated at this site; this is another riddle that archaeologists cannot yet answer.



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TEMASIK'S PARTNERS IN JAVA, THAILAND, VIETNAM, SRI LANKA, AND INDIA



Among Temasik's external connections, those with China are the best-documented, both in writing and in terms of artifacts. The huge quantity of imports from China among the archaeological discoveries in Singapore suggests that the China trade played a prominent role in the life of this fourteenth-century port-city. One must however exercise a degree of caution in interpreting the archaeological data; the picture is distorted to an unknown degree by the fact that Chinese exports consisted of durable items such as pottery, metal, and glass, which survive for centuries in the soil. Imports from elsewhere may have been no less prominent but have probably vanished completely if they were perishable items such as food and cloth.

Malay pottery was used in all parts of the ancient settlement, but is less well preserved because it was more fragile than Chinese pottery. This is particularly true

9.00 Lead statue of headless horseman, the only known statue of this type, EMP. Collection of National Museum of Singapore.

of Fort Canning, where the fourteenth-century soil is so hard that it is difficult to extract earthenware without breaking it. Some earthenware even seems to have dissolved back into soil. Thus local earthenware may have comprised a larger proportion of the pottery relative to Chinese ceramics than the surviving data indicate.

Historical sources and archaeological data record that Singapore had numerous commercial partners besides China, including Sri Lanka, India, Java, Sumatra, Thailand, and Vietnam. Singapore's connections with these neighbors included cultural and political relationships that are not clearly reflected in the archaeological record. Together, history and archaeology can provide a much more accurate, balanced picture than either can hope to achieve alone.

This chapter explores the material evidence that ancient Singapore was in regular communication with the rest of Southeast Asia and the Indian Ocean. Although the archaeological evidence for these relationships is very scarce compared to the data available for the Singapore-China connection, this should not be construed to mean that Singapore's neighbors were inconsequential compared to the Chinese connection in the life of the city. The local environment played a major role in determining the experience of living in ancient Singapore.

JAVA

The east Javanese kingdom of Majapahit claimed control over an area larger than modern Indonesia. The *Malay Annals* portrays Java as ancient Singapore's main enemy, and the party responsible for the city's demise. Although some justification for this picture can be found in the *Desawarnana* and *Pararaton*, it is undoubtedly oversimplified.

Archaeological evidence of ancient Javanese influence outside Java and Bali is rare. Pottery in the Straits of Melaka remained typically Malay through the thirteenth and fourteenth centuries, although the Javanese assumed a dominant position in Sumatran politics during this period. Javanese inscriptions in Sumatra are rare, and contain no explicit political claims. The remains of Javanese presence in Singapore are typical of this situation. Javanese overlordship left very few and faint archaeological traces. There are a few signs of contact between Temasik and fourteenth-century Java, but these could easily have arrived in the course of peaceful economic exchange. Old Parliament House (OPH) yielded a few sherds of pottery from east Java. These are fragments of well-made, highly burnished red earthenware typical of the finer variety of pottery found at Trowulan and other Javanese sites of the fourteenth century (Fig. 9.01). One sherd consists of the spout of a *kendi*. The others may belong to *kendis* or other objects (Fig. 9.02).

Sherds of pottery intentionally chipped and ground into circular shapes called *gacuk* in Javanese are found in Majapahit's capital. Some *gacuk* found at EMP are made of Chinese porcelain, while others made of Singaporean earthenware were in all probability produced domestically rather than imported from Java. The find spot of these sherds near the Singapore River may indicate the presence of Javanese traders rather than the import of Javanese pottery as a commodity. No *gacuk* were found in Kota Cina or other sites in Sumatra or the Malay Peninsula.



9.01 Burnished Javanese redware, OPH. These confirm historical sources that are suggestive of the importance of Temasik's relations with Majapahit.

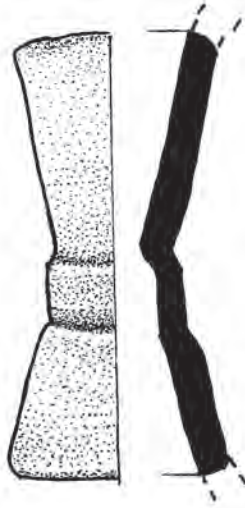
The finds of *gacuk* here and nowhere else in the Malay realm suggests that at least one Javanese cultural practice was known in Singapore during the period when historical sources report Javanese claims of overlordship. It is possible that the *gacuk* in Singapore were used by Javanese sojourners here rather than by local Malays. Similar clay disks have been found in other parts of Southeast Asia, including Thang Long, a site of the late first millennium AD in modern Hanoi, and the Dieng Plateau, Java (eight to ninth centuries). Whether they had the same function there as in Singapore and east Java in the fourteenth century cannot be ascertained.

A Lead Figurine

A third archaeological discovery which hints strongly at a Javanese element in ancient Singapore society is a metal figurine found at EMP in May 1998: a silvery grey image (Miksic 2002) depicting a male figure on horseback, intact except for the rider's head (Fig 9.00). The style of the statue resembles relief carvings in stone at Candi Jago, a thirteenth-century site in east Java, or puppets in the *wayang kulit* (shadow-play). The Heritage Conservation Centre of the National Heritage Board of Singapore determined that the image is mainly composed of lead. Both the use of lead for a statue, and this style of metal image, are unprecedented in Southeast Asia.

The figure is very thin, and the modeling of the man and horse is very two-dimensional, with the schematic depiction of the man's arms and shoulders typical of Javanese art. The statue is equipped with a flat base which allows it to stand up on a flat surface. The man wears a sarong from his waist to his knees; his calves and upper body are bare. He also wears jewellery, indicating that he is an elite personage. In his hands he holds a staff, which may represent either a spear or pennon. The horse is depicted wearing an elaborate harness. The rider sits on a design that apparently represents wings.

The image may represent Surya, the sun god, who was frequently depicted astride a horse in the fourteenth-century temples of Java (Miksic 1999). It could also be



9.02 Flanged neck of a Javanese *kendi*, OPH

Panji, the main character in a cycle of east Javanese myths about a prince in search of his long-lost beloved; Panji is often depicted riding horses in *wayang beber* scrolls.

Lead ore is found in north Sumatra, and lead ingots were part of the cargo found on the Pulau Buaya shipwreck in Riau. Java has no lead deposits; lead would certainly have been available in Singapore, and the possibility therefore exists that the statue was made in Singapore. Based on the fact that in the fourteenth century *wayang*-style representations of human figures have only been found in Java, it is also possible that the statue comes from there.

THAILAND

Wang Dayuan mentioned a country called *Xian*, which most scholars believe corresponds to Shan/Siam. In his description of *Xian* he says that “[i]n recent years they came with seventy odd junks and raided *Dan-ma-xi* and attacked the city moat. [The town] resisted for a month, the place having closed the gates and defending itself, and they not daring to assault it” (Rockhill 1914: 100). This report of hostilities between a Malay port and a Tai polity is consonant with what is known of relations between the Malays and the Tai at this period. *Xian*’s attack on Temasik occurred during a period when several Tai groups were moving southward in the early fourteenth century, competing against each other for dominance in the Chao Phraya valley and beyond. A Mon inscription mentions Tais in the Malay Peninsula in 1280 (Wheatley 1961: 301). King Rama Khamhaeng of Sukhothai claimed *Sritamarat* (Nakhon Si Thammarat in south Thailand) as one of his vassals in 1292.

The attack by *Xian* was so impressive that people in Temasik were still talking about it when Wang arrived a few years later. The Tai attack is not however mentioned in the *Malay Annals*, where the Javanese, not the Siamese, play the role of Singapore’s mortal enemy. According to the *Malay Annals*, the Javanese attacked Singapore twice. The first time they were defeated, but on a second occasion a treacherous prime minister opened the city gate for them. The ruler

of Singapore however, escaped and after a few years in the wilderness founded Melaka, converting adversity into triumph.

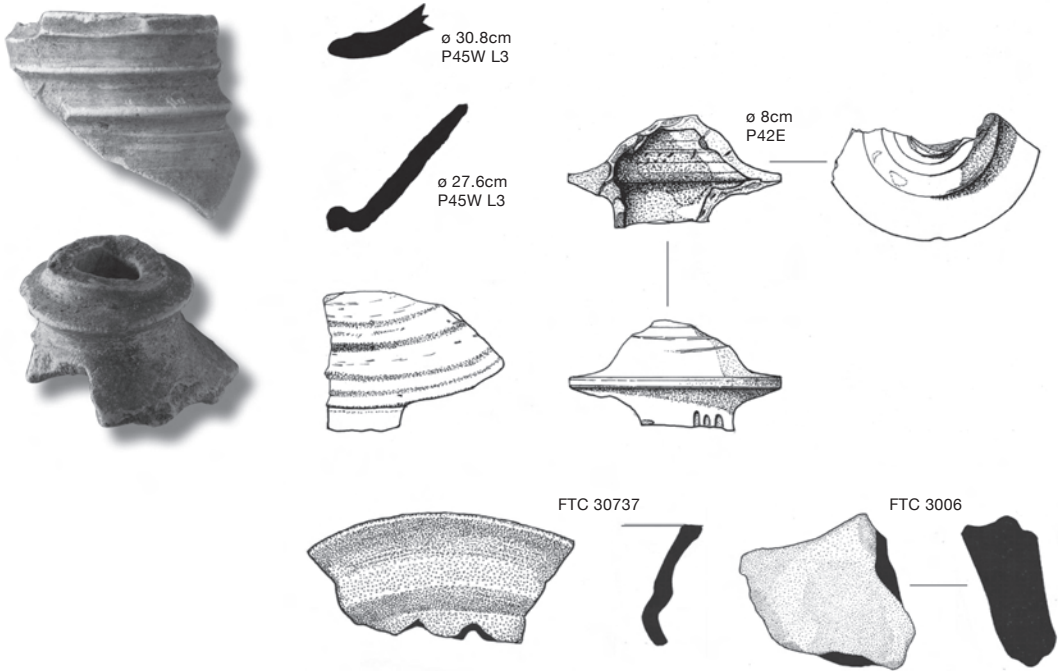
The *Malay Annals* is not interested in Singapore's relations with any other nation except Java. The paramount concern of the compilers of the text was the continuity of the Malay ruling family of Melaka. The *Malay Annals* do however refer to the fact that Siam (then ruled by the kingdom of Ayutthaya) posed a significant military threat to Melaka.

Did Majapahit or Ayutthaya attempt to create an empire or *mandala* unifying all Southeast Asia? It is unlikely that the thought of creating such a kingdom never occurred to Southeast Asian rulers; the idea of territorial conquest would have been comprehensible to the Vietnamese, with their Chinese tutelage, and to the Khmer, who installed military governors in conquered territory in much of what is now Thailand. The Tais and Javanese thought of the world in terms expressed in such Indian works such as the *Arthashastra*, in which world conquerors or *cakravartin* radiate power from their palaces. Those in range of the first ripple of this divine effulgence would have been captivated by it and converted into faithful subjects. At some point, this zone of harmony and righteousness corresponding to the mandala would have met a zone of darkness that comprised evil enemies beyond the circle of light. Even further away lay another zone, which was neither dark nor light, but was ruled by enemies of the *cakravartin's* enemies. If the lords of those outer zones could be contacted, they could become allies of the *cakravartin*, pinch the dark mandala between them, and enlighten it too.

Singapore perhaps lay somewhere in this realm of "enemies of enemies": too far away and too small to have pretensions of its own, but potentially valuable as a point from which light might be turned against darkness from its opposite side. It is only in the case of Singapore that we have actual evidence of overlapping claims between the Tai and the Javanese.

The *Malay Annals* suggests that Singapore feared the glare of the Majapahit sun (the symbol of the Majapahit kingdom) more than Ayutthaya. On the other hand, Chinese and Portuguese sources tell us that Singapore and Melaka paid tribute to Ayutthaya (Wheatley 1960: 321). The Portuguese confirm that the ruler of Singapore in 1390 had a marital connection with the ruler of Ayutthaya. It is possible that Temasik's relationship with Ayutthaya was indirect, mediated by Patani, south Thailand, a Malay polity which came under increasing Siamese political and cultural pressure at this period. Another possibility is that Ayutthaya/Siam was still sufficiently feared when the *Malay Annals* was compiled that the Malay compilers of the text thought it politically expedient to ignore this attack.

No economic relations between Thailand and Singapore are mentioned in written sources. Archaeological data, however, indicates that Temasik had links both with the Malay polities in what is now southern Thailand, and the Chao Phraya valley in Thailand's heartland.



9.03 Fine Paste wares, FTC and OPH. These were probably parts of ewers made in south Thailand.

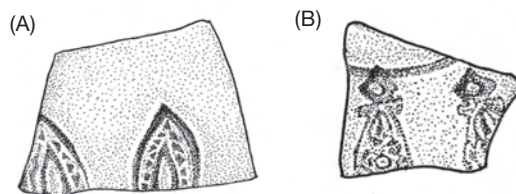
Fine Paste Ware

The term “Fine Paste Ware” (FP ware) was coined to denote a particular type of pottery found at Kota Cina which is distinguishable from local earthenware by its fine-grained clay, lack of temper, and refined shapes—mainly *kendis* but also including other forms such as round-bottomed storage vessels. FP ware comprised about five per cent of earthenware at Kota Cina (Miksic 1979: 185–8, Edwards McKinnon 1984: 140–50).

FP ware has been found at many other sites in Southeast Asia, including Muara Jambi, the Philippines (Brown 1989: 126–7), east Java, south Thailand, and Kedah. FP ware has been found on many shipwrecks, including Pulau Buaya (Abu Ridho and Edwards McKinnon 1998: 41a, 41b), the Intan, Cirebon, Java Sea, and Maranci. Almost all of the shipwreck finds are *kendis*.

All fourteenth-century Singapore sites yielded fragments of FP ware, but it was most common at EMP. The main shapes found in Singapore include *kendis* (a spout was found at EMP), and small round-bottomed pots (Fig. 9.03). FP ware in Singapore is not as well-preserved as that found in Kota Cina; it is very soft and dissolves if washed too energetically or immersed in water for a period of time. No large fragments have been found. The scarcity of spouts of FP ware in Singapore is curious given the fact that most FP ware in Kota Cina took the *kendi* form.

It is possible that FP pottery was produced in more than one area. EDXRF analysis of sherds from Java, Sumatra, Thailand, and Singapore, conducted at the National University of Singapore’s Department of Physics laboratory, showed



9.04 (a) EMP A2S3 reddish medium coarse ware;
 (b) Fine Paste Ware-like material, “turret” motif

that FP ware was made in at least two and possibly more places. The sherds from Kota Cina were similar to those from east Java while the sherds from Singapore matched those from south Thailand (Miksic and Yap 1990, 1992; for similar examples called “Satingphra-type”, named after an important ancient port site in south Thailand near Pa-O, *see* Brown 1989: 126–7).

Research in south Thailand has yielded evidence of pottery-making on a large scale at the site of Pa-O including suitable clay deposits, six updraft kilns, and tools for making pottery (Srisuchat 2003; *see* especially 252, Fig. 17.1; 253, Fig. 17.2; 255, Fig. 17.4). This connection between Singapore and south Thailand is not surprising, since Portuguese reports indicate that the ruler of Singapore in the late fourteenth century (who was possibly assassinated by Parameswara) was married to a woman from south Thailand. This marriage was perhaps part of a more complex set of cultural and economic relationships between these two areas, of which FP Ware is the only surviving tangible reminder.

Two sherds from EMP are also possibly of Thai origin. These originate from two different vessels, one much finer than the other, both of which may in fact have been made of Fine Paste Ware. Both can be differentiated from other FP ware examples by elaborate designs deeply stamped on the upper bodies of the vessels (both are probably jars). The pointed arch of the coarser vessel is very common on ancient jars from Phitsanulok, central Thailand. The other motif, a kind of “turret” design, is not known from elsewhere, but the manner of stamping, using a sharply-carved object (possibly made of wood) with careful and regular placement, suggests a type of aesthetic which is found in Thai pottery but not in the Straits of Melaka (Fig. 9.04).

In addition to sites in southern Thailand that have evidence of entrepôt activity during the ninth and tenth centuries, sites such as Wat Mokhlan and Tumpang have yielded finds of Chinese porcelain of the Song-Yuan period (Sampaongen 2004). The Yarang area of Pattani may correspond to the site known from Chinese and Javanese sources as *Langkasuka* (Yukongdi and Pantukowit 2004). Numerous complexes of archaeological remains have been recorded there, though no reports on Chinese ceramic assemblages have yet been published. More research on these sites would greatly clarify the cultural and economic relationships between Singapore and the Patani region in the fourteenth century.

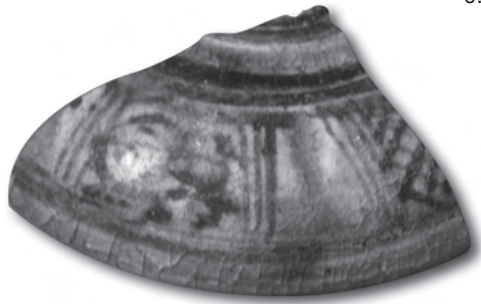
Fifteenth-century Thai Sherds, EMP



9.05 Sawankhalok covered box



9.06 Sukhothai rim



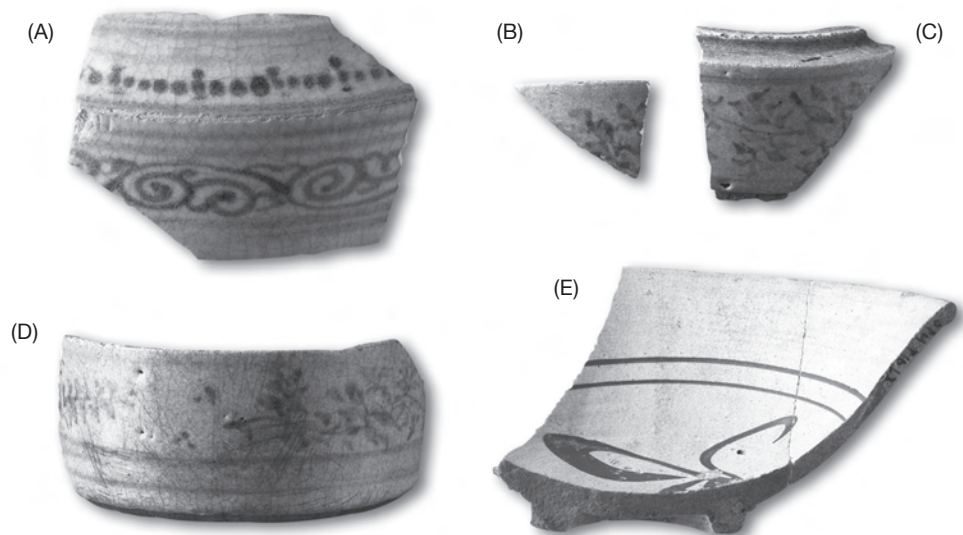
9.07 Sawankhalok lid

Glazed Southeast Asian Pottery

Glazed pottery made in Thailand and Vietnam began to find its way into Indonesia in the late fourteenth century. This initiative seems to have been a direct response to a sudden interruption in the supply of Chinese porcelain. Thai and Vietnamese ware has been found at many sites in Sumatra, Java, Sulawesi, and the Philippines. In Sulawesi and the Philippines, many intact examples have been found buried with human skeletons. They apparently served as offerings or implements for the use of the spirits of the dead in the next world. In Sumatra and Java the custom of burial seems to have been rare during this period; cremation was probably the norm. Nevertheless, sherds of Thai and Vietnamese ceramics are found in habitation sites on Java and Sumatra as well as on shipwrecks.

Thai ceramics were exported from two main centers of production: Si Satchanalai, and Sukhothai. Si Satchanalai was the more productive of the two and produced higher quality wares. Early Thai glazed pottery consisted mainly of plates decorated with black painted designs including fish and flowers. As the Thai potters improved their clay, they switched to green-glazed plates. Green-glazed Si Satchanalai plates were made mainly in the mid-fifteenth century, the high point of the northern Thai potting industry (Brown 2003). In addition to plates, Thai potters made ring-handled jars, covered boxes, and figurines.

Vietnamese Ceramics, OPH and EMP



9.08 (a) box lid, EMP; (b) body sherd, EMP; (c) small box, EMP; (d) underglaze blue bowl, EMP; (e) Vietnamese bowl, OPH

Glazed Wares from Central Thailand.

Only two fragments of Si Satchanalai glazed stoneware have been found on Fort Canning. They came from a disturbed upper layer (Fig. 9.05) and consist of two fragments of a brown and white covered box. This scarcity of Thai ware is consistent with the hypothesis that Fort Canning was abandoned after Parameswara fled to the Malay Peninsula around 1396 because the “early active phase” of Thai ceramic trade did not begin until the late fourteenth century (Ho 2002: 97). Cargoes of several shipwrecks which sank around 1400 contain cargoes of Thai pottery.

Sites along the left bank of the Singapore River yielded more Thai ware (Figs. 9.06, 9.07). At EMP, 16 sherds of Thai ware were discovered: 14 from Si Satchanalai, 2 from Sukhothai. Sukhothai sherds included 1 fragment of stoneware, and 1 white-glazed plate. Si Satchanalai artifacts included 8 sherds with the bluish-green color called celadon. Shapes represented by the Thai sherds include plates, bowls, and a vase. Another green sherd with underglaze brown decoration formed part of the cover of a box, and was made in a mold. Three fragments of plates were decorated with underglaze black paint. The other 2 belonged to stonewares with green-grey glaze (Low 2002: 138).

The stoneware from ancient Singapore requires further analysis. No Thai stoneware jars from areas such as Singburi which are commonly found on shipwrecks have so far been detected, but more representatives of Thai stoneware may be identified in future studies of the Singaporean assemblage.

VIETNAMESE GLAZED CERAMICS

A wide variety of Vietnamese ceramics has been discovered at Majapahit's capital, Trowulan, and other sites in Java, south Sulawesi, and the Philippines. Examples have also been found in Riau; these probably arrived via Singapore.

Given the reference in a Vietnamese source to a fourteenth-century diplomatic connection between Temasik and Vietnam (*see* chapter 4), and the popularity of Vietnamese wares in fifteenth-century sites related to Singapore, one would suspect that Vietnamese pottery would have been used in Singapore, but fewer than a dozen sherds have so far been identified at the sites of OPH and EMP. These are fragments of small blue and white cups and covered boxes (Fig. 9.08). Other examples may have escaped detection if they have been shattered into small fragments.

SRI LANKAN COINS

The island of Sri Lanka has had close relations with Southeast Asia since the beginning of the historic period. Southeast Asian ships heading for south India and further west would often have called there. Further evidence of this relationship is a Buddha image found at Kota Cina that closely resembles contemporary statues from Sri Lanka; it was probably imported from there. Sri Lankan coins have also been found at two sites in the northern end of the Straits of Melaka. Kedah examples date from Sahasa Malla's reign (1200–1202) (Borell 2000: 9). At Kota Cina, seven coins from the reign of Sahasa Malla and one of Queen Lilavati (1197–1200) were found in surface collections.

Two Sri Lankan coins have come to light in Singapore excavations: one at PHC and another at STA. These copper-alloy coins bear an image of a stylized standing figure on one side and a seated figure on the other (Fig. 9.09), and can be dated to the reign of King Bhuvanika Bahu I, 1273–84 (Borell 2000: 8–10). The presence of Sri Lankan coins in Singapore is further evidence of close connections between the Straits of Melaka area and Sri Lanka, reinforcing the image of fourteenth-century Singapore as a port where goods from many sources, including South Asia as well as China and Southeast Asia, could be found. These coins also demonstrate that the local economy was sufficiently sophisticated that more than one type of currency in circulation. Although we will never know the details of the transactions which took place in fourteenth-century Singapore's markets, we can be sure that they were couched in terms of money as well as barter.

MELAKA COIN

One artifact has been tentatively identified as a coin made in either Melaka or Johor. Its distorted condition makes it impossible to verify its identity with certainty (Shah Alam bin Mohd. Zaini 1997: 32).



9.09. Sri Lankan coin, late thirteenth century, PHC

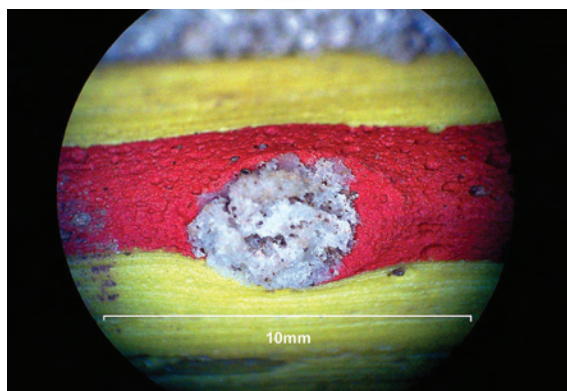
Indian Glass Bangles



9.10 FTC



9.11 STA



9.12 Close-up of STA bangle

INDIAN GLASS BANGLES AND STONE BEADS

Trade with India was undoubtedly important to Temasik, but no written documents from Indian traders in fourteenth-century Singapore survive, and most Indian products were of a perishable nature. Textiles have been a major Indian export for hundreds of years, but they leave no trace in archaeological sites. Thus the role of Indian commodities in the Singapore market is certainly under-represented in the archaeological record.

Identifiable Indian products include two fragments of glass bangles of a special type. One was found on FTC (Fig. 9.10); another was discovered at STA (Figs. 9.11, 9.12). These bangles differ from Chinese bracelets in both design and chemical composition. They consist of a core of light green glass, over which was laid a layer of yellow glass. A reddish-brown stripe was added on the outer rim of the yellow layer and dots of white glass provided a further decorative accent. The designs and chemical content of these bangles are typical of northwest India (Gujarat) in the thirteenth century. They are definite items imported from India by fourteenth-century Singapore.

Another probable import from India consists of five beads about one centimeter in diameter, made of red stone called carnelian; they have been found at SCC and STA (Fig. 9.13). Beads of this material have been produced in India and traded to Southeast Asia since prehistoric times. Sources of carnelian stone exist in Lampung, Sumatra, and west Java, and it is possible that carnelian was worked



9.13 Carnelian bead, SCC. Hard stone beads had been exported to Southeast Asia since the late prehistoric period.



9.14 Faience sherd, possibly from Persia, EMP

in early Southeast Asia; examples of unfinished beads typifying several stages of the manufacturing process have been found at Khuan Lukpad in south Thailand, at Kuala Selinsing in west Malaysia, in west Java near Jakarta, and at Oc-èo, south Vietnam. Bellina (2003) has shown that some of the earliest Southeast Asian-made carnelian beads were of a quality equal to or exceeding those made in India. Thereafter however the quality of Southeast Asian carnelians declined.

Most carnelian beads found in Southeast Asia date from the late prehistoric and early historic periods. Bellina's phase II, the later of two phases of production which she distinguishes, covers the first millennium AD. She does not refer to carnelians found in later sites.

The surfaces of the STA and SCC carnelians are quite irregular in comparison with older carnelians from both India and Southeast Asia. Southeast Asians in phase II of Bellina's chronology used the technique of drum polishing, which produces neat spherical beads. The Singapore examples appear much cruder in comparison. About 350 beads similar to those found in Singapore have been reported from a shipwreck off the coast of Brunei which sank about 1500 (Huet 2001: 136).

Further studies are needed to determine the techniques used to produce the Singapore carnelians and the source of the material used to make them. These may be another example of Indian goods which reached fourteenth-century Singapore, but they may also have been made elsewhere, perhaps in Indonesia.

PERSIAN FAIENCE

One piece of an ancient bowl from the Persian Gulf was found at EMP (Fig. 9.14). This type of material is technically not a ceramic, since it is made not from clay. It is properly termed "stonepaste", because it is made from eight to ten parts crushed quartz, one part crushed glass, and one part fine white clay (Mason 2004: 271). A single sherd of Persian ware decorated with underglaze blue design is not sufficient in proving that Singapore had relations with the western Indian Ocean in the fourteenth century, but it is interesting because its presence indicates at least indirect relations with that region during the early period of Islamic expansion in Southeast Asia.



9.15 Stone peg, STA. Similar items have been found in northeast Sumatra, and in the area between Kedah and the Isthmus of Kra.

CARVED STONE

Two small carved stone objects were discovered during the STA excavation: one broken, the other intact. Both resemble pegs, with a circular shaft and pointed tip. The intact example depicts a well-carved human head atop a stylized lotus cushion (Fig. 9.15). The naturalistic depiction of the face and hair are unique. These pegs are similar to objects found in Kedah and Kota Cina (for Pengkalan Bujang examples, *see* Lamb 1961: Fig. 68). The discovery of these items is further evidence of probable cultural and economic links between fourteenth-century Singapore and the north end of the Straits of Melaka.

The types of stone used to make the examples from north Sumatra and Kedah are different from the stone used for the Singapore pegs, suggesting that they came from more than one location (the precise site of their production has never been identified). The Singapore examples must have been imported; no such stone exists here.

The function of these objects is obscure. While it has been speculated that they were used as tokens for a game, no such artifacts are known historically. The closest analogues are artifacts called *pukkor unte*, found among the Batak of north Sumatra. These small items are today made of wood; modern imitations are sold to tourists. They are defined as “citrus fruit reamer[s] used in the old days by *datu* (shamans) for curing patients or making prognostications” (Causey 2003: 190 and Figs. 12, 13). Perhaps further analysis of the artifacts will make it possible to detect signs of wear caused by such use, if this was indeed their function.

LOCAL IMPORTS: POTTERY, IRON

Other items, which may have been imported from somewhere in Singapore’s immediate vicinity, include pottery made of unusual material, which suggests that they were not made in any of the main production centers recorded historically. Some sherds with a chalky consistency and elaborate paddle-impressed or molded décor resemble examples known from both west Borneo and south Thailand (Fig. 9.16). The production center of these vessels probably lay in one of these two regions.

Most iron tools found at FTC were too corroded to be identified. One object clearly identifiable as an axe was found in a large charcoal feature interpreted as



9.16 Paddle-marked sherd of unknown origin, possibly north Borneo or east coast Malaysia, PHC



9.17 Iron hammer, FTC. This implement was found in the remains of a hearth along with much charcoal.

a hearth for some industrial activity, perhaps glass recycling. The axe handle had been burnt in the fire, which carbonized approximately 15 centimetres of the wooden handle, which could still be traced as a soil feature (Fig. 9.17). It resembles an artifact found on the Java Sea wreck (145 millimeters long, Flecker et al. 1997: 80), interpreted as a shipboard tool rather than part of the cargo, since only one was found.

No metallographic analysis has yet been performed to establish the origin of the axe. There is no evidence of iron-working in fourteenth-century Singapore, but the dispersed pattern of small-scale industries already detected in Singapore suggests that a blacksmithing area may have lain in one of the areas of the ancient city that has not yet been excavated. It is equally possible that this artifact was imported from somewhere in Southeast Asia.



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SINGAPORE AND RIAU



According to Tomé Pires, southeast Sumatra was termed *Tanah Melayu*, “Malay Land”, in the early sixteenth century. However, instead of looking to Sumatra when the Portuguese attacked, the Melakans sent their only call for help to Riau, fief of the laksamana and the source of the Sultan’s seafaring manpower. Some people from Palembang also joined an unsuccessful counter-attack against the Portugese, but came as part of a Muslim force of Javanese mustered by Demak rather than as an independent fighting force. This dramatic episode underlines the strength of the alliance between the people of the Straits of Melaka, who called themselves *Orang Melayu*, and the people of the Riau Archipelago.

Sultan Mahmud fled to Bintan, Riau’s largest island, after he lost Melaka. He set up his court for 11 years there until the Portuguese drove him away again. For the next 150 years the political situation in Riau was in a constant state of flux. From 1677 to 1683, Riau formed part of Sultan Ibrahim’s kingdom. Abd al-Jalil, formerly bendahara of Riau, was promoted to sultan sometime between 1708 and 1716. For a few years between 1719 to 1722, Raja Kecil Siak, a member of

10.00 Gold bracelet found in the Riau River at Kota Lama, Bintan Island, Island Riau Province, Indonesia, probably made in the eighteenth century



10.01 Ports in Riau, Sumatra, and Borneo, with which Singapore was in close contact in the fourteenth through sixteenth centuries

the Minangkabau royal house of Pagarruyung, became pretender to the throne. A coalition of Bugis conquerors from Sulawesi and descendants of Abd al-Jalil's dynasty governed Riau from 1722 to 1787 when Riau became a Dutch colony.

Under the Dutch aegis, relations between the Bugis and Abd al-Jalil's descendants became contentious, with both striving to become the main Dutch proxies in the archipelago. As a result, in 1804 Riau was partitioned into two spheres: northern Riau, ruled by Bugis on Pulau Penyengat, off Bintan; and southern Riau, ruled by a disgruntled group of Malay royalty based on Lingga. In 1819, Raffles took advantage of the fragmented political situation and obtained the blessing of a branch of the north Riau rulers to form the British colony at Singapore. The Dutch formally abolished the Riau Sultanate in 1911 and turned Riau into a colony until it came under Japanese rule in 1942. Under the early government of the Republic of Indonesia, Riau was part of the province of Sumatra Tengah (Central Sumatra). In 1958, Riau became a separate province. In July 2004, Riau was split into two provinces: *Riau Daratan* (mainland Riau), on the main island of Sumatra with its capital at Pekanbaru, and *Riau Kepulauan* (Island Riau, abbreviated Kepri), with its capital at Tanjungpinang.

Island Riau is over 700 kilometres wide and consists of hundreds of islands from the east coast of Sumatra to Natuna in the South China Sea. The western part includes the large islands of Batam, Bintan, and Lingga and the eastern



10.02 Letung, Anambas Islands, one of the most important of the Seven Islands that formed fourteenth-century Temasik's island hinterland

consists of three clusters of smaller islands—Anambas (Fig. 10.02), Natuna, and Tambelan—traditionally termed Pulau Tujuh, “Seven Islands”, after a nineteenth-century administrative system. Historically, the western group has always been more prominent. According to the *Malay Annals*, Bintan was the home of Queen Sakidar Shah, the adopted mother of the first great Malay ruler, Sri Tri Buana. This was a very important relationship in ancient Malay culture, where maternal descent was significant. Thus, Bintan played as potent a role in the origin of the Malay ruler's legitimacy as Sumatra and usually mediated the relations between the people of the “Seven Islands” and people from outside the archipelago.

RIAU IN ANCIENT HISTORIES

Mount Bintan, about 370 metres high (Fig. 10.03), is a prominent landmark for ships entering the Singapore Strait. The peak is referred to as *Ma an shan* on the *Mao Kun* map. Bintan island appears in Chinese sailing directions as early as the early fifteenth century (Mills 1970). Bintan has yielded abundant archaeological evidence of its important role as a regional shipping center during the 600 years since the *Mao Kun* map was drawn and continues to play that role today.

Two large estuaries on the west coast of Bintan afford shelter to ships when the stormy northeast monsoon blows. A kingdom of Bintan is mentioned in a thirteenth-century Arab account by Ibn Saïd, but not in complimentary terms:

There are here some small islands [near Bintan] from where black pirates, who have ships armed for war, go out armed with poisoned arrows; they



10.03 Mount Bintan, an important navigational landmark for centuries on the south fringe of the Singapore Strait

rob the people but do not take them captive. It happens that there are sometimes people who take prisoners among them. (Sopher 1977: 342)

At the end of the same century, Marco Polo described Bintan more positively, calling it a “spice mart”. Bintan sent a mission to China in 1323, just three years after the Yuan mission to Longya men, two years before Longya men sent its own mission to China, and about seven years before Wang Dayuan visited Singapore. In the early fourteenth century, Bintan was a rival to Temasik before Pancur became the main international port in the area.

The *DYZL* contains many references to places that cannot be precisely located but were within fourteenth-century Singapore’s environs. These places yielded numerous items for the China trade. Betel nuts were obtained at two places in Java, and three in the Singapore area (*Xia-lai-wu*, *Longya Bodi*, and Jambi or San foqi). Although one does not normally associate betel-chewing with the Chinese, the *Lingwai daida* says that the customs of Guangzhou and Quanzhou earned tens of thousands of strings of cash from areca nut trade that was carried in foreign ships. Wang Dayuan reports that lacquer came from Pahang and Jong, both in the southern Malay Peninsula; lacquer ware was still being produced in Jambi and Palembang in the nineteenth and twentieth centuries. The Seven Islands were associated with mat-weaving in the nineteenth century. The *Xingcai shenglan* reports that banana fibre mats were brought from *Dung-xi-zhu*, islands near Longya men. One of Riau’s main crops then was coconut; in the *DYZL*, coconuts were said to be available at *Longya Bodi*. “Shoes of sycee” were supplied by the latter port, bees’ wax came from Jong, while sapanwood and wooden combs came from *Xia-lai-wu*.

The civilized area of Pancur on Singapore was reported to be a source for

cotton in the fourteenth century; Wang reported that *Dung-xi-zhu* and Jong also supplied it. Although nineteenth-century attempts to grow cotton in Singapore failed, Tambelan in the nineteenth century was a centre of cotton weaving (van Hasselt and Schwartz 1898: 664). Pepper became a major Chinese import during the early Age of Commerce in the twelfth to fourteenth centuries. In the thirteenth century, Zhao Rugua depicted Java as the main source of this spice. The *XCSL* associates pepper with *Dung-xi-zhu*. In the *DYZL*, tin, a very valuable metal, is said to have been available in Lopburi, Terengganu, and Banjarmasin. In the fifteenth century, the sources shifted to Melaka and *Dung-xi-zhu* (*YYSL*, *XCSL*). In the nineteenth century, tin was reported to have been mined on Jemaja in the Seven Islands (Netscher 1864), suggesting one possible location for *Dung-xi-zhu*.

The people of *sha-hua kung* had an evil reputation as early as the thirteenth century: “The farther one penetrates among these islands, the worse the robbers are” (*Zhufan zhi*, Hirth and Rockhill 1911: 150). Sopher (1977: 341) inferred that *sha-hua kung* probably referred to the Natuna Islands. Hirth and Rockhill on the other hand equated this reference with *Orang Laut*, “Sea People”. *Orang Melayu* and *Orang Laut* are distinct identities linked to relative status and a mode of life that probably originated in the early first millennium AD if not earlier (Sopher 1977, V. Wee 1985). For many centuries, the Sea People had symbiotic economic and cultural relationships with Melayu inhabitants of trading ports. Both identities probably evolved simultaneously when cosmopolitan trading centers first formed in the Straits. *Orang Laut* provided a variety of customary services to Malay rulers. One of the most important of these was as a naval force. This explains the single distress call sent to Riau in 1511. Although the *Orang Laut* did not repel the Portuguese, they probably did enable the Malay ruler to escape through the jungle to Riau, where he set up his new capital on Bintan, just as they had done for Parameswara when he fled Palembang and later Singapore in the 1390s.

The bond between Malay rulers and Sea People was severed in 1699 when the Sultan of Johor was assassinated. This event broke the link to the lineage of the ancient kings, whom they believed their ancestors had sealed a pact of loyalty (romantically depicted in the *Malay Annals*’ account of the agreement between Sri Tri Buana and Demang Lebar Daun; historically attested to by the Telagabatu and other seventh-century inscriptions in Sumatra and Bangka). The Sea People lost their status thereafter, due in part to the lack of a symbolic figure around whom a mobile population scattered over a vast area of sea could rally. Other groups, in particular the Dutch and Bugis, began to compete for dominance over the archipelago. The fragmented Sea People fell prey to attacks from more well-organized groups, new diseases, and slave raids from their erstwhile Malay overlords. By 1900, they were scorned as primitives.

In the late 1980s, antiquities including Chinese ceramics from the Yuan Dynasty began to appear in Singapore antique markets, reportedly from looted graves in Riau (Miksic 1994). In 1992, an archaeological team from the National University of Singapore and the Regional Office for the Preservation and Protection of the National Heritage for West Sumatra and Riau, sponsored by the Lee

Foundation, explored some of the main islands in Riau. The expedition found Chinese porcelain of the thirteenth and fourteenth centuries, and Thai and Vietnamese pottery from the fifteenth century with burial offerings including glass beads and vessels, bronze spear tips, and gold ornaments. In at least one case, a burial was accompanied by a wooden boat.

ARCHAEOLOGY OF RIAU

Pulau Tujuh

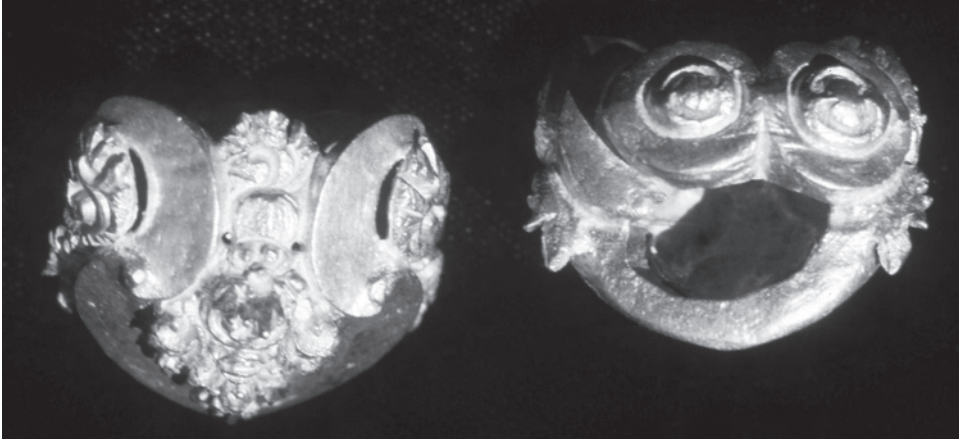
In 1687, Francois Valentijn observed 500 to 600 hundred boats in the estuary of the Riau River, on the west side of Bintan. These ships mainly came from Pulau Tujuh (Andaya 1975: 148–9), islands rarely visited by outsiders—partly due to their distance from the southern end of the Straits of Malacca, but more to the reputation of the Pulau Tujuh inhabitants as fierce pirates. A result of this aversion was that Bintan served as a collection point for commodities, which the Sea People were skilled in finding.

The inhabitants of the Seven Islands must have acquired luxurious imports from China from one or more ports located outside their home area. The most likely conclusion is that the Sea People of Riau were symbiotically linked to the Malay rulers of the trading port in the Singapore River estuary. The items in the burials of the Sea People of Riau were probably acquired in Temasik.

The exchanges between the Sea People of Riau and the Malay rulers of Temasik probably took place in the framework of traditional presentations of tribute by Sea People and reciprocal donations of imported luxury items by the Singapore Malay elite. Riau has not yielded ancient Chinese coins, suggesting that their economy was not based on markets. Although foreigners avoided Riau in the fourteenth century, the Sea People would have gathered maritime produce such as sea cucumbers, pearls, and coral, which they delivered to the cosmopolitan emporion of Temasik. In the eighteenth and nineteenth centuries, the Sea People of Riau were still important gatherers of marine products, including fish, sea cucumbers, *akar bahar* (a kind of wood believed to confer special powers upon the wearer when made into bracelets), tortoise shell, and colorful seashells (Sopher 1977: 116). The San foqi mission of 1178 was particularly rich in sea products. Tribute included 113 *tahils* of pearls, a coral tree weighing 240 *tahils*, 13 big pearl “rings”, and 40 *tahils* of coral (Wong 1979: 81–2).

Tortoise shell was another important item to which the Sea People had easy access. The Seven Islands are still important sanctuaries for leatherbacks and other sea tortoises, which go there to lay their eggs. Tortoise shell is mentioned in the Tang Dynasty as a product of north Sumatra (Groeneveldt 1960: 83), as tribute from San foqi (150 *katis*) in 1178; Wong 1979) and 1376, and as a trade item in the *Xing-cha Sheng-lan* of 1436 (Groeneveldt 1960: 69, 79). During the Song Dynasty, the import of tortoise shell was an imperial monopoly (Ptak 1991: 204).

Wang Dayuan provides a long list of places where tortoise shell could be purchased, including places near Singapore, such as *Rih-li*, *Lo-wei*, *Ma-li-lu*, Terengganu, *Xia-lai-wu*, Tambralinga, Lambri, Aceh, Geram Island, Karimata,

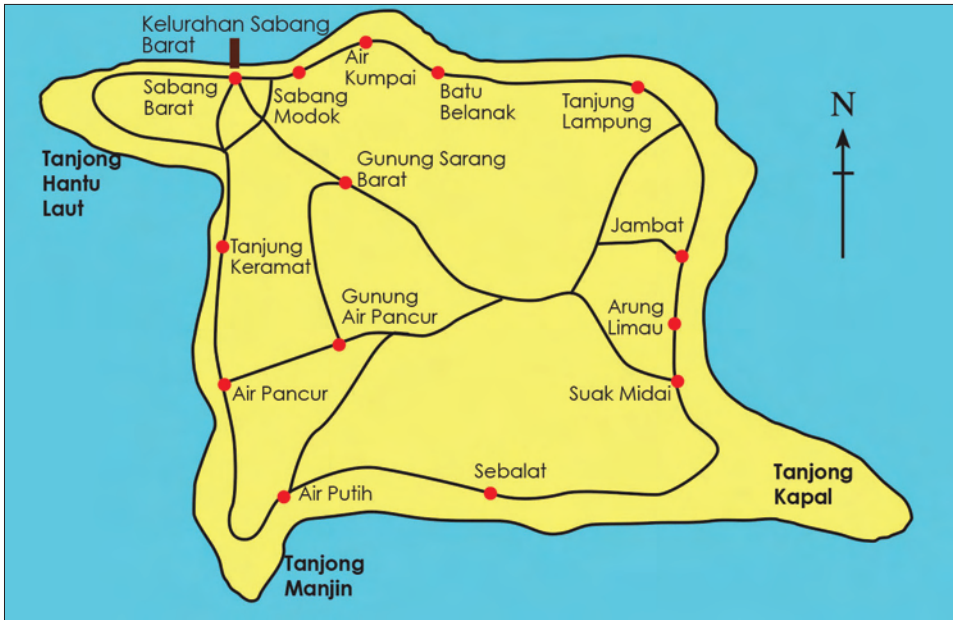


10.04 Gold ear ornaments from the Seven Islands, probably made during the pre-Islamic era

Belitung Island, Brunei, Tanjung Pura, and the Philippines. Several pieces of large tortoise shell were excavated in the fourteenth-century stratum of PHC in Singapore. This might have been a byproduct of the use of turtles for food; perhaps it was also obtained from nearby islands and reexported to China.

Unfortunately all known gravesites of the ancient Sea People have been looted; we will never know how the artifacts were arranged, what kind of symbolism they expressed, the range of wealth that differentiated members of society, and so much more. If any of these sites had been studied systematically, it would be possible to say much more about their culture. At the moment, the only available information about these graves comes from antiquities traders and villagers who participated in excavating the sites and selling their heirlooms to dealers. Compounding the problem is the fact that most gold jewellery that was discovered was melted and sold as raw material for recasting into new jewellery (Fig. 10.04). The only gold artifacts said to have come from the Riau graves that escaped destruction are a pair of ear ornaments. These ornaments display a classical style of goldwork, suggesting that they were made in Sumatra or possibly Singapore.

We can draw a few conclusions about the ancient culture of the Seven Islands from the available information. The Sea People living there were avid acquirers of Chinese porcelain, gold jewellery, and other rarities, which they offered to the dead. This suggests that their social structure was based on achieved status that could not be inherited. This contrasts with the people of ancient Singapore, who did not bury their dead. Not a single ancient grave has been found in Singapore. This is also true of Sumatra, Java, Bali, the Malay Peninsula, and much of mainland Southeast Asia. It seems that about 2000 years ago, many people of western Southeast Asia converted from burial to cremation as a means of disposing of the dead. Burials during the early historic period between 500 and 1,500 years ago are mainly associated with hinterland groups who did not interact directly with outsiders in such areas as south Sulawesi, Borneo, the Philippines, and the Cardamom Mountains of Cambodia. Thus, the people of Riau were culturally distinct from the inhabitants of Singapore. Although they must have had close



10.05 Pulau Midai, with locations of modern towns and villages

relationships, the two groups maintained separate identities. This maintenance of complementary cultural and economic relationships has been a distinctive attribute of Southeast Asian society for centuries. The relationship between Singapore and Riau in the fourteenth century provides an excellent example of this pattern.

The island of Midai (Fig. 10.05) was one of the main hatcheries for tortoises until recent times and was also a major burial island for Sea People. It is rather remote from the rest of the Seven Islands. From the north shore, the peak of Bunguran is barely visible. Midai boasts fertile brown soil that differs from most of the Seven Islands.

Looted burial sites are scattered on all sides of the island (Miksic 1994, 2003). These graves were dug in the sandy beach deposits that lie near the feet of hills of brown loam. In 1992, they were easily identified by sherds of broken pottery, pieces of wood (apparently from boat burials), and fragments of human bone. Villagers demonstrated how they had probed the soil with iron rods to locate graves, which destroyed many ceramics, since the probers were not particularly gentle. Luckily, some villagers kept sacks of unsalable broken ceramics out of curiosity; these eventually gave us with useful archaeological information (Fig. 10.06).

The village of Airputih at Manjing Point, 200 metres from the beach, covers approximately 400 by 400 metres. Villagers reported discoveries that included many bowls, and jars—usually set upright near the corpse's feet—that sometimes contained smaller ceramics. In addition to ceramics, other finds reported but not seen included *keris* and *parangs* (stabbing swords and machetes). One grave beside a small stream at Arung Limau, was covered with coral stone and lay on an upturned dugout canoe. Beneath this canoe, at a depth of two metres, were two children's



10.06 Private collection of fourteenth-century ceramics, Tanjung Kapal, Midai

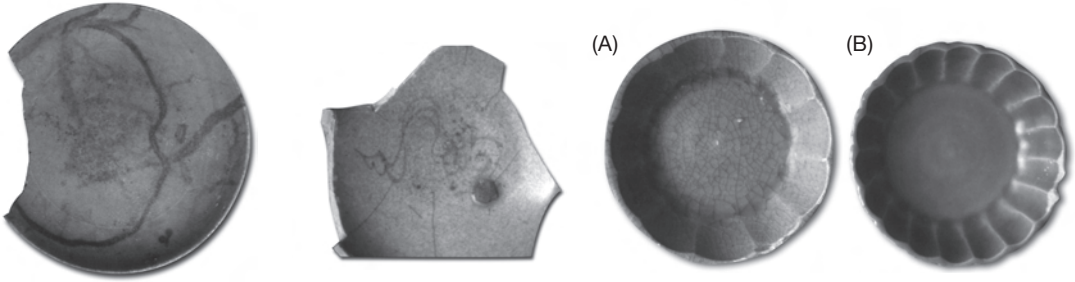
skulls. A fragment of *chengal* wood (318 by 39 cm) could still be observed lying on the ground near the former grave when the author visited the site in 1992.

Many ceramics had been found at Kampung Jambat, about 400 metres from the coast (Figs. 10.07–10.14). One villager had saved numerous fragments, including a Sawankhalok plate with an underglaze black fish design (Fig. 10.12). Another site, approximately 400 metres away, had supposedly yielded nothing but Vietnamese ceramics. Yet other graves were said to have yielded Sisatchanalai green ceramics.

A nine-centimetre high stoneware bottle with brown painted decoration seen in an antique shop in Tanjongpinang, capital of Kepri, was said to have come from that general region. A similar item was found on a shipwreck off Palawan in the southern Philippines. Other interesting ceramics include blue and white ceramics from the mid-fifteenth century (Fig. 10.13) and a so-called *kraak* plate from the seventeenth century (Fig. 10.14).

At Tarempah, the main town in the Anambas archipelago (Fig. 10.15), the expedition was shown a large celadon plate with incised design, dating from the late thirteenth century; a fourteenth-century green Longquan bowl identical to many examples unearthed in Singapore; and yellowish Vietnamese offering saucers, 10 to 12 centimetres in diameter. The Anambas, Tambelan, and Natuna groups have yet to be seriously explored by archaeologists.

Ceramics Found At Kampong Jambat, Midai



- 10.07 Fourteenth-century green plate with trailed underglaze iron décor, Kampong Jambat, Midai
- 10.08 Jambat *qingbai* with blue motif
- 10.09 Jambat green bowls with segmented bodies: (a) interior, (b) exterior



- 10.10 Jambat green bowls with unglazed stacking rings
- 10.11 Fourteenth-century stoneware basin with brown-glazed interior, made in the Cizhao, Fujian, found on Midai



- 10.12 Sawankhalok bowl, Jambat
- 10.13 Yuan bowl, Midai
- 10.14 Kraak plate, early seventh century, made in Jingdezhen, found in Jambat



10.15 Archaeological team at Tarempah, 1992, after completing their exploration of the Seven Islands

Archaeology of Bintan and Batam

A small private institution named Museum Riau Kandil possessed a collection of Song-Yuan green-glazed Chinese ceramics in the 1980s and 1990s, but had no data on their provenance. Several sites with porcelain of this period were found during a survey of Bintan in 1992. Most of these were located along the north (right) bank of the Bintan River, which rises at the foot of Mount Bintan, the highest point on the island and a traditional navigational landmark.

Sherds of green and white glazed Chinese porcelain of Song-Yuan and late Ming eras were recovered at Tanjung Pisau Penaga, one of the sites along the Bintan River. An antique dealer in Tanjongpinang reported that looters had discovered probable burials with five to seven stacks of ten bowls each, turned upside down, at a depth of approximately 75 centimetres. The burials also contained shells, 20 to 30 gold beads, rings, and gold sheets in shattered conditions; in one sheet, a leaf form could still be discerned. A gold bead was also found at the site of Mungguh. Another sherd scatter was discovered at Dapur Arang, Bintan Island. Most items found here date to the seventeenth and eighteenth centuries, but some can be dated to the fourteenth century.

The finds in Riau add important perspectives to the study of ancient Singapore. Because the Riau people had the custom of interring the dead with offerings, many intact ancient objects that were found there were only available in fragments in Singapore. An intact glass bottle, for example, is the first glimpse of probable fourteenth-century Chinese glass vessels found outside China (Fig. 10.16). Thick glass bangles (Fig. 10.17) indicate that the people of Riau favoured heavy items, possibly made in China, whereas thinner, daintier bangles were in fashion in Singapore. Riau also yielded bangles of local natural material such as seashell (Fig. 10.18). Miscellaneous beads were also common in the islands (Fig. 10.20)

Some types of Chinese items from the Riau graves, for example bronze mirrors (Fig. 10.19), have not yet been found in Singapore. One of the more intriguing objects is an ornate bronze *kendi*, with a hinged lid that is surmounted by a bird (Fig. 10.21). This particular trait is reminiscent of a jar with a lid atop which is seated a chicken (or rooster?) from the Longquan kilns and made in the mid- to late northern Song Dynasty (Zhu 1998: 98, pl. 59). One of the most interesting ceramics found in antique shops in Tanjongpinang and apparently from Pulau Tujuh is a green-glazed jar with iron spots (Figs. 10.33a–d). The major decoration consists of three appliqué figures of old men (possibly scholars) separated by floral motifs. The ancient inhabitants of Riau also acquired large numbers of common types of green porcelain and white porcelain (Figs. 10.22–10.32; cf. Medley 1974: 73, pl. 66.). The origins of some of the items found in Riau have not been determined. A very well-made and well-preserved bronze projectile point (Fig. 10.34), for example, is of an elaborate style with foliated edges, and was made by sophisticated methods. No parallel for this artifact has yet been identified in published reports.

The potential archaeological importance of the Pulau Tujuh area is evident from the wide chronological range of unprovenanced artifacts in private hands

Miscellaneous Artifacts Found in Riau



10.16 Fourteenth-century glass bottle. Many fragments of this type of vessel have been found in Singapore. Intact examples are extremely rare anywhere in Asia.



10.17 Bronze mirror from China



10.18 Fourteenth-century glass bracelets made in China. They are much thicker than those found at Fort Canning.



10.19 Miscellaneous beads from the precolonial period

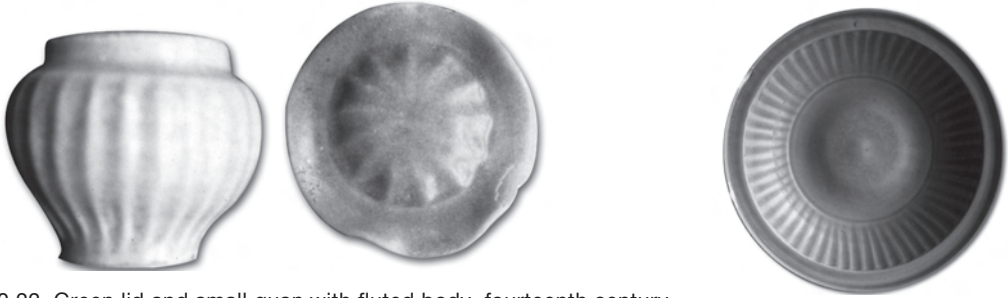


10.20 Shell bracelets, reportedly found in graves of the fourteenth to sixteenth centuries. The use of organic materials probably represents the continuation of an ancient tradition in Riau.



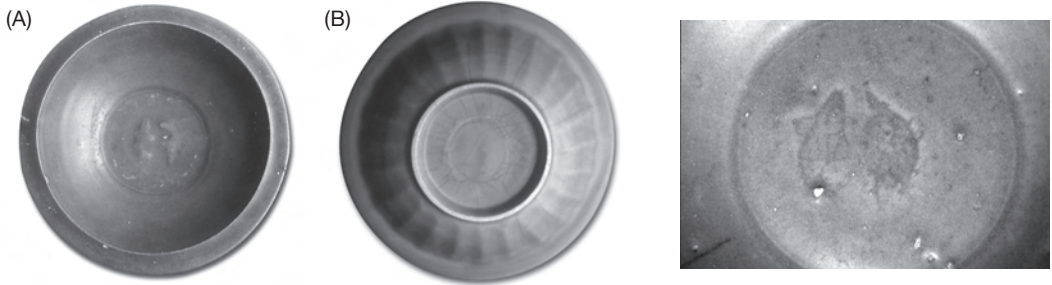
10.21 Bronze *kendi* of unknown origin

Green Ware Found in Riau



10.22 Green lid and small *guan* with fluted body, fourteenth century

10.23 Large green plate with floral motif



10.24 Green dish with double-fish design, , fourteenth century (a) interior (b) exterior

10.25 Stamped double-fish design, fourteenth-century Midai

White vessels found in Riau



10.26 Ewer

10.27 Long-necked vessel

10.28 Vase, incised swirl motif

10.29 Vase



10.30 Dehua covered box with molded decoration

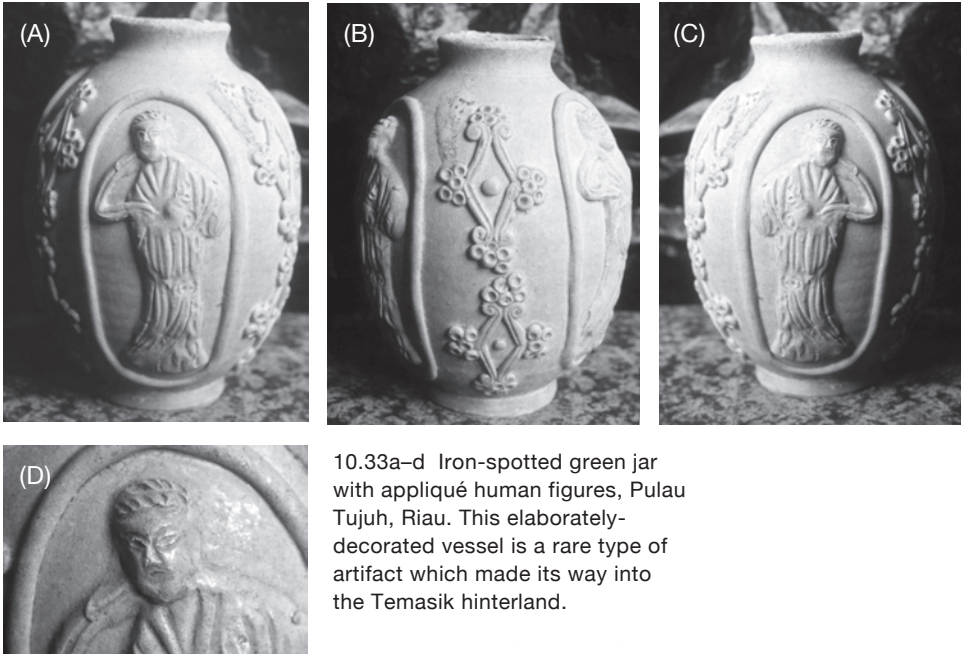


10.31 Iron-spotted ewer, fourteenth century, of a type known from the Philippines

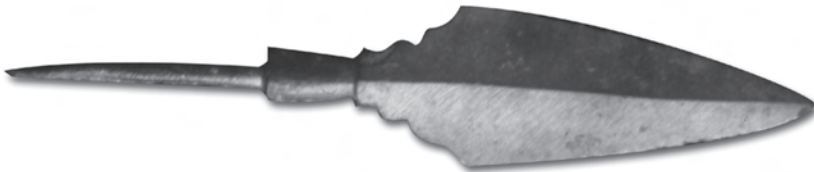


10.32 *Qingbai* “Marco Polo” jarlet, Yuan Dynasty, thirteenth century

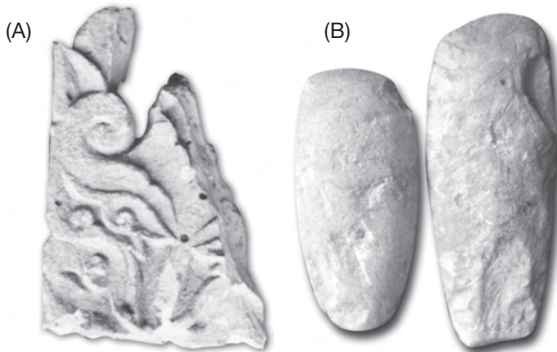
attributed to this region. These include prehistoric stone tools similar to those found near Tuas in western Singapore (Fig. 10.35a) and fragments of carved coral that may once have belonged to buildings which probably were made during the Islamic era (Fig. 10.35b)



10.33a–d Iron-spotted green jar with appliqué human figures, Pulau Tujuh, Riau. This elaborately-decorated vessel is a rare type of artifact which made its way into the Temasik hinterland.



10.34 Bronze projectile point, Riau. The origin of this weapon is unknown. It probably dates to the fourteenth century or earlier.



10.35a, b The Pulau Tujuh area has barely been explored. Many more types of archaeological remains are known to exist there, from carved pieces of coral which may have formed part of an Islamic grave complex, to stone tools of Neolithic age contemporary with those found at Tuas.

RIAU IN LATER HISTORY

The Seven Islands play a small but important role in the *Malay Annals*. A fifteenth-century Melaka ruler went to Java to marry a princess and then requested the medium-sized port of Indragiri, on the east coast of Sumatra opposite Melaka, as a wedding gift from the Javanese ruler. It was granted. He then asked for Siantan, the main island in the Anambas group, the Seven Islands cluster nearest the Malay Peninsula. This was also granted. Thereafter, Siantan became part of the fief of the laksamana, the head of Melaka's naval forces (Brown 1970: 73). Regardless of its historicity, this episode indicates the importance that the chroniclers of Melaka glory attached to Siantan.

Anambas retained some significance in the early eighteenth century, especially as a home for refugee princes. These included Sultan Hammat Syah of Lingga, 1623, and Pangeran Dipati Anum from Riau, 1716. Sultan Lumabang of Palembang, in the early eighteenth century, may be the same person other sources referred to as Raja Kecil, who twice fled to Siantan, in 1724 and again in 1725 (Andaya 1975: 25, 241, 260–1, 305–8).

The *Tuhfat al-Nafis*, “The Precious Gift”, written in the nineteenth century at the court of Riau, which was then dominated by Bugis, is an important source for traditional Malay history. This text contains information on the Seven Islands during the early eighteenth century, when Siantan played an important role in Riau power struggles. This importance may have originated in the fifteenth century or even earlier. References to Siantan in the *Tuhfat* make it clear that the island had a vivid identity and played an integral part in the power struggles of the Riau and other nearby courts. The *Tuhfat* also hints that Siantan in particular had religious prestige, and may have produced a kind of textile. A knowledge of the details of the history of Siantan and the Bugis in Riau as recounted in the *Tuhfat* is necessary in order to interpret the archaeological data which follows. This information in turn is relevant to the situation in Singapore in 1819, including the importance of the Bugis in Singapore and the surrounding area, when Raffles arrived.

Raja Alam, son of Raja Kecil, married the daughter of a Bugis prince, Opu Daeng Parani, who lived at Siantan. Raja Alam attacked Siak on the east coast of Sumatra and drove out its ruler, who then went to various locations, including Siantan, to seek support (Matheson and Andaya 1982: 24).

A Bugis man named Rilaga had sailed from Sulawesi with his five sons to trade in Siantan. This would have occurred shortly after 1669, when the Dutch conquered the Bugis port of Makasar. His eldest son Parani married the daughter of a Bugis shipowner and trader in Siantan, then went with his family to major ports such as Johor, Melaka, Batavia, and even Cambodia, where they had various adventures, before returning to Siantan. Rilaga died soon after. His five sons remained at Siantan for several years, constructing six *penjajab* (a type of boat) armed with cannon and manned by Bugis sailors. Parani eventually went to Johor because of an omen that foretold that his descendants would become kings there (Matheson and Andaya 1982: 45–6, see Andaya 1975: 229 for a different account). “Daeng Parani and his brothers became mighty victorious warriors, supreme over

their enemies, heroes in the western lands, renowned from the Bugis lands to Johor and all its subject territories” (Matheson and Andaya 1982: 27).

Sultan Lambayang of Rawas went on a journey to Johor to propose to the ruler’s daughter. The Sultan committed the indecent act of breaking wind loudly in the palace and then refused to admit that this was indecorous; naturally, his proposal was rejected. The Sultan then went to Siantan, where he married a haji’s daughter. When the deposed ruler of Johor, Sulaiman, asked Parani to help him regain his throne from Raja Kecil, Parani went back to Siantan to raise a force of Bugis.

Amid this portrait of Siantan as a source of manpower comes a reference to commerce. One of the commodities sold at Riau in the eighteenth century was “woven Siantan silk” (Matheson and Andaya 1982: 160).

The Bugis attacked Siak in 1724, whereupon the ruler Raja Kecil escaped to Lingga, and obtained backing from the Sea People there and in Siantan. Pangeran Sharif Abd-al Rahman, the founder of Pontianak, west Kalimantan, had lived in Siantan before settling on Borneo in 1771. Raja Haji, a Yang Dipertuan Muda, spent some time in Siantan before leaving in May 1788.

The Seven Islands consists of include approximately 260 islands. Horsburgh’s *India Directory*, published in 1855, continued to advise sailors to exercise utmost care when landing on Siantan due to the people’s propensity to murder and slavery (Netscher 1864: 8). The population of the entire area in the mid-nineteenth century included 2,400 land-based people plus 500 Sea People called *Orang Pesukuan* (“Tribal People”; van Hasselt and Schwartz 1898). Sopher took this as an indication that

the boat people of the Anambas group in particular were closely related to the Orang Laut of the Riouw-Lingga Archipelago and continued to have close contact with them. It was said for example that all the Orang Laut found in the Pulau Tujuh were originally Orang Mantang from the Lingga Archipelago (Sopher 1977: 115)

This may have been one of the last echoes of a very ancient link.

All but 300 of the population lived on Siantan; Tarempah had 164 Malay and 25 Chinese houses. Siantan was known for producing very good *perahu*, some of 100 ton capacity; and outstandingly good sampans. Siantan was the home port of 30 *perahu* that sailed to Singapore, Pahang, Brunei, Sarawak, and Sambas. Some children wore gold jewellery. No customs duties were charged, and the only tax was a payment of three Dutch guilders (Chinese had to pay four guilders). The local inhabitants still were liable by custom to provide a few manned *perahu* for the junior ruler of Riau, but this was rarely invoked.

In 1898, Kampung Terempah, Siantan, was still the most important place in Pulau Tujuh (van Hasselt and Schwartz 1898). A Dutch explorer found many Malay and Chinese ships there. The Chinese were businessmen with direct connections to Singapore; the Malays, who were also involved in trade, had dealings in both Singapore and west Borneo. A Chinese temple existed, and a Chinese lieutenant here was the only Batavia-appointed official in all the Seven Islands. In

1898, the Chinese lieutenant was a locally-born 70-year-old. The *Orang Pesukuan*, under the leadership of a traditional chief called a *batin*, numbered about 300.

Siantan was a collecting centre for both sea products and handicrafts. Anchovies, plentiful in certain seasons, were exported to Singapore in large earthenware jars brought in from west Borneo. Many other types of fish were caught in traps called *kelong*. *Akar bahar*, another very important sea product, was made into rings and armbands. Sarongs were woven, and *gula aren* (palm sugar) was made. The Sea People still collected tortoise shell for trade. Cotton cloth woven on Tambelan was exported to Belitung, from where a large quantity of mats was imported. Large white orchids from Tambelan were exported to Singapore. Iron was exploited on Siantan (Netscher 1864), although there are no details regarding this industry.

Midai was inhabited by 250 Sea People who lived in three or four settlements. In 1888, Raja Alias, son of Raja Endut of Sedanau, was sent here by the Yang Dipertuan, a royal official, to encourage cultivation. Many Malays soon migrated there and became coconut planters. All the Sea People under Malay influence converted to Islam, but continued to fulfill traditional service roles for the Malays as corvee rowers and boat-builders. They collected sea cucumbers and tortoise shell for exchange. At nearby Long Island, the Sea People were still tied to the local branch of the Riau royal family by a tradition that required them to sell sea products to the nobles at a fixed price. The Sea People on Watas and Lasiu Islands also were expected to pay tribute of 100 mother-of-pearl shells to a local Malay dignitary entitled *datuk*. The *datuks* were also considered the owners of the very profitable birds' nests on Tambelan and Tokong Kemudi.

A group of islands called *Serasan* in Malay was named *Zeerovers*, "Pirate Islands", in Dutch. Dutch explorer van Hasselt noted that a Chinese goldsmith worked here, but did not explain why a population of 600 people would have supported such a craftsman. The islands may have been more densely inhabited; it lost 25 per cent of its population to a cholera epidemic just before van Hasselt's visit.

The Sea People of Watas Islands were linked to the outside world only by one Chinese vessel. The chief of the Sea People of Penau on the other hand travelled with his whole family, consisting of 150 people, on 20 boats.

A Singapore Chinese *kedai* (shop) purchased the tortoise shell at the price of \$2–\$7.50 per *kati* (600 grams). The production of tortoise shell was already declining; previously, it had been possible to collect more than three *pikul* (100 *kati*) per year, but now less than one *pikul* could be acquired. A pearl bank southeast of Subi Island was known but not exploited because the local people did not know how to dive deep enough.

The Seven Islands are a potential source of rich information regarding the ancient culture of Riau. Because they were generally avoided by outsiders, archives contain little information about this region. Archaeological data combined with chronicles suggest that more research on the Seven Islands, and Siantan in particular, may yield more information. The discovery that thousands of imported porcelains were used as burial offerings in Riau indicates that the Sea People shared a fundamental part of their culture with people of Sulawesi, hinterland Borneo, and the Philippines: the belief in an afterlife where the souls of the dead still needed some provisions.

This indicates a very different set of religious beliefs from the *Orang Melayu*, their neighbors, political overlords, and their source of this imported pottery. This cultural distinction suggests that, rather than considering themselves the periphery of an “exemplary center”, the Sea People preferred to maintain a certain cultural distance from the people of Palembang, Singapore, and Melaka. They had their own ideas about the ideal culture, and preferred to preserve them rather than be absorbed into other numerically and economically dominant groups.

Bintan

Warren Hastings sent a mission to Bintan as early as 1786, but the Dutch prevented the British from establishing a post there. In the seventeenth and early eighteenth centuries a sizeable settlement formed on the estuary of the Riau River, upstream and on the opposite bank from modern Tanjong Pinang. This settlement was burned down in an attack by Ilanun (piratical sea rovers based in the Philippines) in the eighteenth century. Several ruins of relatively large buildings still stand along the riverbank as a testament to this period of Riau history (Fig. 10.36).

Local people’s sieving of the soil along the river banks in the 1990s discovered numerous remains of this settlement, including many sherds of Chinese pottery and large quantities of tin coins (Fig. 10.37). Evidence of iron-working in the form of scattered pieces of metallic slag is visible slightly inland from the river. Other traces of sophisticated industrial activity such as gold working and casting of coins in molds have also been dredged from the river (Figs. 10.38–10.44). Items of Chinese porcelain used as household decoration hint at the cosmopolitan nature of the settlement. The observation that an eighteenth-century kingdom of such magnitude can vanish almost without trace due to its location on (literally over) a river suggests that the search for the remains of other important trading centres in the Straits of Melaka will be difficult.

Tanjong Pinang, the capital of Island Riau Province, is a relatively new settlement that grew at the mouth of the Riau River on the west coast of Bintan as piracy was gradually suppressed in the nineteenth century. A Chinese village called Senggarang occupies the opposite shore of the Riau River.

The island of Lingga lies at the southern extremity of the Riau Archipelago, about 120 kilometres from Tanjung Pinang. For centuries Lingga’s neighboring island Singkep yielded important supplies of tin. The history and archaeology of Lingga are very poorly known. Ceramics of the Song-Yuan Dynasty are said to have been found here, but the oldest artifact this author found during a preliminary survey is an Islamic tombstone in the form of a *batu Aceh*, which probably dates from the sixteenth century (Fig. 10.45). Ruins of the nineteenth-century palace of the Malay rulers of Lingga, Istana Damnah, have been preserved by Indonesian authorities (Fig. 10.46).

On the northeast coast of Lingga a village named Pancur (echoing the name of the settlement in fourteenth-century Temasik) now occupies the edge of a large, well-protected bay (Fig. 10.47). The inhabitants of Pancur, perhaps numbering 10,000, live in houses built over the water; they are almost 100 per cent of Chinese ancestry,



10.36 Ruins of Kota Lama (“Old City”), up the Riau River from Tanjungpinang. An important Malay trading port stood here in the seventeenth century.

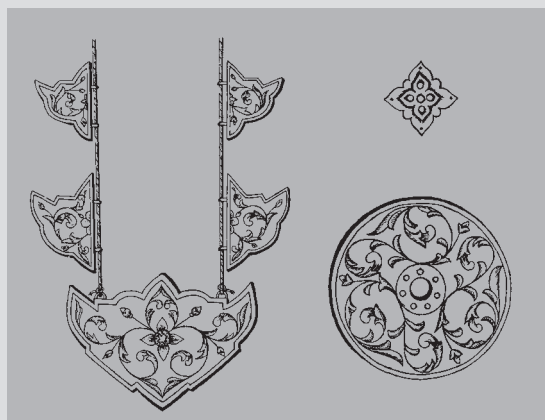


10.37 Sieving at Kota Lama in search of artifacts from the seventeenth century

Items found in Bintan



10.38 Ship coin made of tin, Riau



10.39 Riau gold pendants (Jasper and Pirngadie 1927)



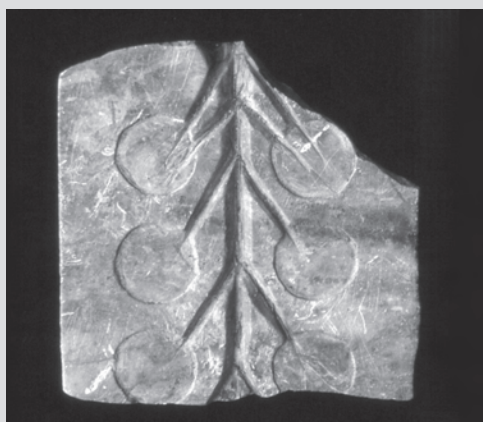
10.40 Gold regalia, former kingdom of Lingga



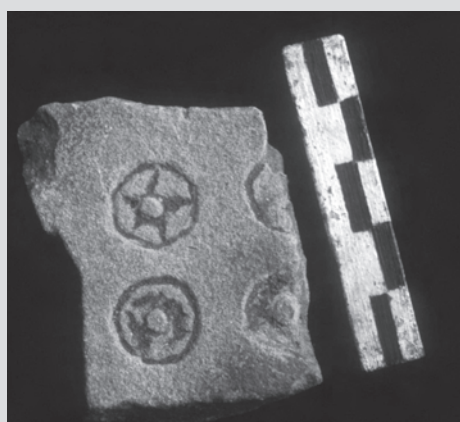
10.41 Gold coin with Arabic script, Riau



10.42 Porcelain Chinese figurine of European, Kota Lama



10.43 Coin tree mold, Riau. This stone mold shows the channels through which molten metal, probably tin, was poured, and distributed into individual chambers each constituting a single coin.



10.44 Coin mold. Dimensions of this fragment are approximately three centimetres wide, four centimetres high, and one centimetre thick. Unlike the previous example, the molten metal had to be poured into each coin chamber separately.

Historical sites in Lingga



10.45 Muslim tombstone of *batu Aceh* style, probably sixteenth century, near Pancur, Lingga



10.46 Main staircase of the now-vanished Damnah Palace, Lingga Island



10.47 The village of Pancur, Lingga Island, inhabited almost exclusively by Chinese fishermen, is built on stilts over the water.

and make their living from fish caught on *kelong* (fishing platforms) in the bay.

It was to the ruler of Riau based on Penyengat Island off the west coast of Bintan that Raffles dispatched his request for permission to set up a trading post at Singapore in January 1819. He did not enter the Singapore area blindly; having studied its history in depth and established contact with the Bugis ruler of Riau and the Malay sultan of Lingga years earlier. Raffles began corresponding with the rulers of Riau and Lingga in 1809. In early 1811, Raffles was in Melaka helping to mobilise an armed force to invade Java, then occupied by troops loyal to Napoleon Bonaparte. On 5 January 1811, Mahmud Shah, Sultan of Johor and Pahang, wrote to Raffles in Melaka later. He was the father of both Tengku Long (whom Raffles installed as Sultan Husain of Singapore in 1819) and Sultan Abdul Rahman (who continued to rule the rest of Riau under Dutch control). Raffles was also in contact with other people at the Riau-Johor court. On 6 January 1811, Raffles received a letter from Engku Sayid Muhammad Zin al-Kudsi of Lingga whose history is told in the *Tuhfat al-Nafis*. Born in Palembang, his father was Arab, his mother Siamese. He moved to Lingga, grew rich from trade, and married Sultan Mahmud's relative. Raffles had written to him to request assistance in the invasion of Java; Engku Sayid Muhammad agreed to send a warship (Gallop and Arps 1991: 44).

The Riau archipelago, from Batam and Bintan to Natuna and Midai, formed an extensive hinterland for fourteenth-century Singapore. Singapore and Riau have long been culturally distinct, as seen from the contemporary existence of burials with grave offerings in the fourteenth century in Riau but not in Singapore, but the relationship between the two areas is an example of long-lasting socioeconomic complementarity.



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TEMASIK'S NEIGHBOURS: SOUTHEAST ASIAN SETTLEMENTS



Singapore was not the most important Southeast Asian city of the fourteenth century and did not play a prominent role in Wang Dayuan's account. From an archaeological point of view, however, Singapore is the best-known city of this region and period. This chapter will provide an overview of what is known of the other cities and regions that Temasik had contacts with.

The Philippines

Several important studies of fourteenth-century settlements have been carried out in the Philippines. Chinese accounts refer to both the northern and southern regions of the country. The name *Mayi*, referring to a location in the Philippines, appears in several Chinese sources. An entry in the *Song Shi* for AD 972 says that one of the Chinese superintendents of maritime trade dealt with the Arabs, Java,

11.00 Early Islamic grave at Tanjung Keling, 12 kilometres north of Melaka. It is traditionally regarded as the tomb of Hang Tuah, legendary Malay hero.



11.01 Fifteenth-century archaeological sites in Southeast Asia

Borneo, Palembang, and Mayi. In AD 982, Mayi brought valuable merchandise to Guangzhou; in 1001, Butuan in northeast Mindanao sent a mission to China; in 1373, *Lusong* or Luzon sent a mission to Mayi; in 1206, cotton was reported to be available in Mayi (Dizon 2005: 286). The Visayas of the central Philippines have been most thoroughly explored. Settlements of the eleventh through sixteenth centuries have been documented at Tanjay, Bais, Negros (Junker 1990, 1999); fourteenth to sixteenth-century remains in Cebu City (Nishimura 1992); and sites of the eleventh through sixteenth centuries at Yap and Unto, in Dumaguete, southeastern Negros (Bacus 1999).

Tanjay is not a prominent place historically: it is not mentioned in any known ancient source and is not likely to have been visited by early Chinese traders. However, Chinese porcelain has been found there, comprising 15 per cent to 20 per cent of the ceramic assemblage; the rest was locally made (Junker 1999: 198). This is a lower ratio than at Kota Cina (35 per cent), and much lower than in Singapore (83 per cent Chinese by weight).

Plans of seven pile dwellings, the standard form of insular Southeast Asian houses, were also recorded at Tanjay. One was dated to the eleventh to fourteenth century phase and the other six to the fifteenth to sixteenth century. They are associated with hearths, trash pits, middens, and habitation debris (earthenware sherds, porcelain fragments, shell, bone, chipped stone, metal fragments, carbonized plants). Two sites in Tanjay had postholes—as large as 25 centimetres in diameter at Osmena Park, and 15–35 centimetres in diameter at Santiago Church—suggesting substantial dwellings.

People who lived at the Santiago Church site may have had had higher status than those at Osmena Park. More prestige goods as well as plain earthenware

were found at the Church, including the only glass beads found at Tanjay. These are tubular, and therefore were probably made in India.

Porcelain was probably a rare commodity in the pre-Hispanic Philippines. At Tanjay in the twelfth to fourteenth centuries, porcelain was only found in the houses of the elite; by the fifteenth and sixteenth centuries, it remained more common in elite areas but was more widely distributed (Junker 1999: 158). At a burial site in Santa Ana, Manila, 30 per cent of burials from the twelfth to fourteenth centuries had no goods; the nine richest burials (4.5 per cent) contained 25 per cent of all porcelain from this site. One grave alone contained 57 pieces of porcelain and stoneware. This imbalance is probably an accurate indicator of the degree of status differences between individuals in local society at the time.

In Cebu City, central Philippines, ten locales were excavated in the 1980s; these yielded few pre-fifteenth-century remains. Earthenware comprised about 98 per cent of the entire assemblage (Nishimura 1992: II). Burials of the twelfth to fourteenth century are poorer at Tanjay than at Santa Ana. Only one type of porcelain was found: low quality greenware. Porcelain there does not seem to have been correlated with the wealth, age, or sex of the deceased, indicating a society with a low level of status differences (Junker 1999: 173). Tanjay sites of the fifteenth and sixteenth centuries displayed a much more complex status hierarchy and a wider distribution of foreign trade wealth (i.e., Chinese ceramics) (Junker 1999: 175–9). A few Tanjay burials of the fifteenth and sixteenth centuries contained porcelain, but many had no goods. Unlike the eleventh to fourteenth century phase, burials with porcelain and bronze were found in both elite and nonelite zones.

Comparison of Tanjay and Singapore offers several interesting contrasts. For instance, Chinese artifacts at Tanjay were much rarer and exhibited many fewer variations than in Singapore. The Tanjay people maintained the ancient tradition of burying corpses with offerings, like the people of Riau but unlike those in Temasik. Although no precise data was collected from the burial sites in Riau because all sites there had been looted, both the quantity and quality of artifacts in Tanjay burials seem to have been poorer than in Riau.

At Unto, only one fifteenth-century sherd was found in situ. Imported wares were very rare at Yap as well. Eleventh-century finds include 2,182 earthenware sherds but only three sherds of stoneware and three sherds of porcelain. For the twelfth to fourteenth centuries, 2,089 pieces of earthenware were found, compared to three sherds of stoneware and 28 sherds of porcelain. Even in the fifteenth and sixteenth century phase, only 2.8 per cent of all sherds were porcelain or stoneware (calculated from data in Bacus 1995).

Calatagan

Archaeologists discovered two burial sites of the fourteenth and fifteenth centuries at Pulong Bakaw and Kay Thomas in Batangas, 100 kilometres south of Manila. In 1958, 505 graves yielded 411 Chinese wares, two-thirds of which were decorated with underglaze blue, mostly from the Ming period. Chinese ceramics constituted 75 per cent of all imported ceramics; the rest were of Sawankhalok (22 per cent), Vietnamese (3 per cent) and unknown (1 per cent) origin. One Chinese

coin (of the Hongwu reign, the first Ming emperor) was also found (Fox 1959).

Most graves contained only one or two pots, suggesting little social stratification. The ratio of imported to local ceramics was approximately equal. Other offerings found in the graves included glass beads and bracelets, and Chinese-style brass handles and locks for wooden containers. Since this was a cemetery, it cannot be compared directly with fourteenth-century Singapore or other habitation sites. The impression the sites give is that Calatagan society was much simpler than fourteenth-century Singapore or Riau.

Thailand and Cambodia

Srisuchat (1994: 225) reported that 32 sites in Thailand, the majority of which were ports, have yielded Song-Yuan Longquan greenwares. No detailed statistical information on the comparative frequencies of various types of wares from these sites has been published in English. Since Singapore had a complex relationship with Patani and Ayutthaya in the fourteenth and fifteenth centuries, a study of the distribution, and a comparison of the local and imported ceramics, in these sites adds significantly to any understanding of the roles of trade and communication in the Silk Road of the Sea. Ayutthaya was founded in 1351 and quickly consolidated political and commercial power in Siam. Its capital played a major role in Asian trade for 400 years. The study of Ayutthaya's archaeology will be of great help in the endeavour to put fourteenth-century Singapore in regional context.

The major period of temple construction at Angkor ended in the thirteenth century. Thereafter, as the report of the Chinese visitor Zhou Daguan in 1296 shows, the kingdom came under increasing pressure from the Siamese but retained great respect from other kingdoms. Chinese ceramics continued to reach Angkor despite its location in the hinterland even after the kingdom declined in the eleventh and twelfth centuries. Research in Cambodia will contribute important data for the study of long-distance trade in the economy of mainland Southeast Asia. An example of the discoveries remaining to be recorded is a site with fifteenth-century ceramics from China, Vietnam, and Thailand that was discovered in January 2012 at Vil Kou Phneou, within the Angkor archaeological zone.

Locally-produced ceramics were in high demand in Cambodia. Chinese ceramics comprise smaller proportions of the total ceramic assemblage in sites in Angkor Thom than Kota Cina in Sumatra or the Rembang area of north-central Java. Most data on Chinese ceramics in ancient Cambodia thus far are derived from the area of the royal palace. In one study, Chinese ceramics comprised between 6 per cent (Heng Piphah 2004: 230) and 10 per cent (Cremin 2006) of sherds studied. At the northern "library" of the Bayon, a Japanese team discovered 60 Chinese sherds, only five per cent of the assemblage (Nakagawa 2000).

At Prasat Suor Prat, a row of shrines in front of the Elephant Terrace (probably a platform from where Khmer royalty reviewed processions) over 15,000 sherds of Chinese ware, representing ten per cent of the ceramic assemblage, have been recovered in excavations (Cheng, Wan, and Wong 2005: 4, fn. 13). A study examined 207 sherds of Chinese ware, stylistically dated to the late Song/early Yuan period. At Tumnup Barang, just outside the northern gate of Angkor Thom, the

GAP team from the University of Sydney recovered 190 Chinese sherds, or just 3 per cent of the ceramic assemblage there (Cremin 2006). Excavations at Chau Say Tevoda, a religious complex at Angkor, by a Chinese team of archaeologists, recovered few Chinese sherds, and these were of standard types (bowls of white, green, and *qingbai* glazes) (Ea 2005: 274).

Khmer inscriptions sometimes mention Chinese artifacts. They also mention Chinese people, but these references are enigmatic: one (K.877, Ang Rolang Ken temple, Kandal Steng province, Kandal province, which is dated palaeographically to the eighth century) mentions Chinese male “slaves” donated to a temple along with male Cambodians. Another inscription (K.222, Banteay Trav temple, Svay Chek district, Banteay Meanchey, dated AD 924) mentions a Chinese female “slave” who served the divinity (Ea 2005: 271). The term “slave” in these contexts might have meant someone who voluntarily served a temple, but how these Chinese became residents of Cambodia in the pre- and early-Angkor periods is a mystery.

Donations of Chinese artifacts to temples are easier to comprehend. Artifacts from China are mentioned among lists of items found in royal storehouses for use in Khmer temples. Specific Chinese items mentioned included mirrors, silk textiles, and boxes, which may have been either ceramic or lacquer (Ea 2005: 271–2).

After the decline of Angkor’s empire in the fourteenth century, imported ceramics became more widely available. The discovery of Chinese and Thai ceramics in jar burial sites of the mid-fifteenth century in the Cardamom Mountains suggests that the highly-centralized economic structure that Angkor had imposed had broken down by then (Beavan et al. 2012). A fifteenth-century shipwreck discovered near the seaport of Ko Kong, on the Cardamom Mountains’ coast might be significant. Though the cargo itself has been looted, the location of this discovery suggests that the ceramics may have reached the Cardamom Mountain sites via a port either at or near modern Ko Kong. That port deserves further investigation; the Cardamom Mountains would have provided numerous forest products that were in demand in China, so research at Ko Kong may provide new data on early Chinese contact with Cambodia (cf. Jacques 1995: 39).

Brunei

Several “Brunei”-like names (e.g., *Poni*) appear in the early history of Southeast Asia. A site in Brunei known as Kota Batu, “Stone Fort”, may have been occupied for a very long time. One archaeologist concluded that Kota Batu was the site of a kingdom that sent a mission to China in AD 631. The site was abandoned after Spanish attacks in 1580 and 1644.

A major study deals with a sample of 6,230 sherds of porcelain and stoneware exposed by drainage work at the site. The area of the ancient settlement is estimated at 6 acres, or about 2.5 hectares, compared to ancient Singapore’s area of approximately 50 to 75 hectares. Chinese stonewares comprised 66.5 per cent of the total ceramic assemblage (B. Harrisson 1970).

Another Brunei site named Sungai Lumut yielded a wider range of artifacts including stoneware, porcelain, beads and bangles of glass, shell, stone, iron, bronze, and dammar. Of 6,000 sherds, 49 per cent (representing 22 per cent of

the vessels) are coarse stonewares (probably big jars). Thai ceramics comprised 13.5 per cent of the sherds, or an estimated ten per cent of the vessels. The most common vessels (72 per cent) are from south China. Although no bones were recovered, the site was probably a burial ground; many vessels are relatively complete, except for apparently intentional damage in the form of holes punched in bottoms, indicating that jars may have been “killed”. The presence of Thai pottery suggests a date of 1350–1500 for the site. The practice of burying the dead with offerings of ceramics and other goods, many of them imported, indicates that the population culturally resembled the people of Riau.

A great transformation took place in Bornean pottery-making in the fourteenth century (B. Harrison and P. M. Shariffudin 1969). Between the Song and late Ming periods, two out of six early types of earthenware pottery disappeared, and were replaced by Chinese blue and white porcelain. Although it was still used inland, earthenware was almost entirely extinct on the coast by the fifteenth century.

The best statistical study of Bruneian earthenware is devoted to a comparison of the Sungai Lumut and Kupang sites (Matussin Omar 1981). At Kupang, local ceramics comprised 52.4 per cent. Imports included Chinese, Thai, and some European goods. Of 254 porcelains and glazed stonewares, about six per cent of the assemblage (4891 sherds) dates to the Song dynasty. Coarse stoneware was almost evenly divided between Song-Yuan and post-Yuan periods.

Three earthenware fabrics were also discerned, one of which is probably post-Song. Paddle-impressed designs were described as very similar to those of Tanjong Kubor (Solheim 1965). Seven vessel forms were identified: storage jars, cooking pots, bowls, lids with handles, double spouted vessels, flasks, and pot stands.

At Sungai Lumut, only 2.9 per cent (39 sherds) out of 1,348 sherds sampled were of local origin. The estimated date of the site is the period from the fourteenth to sixteenth century. The ceramics found here were of lower quality than those of Kupang. Vessel types include cooking pots, *kendi*, and large jars. Matussin disagrees with the interpretation of Sungai Lumut as a burial ground; since no human bones were discovered, he believes that it was a ceremonial centre where pots were buried.

No site as large or complex as fourteenth-century Singapore has been discovered in Brunei. One cannot of course rule out the possibility that future discoveries will change this picture. It is quite likely that Singapore had close commercial and cultural links with Brunei and other places in Borneo in the fourteenth century.

Trowulan

This site in east Java, now occupied by a cluster of small rice-growing villages, was the location of Temasik’s overlord (or one of them; Temasik also probably had to pay tribute to a kingdom located in present-day Thailand). Inscribed bronze plaques from Alas Anten, a site in Trowulan, show that a religious complex existed there in the tenth century. Archaeological survey yielded Tang-dynasty sherds in a hamlet now called Kejagan, near the ancient city gate, now called Wringin Lawang. Many earthenware “offering plates” or trays were found there, as well as moulds for metal working. The site was deserted after a brief period of activity in the tenth century and was revived as a political centre in 1294.



11.02 Plan of Trowulan, fourteenth-century capital of Majapahit, depicting the scale of the urban water supply system

Trowulan covered an enormous area, perhaps as much as 100 square kilometres. Numerous inscriptions, statues, and ruined brick structures have been found there, and outlines of extensive reservoirs and canals have been identified.

Surveys of the site conducted from 1991 to 1993 found evidence of dense occupation during the fourteenth through sixteenth centuries, including dense concentrations of earthenware, Chinese porcelain and stoneware, Thai and Vietnamese pottery, and a wide variety of household utensils of clay and metal. The artifacts include elaborate stands for offerings, containers for Chinese bronze coins, locally made gold jewellery of high quality, and examples of folk art such as terracotta statuary depicting a vast range of subjects, from animals and children to foreign merchants and gods (Figs. 11.03–6). Brick foundations of houses have been excavated at several locations, including Sentonorejo. These are probably foundations for dwellings of palace staff, since they lie near the probable location of the former palace (Fig. 11.07).



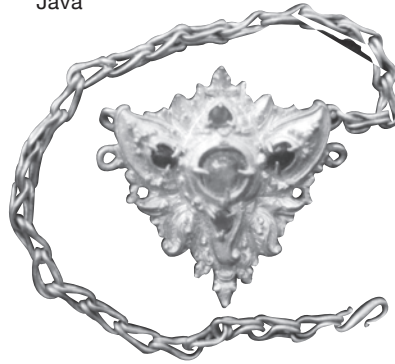
11.03 Terracotta figure, popularly believed to portray Gajah Mada, the fourteenth-century Prime Minister of Majapahit



11.04 Terracotta house, fourteenth century, Trowulan, east Java



11.05 Locally made *kendi* of traditional burnished earthenware, now in the Trowulan Museum, probably made in the fourteenth century



11.06 Gold pendant set with semi-precious stones, from Kemasan, Trowulan, made during the Majapahit period

Since most of the information about habitation at Trowulan came from surface finds, it is difficult to compare the ratios of imported and local ceramics found there with excavated sites in Singapore. The range of Chinese and Vietnamese wares at Trowulan is however very great. The 1365 *Desawarnana* (“Description of the Country”) records that Majapahit considered Vietnam a friendly country. Most of the Vietnamese pottery probably reached Java during the Ming Gap (i.e., the period between 1368 and 1567, when few Chinese ceramics were exported).

Inscriptions found in Java record that Chinese coinage became the official currency of Majapahit after 1300 (Groeneveldt 1960: 47, Mills 1970: 88). Archaeological research at Trowulan between 1976 and 1988 recovered 864 Chinese coins, of which only 162 were intact enough to be dated. The distribution, by reigns, is similar to that of other sites:

Table 11.01 Distribution of coins, by reigns:

Reign	Total
Tang	13
Song	124
Ming	23
Qing	2



11.07 Fourteenth-century statue of a Javanese queen, possibly Tribhuwana Tunggaladewi, in the form of Siva's consort Parvati, from Candi Ngrimbi

A fourteenth-century Majapahit source mentions a court official whose duty was to protect the markets; “eight thousand cash every day from the markets is the share” that this official received (Pigeaud 1960–3: vol. III, 122). Chinese currency was used in everyday life in the local markets of the city. The *YYSL* reported that a Chinese community lived at the kingdom's capital in the early fifteenth century. Ma Guan reported that Majapahit people desired Chinese goods such as porcelain, perfume, silk, beads, etc. (Mills 1970: 97) (Fig. 11.08).

Both local toponyms and archaeological remains indicate that certain areas in the site were allocated to specific occupations, including gold working, bronze casting, and the butchering of livestock. The *Desawarnana*, “Description of the Country”, written in 1365 provides a description of the palace and its surroundings; however, it is so vague that scholars who tried to compile a plan of the capital have come to quite different conclusions. The author of the *Desawarnana*, Prapanca, only described royal and religious sectors, not residential or industrial quarters, which might give the erroneous impression that the population of Majapahit's capital consisted entirely of nobles, soldiers, and religious officials.

Neither literary sources nor archaeology give us an idea of how space was used in the city: how close together the houses were, whether streets were arranged in



11.08 Terracotta head, depicting a Chinese man, affixed to a body dressed in Javanese costume. These two pieces may not have belonged together originally



11.09 Fourteenth-century temple relief from Trowulan depicting a walled village in east Java

a grid pattern, how much space was devoted to public areas such as open squares and markets, etc. The *Nawanatya*, a primer of Majapahit court etiquette, says that the capital was “All where one can go out without passing through paddy fields”, indicating a true boundary between urban and rural space.

Majapahit temple reliefs do not depict urban scenes, but do portray settlements. Important features of these scenes are the walls that surround groups of pavilions (Fig. 11.09). Prapanca’s description of the capital mentions several *kuwu*, which has been translated as “manor”. Although this term carries feudal European connotations, it conveys the basic idea of a settlement unit consisting of a group of buildings under the control over nobleman and surrounded by a wall within which a large number of people lived, including the nobleman’s family, and dependents including servants and slaves. The first European visitors recorded seeing these organizations in coastal cities of Java and Sumatra.

According to the *Desawarnana*, many foreign merchants, including Siamese and Chinese, visited Majapahit. Huge quantities of ceramics of the fourteenth through sixteenth centuries from China, Vietnam, and Thailand, are known from Trowulan (Miksic and Soekatno 1995). Unfortunately, the site has been severely disturbed by modern agricultural activities. A collection found at Trowulan that mainly consisted of blue and white sherds from China and Vietnam was given to the Asian Civilisations Museum and the National University of Singapore in 2006 by the family of the late Justice A. P. Rajah, who once served as President of the Southeast Asian Ceramic Society. Although their precise provenance within the site is unknown, research on this material will add much to our knowledge of this important period in the history of ceramic art and trade (Miksic and Kamei 2010).

The National Research Centre for Archaeology of Indonesia has conducted

numerous excavations at Trowulan since the 1970s. Though no overall report has been published, the glazed ceramics from China, Vietnam, and Thailand found in these excavations have been subjected to quantitative analysis (Dupoizat and Harkantiningasih 2007). This is an excellent beginning; if the earthenwares, which comprise the largest proportion of the pottery of Trowulan by far, can also be analyzed, ceramics will fulfill their potential to shed much new light on the art and society of ancient Java, as well as its role as a commercial commodity.

Chinese ceramics comprise 81 per cent of the total porcelain found (by number of sherds; a comparison by weight might give a different result), with 17 per cent from Southeast Asia, and the remaining 2 per cent classified as “other” (mainly European nineteenth century products). Of the Southeast Asian products, Vietnamese wares outnumbered Thai by a proportion of four to one (Dupoizat and Harkantiningasih 2007, 17).

Chinese Reports on Javanese Trade

Wang Dayuan called the Javanese “the foremost of the Barbarians of the Eastern Seas” (Rockhill 1914: 236). Java produced salt, pepper, and cotton, exported parrots, and reexported drugs while importing Chinese beads, gold, silver, satin, taffeta, blue and white porcelain cups, ironware, etc.

In the *YYSL*, Ma Guan reported that Chinese people from Guangdong and Zhangzhou were living in Tuban, one of Majapahit’s main ports, among a thousand families ruled by two chiefs. He described Gresik, another of Majapahit’s ports, as having been founded by Chinese people and governed by chiefs from Guangdong. Surabaya also had Chinese in its population. The capital itself had Chinese whom he described as Muslims from Guangdong, Zhangzhou, and Quanzhou (Rockhill 1914: 242). These communities seem to have become established in Java between Wang’s time (1330) and that of Ma Guan (around 1430).

Tomé Pires did not mention any Chinese living in Java in 1515, but records a tradition about them:

They say that the Javanese used to have great affinity with the Chinese, and one king of China sent one of his daughters to Java to marry *Batara Raja Çuda*, and that he sent her to Java with many people of China, and that he then sent money in the cash which are now currency, and they say that there was a junkload of them, and that that king was a vassal, not a tributary, of the king of China and that the Javanese killed all the Chinese in Java by treachery. Others say that it was not so, but that one king was never related to or knew the other, and that the Java cash were brought to Java for merchandise, because the Chinese used to trade in Java long before Malacca existed. But now they have not been there for the last hundred years. (Cortesaio 1944: I, 179)

Numerous theories can be spun on the basis of this information, but the important point is that no Chinese communities were recognizable in Java then. It is probable that the Chinese were absorbed into the Javanese population during the 80 years between Zheng He’s last voyage and the arrival of the Portuguese.

Java's relations with China in the early fifteenth century were not good. A group of 170 Chinese sent on a diplomatic mission to Java in 1404–1406 died in the crossfire of a civil war. The Javanese ruler later paid China 10,000 ounces of gold as compensation (Wang 1992: 120–1). Thereafter, Java sent 15 missions to China in 22 years, with at least one led by a Chinese man (Wang 1992: 126).

After Zheng He returned from his last voyage, Ming bans on private trade were repeated in 1433, 1449, and 1452, with increasingly drastic penalties. In 1443, the emperor told Java to send missions only once every three years; a memorial from Guangdong said frequent missions from Java caused “great expense to China” (*Ming Shi Lu*, vol. 2, 366). When the Portuguese arrived in 1509,

It appears that the majority of the shipping between the Malay world and China around 1500 was not China-based but in Southeast Asian junks, owned by Melaka merchants whom the Portuguese labelled “Malaio”, “Jaoa”, and “Luzones” rather than Chinese. Several Melaka junks sailed every year with the monsoon to Guangzhou (Canton), where one island in the Pearl River estuary was designated for their use and another for the ships from Siam. (Reid 1996: 34)

Melaka

This port was the direct descendant of fourteenth-century Singapore. One of the most important items in the Stadhuis Museum in Melaka is a granite statue of a mythical beast called a *makara* (Fig. 11.10). Such statues were found in Sumatra during the period of Buddhism's popularity. This statue may have been brought from Singapore, since Melaka's founder Parameswara converted to Islam soon after he arrived there. The statue was found on St. Paul's Hill where the palace of the Malay rulers stood. The topographical layout of Melaka is a mirror image of Singapore and Palembang: St. Paul's Hill, like Seguntang and Fort Canning, was a palace and sacred site on a hill overlooking a river mouth. This conjunction of natural features probably played a major role in the selection of all three sites as Malay capitals.

Unfortunately, little archaeological excavation has been conducted in Melaka's environs, making it impossible to chart the connections between Melaka and Singapore or compare the two in terms of trading activity. One architecturally significant tomb at Tanjong Keling—12 kilometres north of Melaka and traditionally considered that of Hang Tuah (Fig. 11.00)—resembles early photographs of the supposed grave of Iskandar Shah on Fort Canning, Singapore.

Leaving aside the question of who drove Parameswara from Temasik, it is clear that Melaka feared an attack from the north rather than the south. In 1407 and 1419, the Yongle emperor sent stiff warnings to Siam not to attack Melaka (Wang 1992: 122). The rulers of Melaka took the almost unprecedented step of going to China in person. Parameswara went in 1411, his nephew in 1412 and 1413, the new ruler Iskandar Shah in 1414, his elder brother in 1418, Iskandar Shah again in 1419, and the next ruler, Sri Maharaja, in 1424 (Wang 1992: 126). We can therefore conclude that Melaka had a close relationship with China. Six trade missions



11.10 Makara at the foot of St. Paul's Hill, Melaka. The sculpture was probably made elsewhere and brought to Melaka around 1400, just before the conversion of the ruler to Islam.

from Ryukyu visited Java between 1430 and 1442. Then there is a 20-year gap in the records; when they resume, the center of Ryukyu trade had shifted to Melaka. When Pires arrived, the Javanese were one of the main trading groups in Melaka. The practice of cremation in Melaka in 1537 may be a sign of the persistence of Javanese tradition in Melaka (Mills 1970: 111, n. 6, Groeneveldt 1960: 248).

Banten

When the British and Dutch arrived in Southeast Asia at the end of the sixteenth century, the main intersection of the Silk Road of the Sea was no longer Melaka but western Java. In 1600, the largest trading port in Southeast Asia was Banten, translated into English as “Bantam”. Much of the early history of the Dutch and English East India Companies is the story of their involvement with Banten.

The oldest settlement in the Banten area is Banten Girang (“Upstream Banten”), 12 kilometres inland along a river that provides access to the sea. Founded in the thirteenth century (Guillot et al. 1996), it was protected by a moat and perhaps an earthen rampart. An artificial meditation cave forms another important aspect of the site (Fig. 11.12). Ceramics found here include Chinese porcelains of the late Song and Yuan, and Thai and Vietnamese wares of the fifteenth century (Figs. 11.13, 11.14).

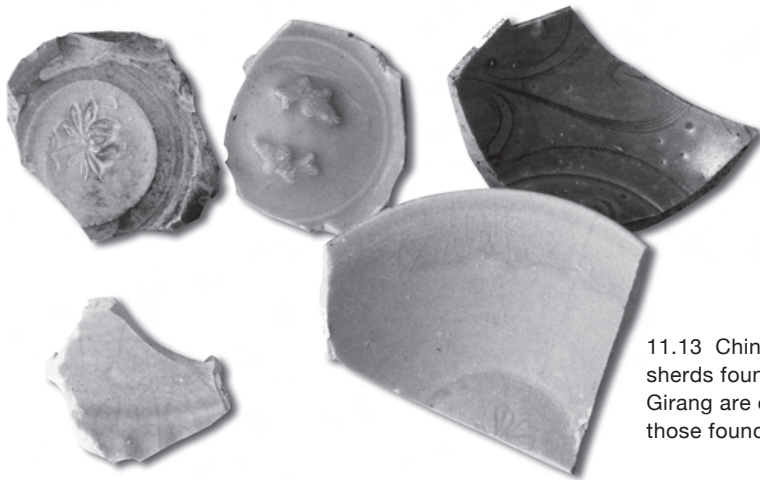
Banten Girang was an outpost of the kingdom of Pajajaran, the capital of which lay in the West Java highlands in the vicinity of modern Bogor. Pajajaran was non-Islamic in the 1520s. The kingdom of Demak, then enjoying its brief period of ascendancy, conquered Banten Girang in about 1527. Pajajaran's capital Pakuan held out in the highlands for another 50 years, but eventually



11.11 Banten Girang and an artificial meditation cave overlooking the Banten River. The hilltop above was an important fortified trading and administrative centre in the fourteenth and fifteenth centuries.



11.12 Archaeological excavation of an artificial meditation cave, Banten Girang, 1990



11.13 Chinese Song-Yuan sherds found at Banten Girang are of types similar to those found in Singapore

capitulated to Muslim forces. The new Islamic rulers quickly built a new port at the mouth of the Banten River, now ironically known as Banten Lama, “Old Banten” (Fig. 11.15). It was better placed than Demak to serve as a link between the spice-producing areas of the islands and the spice consumers in China and the west, and dominated the spice trade for 150 years until the Dutch brought it into their colonial orbit in the 1680s and shifted the centre of trade to Batavia (Jakarta).

Historical sources on Banten Lama are relatively comprehensive (Hasan et al. 1988; Miksic 1986, 1989b). The urban layout conformed to a standard pattern found in most Javanese administrative centres of the Islamic period. Specific areas were allocated to government, religion, and commerce. Like Trowulan, Banten Lama was divided into walled wards under the supervision of noblemen; many were identified with occupational specializations. Banten also had a city wall made of brick.

Most of Banten Lama’s physical attributes such as its boundaries and its phases of growth and decline are known from archaeological research, although statistics on the ratio of local to imported ceramics are not available. Numerous questions regarding Banten’s evolution are still being debated. For instance, why was Banten Lama fortified: because of European influence, or due to the traditions of Banten Girang and Pajajaran? To what extent was the systematic use of space in the city



11.14 Sawankhalok sherds, fifteenth century, Banten Girang. Similar artifacts have been found on shipwrecks off the east coast of the Malay Peninsula, and in Riau.



11.15 Masjid Agung (Great Mosque) at Banten Lama. Built in the mid-sixteenth century, the mosque has a traditional Indonesian tiered roof; the octagonal minaret is similar to those built around the same time in northwest India.

an invention of Banten? Was it connected with Islam, or did it perpetuate trends begun in Trowulan? Banten Lama was also one of the first, and certainly the largest, of the early Islamic cities of Indonesia. What effect did religious conversion have on Indonesian urbanization?

Johor Lama

After the fall of Melaka, the centre of the Malay kingdom oscillated between Riau and the Johor River. Among several sites where the capital was located, the most impressive remains are found at Johor Lama (“Old Johor”), on the left bank of the river a few kilometres upstream, where high bluffs at the edge of the water provide a strategic natural defensive feature. This naturally strong position was enhanced by earthen ramparts of a rather complicated pattern, which would have required considerable manpower to build in the mid-sixteenth century. There is no record of such fortifications at Melaka; among early Malay capitals, only fourteenth-century Singapore is known to have had these type of defences.

Johor Lama has been the site of several archaeological excavations, but research focused on the defensive works rather than on habitation remains. Other than one mound, which consisted largely of broken pottery, little is known about the distribution of the population or other site activities. No data comparable to that of fourteenth-century Singapore yet exists. The scarcity of archaeological data for Temasik-period cities makes it impossible to judge how Temasik ranks in terms of its size, wealth, and complexity. At the same time, the archaeology of early urbanization in Southeast Asia is just beginning. Perhaps the next generation of archaeologists will be able to put Temasik more firmly in context.



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SINGAPORE, JOHOR, RIAU



As noted in the beginning of this book, Singapore’s location is not uniquely strategic. Numerous sites at the south end of the Straits of Melaka have equal or better claims to the position of natural overlord of navigation between the Indian Ocean and the South China Sea. Singapore has no hinterland or natural resources. Rather than being fixed at one dominant point during the last 2,000 years the principal focus of shipping and trade in the region has fluctuated back and forth between Melaka, Johor, Bintan, Jambi, Palembang, and even Banten in west Java. The rise of these ports to preeminence has depended on factors, such as technology, economic conditions, and the regional balance of political power, which are constantly changing (Miksic 2010a, 2010b).

A series of developments attracted a population of perhaps 10,000 residents to the island then known as Temasik in the early fourteenth century. This was probably a medium-sized port for its time. Its population like that of Singapore in the twenty-first century may have been small, but with high per capita net worth as

12.00 Map used in 1824 Anglo-Dutch negotiations, which led to the exchange of Singapore and Melaka for Bengkulu, southwest Sumatra. Reproduced by permission from The British Library.

reflected in the amount of coins and luxury items such as pottery unearthed by archaeologists. This prosperity in turn attracted the attention of both of Southeast Asia's dominant powers: Siamese on the Southeast Asian mainland and Javanese in the archipelago to the south.

When the Portuguese arrived in the Straits in 1509, they also perceived Singapore's position at the junction of east-west and north-south sailing routes as one of considerable economic and military potential, although its fame and prosperity were nothing compared to that of Melaka. The Portuguese captain Afonso d'Albuquerque believed that

before Malaca was founded [Singapura] was a very large and very populous city (as is attested by its great ruins which are visible still to this very day) and was under obedience to the king of Sião [Siam]. "Singapura", whence this city takes its name, is a channel through which passes all the shipping for those parts, and it means in the Malay language, "treacherous delay"; and this name suits the place very well, for sometimes, when ships are waiting there for a monsoon, a storm comes up so violently that they are lost. (Birch 1874–5: II, 72–4 and 81–2, fn. 3)

According to d'Albuquerque, after the fall of Melaka in 1511, the laksamana or commander of the naval forces, "a man of eighty years, a good soldier, and of good repute and knowledge", moved to Singapore (Birch 1874–5). He may have been returning to his home domain. The Portuguese sailed through Keppel Harbour in August 1526 on their way to Maluku, and claimed to have wiped out a town at the mouth of the Singapore River, perhaps the home port of Melaka's former laksamana. Portuguese chronicler João de Lisboa said the route from Melaka to Borneo and Maluku passed between "two mountains which are only a small cross-bow shot apart", in other words, the waterway between Labrador Point and Sentosa. A cannon shot's distance away were some reefs. "Immediately you have rounded those reefs there is, to the North, a bay where the settlement (*çovoagõ*, "village") of Çimquapura was. This settlement was destroyed by us" (Ferrand 1918: 143 ff., Rouffaer 1921: 388 ff.). However, according to later Portuguese sources, the town was soon rebuilt.

Singapore appears in the final chapter of the version of the *Malay Annals* which was written when the capital of the Malays was at Sayong Pinang, Johor, in the 1530s; the ruler at the time was Alauddin Ri'ayat Shah. Section XXXI of the *Annals* mentions "the story of a Singapore headman, named Patch Adang (?Lundang)" whose title was *Seri Bija diraja* (Brown 1970: 198). He was killed and his followers were granted to the ruler of Pahang, presumably thereupon moving away from Singapore. His son, Sang Setia Bentayan, however, was given the fief of Singapura, so some vestige of authority was still attached to the island.

In the mid-sixteenth century, while the Portuguese enjoyed an unchallenged position as the principal European power in the Straits of Melaka, they considered building a fort somewhere along the Singapore Strait (Borschberg 2003: 61). The viceroy of Goa however decided it was better to maintain a naval presence in

the area than to occupy the land (Borschberg 2003: 62). The argument over the merits of land-based versus sea-based defence continued for 400 years until the issue was tested in the Battle for Singapore in 1942.

The Portuguese stationed ships near Singapore at a certain time every year in order to escort richly-laden vessels coming from the South China Sea to safety through the dangers both human and natural which lurked in the area. According to Pedro Barreto de Resende, in 1634, every December three to five Portuguese galleys with 50 or 60 soldiers were assigned to patrol the waters of Sincapura to await the ships from China and Manila (Maxwell 1911). People such as St. Francis Xavier sometimes signed letters with *ex fretu Sincapurano* (meaning that they were sent from the Straits of Singapore). He did not mention any settlements or describe any other aspects of Singapore, suggesting that he did not go ashore (Coleridge 1935: II, 363–4, 528–39). This also explains the epitaph on the tombstone of Petrus, which is still found in the ruins of the church on St. Paul's Hill, Melaka, which says he died *ad fretum Sincapura* in February 1598.

Much of the seventeenth century history of Singapore is a blank. This is partly a result of local circumstances, but also fits a larger pattern. During the period which Reid (1993a: 285 ff.) described as the “crisis of the seventeenth century”, Japan went into seclusion, the Ming Dynasty collapsed, and wars broke out in Europe and Turkey. The population of Asia declined. Chinese trade went into a severe slump, which affected Southeast Asian economies, and therefore the Dutch East India Company (VOC) and Europe as a whole. There was no commercial expansion capable of reviving devastated ports such as Singapore.

At the beginning of this period of crisis, Dutch and English ships arrived in Southeast Asia, bringing along both new sources of wealth, and conflicts originating thousands of kilometres away. Dutch privateers lurked off Changi Point, where they could hide behind the projecting tip of the Malay Peninsula, and launched surprise attacks upon Portuguese vessels heading to Melaka. The waters around Singapore became a battle zone.

The Malay rulers of Johor happily aided and abetted strikes against their Portuguese enemies; in fact, they suggested this location to the Dutch (Borschberg 2003: 59, 63). In 1603, the Dutch captured a major prize in the waters off Changi: the *Santa Catarina*, a Portuguese ship with a valuable cargo of porcelain and other Chinese merchandise. The loot was sold in Amsterdam and yielded an enormous profit. The case of the *Santa Catarina* became a major diplomatic affair in Europe, involved the British, and resulted in the composition of an important essay, *Mare Liberum*, “Freedom of the Sea”, by Dutch lawyer Hugo Grotius, which has formed an important precedent for legal frameworks for maritime trade and warfare ever since (Borschberg 1999, 2011). This naval battle off Changi Point focused Europe's attention on this distant part of the world early in the Age of Exploration.

In September 1603, a Dutch vice admiral, Pietersz van Enkhuisen, sailed his fleet of three ships between Sentosa and Labrador. One of the sailors on board, Wybrand van Warwyck, observed a village and a beautiful harbour at Sincapura.

The Dutch fleet passed through the “old Strait” of Singapore, described as “a stone’s throw” wide and “a cannon shot long”; passing by two stone columns, the ships saw a “fine bay” and the town of Singapore (Borschberg 2004a: 109). This account clearly describes the entrance to Keppel Harbour, and verifies that a settlement still existed, probably at the mouth of the Singapore River. The town of Singapore is shown on a well-known map of a subsequent battle with Portuguese ships that took place off Changi Point in early October 1603 (Borschberg 2004a: 110).

The Dutch were victorious, and hostilities continued between the Portuguese and the Malays after the Dutch ships sailed away. In early 1604 the Portuguese destroyed Johor Lama and other Malay villages along the Johor River. The town of Singapore was certainly affected by these battles; the sound of the cannon would have been audible over much of the eastern half of the island.

Erédia’s map of 1604 shows a shahbandar’s station at the Singapore River. According to Captain Cornelius Matelief, Singapore still had a harbourmaster in 1606, who bore the title *Seri Raja Negara* (Rouffaer 1921: 400–2). Another map, this one compiled in the mid-seventeenth century by André Pereira dos Reis, also displays the shahbandar’s station (Borschberg 2004b: 95 fn. 4), but there is no other evidence that the office still existed. The map-maker may have simply assumed it was still there. The Shellabear version of the *Malay Annals* says that the Singapore *batin* or chief in the time of Sultan Ala’uddin, circa 1530–64, had the title *Seri Raja Negara*. He was described as a vigorous leader of Johor’s military forces (Shellabear 1975: 226).

Archaeological remains indicate that the settlement at the mouth of the Singapore River was abandoned in the first half of the seventeenth century, but are insufficient in providing a reason for this. The Portuguese may have taken reprisals against Singapore for siding with the Dutch, or perhaps the inhabitants decided the area was too volatile and exposed to attack, and so voluntarily moved to the other Malay bases in the vicinity.

In 1607, the King of Spain and Portugal ordered the Viceroy of Goa to build a fort in the Singapore Strait, but this order was never carried out. In an undated document from about 1620, a merchant named Jacques de Coutre argued strongly for building two forts: one on the Isla de Arenas (the Portuguese name for Sentosa), at the “Old Strait” (which he says was narrow enough to be blocked with a chain; thus he must have been referring to the Dragon’s Tooth Strait), and the other on the east end of the Ysla de la Sabandaria Vieja (Singapore; literally the “Island of the Old Harbourmaster”) (Borschberg 2003: 64–6), perhaps around what is now Tanah Merah or Bedok (Borschberg 2004b: 116).

Singapore’s charms were not lost on the Dutch either. In 1607, the directors of the VOC asked the Johor ruler for permission to build a fort to guard the Singapore Strait. The ruler refused to grant this request; the Dutch were only allowed to strengthen the defences of their trading post at Batu Sawar, up the Johor River (Borschberg 2003: 70–1).

In 1613, Batu Sawar, including a Dutch trading post, was destroyed by an Acehnese attack. Peter Floris, an English sailor who passed by Singapore later that

year, mentions neither any settlement nor any inhabitants except sea nomads. It is quite possible that the settlement at the Singapore River's estuary had fallen to the Acehnese as well (Borschberg 2004b: 23). The Malay capital was reestablished in 1618 on Lingga, farther to the south.

After the destruction of their post at Batu Sawar, the Dutch again appealed to the Johor ruler; according to a Dutch report, the Sultan agreed to allow them to build a fort, mentioning in particular on Karimun, or in the Johor River estuary, or any other place the Dutch might choose (Borschberg 2003: 81). In 1614, the Portuguese were worried that the Dutch were trying to build a fort "in the Singapore Strait, on a small island that divides the old from the new strait"; this probably refers to Sentosa, also known as Belakang Mati (Gibson-Hill 1954: 179, n. 33a). The Dutch negotiator, Adriaen van der Dussen, visited the Johor River estuary, Bintan, and both Greater and Lesser Karimun. Dussen decided in favour of Karimun, as Farquhar would do in 1819 (only to be overruled by Raffles).

None of these plans came to fruition. In 1619, the Dutch established a base in west Java, which eventually became Batavia. Thereafter they lost interest in the Singapore area, another indication that Singapore's location is not strikingly superior to many other alternative locations in western Indonesia.

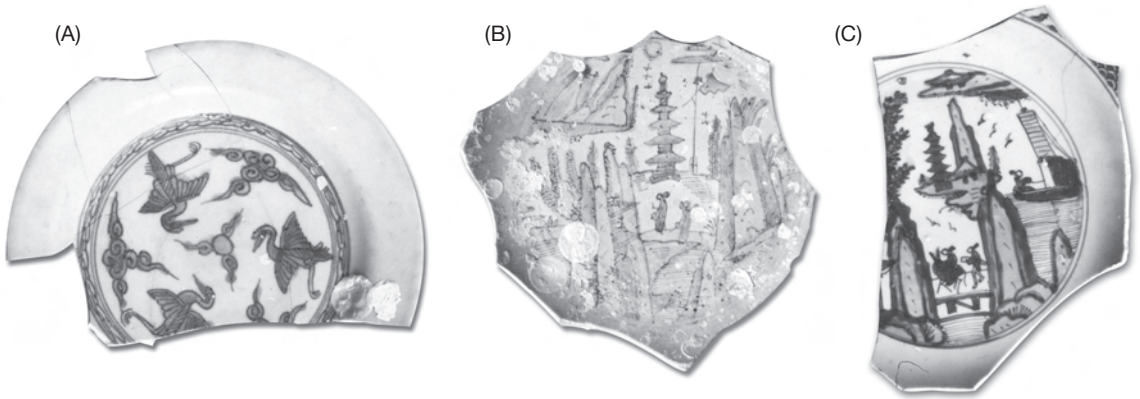
In 1618, the names Longya men and Temasik (*Dan-ma-xi-men*) appeared in a Chinese text as the names of straits (Mills 1974: 27). The *Dong xi yang kao*, "A Study of the Western and Eastern Oceans", refers to dangerous pirates in the area. The survival of the name Temasik indicates the extreme conservatism of the Chinese geographical writers. The Chinese however were more interested in Banten, Palembang, and western Borneo. Singapore was not on their radar.

Peter Mundy passed through the narrow "straights of Sincapura" in 1637, which he notes was "not above ¼ Mile broad at the Coming in and going out", in other words the western entrance of Keppel Harbour. Here he saw many people who lived on boats but grew crops on the shore including bananas, sugarcane, and pineapple, which they sold to the ships, but no houses were visible, still less a town (Temple 1914–36). William Dampier, in the late 1600s, bought fruit and fish from Singapore's inhabitants, and admired their boats. He does not however mention any town on the island (Masefield 1906: I, 559–60).

In 1641, the Dutch listed Singapore as one of the territories of the kingdom of Johor, and record that the island was rich in *arak* (fermented palm wine), and the waters around it full of fish (van der Chijs 1887: 226). Again, they fail to mention any settlements there.

After the VOC conquered Melaka in 1643, they implemented policies meant to shift the crossroad of the Silk Road of the Sea from the Straits of Melaka to Batavia. No clear rival to Dutch supremacy arose in Sumatra. This policy caused a gradual decline in commercial activity in the Singapore area.

Trade was still taking place in the Singapore River when the battles described above took place. This is proven by the discovery at Empress Place of fragments of Chinese porcelain of the late Ming period, from the 1560s to the 1640s (Figs. 12.01 a–c). Dredging work in the Kallang River basin in the 1970s also resulted in the discovery of late Ming porcelain (Kwa 2004). Portuguese ships on patrol may



12.01a–c Late Ming sherds with underglaze cobalt blue decoration accidentally discovered at Kallang during dredging of the basin in the late 1960s. Archaeological research at the site is now impossible due to modern development of the area.

have anchored in the Kallang estuary while awaiting the galleons from Macao and Manila, but intensive development has destroyed any hope that systematic archaeological research might reconstruct the nature of that activity.

In 1673, the Raja Muda of Johor moved to Singapore after Johor Lama was destroyed by a fleet from Jambi. The Laksamana soon guided him to Bintan, so he did not remain in Singapore for long (Andaya 1975: 99, 102 n. 63). When Sultan Ibrahim Shah of Johor died in 1685, the Dutch reported that all the inhabitants of Singapura shaved their heads as a sign of mourning (Andaya 1975: 138, 163 n. 55). There is a reference to a cluster of 10 pile-dwellings in Keppel Harbour in 1695, and a “custom-house for fish in the middle of the channel” where the ruler of Johor collected duties on the catch (Careri 1700: 312–9; 1777, Tome III, 362 ff.; 1745). There is however no evidence of any important trading post in Singapore. Archaeology and history both show that by 1650 Singapore had reverted to the marginal position which it had occupied before AD 1300.

In 1703, four years after the assassination of Sultan Mahmud of Johor, and not long after Dampier’s visit, the ruler of Johor offered the island of Singapore to a British captain named Alexander Hamilton, who was an independent trader, not a part of the East India Company. Hamilton described the circumstances in which the offer was made as follows:

I called at Johore on my Way to China, and he (the Sultan) [Abdul Jalil] treated me very kindly, and made me a present of the Island of Singapura, but I told him it could be of no Use to a private person tho’ a proper Place for a Company to settle a Colony on, lying in the Center of Trade, and being accommodated with good Rivers and safe Harbours, so conveniently situated, that all Winds served Shipping both to go out and come into those rivers.

Hamilton apparently took the trouble to inspect the site he had been offered, and was favourably impressed by the natural products of the island.

The Soil is black and fat: And the Woods abound in good Masts for Shipping, and Timber for building. I have seen large Beans growing wild in the Woods, not inferior to the best in Europe for Taste and Beauty; and Sugar-cane five or six inches round . . . (Hamilton 1930: II, 53)

He does not mention any population on the island. This may have been one of the Johor sultan's considerations in making the offer in the first place. The Sultan was probably aware of Singapore's potential and wished to encourage commercial activity there, but did not have enough people to exploit the site himself. Hamilton was in the same position; he had no capital to develop the location, but he envisioned that the island could be the site of a prosperous port.

Someone took Hamilton's recommendation seriously. In 1709, a sketch of the western entrance to Keppel Harbour was compiled, showing that soundings had been taken to establish the harbour's depth. This chart was obviously made with an eye to determining the navigational properties of the area (*see* Fig. 4.00). It would be 110 years before Raffles took steps to take advantage of this knowledge, and he does not seem to have heard of Hamilton's experience or the 1709 sketch. The reports Raffles heard when he arrived in 1819 show that the Malays however had not forgotten Singapore's history.

In 1718 a pretender to the throne of Johor named Raja Kechil (or Raja Kechik) sent a messenger to Singapura to gather support from the Sea People (Andaya 1975: 250–64, 288). The leader of the Sea People, Raja Negara, was still associated with the Singapura area. Fifty years later, during another war between Bugis and Siak princes, Raja Kechil's grandson, Raja Ismail, sailed to Singapura, "where he treated the sea-people harshly, forcing them to join his side and ordering them to prepare *perahu* and *sampan*" (Matheson and Andaya 1982: 127–8). In 1767, the Raja Negara led his people in a sea battle against the Bugis off Tanah Merah on Singapore's east coast (Matheson and Andaya 1982: 127–8).

QING POLICY AND SINGAPORE

The Ming Dynasty fell in 1643 and was replaced by the Qing, but Ming loyalists continued to hold out in south China until 1683 with the help of sympathetic merchants. Kangxi, the emperor who stabilized Manchu rule (r. 1662–1722), did not take revenge on the merchants but allowed commerce. Customs duties provided an important source of revenue for the provinces of Fujian and Guangdong as well as the imperial family.

Overseas Chinese communities that formed in the late Ming were in a delicate position. It was feared that they would destabilize society if they returned to China. "Sojourners" were still subject to severe punishment; those who "abandoned their ancestral land" were considered "villains" who could be flogged, banished, or killed. The Chinese government was not concerned when overseas Chinese were massacred, for instance in Batavia, Java, in 1740; they might have received the same treatment had they returned to China (Ng 1991).

A useful example is provided by the case of the merchant Zhen Yilao, who

returned to China in 1750 after a long stay in Batavia. He had been the official head of the Chinese community in Batavia, but was arrested on return and banished to hard labour on the frontier. Chinese policy toward such people was inconsistent. Chinese who held similar positions in the kingdom of Siam were not punished so severely. A total ban on foreign trade would have been counter-productive. However, as Ng (1991) points out, the policy of the Chinese government was weak and perpetuated tension between the maritime population of south and east China on one hand and the hinterland bureaucracy on the other.

During the eighteenth century, British attention was focused on India and their only Southeast Asian base—a little settlement at Bengkulu, southwest Sumatra—was a remote and insignificant outpost. In 1786, the British expanded their role by occupying Penang. A few years later, Melaka came into their possession temporarily as a result of the Napoleonic Wars. Trade between India and China emerged from the slump of the seventeenth century and began to expand. New British initiatives led to the founding of an East India Company settlement at Singapore, 116 years after Hamilton envisioned that exact course of action.

RAFFLES AND THE FOUNDING OF SINGAPORE

The story of Raffles' founding of a British base in Singapore in 1819 is well known and, as mentioned, he was clearly aware of Singapore's claims to ancient status. On 12 December 1818, just after boarding the ship that was to take him from England back to Southeast Asia after three years in England, he wrote:

We are now on our way to the eastward, in the hope of doing something, but I much fear the Dutch have hardly left us an inch of ground to stand upon. My attention is principally turned to Johore, and you must not be surprised if my next letter to you is dated from the site of the ancient city of Singapura. (D. and J. Moore 1969: 16)

Shortly after arriving in Singapore, he wrote to his friend and patroness, the Duchess of Somerset:

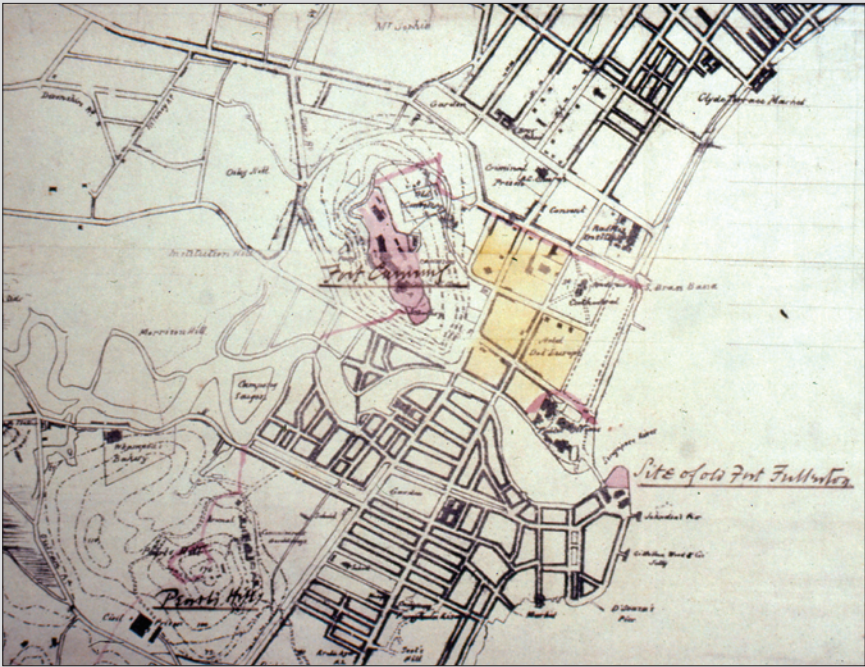
[I]n Marsden's map of Sumatra you will observe an Island to the north of these straits called Singapura; this is the spot, the site of the ancient maritime capital of the Malays, and within the walls of these fortifications, raised not less than six centuries ago, on which I have planted the British flag (D. and J. Moore 1969: 31)

Not all of Raffles' contemporaries were able to appreciate the evidence that Singapore had been an ancient site. According to John Crawford (the captain of a ship who came with Raffles the first time, not to be confused with the John Crawford who became Singapore's second resident),

Where the tents are pitched, the ground is level above one mile, partly cleared of the jungle, with a transparent fresh water brook or rivulet running through it. . . . This spot of ground is the site of the very ancient city and fort of Singapore No remnants of its former grandeur



12.02 Although not entirely accurate, this nineteenth-century map of Singapore by J. B. Tass gives a useful indication of the location of the archaeological excavations in relation to the original topography of the area between the Singapore River and Stamford Road. Collection of National Museum of Singapore.



12.03 1878 map of Fort Canning by J. T. Thompson. Collection of National Museum of Singapore.



12.04 1881 map of Fort Canning by Frederic A. Weld. Collection of National Museum of Singapore.



12.05 Gambir plants in Sumatra. When Raffles arrived in Singapore in 1819, the main economic activity in addition to fishing was harvesting and processing gambir leaves. These were used for various purposes including tanning leather and making batik cloth. The gambir business was in the hands of Chinese who lived on the hills northwest of what is now Clemenceau Road.

exist, not the slightest vestige of it has ever been discovered. As for the strength of the fortifications, no remains are to be seen excepting by those possessing a fertile imagination and can trace the foundation or parts of earthen bastions in a mound of earth that lines the beach and winds round the margins of the creek. . . . Sir Stamford found accounts of it in a very old Malay work. (D. and J. Moore 1969: 20)

In 1819, a new chapter of Singapore history began. Despite a hiatus of 200 years, the memory of Singapore's ancient glory was still vivid among the local population. Raffles was one of the few Europeans who were attuned to Asian networks of communication, did not automatically disregard them, and took the trouble to interpret them in order to extract information that was relevant to his own time. He was obviously taking the fame of ancient Singapore's port among the local population into account in his plan for a new settlement.

Although many important changes took place in Singapore's economy, social organization, politics, and technology between 1350 and the present, some continuous themes can still be found throughout Singapore's history. While the amount of historical documentation on Singapore increases dramatically after 1819, the records mainly illuminate matters of concern to the colonialists.

Many of the details of daily life in Singapore can only be reconstructed from archaeological materials.

Some information in colonial records can be useful to the archaeologist, for example, early maps (Figs. 12.02–12.04) and records of Singapore’s imports and exports. A recently rediscovered drawing of Singapore made aboard a ship off the south coast in February 1819 shows that there were already numerous structures there. The map shows two villages, one at the seaward edge of the Padang, the other, a “Ryat Village”, in the area now called Kampong Gelam (Langdon and Kwa 2010: 6). *Ryat* is a Malay word which can be translated “commoner” or “royal dependent”. According to Captain Daniel Ross, who accompanied Raffles on this inaugural visit to Singapore, this village was mainly inhabited by fishermen. There were also various clearings in the interior of the island where Chinese processed gambir, a plant with several uses (Fig. 12. 05).

In 1838, much of Singapore’s trade was in marine products: shark’s fins, *trepang*, agar-agar, pearls, and “many other valuable items”, probably not that different from the fourteenth-century situation. Singapore also imported Chinese items such as paper umbrellas, medicine, candy, cloth, joss sticks, and gold lace (Tagliacozzo 2004). Of these items, the archaeological record contains not a trace. Instead, archaeologists discover other items which written sources mention rarely if at all: ceramics and glass. Archaeological evidence often yields a very different picture from written sources.

The archaeology of colonialism is as intellectually viable a project as is the archaeology of premodern times. We know very little about the lives of the vast majority of Singapore’s nineteenth-century inhabitants. They wrote little, and little was written about them. It is almost as difficult to reconstruct their lives as compared to the lives of fourteenth-century Singaporeans. Archaeology can contribute much to an understanding of the lives of Singapore’s inhabitants of the early modern period.

Fort Canning (FTC)

The remnants of the ancient buildings that Crawford saw on the Forbidden Hill have all vanished except for a few brick fragments. From 1819 to 1860, the hill’s name (in English) was Government Hill (in reference to the house of the Residents, the chief authorities, on its summit). In Chinese dialects, the hill has a different name: “Royal Hill”: in Teochew it is *wang keh sua*; in Mandarin, it is *huang jia shan* (Cheryl-Ann Low, pers. comm., 19 Nov. 2003). This may be a preserved memory of the Forbidden Hill, or a popular perception of the governors who lived on it.

Singapore’s first cemetery was laid out on the hill’s northeastern slope (Fig. 12.06). The cemetery remained in use until 1867, when it was completely occupied. Singapore’s first botanical garden was also planted on the hill’s lower slopes, overlooking Stamford Road. It was used through the 1820s, and was then abandoned due to a lack of funds.

In 1860 the hill was taken over by the military and a large artillery fort was built on the summit, whereupon its name was changed to Fort Canning Hill. The



12.06 The nineteenth-century cemetery at Fort Canning, 1950s. Courtesy of National Parks Board.



12.07 Memorial on Fort Canning Hill dedicated to James Brooke Napier who died at sea in 1848

south end of the hill retained its function as both an elite residential area (where the officers quarters were built on top of Raffles' old bungalow) (Fig 12.08), and a focus of communication (with a flagstaff, lighthouse, time ball, and telegraph station) (Fig. 12.09). In the 1920s, Fort Canning was converted into a communication and administrative centre for the British army. The last vestige of Fort Canning's military history was the use of one of the buildings, built in the 1920s, as the Singapore Command and Staff College in the 1980s.

Archaeological research on Fort Canning was designed to discover fourteenth-century remains, but one has to dig through layers deposited in the nineteenth and twentieth centuries to reach them. At the Keramat site, quarters for lighthouse keepers were built in the early twentieth century, and remained in use until the end of the colonial period. The lighthouse keepers were mainly Malays; much of the material culture in the upper strata of the Keramat site consists of artifacts which they used and discarded.

Artifacts from the colonial layer on Fort Canning include items of Asian origin as well as European artifacts (Figs. 12.13, 12.14). Some were used by soldiers on Fort Canning, many of whom came from Britain's colonies in India. Thus it is not easy to disentangle the different historical narratives that the artifacts from the colonial period tell. Local people were not strictly segregated from foreigners, contrary to common stereotypes.

Colonial-period artifacts on Fort Canning belong to many categories. Little in the way of actual military equipment has been found; this is the result of the relatively brief period when the fort was an active defensive work, and also because the sites chosen for excavation were not close to buildings of the fort period. Most of the colonial-period artifacts found at the Keramat, Fire Director's Residence, and other sites dug around Fort Canning, such as the Sculpture Garden and the Telecoms Terrace, derive from everyday life, for example, ceramics used to



Fig 12.08 Print illustrating the ceremony on what is now the Raffles Terrace of Fort Canning in which William John Butterworth, then Resident of Singapore, presented a state sword to Daing Ibrahim, the Temenggong of Johor on 31 August 1846, in recognition of the latter's services in suppressing piracy. Collection of National Museum of Singapore.

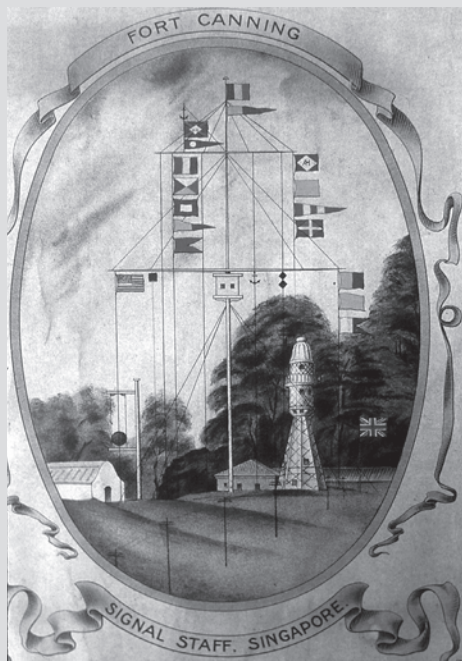


Fig 12.09 This painting depicts the communications centre of Singapore in 1913: the flagstaff, lighthouse, telegraph office, and time ball. These formed Singapore's main link to the rest of the world 100 years ago. The placement of these instruments of commerce and transmission of information reflects the importance of this location 700 years earlier, when the palace of Singapore's rulers stood in the same spot. This painting is part of a larger poster which explains the meaning of all the flags which flew from the flagstaff.

prepare and consume food and drink.

Artifacts from the earliest phase of colonial Singapore consist of clay pipes for smoking tobacco (Fig. 12.13). The practice of making white clay pipes with long stems date back to the time when smoking tobacco first became popular in Europe in the seventeenth century. They went out of fashion in the early nineteenth century. Several of these were found in the Keramat area, and probably date from the Government Hill period.

Some nineteenth-century artifacts associated with children can also be found: a fragment of a porcelain doll, marbles made of stone. Perhaps early military officers lived with their families on the hill; in the early twentieth century, married quarters were built especially for such purposes.

European pottery is found on Fort Canning. This includes mainly wares imported from England: plates used in the home. Some European stonewares also appear, mainly bottles for ink and beer. Colonial period strata contain many shards of glass, mainly imported from Europe. The largest quantities come from broken window panes and bottles for liquids such as beer. Other discoveries included clear glass such as crystal for fancier drinking customs.

Chinese ceramics are more common than European wares. The most common ceramic objects in the colonial period layer are bowls decorated with blue and white patterns, such as double happiness characters. Saucers with common motifs such as water weeds were also used on the hill. Chinese-type ceramic spoons are present but rare, an indication that the bowls were probably used by non-Chinese people living on the hill. Chinese stonewares of the nineteenth and twentieth centuries are very common. Shapes include large jars and small, thin-bodied, unglazed wares used for purposes such as brewing medicinal concoctions.



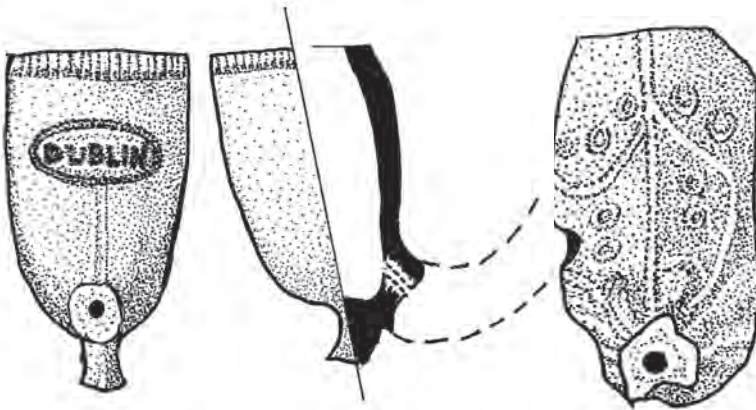
12.10 Fort Canning gunpowder magazine, around 1900. Ammunition for the fort's cannons was stored here. Reproduced by permission from National Museum of Singapore.



12.11 Gate of Fort Canning, built in 1860. The narrow openings at the top of the gate allowed defensive troops to fire on attacking forces.



12.12 The sally port was a protected, defensive feature that allowed troops to launch attacks and retreat quickly.



12.13 Two nineteenth-century clay tobacco pipes from Fort Canning (the one on the left is shown in front view and profile)



12.14 A Malay cooking pot used on Fort Canning during the British colonial period (front view and profile)

Malay earthenware is also well represented, mainly consisting of fragments of cooking pots, which were also used by the British up until the 1960s. In shape and size they are not very different from the fourteenth-century locally made ware. Earthenwares such as cooking pots may have been made in Singapore during the colonial period, but this is not mentioned in historical documents. In the 1990s two pottery factories were still active in Singapore. One, Sam Mui Kuang in Yio Chu Kang, used a traditional wood-fired Dragon Kiln for several decades but later converted their business to the sale of supplies and equipment for craft potters.

Many fragments of metal objects were discovered, most of which were highly corroded. Much of the metal belonged to equipment such as engines and containers, but numerous coins of the colonial era were also found.

Colombo Court (CCT), Empress Place (EMP), Parliament House Complex (PHC), Singapore Cricket Club (SCC), St. Andrew's Cathedral (STA)

All Singapore sites with precolonial artifacts also yielded colonial-period wares. These have not been subjected to intensive analysis, so little can be said about them for now. The same kinds of inter-site analyses applied to material from earlier periods presented in earlier chapters of this book will eventually be used to analyze colonial period artifacts.

Coins of the Dutch East India Company (the VOC) have been found in several sites, including CCT, EMP, and IKG (Fig. 12.15). They may have circulated in Singapore in the early nineteenth century even though the VOC was dissolved in 1799. At CCT, 51 coins of the Netherlands East Indies (the new name for the Indonesian colonies after the VOC was abolished) were found, all in square II g2. They date from the late 1850s and 1860s.



12.15 Dutch East India Company (VOC) copper coins, EMP. They were minted in 1735, but could have been brought to Singapore decades later.

12.16 Stone mold with two bullets, EMP. This tool may have been used by the soldiers in Fort Fullerton to make lead shot for their flintlocks.

A gunflint was discovered at STA in March 2004. These were used by the British army until 1838 (Clarke 1935). It may have been lost by one of the sepoys who accompanied Raffles in 1819 when they made camp in this area. EMP yielded a stone mould and lead bullets, indicating that ammunition might have been made on this site in the early nineteenth century (Fig. 12.16).

Pulau Saigon (PSG), Duxton Hill (DXT), Istana Kampong Gelam (IKG)

These three sites were studied in order to learn about the lives of Singaporeans during the colonial period. Pulau Saigon (PSG) was an island in the Singapore River which disappeared as the result of construction of the Central Expressway's Merchant Street/Clemenceau Road interchange (Fig. 12.17, 12.18). The island was used for various purposes in the nineteenth century, including warehousing, smuggling, and waste incineration. No systematic excavation was conducted here, but Mr. Koh Lian What made important surface collections. The site has been the subject of several publications (Koh 1990, Low 1996, Barry 2000), but the material has not been completely analyzed.

PSG contains large quantities of a few specific types of ceramics from China, Europe, and Japan (Figs. 12.19, 12.20). Commercial consignments were probably unloaded on the island, and pieces found to have been broken in shipment were discarded. Glass was also present in large quantities. Other significant categories of materials discovered included stones probably used for ballast (flint from Europe), shells, and fish bones. PSG is an excellent example of a site different from the others so far examined in Singapore: a commercial and industrial zone. Such areas are rarely studied.

Archaeologists have studied sites to gather information on topics such as status differences between officers and enlisted men in the British army, differing effects of British colonialism in different parts of the world, comparisons between the British and other colonists in north America, and comparisons between colonial societies in the nineteenth century with earlier colonial systems back to the time

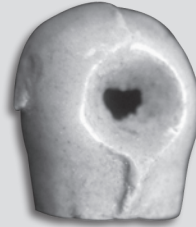


12.17 Pulau Saigon during the construction of the Central Expressway in 1990, during which the former island disappeared

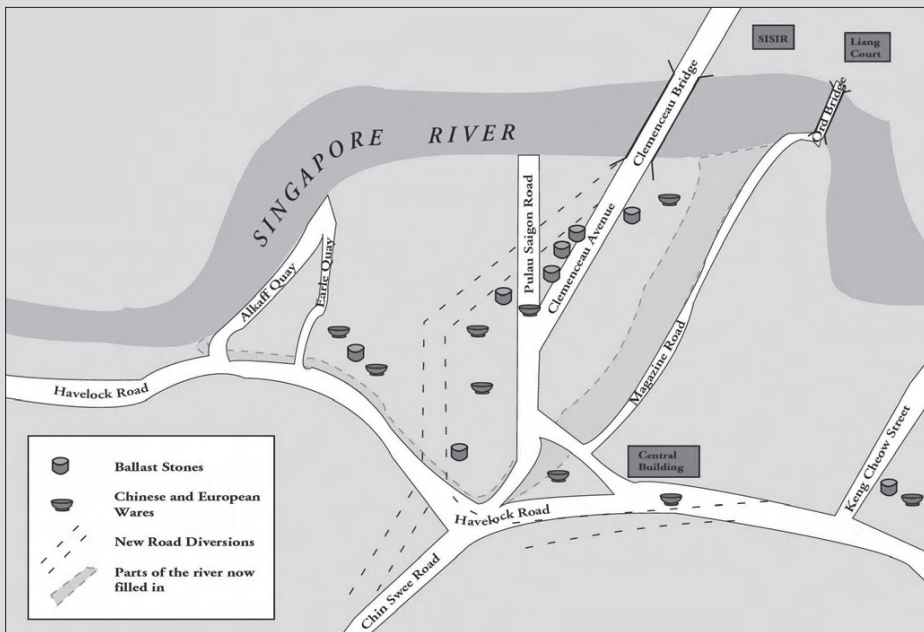
Artifacts from Pulau Saigon



12.18 Ceramic calendar-clock face



12.19 Opium pipe fragment, nineteenth century



12.20 Pulau Saigon in 1960

of the Roman Empire.

American archaeologists have studied early Chinese settlement in the United States. Research has dealt with matters such as the diet and recreation of the Chinese in California in the 1800s. Singapore has a rich but unexploited potential in this field. As in the example of Duxton Hill, however, much has already been lost.

In March 1989, in an effort to remedy this situation, an archaeological project was launched with the sponsorship of the Tanjong Pagar Community Centre during the major URA redevelopment of the area. Four sites along Duxton Hill, just west of the former Rickshaw Station at the junction of Tanjong Pagar and Neil Roads, were chosen for research.

In 1822 the hills of Tanjong Pagar were uninhabited. In 1844 a large structure stood near the summit of a hill forming the easternmost of a number of plantations between Neil and Tanjong Pagar Roads. This was probably a wooden bungalow built by the first owner of Duxton Hill: Dr. J. W. Montgomery, who had come to Singapore in 1819 as Surgeon and rapidly assumed an important role in the town. He was one of the first magistrates, and was responsible for taking command if anything happened to the first Resident, Col. William Farquhar. In 1836, he helped to found the Singapore Agricultural and Horticultural Society.

During the 1830s many Europeans in Singapore attempted to cultivate plantation crops. Tanjong Pagar was one of the major plantation areas: the land was cheap, drainage was good, and the hills were protected from storms by Belakang Mati and Pulau Berani.

Between 1835 and 1839 Montgomery bought the land that became Duxton Hill and Craig Hill. Montgomery's nutmeg plantation covered about 40 acres, and included two houses called Everton and Duxton (Price 1921: 82). Duxton was named after the house of Montgomery's good friend Dr. Jose Almeida. In 1841–1842, Montgomery lived at the corner of High Street; we have not discovered who lived in the house called Duxton. It may have been T. McMicking, one of the original trustees of the Singapore Institution (Buckley 1984/1902: 130). On 26 September 1835, this house was the scene of a distressing event (Buckley 1984/1902: 274): "A numerous band of Chinese broke into Mr. McMicking's house and inflicted such severe wounds on him that he was unable to offer any resistance, and the gang plundered the room of everything they could lay their hands on and decamped". Such attacks were not infrequent on the outskirts of Singapore in the early nineteenth century.

At first, the nutmeg plantation on Duxton Hill prospered. In 1842, Montgomery's nutmegs won an award in London in competition with all the English colonies. We do not know who worked for Montgomery, but he may have hired Chinese workers from fruit plantations in the vicinity.

Singapore's nutmeg plantations declined in the 1850s; by 1864, only one remained (Lim 1958). Montgomery died of cholera in 1856, and Duxton Hill and Craig Hill were sold. Duxton Hill covered an area of 17.5 acres (about 7 hectares), and included 900 nutmeg trees and a house. Mr. Syed Abdullah bin Omar Aljunied bought 14 acres 7 poles of Duxton Hill, divided it into 4 plots, and leased it

out to rich Chinese developers and an Englishman named Henry Hewetson, who in 1879 also transferred his land to a rich Chinese developer.

In 1881 there were four houses on Duxton Road (Bogaars 1956: 140). In 1888 permits were issued to build shophouses on Duxton Hill. By 1899, the area had been bought by the Tanjong Pagar Dock Company, which leased the land to developers. By 1907, Duxton Hill Road had been built; the area achieved its present form by the first decade of the twentieth century. For a while, the Singapore Kranji Railway ran beside Duxton Hill. This was extended from Tank Road to the docks in 1906–1907, but complaints about noise and other disturbances led to the removal of the railway between 1912–1914, creating the ribbon park that still exists.

Buildings erected on Duxton Hill 1895 and 1905 were intended to be middle-class residences. The Ee Hoe Hean Club was built at 28 Duxton Hill in 1895; though the names of its founders have not been recorded, they were probably influential people. The president of the club was probably Lin Tui Chian, who came to Singapore when he was 20. He progressed from a boatman to a seaman and transporter of goods between Malaya and Singapore, to the owner of a tin and plantation business. He built a reputation as a peacemaker in clan wars, but was also disciplinary master of the highest rank of the Ghee Hin triad.

In the early twentieth century some shophouses were leased out as *ku li keng*, living quarters for coolies. Duxton was soon divided between the clans of the Hokkien Hui Ann dialect who worked as rickshaw pullers, construction laborers, and sailors. The Duxton area became a battleground between the clans, who often fought with each other to protect monopolies of rickshaw traffic in certain areas. The Hui Ann Association acted as peacemaker to stop these frequent fights, in which weapons were usually restricted to materials directly at hand (bricks, bottles, or the wooden poles that were part of rickshaws) but sometimes escalated to firearms. It was said that women participated by throwing flower pots from windows. Afterward, there was usually a lot of broken glass to be cleaned up.

Better-off people probably left the area as a result of these battles. In 1911 the clubhouse at 29 Duxton Hill was transformed into a residence for Boyanese carriage drivers from Bawean Island, Indonesia. Gambling stalls, opium smoking dens, and brothels developed in the neighborhood. By 1911 Tanjong Pagar had become very densely populated; compounding the problem was the fact that many areas had poor water, no garbage removal, little ventilation, and were disease-ridden.

Back lanes and alleys between the old houses are environments where one would expect rubbish to accumulate and so the excavation in March 1989 focused on two such locations. The first one was the lane behind the former clubhouse at 28–29 Duxton Hill. The lane was overgrown with papaya trees which probably grew from discarded seeds. Archaeologically, the site was ideal, for it consisted of several layers of soil mixed with brick, plaster, ceramics, metal, stone, and glass, separated by tile floors.

At the second site, the alley between houses number 15 and 16 Duxton Hill, two sectors were excavated. House 15, the largest house in Duxton, once belonged to Mr. Goh Tian Guan, who became wealthy from profits from the oil business. It

Duxton hill excavations, 1989

The area in Chinatown has been designated as a conservation area by the URA. Originally an upper-class neighbourhood when the buildings there were constructed around 1900, it became a lower-class area when Tanjong Pagar port was developed. Most of the units have been restored in recent years, with restaurants, cafes and boutiques setting up shop in the area.



12.21 Houses at Duxton Hill, 1989



12.22 Excavation site behind 15-16 Duxton Hill



12.23 Opium cups found at 15-16 Duxton Hill. They were probably left by the horsecart drivers who lived in this building in the early twentieth century.

was eventually rented out as coolie quarters. Beside it were family-based industries that made incense and *chwee kuay*. Further north was government-owned land used for *wayang* shows. As far as we know, number 16 was always used for coolie quarters. Gambling and opium-smoking were reputed to have been conducted there. Near the eastern end, a horizontal wooden beam, a large wooden plank, and many wooden splinters were found at a depth of about 75 centimetres. Artifacts associated with the wood all date from the nineteenth century. It is quite possible that they are remains of Montgomery's house. Other interesting finds included well-made blue and white porcelain and fragments of a ceramic water filter.

Remains found in sites 1 and 3 may be related to activities carried out by other residents along the street; thus it is relevant to note that No. 1 Duxton Hill was residential, with a few bedrooms and an opium bed on the ground floor; houses number 13, 24, and 47 were residences. Coolie quarters (*ku li keng*) were located in houses 1A, 12, 26, and 48. The only business on the street was a small provision shop at number 35. Number 23 was a temple, Tao Yuan Fu Tang, where joss sticks were made.

Artifacts found at the various sites excavated include toy stone marbles; according to an interviewee, these were one of the few types of toys owned by children in the area. Much metal was discovered in site 1; most of it could be identified as parts of frying pans. Large quantities of cockle shells were found, as well as mother-of-pearl shell and animal bones, the dietary remains of the inhabitants of the area.

The ceramics included earthenware, stoneware, and porcelain. Among the earthenwares, all sherds appeared to belong to round-bottomed cooking vessels with thick everted rims, traditional Southeast Asian forms. Porcelain consisted mainly of white bowls decorated with underglaze blue designs. A few had unglazed stacking rings on the interior. Only one large fragment of a European plate has been identified. Saucers were quite common, as were handleless teacups. Only one piece of *nyonya* ware was uncovered: a small cup of the size normally used for offerings on altars.

Stonewares were plentiful and consisted of fragments of large storage jars with dark brown glazes and paddle-impressed design on the shoulders, and flat-bottomed pots with brown glaze on the interior and spouted vessels. There were also 14 intact cups with irregular brown glazes, averaging 4 centimetres in diameter and 3.6 centimetres wide, plus fragments of several more; these were mostly found in site I sectors 3 and 4. These were once used to contain opium. A small vase of the same material was also found in site III sector 1. Other common stoneware forms are basins with square rims and small jars with lead-green glaze.

Many glass bottles were recovered, some intact. Unfortunately, the study of old glass bottles is a specialized field that has not been developed in Singapore. Future research on these artifacts should shed more light on the uses of these objects, which in turn tells us about the lifestyles of the Duxton residents.

Unusual artifacts included bone toothbrush handles, one in the form of two hands clasping one another, the other with the painted inscription "Made in Tang

Teng Chang” in Chinese characters; and an ivory *daching* bar with the inscription *Ke yi yun lai*, “May the customers come like clouds”. A number of coins were found, some from the Kangxi and Qianlong reigns (late seventeenth to eighteenth centuries), but these were probably imported to Singapore long after they were minted.

Istana Kampung Gelam (IKG)

Raffles created a Sultanate of Singapore in 1819. After reaching an agreement with Tengku Long, the disappointed claimant to the throne of Riau, over the British request to set up a trading post in Singapore, Raffles recognized Tengku Long as Sultan Hussein of Singapore. The followers of the Sultan soon began to quarrel with those of the Temenggong, the Riau official whose fief Singapore and Johor nominally were. Raffles soon decided to allocate different land to each group. He sent the Temenggong west to Telok Belangah, while the Sultan was sent in the opposite direction, east to Kampong Gelam. By late 1820 or early 1821 a palace was under construction in Kampong Gelam (Hill 1970: 105). Several more palaces were constructed until 1840 when the structure that now stands there was built.

Hester Sophia Prior, wife of the commander of the British military forces in Singapore in 1834, died at Kampong Gelam shortly after giving birth to a daughter (Harfield 1988). Apparently, they were living in the community surrounding the palace of the Sultan of Singapore. It is possible that some Europeans were stationed in the immediate vicinity of the Istana to guard the palace.

After the Anglo-Dutch treaty of 1824, the British had no more need of local royalty to justify their occupation of the island. The British unilaterally amended the earlier treaty, which had only given them a strip a cannon-shot (three miles/five kilometres) wide along the southeastern shore, to include the entire island. In disgust, Hussein eventually moved to Melaka where he died, and is buried at Masjid Tankerah. The Temenggong’s descendants fared better; they struck out on their own in Johor and eventually became recognized as an independent Sultanate.

The status of Singapore’s royal family became legally vague in the mid-nineteenth century. The British government paid allowances to certain members of the family, but gave them no official role. In a court case of the late nineteenth and early twentieth century, the Istana was declared state property, under the ownership of the British government. Descendants of Sultan Hussein continued to inhabit the Istana and receive a stipend from the Singapore government until 2000. At the end of 1999, a one-time payment was made to the last living relatives, and the Istana was repossessed by the government.

The Istana had become quite run down by then. The roof leaked, many temporary structures had been built around it, and the grounds were used as a carpark. It was decided that the site should become a *Taman Warisan Melayu*, “Malay Heritage Centre”, in order to perpetuate knowledge regarding Singapore’s Malay culture and history. In order to acquire data for the study and exposition of the heritage of the palace and the people who lived in it, an archaeological excavation started



12.24 Lieutenant Jackson's Plan of Singapore Town, 1822. The Istana is clearly indicated (*right*), bounded by the Sultan Mosque, Bugis Kampung and Arab Kampung. The plan was an ideal which was never implemented. Collection of National Museum of Singapore.



12.25 Istana Kampung Gelam during archaeological excavation in 2000. The building now houses the Malay Heritage Centre.



12.26 Mango orchard beside the Istana

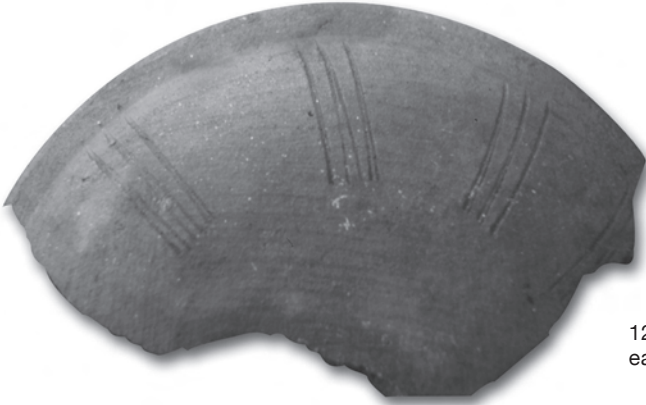


12.27 Pondok Jawa (Javanese Cabin), now demolished. It stood beside the road leading from the Istana to the beach



12.28 Uri pot in situ in the mango orchard, IKG

Artifacts from Istana Kampong Gelam (IKG)



12.29 Incised colonial-period Malay earthenware



12.30 Dutch plate with sponged decoration



12.31 "Gaudy Dutch" ceramics



12.32 Bullets with brass cartridges, used in the early twentieth century



12.33 Ink bottle, used with quill pens



12.34 Bone toothbrush handle



12.35 Stone marbles, a common type of plaything that was gradually replaced by glass versions



12.36 Square 5. The foundation of an unknown structure in the southeast corner of the Istana grounds.

in April 2000 and continued intermittently until the middle of 2003.

Squares were laid out on all four sides of the palace, and the northeast corner of the Istana's walled compound was also investigated. This area, square 5, proved to contain remains of the foundation of an earlier structure, probably one of the pre-1840 palaces erected by Hussein.

A large quantity of artifacts was recovered from all squares, including pottery, glass, and coins. The coins displayed a wide range of types. Three VOC coins are particularly intriguing. They were all minted before the VOC went bankrupt in 1799 and must have remained in circulation in Singapore during the early years of British occupation. More were found at EMP and CCT. Some early Chinese coins were also found, one from Kangxi (1662–1722) and a merchant token of the so-called Island of Sultana series (1 *keping*), dated AH 1219 or AD 1804.

The excavations yielded several further surprises. It was discovered that the residents at the Istana used a wide range of expensive European pottery from England, Scotland, France, Germany, and the Netherlands. Other ceramics include Chinese and Japanese porcelain and local earthenware.

One particular type of earthenware has a specific association with Malay custom. It is traditional in Malay society to give the placenta a ritual burial after a baby is born, in the belief that the placenta also has a kind of soul. The placenta is usually placed in an earthenware urn, a practice that may derive from prehistoric jar burials. Several of these urns were found buried in the area east of the Istana, which had once apparently been a palace garden; a row of large mango trees still grew there in 2000.

CONCLUSION

The study of colonial Singapore archaeology is less advanced than that of the fourteenth century. This is due not to lack of material, but to lack of time and properly trained manpower. However, a good quantity of material has been recovered systematically and is available for future analysis.

One is struck by the lower quality of the nineteenth- and twentieth-century remains in comparison with the fourteenth-century artifacts in Singapore. The fourteenth-century Silk Road of the Sea delivered elegant and sophisticated objects from the South China Sea and Indian Ocean to the shores of this island at the crossroads of the monsoons and the sea lanes. In the nineteenth century, a different sort of society emerged: one in which the mass production of inexpensive consumer goods played a much more important role. This comparison suggests that the foreign merchants who came to Singapore in early times were of a different category than those of the British colonial era. Merchants of the fourteenth century probably dealt with the upper echelons of local society rather than with the masses. Perhaps fourteenth-century Singapore was an unusually wealthy society for its time. Although Wang Dayuan does not suggest this, it is possible that Singapore began to prosper after his visits, which came only 30 years after the founding of the settlement. The mid- to late-fourteenth century might have been the time of the island's greatest prosperity.

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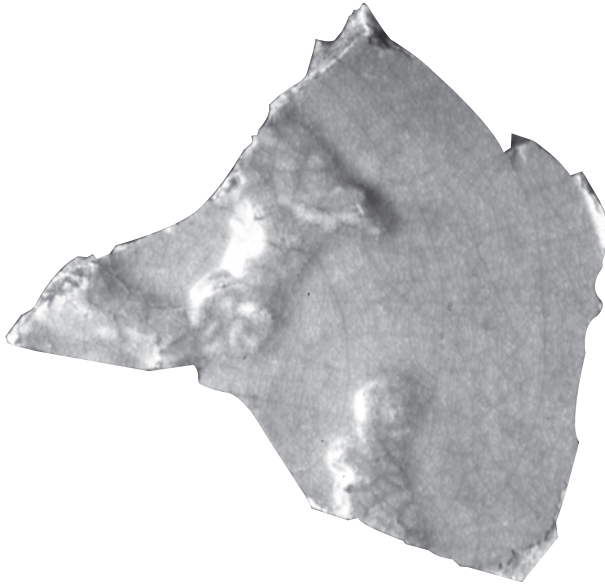


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— CONCLUSION —

ANCIENT SINGAPORE, URBANISM, AND COMMERCE



For many, the words “Ancient Singapore” still have a paradoxical ring. Archaeological research has shown that Singapore was a thriving city by 1350. The site seems to have sprung from an untouched wilderness, and within 50 years of its founding boasted a sophisticated and complex society. Singapore had defences against invasion, money was a fixture of everyday life, craftspeople specialized in various occupations, the government and people whom a foreign observer characterized as “honest”, and a multiethnic and multinational population living peacefully under the rule of a local chief.

From its founding, the city had to defend itself against attack, and balance carefully its relations with big neighbors like Java and Siam. In the fifteenth century many of its people moved to Melaka, but Singapore was not abandoned. In the 1430s, Singapore was still a meeting place for ships navigating different sectors of the Silk Road of the Sea. Singapore still had a local ruler in the early seventeenth century. Then it became caught up in the struggles between the many nations contending for control over the south end of the Straits of Melaka and

13.00 Golden dragon celadon, found at the edge of Hill Street in front of the Armenian Church during road widening work around 1990

became abandoned by all but a few people who lived on boats. Dutch policy of forcing traders to call at Batavia in west Java may have been partly responsible for the end of Singapore's ancient history, but trade all over Asia contracted severely during the seventeenth century; perhaps urban populations declined throughout the region. If more people had to become self-reliant since they were unable to rely on interdependent commercial networks, they would have been tempted to return to rural areas and resume subsistence activities to make a living.

After a slumber of 200 years, Singapore suddenly came back to life in 1819. This awakening was catalyzed by a man who was convinced (correctly as it turns out) that it was possible to revive an ancient center of Malay culture and commerce. This revival could not have taken place unless Singapore possessed the necessary attributes for such development: strategic location, fair and liberal government, and most importantly a hardworking and cosmopolitan population that was able to live together harmoniously despite a multiplicity of cultures, languages, and religions.

Singapore's economy in periods of prosperity has been based on services rather than manufacturing or political control of territory. Modern Singapore's society closely reflects that which lived on the same island 700 years ago. Technology and geopolitical environments may change, but some of the qualities necessary for the success of a port-city have remained constant over thousands of years.

ANCIENT SINGAPORE'S URBANISM

What would it have been like to live in fourteenth-century Singapore? Urban life can take many different patterns. Different cultures allocate urban space in different ways: some emphasize religious activities; others may stress political institutions, commerce, manufacturing, settlement, defence, recreation, or even agriculture. In order to understand the life of any ancient city thoroughly, that city has to be studied in detail. These different emphases in the use of space are correlated with many other features of life that are of utmost importance to the people who live in cities.

To obtain a complete portrait of the use of space in an ancient city is very difficult. Reaching this goal requires a systematic sampling programme, relatively complete preservation of sites representing different types of activities, and laborious processing of artifacts which individually seem ridiculously humble and ordinary. In large quantities, however, the conclusions that can be drawn from simple potsherds can be more powerful than any temple ruin or statue, no matter how beautiful or impressive. As surprising as it may seem, given the intensity of development that has taken place in the late twentieth century, Singapore still fulfills these conditions.

There are several reasons why the study of ancient Singapore has been more fruitful than anyone might have imagined. One is the concentrated nature of its remains: the ancient city seems to have been confined to a well-defined area, bounded by the Singapore River, Fort Canning Hill, Stamford Road, and the former coastline. Research projects in Chinatown and Bras Basah Park (now the site of the Singapore



13.01, 13.02 Construction in the downtown area of Singapore often exposes fourteenth-century remains. When Hill Street, at the foot of Fort Canning, was widened in the 1990s, it cut into the compound of the Armenian Church. The clear soil stratigraphy shows that this area had not been disturbed since the 1300s. The churchyard has high archaeological potential, which has yet to be examined. The church is a national monument and is not threatened by development.

If undisturbed portions of downtown Singapore are developed, it would be important to allow archaeological research to proceed first. Singapore's archaeological heritage is of considerable significance to the study of the fourteenth century of Southeast Asia as a whole, and should be preserved for the benefit of generations of Singaporeans to come.

Management University) failed to produce evidence that fourteenth-century urbanization spread outside these boundaries. This is quite understandable: the south bank of the Singapore River was a swamp during ancient times (it was reclaimed in the 1820s), and the swampy area between Stamford Road and Kampong Gelam was so forbidding that people in the 1820s were afraid to enter it.

This concentration of population and human activity in a well-defined area was not common in ancient Southeast Asia. The construction of permanent defences, mentioned by Wang Dayuan in the 1330s and still standing in the 1820s, was also rare at that time. While many ancient cities in Southeast Asia had defensive structures, they must in most cases have been made of perishable materials. The preferred strategy of coping with invasion was flight, not fight (Reid 1980). This is one of several aspects of ancient Singapore that made it an exceptional place in early Southeast Asian history and raise interesting theoretical questions.

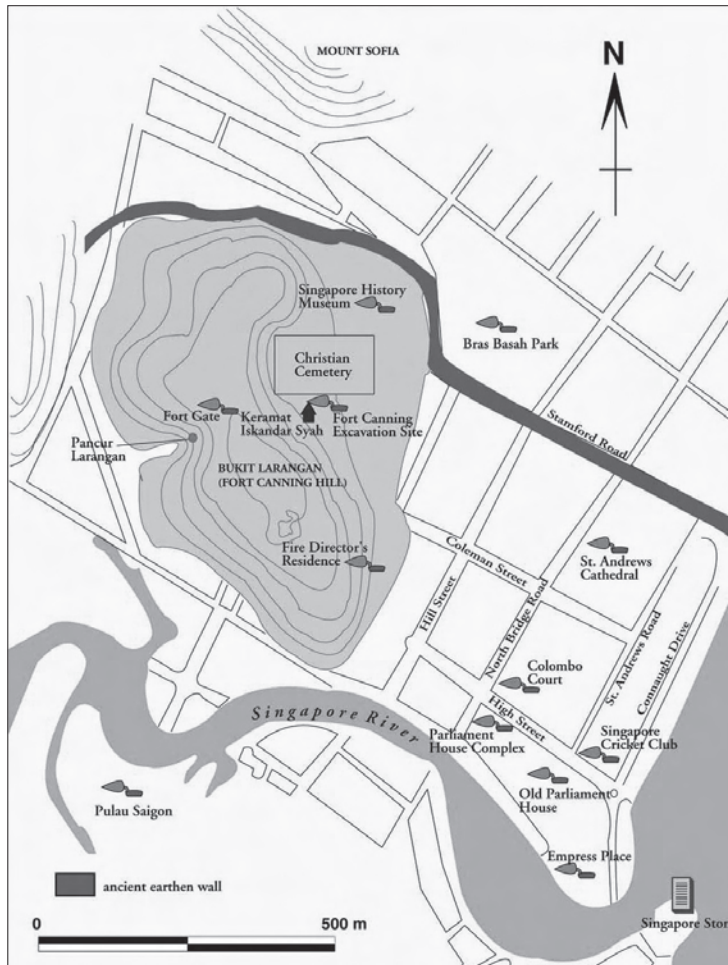
The success of archaeology in Singapore has also been made possible by the fact that large portions of the ancient city happened to have been reserved for open space by nineteenth-century town planners. The Padang, St. Andrew's Cathedral, and Fort Canning are examples that have already been explored, while others remain to be explored. Thus, luck has made it possible to examine important parts of the old city. It would have been preferable to have had the chance to study parts of ancient Singapore that have now been destroyed, but archaeologists always have to work with and extrapolate from incomplete samples of the past. A degree of uncertainty is inevitable in this field since preservation is never total.

It is commonly assumed that Singapore is a relatively young place, a gleaming modern city raised from a sleepy swamp. This lack of historical character is often bemoaned as the reason for a lack of a Singaporean identity. These archaeological discoveries prove that Singapore is not one of the youngest capitals of Southeast Asia, but is in fact one of the oldest. Kuala Lumpur, Bangkok, Naypyitaw, Phnom Penh, and Manila were all founded more recently. It will be interesting to see whether new evidence of Singapore's antiquity will continue to be perceived as anything more than a curiosity of minor importance to the formation of the nation's modern identity.

The fourteenth-century sites excavated in Singapore have yielded hundreds of thousands of objects, clearly a large enough sample from which to draw general conclusions about the use of space within the ancient city. Each excavated site exhibits unique characteristics.

On Fort Canning, the upper part of the hill seems to have been the royal palace and temple zone. Below it, on the middle slope, was a palace workshop area. Artifacts found here include very rare objects, some of which have not even been found in the country where they probably made (for example, China). The exact site where ancient kings lived has not been found; it may have been destroyed by the construction of the fort in 1860, the reservoir in 1926, the Telecoms Tower in the 1960s, or a combination of these events.

The lack of coins on Fort Canning may seem strange if it was the site of a wealthy king's palace, but is in fact not surprising. In ancient trading systems such



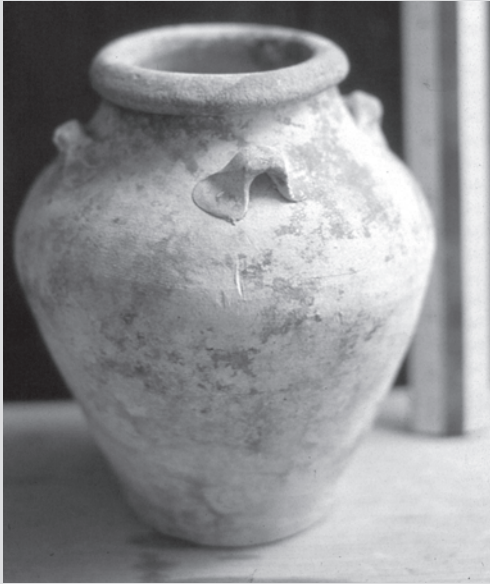
13.03 Archaeological sites of fourteenth-century Singapore

as the “port of trade” model (Miksic 2004), coins were not used in international trade, and would therefore not be found in royal palaces. The lack of coins at Fort Canning suggests that imported items found there were not bought, but obtained through diplomatic activity. It is also possible that a treasury existed on the hill, in which case Chinese coins would only have been found in one place rather than spread over the entire site. Perhaps a dense concentration of coins still lies buried on the hill, or has already been destroyed by development.

Wang Dayuan, the earliest merchant to describe the business scene in Singapore, does not mention prices or markets. We may not draw conclusions from this negative evidence. There is much that he probably omitted to say simply because it was common knowledge. It is likely that Chinese coins were used in the markets of Singapore to buy daily necessities, but international trade was carried out as it was in Melaka in the fifteenth century: through customary exchanges at fixed equivalencies.

Parliament House Complex was a commercial and industrial zone. Copper-working was carried out here. The large number of coins found there also attests

(A)



(B)



(C)



13.04 a, b, c Three objects found underwater near Singapore. They were found encased in coral near Singapore and donated to the National Museum in 1985. One is a common Chinese stoneware jar which was full of Chinese bronze coins of the Song Dynasty. The long cylindrical object is made of the same material as the stoneware jars made in Fujian, of which many examples were found in Singapore; its original shape and function are unknown. It is probably not a container. It looks more like a chemist's implement of some sort. The third object is a large green plate, probably from Longquan, Zhejiang Province.

These items once formed part of the cargo of a ship which sank during the fourteenth century. The ship may have been heading for Singapore from China, or leaving Singapore for a secondary destination. The waters along Singapore's coasts may hold many more such shipwrecks, but no underwater archaeology has yet been undertaken in the Republic of Singapore. Future archaeologists will have many opportunities to gather a harvest of new data about the Silk Road of the Sea, and Singapore's place on it, when this field of research is inaugurated.

to the site's commercial nature. In the fourteenth century, Empress Place was a periodically-submerged riverbank in the fourteenth century where ships were probably loaded and unloaded. Wooden piles driven into the mud may have held up wharves, docks, and possibly houses. The Padang area near the Singapore Cricket Club was also an industrial zone. Evidence suggests that Chinese coins were being melted for recasting, though we do not yet have complete proof for this conclusion since we only have melted coins but no evidence of casting there.

The site on the opposite side of High Street from the Parliament House Complex was too disturbed and narrow to infer the use of that area. At Old Parliament House, our ability to draw conclusions is considerably diminished by the fact that only limited excavations were permitted. Nevertheless the artifacts recovered at the site and handed over for archaeological research were unique in Singapore. No fewer than 11 intact "mercury jars" were found there, together with many other broken pieces of the same objects. We will never be able to reconstruct what these jars were used for, or why they were concentrated in one place, but it is likely that some special activity was going on there.

The most interesting feature of the research project conducted at St. Andrew's Cathedral lies in the irregular distribution and nature of the artifacts found there. Some parts of the ground yield dense concentrations of fourteenth-century artifacts, while others yield few items. Why this is so is not yet understood, though a possible reason is that this area was prone to flooding in ancient times. Even now the ground water is only approximately 1.5 metres below the surface of the soil, and surface water tends to collect after heavy rain. People may have avoided parts of this area, which would explain the lack of artifacts found in them. Nevertheless St. Andrew's Cathedral is the only place in Singapore where archaeologists have had the good luck to discover unbroken artifacts.

Fort Canning enjoyed the most exalted position in ancient Singapore, but it was probably also the first to be abandoned. The ruins that John Crawfurd saw there in 1822 were probably Buddhist temples that were abandoned when the Malays converted to Islam in the fifteenth century. The palace that crowned the hill was probably abandoned at the same time, when Singapore became a fiefdom of Melaka.

Empress Place was the last area of the ancient city to be abandoned. Pottery from the late sixteenth century confirms Portuguese descriptions of a small trading settlement there after the fall of Melaka. The Kallang Basin has yielded sherds from the late sixteenth century, but only from the sea. Development has made it impossible to verify that a land settlement once existed there.

The name "Kallang" does not appear on early maps, but other names such as "Tanjong Rhu", "Tanahmerah", and "Bedok River" do; perhaps remains of early villages are still buried in those areas. The northeast area of Singapore may also have been inhabited during the sixteenth century. Earthenware sherds found on Pulau Ubin in 1987 are similar to those found at the contemporary site of Johor Lama period.

It is therefore clear that the use of space in early Singapore was diverse and specialized. Patterns of spatial use are a good mirror of a whole society; this trait indicates that we should view the population of ancient Singapore as similarly diverse and specialized. Rather than being separated in different quarters, Malays

and Chinese lived together. People from other parts of Southeast and South Asia most probably lived here as well. No other ancient site in Southeast Asia can provide information of this precision yet.

How many people lived in fourteenth-century Singapore? This can only be answered through the study of more sites. The more excavations can be conducted in the old urban area, the higher the degree of statistical precision that can be achieved in estimating the size of the ancient population.

Unfortunately, few ancient sites in Southeast Asia have been subject to as much archaeological research as Singapore. This is not to say that ancient Singapore is now well-understood, but it is still better documented than any other site of its type and period in this region. This means that it is difficult to compare this ancient city with any others. It is however possible to fall back on generalizations from other parts of the world, and to draw comparisons with specific data from other sites in this region.

ANCIENT SINGAPORE IN A COMPARATIVE PERSPECTIVE

Ancient Singapore was not dissimilar to commercial cities that had begun to form in Europe during the same period, known as the early Renaissance. Singapore was not a major ceremonial centre; its existence and appearance were determined by economic pursuits. Although the well-made brick structures found on Fort Canning Hill show that the site played an important ceremonial role, its monuments seem to have been smaller than those in Java or Siam.

One can distinguish between two types of urban societies: the orthogenetic, in which stability is emphasized, and the heterogenetic, in which change and development are favoured. Cities which lie on the orthogenetic side of the dividing line include Angkor in Cambodia, where most of the population was probably agricultural, and a large proportion of space and resources was allocated to royal palaces, pageantry, and religious activity. Ancient Singapore does not qualify as an orthogenetic city: it lies closer to the heterogenetic end of the scale (Miksic 2000) at which the population was dense and economic activity was complex.

Scholars remain skeptical of the urbanity of early Southeast Asia. A respected historian noted several decades ago that literature of the early Islamic period in Indonesia never describes cities. This fact led him to conclude that

To speak of “urban life”, even if it is the life of fifteenth-century Malacca or seventeenth century Banda Aceh which one has in mind, is to endow the social environment created around royal courts with an independent form and meaning which it did not have, until European conquest made kings irrelevant to the colonial function and permanence of cities and their populations (Day 1983: 143)

The archaeology of Singapore and other fourteenth-century sites such as Trowulan suggests that the social environment of some early ports in Southeast Asia can be more closely compared with cities in other parts of the world than surviving literary sources suggest.

Singapore was not the earliest such city to evolve in Southeast Asia; heterogeneous city life may have existed as early as the third century in Vietnam. By the time Singapore appeared, such a settlement type already had a few precedents in the Straits of Melaka. Perhaps further excavations in Sumatra and the Malay Peninsula will one day enable us to discover an entire system of ancient heterogeneous cities in the Straits.

Singapore shared many attributes with contemporary port-cities in Europe during the fourteenth century, when towns and trade were undergoing a revival after a thousand years of relative darkness. Business was beginning to take on a modern form. During the preceding Middle Ages, the most powerful feudal kingdoms had been located in the midst of fertile agricultural land; the kings derived their power from controlling agricultural surplus and labourers, who were often serfs tied to the land. When new cities in the form of trading ports began to arise in the Mediterranean in the fourteenth and fifteenth centuries, these were on the margins of the old kingdoms, not their centres.

The agricultural societies of medieval Europe were normally militaristic and very hierarchical; their capitals centred on fortified castles and large religious monuments such as cathedrals. The new port-cities (or “ports of trade”) drew much of their wealth from the import of luxury items from the Indian Ocean, including Indonesian spices. The trading ports were usually ruled by coalitions of oligarchs who preferred to negotiate with competitors rather than fight them. Since the ports of trade did not administer large territories, they did not have the same type of governments as agrarian kingdoms. Some port cities “had astonishingly little contact with their hinterland” (Fox 1971: 62). In fact, “there is some evidence that [the merchants] were by no means persuaded of the necessity of belonging to any administrative state at all” (Fox 1971: 69).

What was the role of the various ethnic groups in the development of early Singapore? Wang Dayuan’s statement that the ruler was a “chief” uses a Chinese word that implies that he had to pay tribute to some higher political authority. Singapore was apparently always under Malay rule, unlike Palembang in the late fourteenth and early fifteenth century where the leaders were Chinese emigrants or their descendants. Wang’s statement that “The Chinese live with local men and women” in Longya men suggests that he could imagine situations where natives and Chinese did *not* mix. This was the custom in Chinese ports (few of which were open to foreigners) where foreign merchants were confined to specific quarters and prohibited from contacting the local population. Foreigners were restricted to special quarters in fifteenth-century Melaka, sixteenth-century Java, and in seventeenth-century Palembang, according to European reports.

Why were foreigners allowed to mix freely with the local population in Singapore, unlike most other known ancient ports? This is one of many questions about ancient Singapore which will probably never be answered. However, we can be confident that Singapore is the oldest known site where archaeology and history combine to confirm the existence of an overseas Chinese community.

The Chinese in Melaka in 1500 had their own ward or *kampong*. Were they

officially confined to that spot, or did they live there of their own accord, possibly for defensive purposes? The fact that there was no Chinese *kampung* in Temasik may have been a sign of safety, a reflection of the perception that they had no need for their own stockade. It seems that they were content to be ruled by the local chief, with no *kapitan* (“captain”, a term used during the European period to refer to the head of a foreign community in a Southeast Asian city) or other extraterritorial arrangements.

Zhou Qufei (in the twelfth century) and Zhao Rugua (in the thirteenth century) gave detailed instructions for Chinese traders in Southeast Asia. Zhou Daguan in 1296 was the first to suggest that Chinese had become long-term residents in Southeast Asia; Wang Dayuan was the second. By the early fifteenth century, several Chinese settlements had sprung up in Southeast Asia.

Then the link with China was cut. Information from the early sixteenth century suggests that these early Chinese settlers had been absorbed into the local population. This obscured the nature and importance of the first Chinese “diaspora”. As Wang Gungwu has written (Wang 1991: 21), “unless we understand the powerful and indestructible Huashang [overseas Chinese traders] pattern, we will not be able to present the full history of Chinese migration”. Thus the study of fourteenth-century Singapore is of fundamental importance to a number of subjects: the history of early Southeast Asian urbanism; early Southeast Asian trade; and the history of Chinese emigration. As further research is conducted, new questions will undoubtedly arise for study.

Was Singapore typical of a range of trading ports around the Straits of Melaka? Or was the city unique in any important aspects? Given the very rudimentary state of our knowledge, it will be dangerous to offer a definitive answer to this question. Based on what is known at this time, however, we can note that fourteenth-century Singapore had some atypical characteristics. One of these was its earthen wall. A survey of the entire island of Sumatra in 1973 identified only one precolonial site with evidence of a habitation area surrounded by an earthen rampart (Bronson et al. 1973: 57). This site, Pugung Raharjo in Lampung Province, was not a riverine port, nor is there evidence of large-scale industrial activity of any sort. It is thus unlike fourteenth-century Singapore and seems more likely to have been a ceremonial centre than a densely-inhabited city.

The large proportion of imported items in Singapore, some of which were very rare, suggests the presence of a population with unusually refined tastes and familiarity with a range of imported products, including items such as pillows and coins with specific cultural connotations from outside Southeast Asia. This characteristic also suggests that Singapore was something of an anomaly for its time and place.

More research in Singapore will clarify and change the issues raised during the first 25 years of archaeology here. The first phase of work has however demonstrated that such study has more than minor academic interest. The archaeology of Singapore can teach us much about the development of a major trading system of ancient times, and the nature of early cultural interaction between Southeast Asians and early Chinese immigrants.

Few business partnerships last for 2,500 years. The history of trade between the Singapore area, including the region from Palembang to Melaka, with the Indian Ocean and South China Sea, covers this entire period. Kingdoms have waxed and waned, ports have shifted from one shore to another, but geography decrees that there must be an important node of communication and transport somewhere in this area.

THE PHASES OF THE MARITIME SILK ROUTE

The Silk Road of the Sea evolved through several stages during its immensely long history. In prehistory this road already connected started in Southeast Asia and ran through India to the Persian Gulf. The evidence for this phase consists of Indian beads, bowls, and bangles, and bronze Dongson drums.

Since we have no written descriptions of the first phase, our earliest historical glimpse of the Road comes in the second phase, which began when the Han conquered and sinicized south China and north Vietnam and Chinese sources became available. During the first 1,000 years of Chinese access to the southern ocean and the Silk Road of the Sea, it was mostly Malays and Arabs who plied the route, with some Indians and Sri Lankans bringing their cultural baggage along with trade goods. A few intrepid Chinese may have found their way into the region, but they hid their tracks in order to avoid severe punishment for breaking the law against foreign contact, so we will never know whether they ever existed.

The first great port of trade in the region was probably Khao Sam Kaeo in peninsular Thailand, followed by Oc-èo in south Vietnam. Oc-èo's ruling kingdom Funan was a valued economic and diplomatic partner for both Indian and Chinese kingdoms until its collapse shortly after AD 600. Thereafter the kingdoms of Malayu, Srivijaya, Barus, and Kedah rose to prominence. Chinese texts and archaeological sources show that by the ninth century both the north and south ends of the Straits of Melaka boasted rich mercantile kingdoms, creating a bipolar pattern which survived until the nineteenth century.

A new commodity entered the Silk Road of the Sea in the ninth century: Chinese porcelain. The overland Silk Road was limited to small quantities of rich luxury items such as silk which could be profitably transported by animals. The sea road was able to accommodate much more cargo in large ships built and manned by Arabs and Southeast Asians which impressed even the Chinese. By the late Tang Dynasty, China's pottery kilns had begun to manufacture massive quantities of high quality ceramics for export. It is impossible to estimate the effect that the introduction of this commodity had on the economics of the Silk Road of the Sea, since no written accounts of the trade of this period survive. For the archaeologist however Chinese ceramics greatly clarify the picture of early trade and many other aspects of the region's history from that time forth.

The third phase in the history of the Silk Road of the Sea began sometime in the twelfth century. The beginning of this phase was marked by the increasing number of Chinese merchants venturing abroad. It is impossible to precisely fix the date this occurred, because once again we have no written documentation

for it. The merchants themselves had no wish to be noticed due to fear of official disapproval from their government, but the fall of north China and the inauguration of the southern Song period in 1127 coincided with increasing official and social acceptance of maritime trade as a valid and even prestigious occupation for Chinese. The distribution of Chinese porcelain in Southeast Asia suggests that many ports enjoyed increasing prosperity as a result of the growth of the Chinese market for Southeast Asian exports as well as commodities originating in the Indian Ocean which were transshipped in Southeast Asia for reexport to China.

It is possible that significant numbers of Chinese began to settle in Southeast Asia permanently in the twelfth century, but this cannot be proven in the absence of written evidence. It is not until the fourteenth century when Wang Dayuan mentions that Chinese lived in Singapore that we can be reasonably certain that overseas Chinese communities existed (as opposed to merchants who sojourned for various periods of time, or individual Chinese who settled down and were absorbed by local societies). Southeast Asian and Chinese economies became linked to the extent that Chinese currency became the local medium of exchange in ports from Kota Cina in the thirteenth century to Singapore and the kingdom of Majapahit at the beginning of the fourteenth century. The rise of the Ming Dynasty in 1368 and their clampdown on foreign trade and communication brought an end to this phase.

The rise of the Ming signals the start of the fourth phase, which lasted for about 200 years from approximately 1368 to 1567. This phase is marked by the gradual absorption of overseas Chinese communities into local populations in Melaka, Sumatra, and Java. Chinese porcelain became scarce because of imperial regulations preventing foreign trade; Thai and Vietnamese pottery took its place. Islam spread along the Silk Road of the Sea, replacing Buddhism and Hinduism.

It is important to note that the prosperity of the Silk Road of the Sea was not diminished by the disappearance of Chinese merchants and commodities. Sultan Mansur of Melaka is quoted in the Ryukyu archives as writing in 1468 that “life has never been so affluent in preceding generations as it is today” (Reid 1993a: 10), indicating that Chinese involvement in the Silk Road of the Sea, although much desired by Southeast Asians, was not critical to their economic success.

In the fifth phase of the Silk Road of the Sea, Singapore disappears from the stage, only to reappear dramatically in the sixth phase, still in progress today. Singapore appears in the drama of the evolution of Asian maritime trade as an interesting character: slightly mysterious, exhibiting some unique traits, prominently featured in some episodes, ignored in others. Singapore now occupies centre stage in the Silk Road of the Sea. This denouement only seems surprising if one ignores the fact that Singapore has really been in the scene all along, displaying some signs of its future potential as early as the fourteenth century. Indeed, if Parameswara had not been caught by surprise by the attack of 1397 or 1398, it is possible that Singapore’s ascent would not have been so late in coming.



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ABBREVIATIONS

- BEFEO*: Bulletin de l'École Française d'Extrême-Orient
BKI: Bijdragen tot de Taal-, Land- en Volkenkunde
BSOAS: Bulletin of the School of Oriental and African Studies
IJNA: International Journal of Nautical Archaeology and Underwater Exploration
JFMSM: Journal of the Federated Malay States Museums
JMBRAS: Journal of the Malaysian Branch of the Royal Asiatic Society
JSEAS: Journal of Southeast Asian Studies
REHPA: Rapat Evaluasi Hasil Penelitian Arkeologi
SMJ: Sarawak Museum Journal
TBG: Tijdschrift van het Bataviaasch Genootschap van Kunsten en Wetenschappen

- Abu Ridho. 1992. *Survey Keramik di D.A.S. Batanghari*. Jambi: Pemerintah Daerah Tingkat I Propinsi Jambi and Kantor Wilayah Depdikbud Propinsi Jambi.
- . 1995. "Penelitian Keramik di Situs-Situs Arkeologi Provinsi Jambi." In *Laporan: Hasil Penelitian Arkeologi dan Geologi Propinsi Jambi 1994–1995*. Jambi: Pemerintah Daerah Tingkat I Provinsi Jambi, 198–231.
- Abu Ridho and E. Edwards McKinnon. 1998. *The Pulau Buaya Wreck: Finds from the Song Period*. Jakarta: Ceramic Society of Indonesia.
- Addis, J. M. 1968. "Shu fu type wares excavated in the Philippines." *Symposium on Chinese Export Wares*. Manila: The Research Foundation in Philippine Anthropology and Archaeology Incorporated. Reprinted 1976 as *Manila Trade Pottery Seminar*. Manila: Research Foundation in Philippine Anthropology, Inc. Part 2.
- Addis, J. M., M. Tregear, M. Medley, P. Mao W.-C., D. Macintosh, and A. Joseph. 1984. *Jingdezhen Wares: the Yuan Evolution*. Hong Kong: Oriental Ceramic Society of Hong Kong.
- Adhyatman, Sumarah and Redjeki Arifiin. 1993. *Manik-Manik di Indonesia*. Jakarta: Djembatan.
- van Aelst, A. 1995. "Majapahit pisis: the currency of a 'moneyless' society, 1300–1700." *BKI* 151, 3: 357–93.
- Aga-Oglu, K. 1975. *The Williams Collection of Far Eastern Ceramics* Tonnancour Section. Ann Arbor: The University of Michigan Museum of Anthropology.
- Agus Widiatmoko. 2009. "Sungai Batanghari and jaringan tata guna air situs percandian Muarajambi." In *Muaro Jambi Dulu, Sekarang, dan Esok*, ed. Mundardjito. Palembang: Balai Arkeologi Palembang, 1–13.
- Allen, J. 1988. *Trade, Transportation, and Tributaries: Exchange, Agriculture and Settlement Distribution in Early Historic-Period Kedah, Malaysia*. Doctoral Dissertation, University of Hawaii. 2 Volumes.
- Amelia S. 1995. "The role of Chinese coins in Majapahit". In *The Legacy of Majapahit*, ed. J. N. Miksic and Endang Sri Hardiati Soekarno. Singapore: National Heritage Board, 99–106. Originally published as "Peranan mata uang logam Cina pada masa Majapahit". In *Proceedings Analisis Hasil Penelitian Arkeologi II, Trowulan, 8–11 November 1988*, Volume I: "Kehidupan Ekonomi Masa Lampau Berdasarkan Data Arkeologi". Jakarta: Departemen Pendidikan dan Kebudayaan, 1991, 191–9.
- An J.-Y., trans. M. Henderson. 1987. "Early Chinese glassware." *The Oriental Ceramic Society Translations* Number 12.
- An J.-Y. 1996. "Glass trade in Southeast Asia." In *Ancient Trades and Cultural Contacts in Southeast Asia*. Bangkok: Office of the National Culture Commission, 127–38.

- Andaya, L.Y. 1975. *The Kingdom of Johor 1641–1782*. Kuala Lumpur: Oxford University Press.
- . 2001 “The search for the ‘origins’ of Melayu.” *JSEAS* 32, 3: 315–30.
- Anderson, J. 1971. *Mission to the East Coast of Sumatra in 1823*. Kuala Lumpur: Oxford University Press.
- Anonymous. 1974. *South-East Asian and Early Chinese Export Ceramics*. London: Wm. Sorsby Ltd.
- . 1976. *Geology of the Republic of Singapore*. Singapore: Public Works Department.
- . 1977–84. *Xinan Haidi Wenwu* [Underwater Antiquities of Sinan]. Seoul: Guoli Zhongyang Bo Wu Guan (National Museum of Korea). Volumes I and II.
- . 1996. *Ancient Trades and Cultural Contacts in Southeast Asia*. Bangkok: The Office of the National Culture Commission.
- Arasaratnam, V.S. 1991. “Merchants of Coromandel in trade and entrepreneurship circa 1650–1700.” In *Emporia, Commodities and Entrepreneurs in Asian Maritime Trade c. 1400–1750*, ed. R. Ptak and D. Rothermund. Stuttgart: Franz Steiner Verlag, 37–52.
- Asyaari bin Muhamad. 2001. *Arkeologi Kota Sayong, Johor: Data Awalan*. Johor Bahru: Yayasan Warisan Johor.
- Atma Djuana and Edwards McKinnon, E. 2005. “The Jepara Wreck.” In *Proceedings of the International Conference: Chinese Export Ceramics and Maritime Trade, 12th–15th Centuries*, ed. Cheng Pei-Ki, Li Guo, and Wan Chui Ki. Hong Kong: Chinese Civilisation Centre, University of Hong Kong, 126–42.
- Bacus, E. A. 1999. “Prestige and potency: political economies of protohistoric Visayan polities.” In *Complex Politics in the Ancient Tropical World*, ed. E. A. Bacus and L. J. Lucero, Archaeological Papers of the American Anthropological Association Number 9: 67–87.
- . 2004. “The archaeology of the Philippine archipelago.” In *Southeast Asia from Prehistory to History*, ed. I. Glover and P. Bellwood. Abingdon: RoutledgeCurzon, 257–81.
- Bambang Budi Utomo. 1985. “Karanganyar as a Srivijayan site: new evidence for the study of settlement patterns of the Srivijayan period.” *SPAFA Consultative Workshop on Archaeological and Environmental Studies on Srivijaya*. Bangkok: SPAFA Co-ordinating Unit, 273–90.
- Bambang Budi Utomo, ed. 2008. *Kapal Karam Abad Ke-10 Di Laut Jawa Utara Cirebon*. Jakarta: Panitia Nasional Pengangkatan dan Pemanfaatan Benda Berharga Asal Muatan Kapal yang Tenggelam.
- Bambang Pramudityo. 2006. *Kitab Negara Kertagama. Sejarah Tata Pemerintahan dan Peradilan Kraton Majapahit*. Yogyakarta: Gelombang Pasang.
- Barnard, T. P. 2001. “Texts, Raja Ismail and violence: Siak and the transformation of Malay identity in the eighteenth century.” *JSEAS* 32, 3: 331–42.
- Barry, J. 2000. *Pulau Saigon: A Post-Eighteenth Century Archaeological Assemblage Recovered from a Former Island in the Singapore River*. Stamford: Rheidol Press.
- Bastin, J. 2002 “John Leyden and the publication of the *Malay Annals* (1821).” *JMBRAS* 75, 2: 99–115.
- Beavan, N., S. Halcrow, B. McFadgen, D. Hamilton, B. Buckley, T. Sokha, L. Shewan, O. Sokha, S. Fallon, J. N. Miksic, R. Armstrong, D. O’Reilly, K. Domett, K. R. Chhem. 2012. “Radiocarbon dates from jar and coffin burials of the Cardamom Mountains reveal a previously unrecorded mortuary ritual in Cambodia’s Late- to Post-Angkor Period (15th–17th Centuries AD).” *Radiocarbon* 54, 12: 1–22.
- Bellina, B. 2003. “Beads, social change and interaction between India and South-east Asia.” *Antiquity* 77: 285–97.
- Bellina, B. and I. Glover. 2004. “The archaeology of early contact with India and the Mediterranean world, from the fourth century BC to the fourth century AD.” In *Southeast Asia from Prehistory to History*, ed. I. Glover and P. Bellwood. Abingdon: RoutledgeCurzon, 68–88.
- Bellina-Pryce, B. and Praon Silapanth. 2006a. “Khao Sam Kaeo and the Upper Thai Peninsula: understanding the mechanism of early trans-Asiatic trade and cultural exchange.”

- In *Uncovering Southeast's Past—Selected Papers from the Tenth Biennial Conference of the European Association of Southeast Asian Archaeologists, London, 14th–17th September 2004*, ed. E. A. Bacus, I. C. Glover, and V. C. Piggott. Singapore: National University of Singapore Press, 379–92.
- Bellina-Pryce, Bérénice and Silapanth, Praon. 2006b. “Weaving cultural identities on trans-Asiatic networks: upper Thai-Malay peninsula: an early socio-political landscape.” *Bulletin de l'École Française d'Extrême-Orient* 93: 257–93.
- Berggren, J. L., and A. Jones. 2000. *Ptolemy's Geography: An Annotated Translation of the Theoretical Chapters*. Princeton: Princeton University Press.
- Birch, W. de G. 1875–84. *The Commentaries of the Great Afonso Dalboquerque*. London: Hakluyt Society. 4 Volumes.
- Bogaars, G. 1956. “The Tanjong Pagar Dock Company 1864–1905.” *Memoirs of the Raffles Museum* 3. Singapore: Government Printing Office.
- Borell[-Seidel], B. 2000. “Money in 14th century Singapore.” In *Southeast Asian Archaeology 1998*, ed. W. Lobo and S. Reimann. Hull: Centre for South-East Asian Studies, University of Hull/Berlin: Ethnologisches Museum, Staatliche Museum zu Berlin Stiftung Preußischer Kulturbesitz, 1–16.
- . 2001. *Singapur in Vorkolonialer Zeit. Schriftliche Überlieferung und Archäologische Zeugnisse—Eine Zeitschenblanz*. Würzburg: Deutsche Morgenländische Gesellschaft, Abhandlungen für die Kunde des Morgenlandes. Band LIII, 2.
- . 2003. “Fourteenth-century polychrome Chinese glass found in South-East Asia.” *Annales du 15e Congrès de l'Association Internationale pour l'Histoire du Verre*. New York (2001). Nottingham: AIHV, 213–7.
- . 2010. “Glass from China and from India: finds of vessel glass from fourteenth century Singapore.” *Archipel* 80: 139–96.
- Borschberg, P. 1999. “Hugo Grotius, East India trade and the King of Johor.” *JSEAS* 30, 2: 225–48.
- . 2003. “Portuguese, Spanish and Dutch plans to construct a fort in the Straits of Singapore, ca. 1584–1625.” *Archipel* 65: 55–88.
- . 2004a. “A Portuguese-Dutch naval battle in the Johor River Estuary and the liberation of Johor Lama in 1603.” In *Early Singapore 1300s–1819: Evidence in Maps, Text and Artefacts*, ed. J.N. Miksic and C.-A. Low M. G. Singapore: Singapore History Museum, 106–17.
- . 2004b. “Remapping the Straits of Singapore. New Insights from Old Sources?” In *Iberians in the Singapore-Melaka Area and Adjacent Regions (16th to 18th Century)*, ed. P. Borschberg. Wiesbaden and Lisbon: Harrassowitz and Fundação Oriente.
- . 2004c. “The Straits of Singapore: continuity, change and confusion.” In *Sketching the Straits: A Compilation of the Lecture Series on the Charles Dyce Collection*, ed. Irene Lim. Singapore: NUS Museums, National University of Singapore, 33–48.
- . 2011. *Hugo Grotius, the Portuguese and Free Trade in the East Indies*. Singapore: NUS Press.
- Borstlap, A. V. and J. Teske. 1995. *Het Mongoolse Rijk Tijdens de Yuan Dynastie 1279–368*. Leeuwarden: Museum het Prinsessehof.
- Bouchon, G. 1984. *L'Asie du Sud à l'Époque des Grandes Découvertes*. London: Ashgate.
- Bouchon, G. and L. F. Thomas. 1988. *Voyage dans les deltas du Gange et de l'Irraouadd, 1521*. Paris: Fondation Calouste Gulbenkian.
- Bound, M. 2001. “Aspects of the Hoi An wreck : dishes, bottles, statuettes and chronology.” *Taoci* 2 : 95–104.
- Bouvet, Phaedra. 2006. “Étude préliminaire de céramiques indiennes et ‘indianisantes’ du site de Khao Sam Kaeo ive–iie siècles av. J.-C.” *Bulletin de l'École Française d'Extrême-Orient* 93: 353–93.
- Braddell, R. 1982 [1934]. *The Lights of Singapore*. Kuala Lumpur: Oxford University Press
- . 1969. “Lung-ya-men and Tan-ma-hsi,” *JMBRAS* 42, 1: 10–24

- Brandes, J. L. 1888. "Bestuursvergadering van Dinsdag, 8 November 1887. Notulen (i)." *Notulen van de Algemeen en Bestuursvergaderingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen* 25: 148–52.
- Braudel, F, trans. Sian Reynolds. 1972. *The Mediterranean and the Mediterranean World in the Age of Philip II*. 2 Volumes. New York: Harper and Row.
- Briggs, L. P. 1951 *The Ancient Khmer Empire*. Transactions New Series 41, 1. Philadelphia: American Philosophical Society.
- Brill, R. H. 1999. *Chemical Analyses of Early Glasses. Vol. I. Catalogue of Samples. Vol. II. Tables of Analyses*. Corning: Corning Museum of Glass.
- Bronson, B. 1979. "The late prehistory and early history of central Thailand with special reference to Chansen." In *Early South East Asia*, ed. R. Smith. and W. Watson. New York: Oxford University Press, 315–36.
- . 1990. "Glass and beads at Khuan Lukpad." In *Southeast Asian Archaeology 1986*, ed. I. and E. Glover. Oxford: BAR International Series 561, 213–30.
- . 1992. "Patterns in the Early Southeast Asian Metals Trade." In *Early Metallurgy, Trade and Urban Centres in Thailand and Southeast Asia*, ed. I. Glover, P. Succhitta, and J. Villiers. Bangkok: White Lotus, 63–114.
- . 1996. "Chinese and Middle Eastern trade in southern Thailand during the 9th century A.D." In *Ancient Trades and Cultural Contacts in Southeast Asia*, ed. A. Srisuchat. Bangkok: Office of the National Culture Commission, 181–200.
- Bronson, B., Basoeki, Machi Suhadi, J. Wisseman. 1973. *Laporan Penelitian Arkeologi di Sumatera*. [Jakarta:] Lembaga Purbakala dan Peninggalan Nasional/The University of Pennsylvania Museum.
- Bronson, B. and J. Wisseman. 1976. "Palembang as Srivijaya: the lateness of early cities in southern Southeast Asia." *Asian Perspectives* 19, 2: 220–39.
- Brooke, G. E. 1991 [1921]. "Archaeological and heraldic notes." In *One Hundred Years of Singapore*, ed. W. Makepeace, G. E. Brooke, and R. St. J. Braddell. London: John Murray, Volume I: 567–77.
- Brown, C. and D. Raabiner. 1987. *Chinese Glass of the Qing Dynasty 1644–1911. The Robert H. Clague Collection*. Phoenix: Phoenix Art Museum.
- Brown, C. C., ed. and trans. 1970. *Sejarah Melayu Malay Annals*. Kuala Lumpur: Oxford University Press.
- Brown, R. M., ed. 1989. *Guangdong Ceramics from Butuan and Other Philippine Sites*. Manila: Oriental Ceramic Society of the Philippines/Singapore: Oxford University Press.
- Brown, R. M. 2009. *The Ming Gap and Shipwreck Ceramics in Southeast Asia: Towards a Chronology of Thai Trade Ware*. Bangkok: The Siam Society.
- . 2010. "Ming gap? Data from shipwreck cargoes." *Southeast Asia and the Ming Factor*. Singapore: Asia Research Institute. NUS Press, 359–83.
- Brown, R. and S. Sjostrand. 2000. *Turiang: A Fourteen-Century Shipwreck in Southeast Asian Waters*. Pasadena: Pacific Asia Museum.
- . 2003. *Maritime Archaeology and Shipwreck Ceramics in Malaysia*. Kuala Lumpur: Department of Museums and Antiquities.
- Buckley, C. B. 1984 [1902]. *An Anecdotal History of Olden Times in Singapore*. Singapore: Oxford University Press.
- Budisantoso and Tri Marhaeni S. 2002. "Permukiman pra-Srivijaya di Karang Agung Tengah: sebuah kajian awal." *Siddhayatra* 7, 2: 65–89.
- . 2005. "Permukiman pra-Srivijaya di situ Karangagung Tengah." *Berita Penelitian Arkeologi* 13. Palembang: Balai Arkeologi.
- . 2007. "Tinggalan rumah kayu di Karangagung Tengah Kabupaten Musi Banyuasin, Provinsi Sumatera Selatan." *Menelusuri Jejak-Jejak Peradaban di Sumatera Selatan*. Palembang: Balai Arkeologi, 14–30.
- Bui, M. T., T. T. Tong, Q. L. Nguyen, and P. Colomaban. 2001. "The Cù Lao Chàm (Hôi

- An) shipwreck: how to date and identify the ancient Vietnamese porcelains and celadons excavated?" *Taoci* 2: 105–10.
- Bunker, E. C. 1993. "Gold in the ancient Chinese world: a cultural puzzle." *Artibus Asiae* LIII, 1/2: 50.
- . 1994. "The metallurgy of personal adornment." In *Adornment for Eternity: Status and Rank in Chinese Ornament*, ed. Julia M. White and Emma C. Bunker. Denver and Hong Kong: Denver Art Museum, 31–54.
- . 2004. "Mercury-amalgam gilding in Khmer culture." Paper presented at the *10th International Conference of the European Association of Southeast Asian Archaeologists*, 14–17 Sept. 2004. British Museum, London, England.
- Burkill, I. H. N. 1966. *A Dictionary of the Economic Products of the Malay Peninsula*. 2 Volumes. Kuala Lumpur: Ministry of Agriculture and Cooperatives.
- Caldwell, I. and A. A. Hazlewood. 1994. "'The holy footprints of the venerable Gautama': a new translation of the Pasir Panjang inscription." *Bijdragen tot de Taal-, Land- en Volkenkunde* 150: 457–80.
- Careri, G. F. G. 1700. *Giro del Mondo*. Vol III: "Nell' Indostan." Napoli. French translation: *Voyage du tour du Monde*. Paris, 1777; English translation: *A Voyage round the World*. London, 1745.
- Carswell, J. 1985. *Blue and White Chinese Porcelain and Its Impact on the Western World*. Chicago: University of Chicago.
- de Casparis, J. G. 1958. *Short Inscriptions from Tjandi Plaosan-Lor*. Berita Dinas Purbakala/Bulletin of the Archaeological Service of the Republic of Indonesia No. 4.
- . 1975. *Indonesian Palaeography: a History of Writing in Indonesia from the Beginnings to c. A.D. 1500*. Leiden: Brill. Handbuch der Orientalistik: 3. Abt., Indonesien, Malaysia und die Philippinen; 4. Bd. Linguistik, 1. Lieferung.
- . 1979. "Palaeography as an auxiliary discipline in research on early Southeast Asia." In *Early South East Asia*, ed. R.B. Smith and W. Watson. New York and Kuala Lumpur: Oxford University Press, 380–94.
- Casey, A. 2003. *Hard Bargaining in Sumatra. Western Travelers and Toba Bataks in the Marketplace of Souvenirs*. Honolulu: University of Hawaii.
- Cayron, J. G. 2002. "Comparative analysis of recovered glass beads from Pandanan and Sungai Mas sites: an understanding of early Southeast Asian trade." Paper presented at the 17th IPPA Conference, Taipei, Taiwan.
- Chaffee, J. W. 2001. "The impact of the Song imperial clan on the overseas trade of Quanzhou." In *Emporium of the World: Maritime Quanzhou, 1000–1400*, ed. A. Schottenhammer. Leiden: Brill, 13–46.
- Chakravarti, A. 1978. *The Sdok Kak Thom Inscription*. 2 Vols. Calcutta: Sanskrit College Research Series No. 111.
- Chang P.-T. 1983. *Chinese Maritime Trade: The Case of 16th-Century Fu-chien (Fukien)*. PhD Thesis, Princeton University, East Asian Studies.
- . 1998. "The formation of a maritime convention in Minnan (southern Fujian), ca 900–1200." In *From the Mediterranean to the China Sea: Miscellaneous Notes*, ed. C. Guillot, D. Lombard, and R. Ptak. Wiesbaden: Harrassowitz Verlag, 143–55.
- Chang S. T.-H. 1989. "Commodities imported into the Zhang-Zhou region of Fu-jian, China during the late Ming period—a comparative and analytical study." Paper presented at the *Symposium on Entrepreneurs, Emporia and Commodities in Asian Maritime Trade, 15th–18th Centuries*. Universitat Heidelberg, 31 Aug–3 Sept 1989.
- Ch'en, J. 1965. "Sung bronzes—an economic analysis." *BSOAS* 28/3: 613–26.
- Chen, Omar. 2001. *An Investigation into the Occurrence of Earthenware Artefacts at the Parliament House Complex Site*. MA Thesis, Southeast Asian Studies Programme, National University of Singapore.
- Chen Peng. 1998. "Quanzhou green-glazed wares: production and export." Paper presented

- at the *Conference on Fujian Ceramics and Their Trade in Southeast Asia*. Singapore: Singapore History Museum, 24–26 April 1998.
- Chen Yaocheng, Guo Yanyi, and Chen Hong. 1993/94. “Sources of cobalt pigment used on Yuan blue and white porcelain wares.” *Oriental Art* 60, 1: 14–9.
- Cheng D. & Zhong S.-Y., comp. 1990. *Zhongguo gudai bingqi tuji (Ancient Chinese Weapons—A Collection of Pictures)*. Beijing: Jiefangjun Chubanshe.
- Cheng Pei-kai, Li Gua, Wang CK Maggie, and Wong Wai Yec. 2005. “A case study of Chinese ceramics from Prasat Suor Prat, Cambodia.” In *Proceedings of the International Conference: Chinese Export Ceramics and Maritime Trade, 12th–15th Centuries*, ed. Cheng Pei-Ki, Li Guo, and Wan Chui Ki. Hong Kong: Chinese Civilisation Centre, University of Hong Kong, 2–23.
- Van der Chij, J.A., ed. 1887. *Dagh-Register gehouden in't Casteel Batavia: Anno 1640–1641*. Batavia: M. Nijhoff.
- Choo, A. A. 1986. *Report on the Excavation at Fort Canning Hill Singapore*. Singapore: National Museum Singapore.
- . 1987. *Archaeology. A Guide to the Collections National Museum Singapore*. Singapore: National Museum.
- Christie, J. W. 1985. “On Po-ni: the Santubong sites of Sarawak.” *SMJ* 34: 77–89.
- . 1990. “The Sanskrit inscription recently discovered in Kedah, Malaysia.” *Modern Quaternary Research in Southeast Asia*. Rotterdam, Brookfield: A.A. Balkema. Volume 11: 39–54.
- . 1992. “Trade and settlement in early Java: integrating the epigraphic and archaeological data.” In *Early Metallurgy, Trade and Urban Centres in Thailand and Southeast Asia*, ed. I. Glover, P. Suchitta, and J. Villers. Bangkok: White Lotus, 181–97.
- . 1997. “Pre-Islamic coinage of Java.” In *Southeast Asian Archaeology 1994. Proceedings of the 5th International Conference of the European Association of Southeast Asian Archaeologists, Paris, 24–28 October 1994*. Vol. I, ed. P. Y. Manguin. Hull: Centre for Southeast Asian Studies, University of Hull, 161–72.
- Chung Chee Kit. 2003. *Longyamen is Singapore—the Final Proof?* Singapore: Friends of Admiral Zheng He. [also published in *Zheng He's Voyage Studies* No. 2, 2005: 15–31].
- Chutiwongs, N. 1996 “Trade route and the diffusion of artistic traditions in South and Southeast Asia.” In *Ancient Trades and Cultural Contacts in Southeast Asia*. Bangkok: The Office of the National Culture Commission, 3–42.
- Clark, H. R. 2001. “Overseas trade and social change in Quanzhou through the Song.” In *The Emporium of the World: Maritime Quanzhou, 1000–1400*, ed. A. Schottenhammer. Leiden: Brill, 47–94.
- Clarke, R. 1935. “The flint-knapping industry at Brandon.” *Antiquity* 9: 38–56.
- Cœdès, G. 1928. “Excavations at P’ong Tuk in Siam.” *Annual Bibliography of Indian Archaeology*: 16–20.
- . 1947 “Fouilles en Cochinchine. Le Site de Go Oc Eo, ancien port du royaume de Fou-nan.” *Artibus Asiae* 10: 193–99.
- . 1968. *The Indianized States of Southeast Asia*, ed. Walter F. Vella, trans. Susan Brown Cowing. Honolulu: University of Hawaii.
- Coleridge, H. J. 1935. *The Life and Letters of St. Francis Xavier*. Fourth Edition. London. 2 Volumes.
- Colomban, Ph., G. Sagon, L. Q. Huy, N.Q. Liem, and L. Mazerolles 2004 “Vietnamese (15th century) blue-and-white, *tam thai* and lustre porcelains/stonewares: glaze composition and decoration techniques.” *Archaeometry* 46, 1: 125–36.
- Corteseo, A., ed. and tran. 1944. *The Suma Oriental of Tomé Pires*. London: Hakluyt Society. 2nd Series, Volume 89.
- Crawford, J. 1967 [1828]. *Journal of an Embassy from the Governor-General of India to the Courts of Siam and Cochin China; Exhibiting a View of the Actual State of Those Kingdoms*. Kuala Lumpur: Oxford University Press.

- . 1971 [1856]. *A Descriptive Dictionary of the Indian Islands and Adjacent Countries*. Kuala Lumpur/Singapore: Oxford University Press, Oxford in Asia Historical Reprints.
- Cremin, A. 2006. "Chinese ceramics at Angkor." *Indo-Pacific Prehistory Association Bulletin* 26: 121–3.
- Crick, M. 2001. "Les céramiques chinoises, vietnamiennes et thaïlandaises de la jonque de Lena, fin xve siècle." *Taoci* 2: 71–85.
- Day, A. 1983. "Islam and literature in South-East Asia." In *Islam in South-East Asia*, ed. M.B. Hooker. Leiden: E. J. Brill, 130–59.
- Deetz, J. 1965. *The Dynamics of Stylistic Change in Arikara Ceramics*. Illinois Studies in Anthropology No. 4. Urbana: University of Illinois Press.
- Deutz, G. J. J. 1875. "Baros". *TBG* 22: 156–63.
- Diem, A. I. 2001. "Vietnamese ceramics from the Pandanan shipwreck excavation in the Philippines." *Taoci* 2: 87–93.
- Dikshit, M. G. 1969. *History of Indian Glass*. Bombay: University of Bombay.
- Dizon, Eusebio Z. 2005. "The role of the Philippines as an entrepot during the 12th–15th century's Chinese and Southeast Asian trade network." In *Proceedings of the International Conference: Chinese Export Ceramics and Maritime Trade, 12th–15th Centuries*, ed. Cheng Pei-Ki, Li Guo, and Wan Chui Ki. Hong Kong: Chinese Civilisation Centre, University of Hong Kong, 280–301.
- Dumarçay, J. and P. Royère, trans. and ed. M. Smithies. 2001. *Cambodian Architecture Eighth to Thirteenth Centuries*. Leiden-Köln: Brill. Handbuch der Orientalistik Abt 3, Südostasien; Bd. 12.
- Dupoizat, M-F. 1995. "The ceramic cargo of a Song Dynasty junk found in the Philippines and its significance in the China-South East Asia trade." In *South East Asian and China: Art, Interaction and Commerce*, ed. Rosemary Scott and John Guy. London: Percival David Foundation of Chinese Art, Colloquies on Art and Archaeology in Asia No. 17, 205–24.
- . 1998. "Céramique chinoise de Barus et du Proche-Orient: analogies, différences, premières conclusions." In *Histoire de Barus: Le Site de Lobu Tua. I. Études et Documents*, ed. C. Guillot. Paris: Cahiers d'Archipel 30, 149–67.
- . 2003. "Chinese ceramics." In *Histoire de Barus Sumatra. Le Site de Lobu Tua. II. Étude archéologique et Documents*, ed. C. Guillot et al. Paris: Cahier d'Archipel 30, 103–70.
- Dupoizat, M-F. and N. Harkantiningih. 2007. *Catalogue of the Chinese Style Ceramics of Majapahit*. Paris: Association Archipel. Cahiers d'Archipel 36.
- Dussubieux, L. 2009. "Compositional analysis of ancient glass fragments from North Sumatra, Indonesia." In *Histoire de Barus III. Regards sur une place marchande de l'océan Indien (XIIe-milieu du XVIIe s.)*, ed. D. Perret and Heddy Surachma. Paris: Cahiers d'Archipel 38, 385–417.
- . 2010. "Glass material from Singapore." *Archipel* 80: 197–210.
- Ea Darith. 2005. "The relationship between China and Cambodia: evidence from manuscripts, ceramics and bas-reliefs." In *Proceedings of the International Conference: Chinese Export Ceramics and Maritime Trade, 12th–15th Centuries*, ed. Cheng Pei-Ki, Li Guo, and Wan Chui Ki. Hong Kong: Chinese Civilisation Centre, University of Hong Kong, 267–79.
- Edi Sedyawati. 1994. *Ganesa statuary of the Kadiri and Singhasari Periods*. Leiden: KITLV.
- Edwards McKinnon, E. 1977. "Research at Kota Cina, a Sung-Yuan period trading site in east Sumatra." *Archipel* 14: 19–32.
- . 1980 "A note on a gold 'tali' from Kota Cina." *JMBRAS* 53, 2: 117.
- . 1982a. "A Brief Note on Muara Kumpoh Hilir: an Early Port Site on the Batang Hari," *SPFA Digest* 3, 2: 37–40.
- . 1982b. "Early politics in southern Sumatra: some preliminary observations based on archaeological evidence." *Indonesia* 40: 1–36.
- . 1984. *Kota Cina: Its Context and Meaning in the Trade of Southeast Asia in the Twelfth to Fourteenth Centuries*. Ithaca: PhD Dissertation, Cornell University.

- . 1985. "Early Politics in Southern Sumatra: Some Preliminary Observations Based on Archaeological Evidence." *Indonesia* 40 (Oct.): 1–36.
- . 1987. "New light on the Indianization of the Karo Batak." In *Cultures and Societies of North Sumatra*, ed. Rainer Carle. Berlin, Hamburg: Dietrich Reimer Verlag, 81–110.
- . 1988. "Beyond Serandib: a note on Lambri at the northern tip of Aceh." *Indonesia* 46: 102–21.
- . 1992. "Malayu Jambi: interlocal and international trade (11th to 13th centuries)." Paper presented at the Seminar Sejarah Malayu Kuno, Jambi, 7–8 Dec.
- . 2003. "Historic period earthenware from the island of Sumatra." In *Earthenware in Southeast Asia*, ed. J. N. Miksic. Singapore: Singapore University Press, 162–72.
- Edwards McKinnon, E. and R. H. Brill. 1987. "Chemical analyses of some glasses from Sumatra." In *Archaeometry of Glass*, ed. H.C. Bhardwaj. Calcutta: Indian Ceramic Society, 1–14.
- Endang Sri Hardiati Sockatno. 1988. "Analisis manik-manik dari situs Muara Jambi." *Rapat Evaluasi Hasil Penelitian Arkeologi III Pandeglang, 5–9 Desember 1986*. Jakarta: Depdikbud, 218–33.
- . 1996. "Bali in the Middle Classic Period." In *Ancient History*, ed. J. N. Miksic. Singapore: Archipelago Press, 106–7.
- . 2002. "Catatan tentang temuan manik-manik dari situs Karangagung, Sumatera Selatan." Paper presented to *Pertemuan Ilmiah Arkeologi IX*. Kediri.
- Eng-Lee Seok Chee. 1984. *Kendis. A Guide to the Collections National Museum Singapore*. Singapore: National Museum.
- Eka A. Putrina Taim. 1992. *Foreign Ceramics from the Site at the Sultan Mahmud Badaruddin Museum. An Analysis of the Results of the 1989–1990 Excavations*. Thesis, Jurusan Arkeologi, Universitas Indonesia.
- Elvin, M. 1973. *The Pattern of the Chinese Past*. Stanford: Stanford University.
- Ettinghausen, R. 1965. "The use of sphericonical vessels in the Middle East." *Journal of Near Eastern Studies* 24: 218–29.
- Evans, I. H. N. 1927. "Notes on the remains of an old boat from Pontian, Pahang." *JFMSM* 12, 4: 93–6.
- . 1928a. "On ancient remains from Kuala Selinsing, Perak." *JFMSM* 12, 5: 121–31.
- . 1928b. "Further notes on remains from Kuala Selinsing, Perak." *JFMSM* 12, 5: 139–42.
- . 1932. "Excavations at Tanjong Rawa, Kuala Selinsing." *JFMSM* 15, 3: 79–134.
- Feng X. -M. 1981. "Some problems concerning the origins of blue and white porcelains." *New Discoveries in Chinese Ceramics* 3: 50–6.
- Ferdinandus, P. 2002. "Recent archaeological excavations in Blandongan site, Batujaya, Karawang, West Java." *Aspek-Aspek Arkeologi Indonesia* 25. Jakarta: Badan Pengembangan Kebudayaan dan Pariwisata, Deputi Bidang Pelestarian dan Pengembangan Kebudayaan, Bagian Proyek Penelitian dan Pengembangan Arkeologi.
- Ferrand, G. 1918. *Malaka, le Malayu, et Malayur*. Paris : Impremerie Nationale.
- . 1922. "L'empire sumatranais de Çrivijaya." *Journal Asiatique* Juillet–Aôut et Octobre–Decembre, 1–246.
- Finlayson, G. 1826. *The Mission to Siam, and Hué the Capital of Cochin China, in the Years 1821–2*. London: J. Murray.
- Flecker, M. and J. N. Miksic. 2000. "Excavation of a Tenth Century Indonesian Shipwreck." Paper presented at the 16th Conference of the International Association of Historians of Asia, Kota Kinabalu, Sabah, Malaysia.
- Flecker, M. 2000. "A 9th-century Arab or Indian shipwreck in Indonesian waters." *International Journal of Nautical Archaeology* 29, 2: 199–217.
- . 2001. "The Bakau wreck: an early example of Chinese shipping in Southeast Asia." *The International Journal of Nautical Archaeology* 30, 2: 221–30.

- . 2002. *The Archaeological Excavation of the 10th Century Intan Shipwreck*. Oxford: Archaeopress, BAR International Series 1047.
- . 2008. "A 9th-century Arab or Indian shipwreck in Indonesian waters: addendum." *International Journal of Nautical Archaeology* 37, 2: 384–6.
- . 2012. "The *Jade Dragon* wreck: Sabah, East Malaysia." *The Mariner's Mirror* 98, 1: 9–29.
- Fox, E. W. 1971. *History in Geographic Perspective*. New York: Norton.
- Fox, J. J. 1995. "Austronesian societies and their transformations." In *The Austronesians: Historical and Comparative Perspectives*, ed. J. J. Fox and Darrell Tryon. Canberra: Department of Anthropology, Research School of Pacific and Asian Studies, Australian National University, 214–28.
- . 1997. "Sunan Kalijaga and the rise of Mataram." In *Islam: Essays on Scripture, Thought and Society*, ed. P. G. Riddell and T. Street. Leiden: Brill, 187–218.
- Fox, R. B. 1959. "The Calatagan excavations. Two 15th century burial sites in Batangas, Philippines." *Philippine Studies* 5, 2: 321–89.
- Francis, P. 1985. "Chinese beadmakers in Java ca. 1600?" *The Margaretologist* 1/1: 4–6.
- . 1986a. "Chinese glass beads: a review of the evidence." *Occasional Papers of the Center for Bead Research* No. 2.
- . 1986b. "Glass beads in China: further evidence." *The Margaretologist* 1/3: 6–7.
- . 1989. "Beads and the bead trade in Southeast Asia." *Contributions of the Center for Bead Research* 4.
- . 1996. "Beads, the bead trade, and state development in Southeast Asia." In *Ancient Trades and Cultural Contacts in Southeast Asia*. Bangkok: The Office of the National Culture Commission, 139–52.
- . 2002. *Asia's Maritime Bead Trade 300 B.C. to the Present*. Honolulu: University of Hawaii Press.
- Gallop, A. T. and B. Arps. 1991. *Golden Letters/Surat Emas*. London: The British Library, Jakarta: Yayasan Lontar.
- Geographical Maps of Singapore*. 1976. Singapore: Public Works Department.
- Gibson-Hill, C. A. 1952. "Further notes on the old boat found at Pontian, in southern Pahang." *JMBRAS* 25, 1: 111–33.
- . 1954. "Singapore: notes on the history of the Old Strait, 1580–1850." *JMBRAS* 27, 1: 163–214.
- . 1955. "Johore Lama and other ancient sites on the Johore River." *JMBRAS* 28/1: 127–97.
- . 1956. "Singapore Old Strait and New Harbour 1300–1870." *Memoirs of the Raffles Museum* 3.
- Von Glahn, R. 1996. *Fountain of Fortune: Money and Monetary Policy in China, 1000–1700*. Berkeley: University of California Press.
- . 2004. "Revisiting the Song monetary revolution: a review essay." *International Journal of Asian Studies* 1, 1: 159–78.
- Glover, I. C. 1989. *Early Trade between India and Southeast Asia, a Link in the Development of a World Trading System*. Hull: University of Hull, Centre for Southeast Asian Studies, Occasional Paper, No.16.
- . 1996. "The southern silk road: archaeological evidence for early trade between India and Southeast Asia." In *Ancient Trades and Cultural Contacts in Southeast Asia*. Bangkok: The Office of the National Culture Commission, 57–94.
- . 1998. "The role of India in the late prehistory of Southeast Asia." *Journal of Southeast Asian Archaeology* 18: 21–49.
- . 2010. "The Dvaravati gap—linking prehistory and history in early Thailand." *Bulletin of the Indo-Pacific Prehistory Association* 30: 79–86.
- Glover, I. C. and M. Yamagata. 1995. "The origins of Cham civilization: indigenous,

- Chinese and Indian influences in central Vietnam as revealed by excavations at Tra Kieu, Vietnam 1990 and 1993." In *Southeast Asian Archaeology*, ed. C. T. Yeung and W. L. Li. Hongkong: University Museum of Art and Archaeology, 145–69.
- Glover, I. C. and B. Bellina. 2011. "Ban Don Ta Phet and Khao Sam Kaeo: the earliest Indian contacts re-assessed." In *Early Interactions Between South and Southeast Asia [:] Reflections on Cross-Cultural Exchange*, ed. P.-Y. Manguin, A. Mani, and G. Wade. Singapore: Institute of Southeast Asian Studies; New Delhi: Manohar, 17–46.
- Goddio, F. 2000. *Sunken Treasure: Fifteenth Century Ceramics from the Lena Cargo*. London: Periplus Publishing.
- Gonda, J. 1972. "The Indian religions in pre-Islamic Indonesia and their survival in Bali." In *Handbuch der Orientalistik*, ed. H. Kähler, Abt. III, Band 2, Lieferung 1: Religionen. Leiden/Köln: E. J. Brill.
- Gotuaco, L., R. C. Tan, and A. I. Diem. 1997. *Chinese and Vietnamese Blue and White Wares Found in the Philippines*. Makati City: Bookmark.
- Grau-Abaya, C. 1968. "The brown wares." *Symposium on Chinese Export Wares*. Manila: The Research Foundation in Philippine Anthropology and Archaeology Incorporated. Reprinted 1976 as *Manila Trade Pottery Seminar*. Manila: Research Foundation in Philippine Anthropology, Inc. Part 9.
- Groeneveldt, W. P. 1960. *Historical Notes on Indonesia and Malaya Compiled from Chinese Sources*. Jakarta: Bhratara.
- Guérin, N. and D. van Oenen. 2005. *Thai Ceramic Art: the Three Religions*. Singapore: Suntree Media.
- Guillot, C., Lukman Nurhakim, and Sonny Wibisono. 1996. *Banten Sebelum Zaman Islam: Kajian Arkeologi di Banten Girang 932?–1526*. Jakarta: Pusat Penelitian Arkeologi Nasional, École Française d'Extrême-Orient.
- Guillot, C., D. Lombard, R. Ptak, ed. 1998. *From the Mediterranean to the China Sea: Miscellaneous Notes*. Wiesbaden: Harrassowitz Verlag.
- Guillot, C. 1998a. "La nature du site de Lobu Tua à Barus, Sumatra." In *From the Mediterranean to the China Sea: Miscellaneous Notes*, ed. C. Guillot, D. Lombard, and R. Ptak. Wiesbaden: Harrassowitz Verlag, 113–30.
- Guillot, C. ed. 1998b. *Histoire de Barus: Le Site de Lobu Tua. I. Études et Documents*. Paris: Cahiers d'Archipel 30.
- Guillot, C. et al., ed. 2003. *Histoire de Barus Sumatra. Le Site de Lobu Tua. II. Étude archéologique et Documents*. Paris: Cahier d'Archipel 30.
- Guillot, C. and Sonny Ch. Wibisono. 1998. "Le verre à Lobu Tua. Étude préliminaire." In *Histoire de Barus: Le Site de Lobu Tua. I. Études et Documents*, ed. C. Guillot. Paris: Cahiers d'Archipel 3, 189–206.
- Guy, J. 1990. *Oriental Trade Ceramics in South-East Asia*. Singapore: Oxford University Press.
- . 1992. "Southeast Asian glazed ceramics: a study of sources." in G. Kuwayama Ed. *New Perspectives on the Art of Ceramics in China*. Los Angeles: LA County Museum of Art, 98–114.
- . 1993/94. "The lost temples of Nagapattinam and Quanzhou: a study in Sino-Indian relations." *Silk Road Art and Archaeology* 3: 291–310.
- . 1997. "Vietnamese ceramics in international trade." In *Vietnamese Ceramics: A Separate Tradition*, ed. John Stephenson and John Guy. Chicago: Art Media Resources with Avery Press, 47–61.
- . 2000. "Vietnamese ceramics from the Hoi An excavation: the Cu Lao Cham ship cargo." *Orientalism* 31, 7: 125–8.
- . 2001–2. "Early Asian ceramic trade and the Belitung ("Tang") cargo." *Transactions of the Oriental Ceramic Society* 66: 13–27.
- . 2004. "The Intan shipwreck: a 10th-century cargo in South-east Asian waters." In *Song Ceramics: Art History, Archaeology and Technology*, ed. Stacey Pierson. Colloquies on

- Art & Archaeology in Asia No. 22. London: Percival David Foundation of Chinese Art, 171–91.
- Gyllensvärd, B. 1975. “Recent finds of Chinese ceramics at Fostat. II.” *Bulletin of the Museum of Far Eastern Antiquities* 47: 93–117.
- Hall, K. R. 1985. *Maritime Trade and State Development in Early Southeast Asia*. Honolulu: University of Hawaii Press.
- Hamilton, A. 1930. *A New Account of the East Indies*. London: Argonaut Press. Two Volumes.
- Hariani Santiko. 2000. “The religious function of narrative reliefs on Hindu and Buddhist sanctuaries in Majapahit period.” In *Southeast Asian Archaeology 1998*, ed. W. Lobo and S. Reimann. Hull: Centre for South-East Asian Studies/Berlin: Ethnologisches Museum, 177–88.
- Harrison, B. 1970. “A classification of archaeological trade ceramics from Kota Batu, Brunei.” *Brunei Museum Journal* 2, 1: 114–87.
- Harrison, T. 1958. “The Ming Gap and Kota Batu, Brunei.” *Sarawak Museum Journal* 8, 11: 273–7.
- Harrison, T. and S. J. O’Connor. 1969. *Excavations of the Prehistoric Iron Industry in West Borneo*. Ithaca: Cornell University, Southeast Asia Program, Data Paper Number 72. Two Volumes.
- Harrison, B and P. M. Shariffudin. 1969. “Sungai Lumut, a 15th century burial ground.” *Brunei Museum Journal* 1, 1: 24–56.
- Hasan Djafar. 2010. *Kompleks Percandian Batujaya. Rekonstruksi Sejarah Kebudayaan Daerah Pantai Utara Jawa Barat*. Jakarta: Kiblat Buku Utama, in collaboration with École Française d’Extrême-Orient, Pusat Penelitian dan Pengembangan Arkeologi Nasional, KITLV-Jakarta.
- Hasan Muarif Ambariy, Halwany Michrob, and J. N. Miksic 1988 *Katalogus Koleksi Data Arkeologi Banten (Catalogue of Sites, Monuments and Artifacts of Banten)*. Jakarta: Directorate for Protection and Development of Historical and Archaeological Heritage.
- van Hasselt, A. L. and Schwartz, H. J. E. F. 1898. “De Poelau Toedjoeh in het zuidelijk gedeelte der Chineesche zee.” *Tijdschrift van het Koninklijk Nederlandsch Aardrijkskundig Genootschap* 15 (2nd series), 21–45, 154–99, 444–76, 657–92.
- He Zhenghuang and Xu Liping, ed. 1993. *Sung Yuan Tao Ci Ta Quan/Chinese Ceramics, Song Yuan Dynasty*. Taipei: Yi Su Jia Publishing House. Second Edition.
- Hein, D. 1996 “Ceramic Production in Myanmar—further evidence on old traditions.” *Traditions in Current Perspective. Proceedings of the conference on Myanmar and Southeast Asian Studies, 15–17 November 1995*. Yangon: Universities Historical Research Centre, 179–205.
- Heng, D. T. S. 2004a. “Economic networks between the Malay region and the hinterlands of Quanzhou and Guangzhou: Temasek and the Chinese ceramics and foodstuffs trade.” In *Early Singapore 1300s–1819: Evidence in Maps, Text and Artefacts*, ed. J. N. Miksic and C.-A. Low M. G. Singapore: Singapore History Museum, 73–85.
- . 2004b. “Classification of coarse stoneware ceramic sherds: Empress Place Site Excavation 1998.” Unpublished Report on File at Fort Canning Archaeology Laboratory.
- . 2009. *Sino-Malay Trade and Diplomacy From the Tenth Through the Fourteenth Century*. Athens, Ohio: Center for International Studies, Ohio University.
- Heng Piphah. 2004. “Archaeological Excavation in the North Pond (Srah Andong) of Prasat Suor Prat.” *Japanese Government Team for Safeguarding Angkor (JSA) Annual Report on the Technical Survey of Angkor Monument 2004*. Tokyo: Japan International Cooperation Centre, 215–33.
- Higham, C. 1989. *The Archaeology of Mainland Southeast Asia*. Cambridge: Cambridge University Press.
- Hill, A. H., trans. 1960. “Hikayat Raja-Raja Pasai.” *JMBRAS* 33, 2: 1–215.
- . 1970. *The Hikayat Abdullah*. Kuala Lumpur: Oxford University Press.
- Hirth, F. 1917. “Chau Ju-kua, a new source of mediaeval geography.” *China and the Chinese* 76.

- Hirth, F. and W. W. Rockhill. 1911. *Chau Ju-kua: His Work on the Chinese and Arab Trade in the Twelfth and Thirteenth Centuries, entitled Chu-fan-chi*. St. Petersburg: Imperial Academy of Science.
- Ho Chuimei. 1994. "The significance of West Asian ceramics in East and Southeast Asian in the 9th–10th Century." *Trade Ceramic Studies* 14: 35–59.
- . 2001. "The ceramic boom in Minnan." In *The Emporium of the World: Maritime Quanzhou, 1000–1400*, ed. A. Schottenhammer. Leiden: Brill, 237–81.
- . 2002. "Export phases for Menam Basin ceramics in Thai history." In *Sangkhalok-Sukhothai-Ayutthaya and Asia*, ed. Charnvit Kasetsiri. Bangkok: Toyota Thailand Foundation and The Foundation for the Promotion of Social Science and Humanities Textbooks Project, 94–113.
- Ho Chuimei and B. Bronson. 1995. "Ceramics from the Palembang excavation." *ACRO Update* April: 1.
- Ho Chuimei and M. N. Smith. 1999. "Gaps in ceramic production and the rise of multinational traders in 15th-century Asia." *Taida Journal of Art History* 7 (Sept.): 1–28.
- Hooi, Christopher. 1978. "The Singapore Padang as seen from Scandal Point in 1851." *Heritage* 3: 5–19.
- Hooker, V. M. and M. B. Hooker. 2001. "Introductory essay." *John Leyden's Malay Annals*. Kuala Lumpur: Malaysian Branch of the Royal Asiatic Society, Reprint No. 20.
- Houben, V. J. H., H. M. J. Maier, and W. van der Molen. 1992. *Looking in Odd Mirrors: The Java Sea*. Leiden: Vakgroep Talen en Culturen van Zuidoost-Azie en Oceanie.
- Hovig, P. 1914. "De goudertsen van de Le bongstreek (Benkoelen)." *Jaarboek van het Mijnwezen in Nederlands Oost-Indie, Verhandelingen 1912*, 41, 2: 87–276.
- Hsieh Ming-liang. 2010. "The navigational route of the Belitung wreck and the late Tang ceramic trade." In *Shipwrecked: Tang Treasures and Monsoon Winds*, ed. R. Krahl, J. Guy, J. K. Wilson, and J. Raby. Washington D.C.: Arthur M. Sackler Gallery, Smithsonian Institution; Singapore: National Heritage Board, Singapore Tourism Board, 137–43.
- Hsü Yün-Ts'iao. 1973. "Singapore in the remote past." *JMBRAS* 45, 1: 1–9.
- Huang Shichun. 1998. "Ceramic production and its sea trade in Jinjiang." Paper presented at the Conference on Fujian Ceramics and Their Trade in Southeast Asia. Singapore: Singapore History Museum, 24–26 Apr. 1998.
- Hudson, B. 2004. *The Origins of Bagan: The Archaeological Landscape of Upper Burma to AD 1300*. Doctoral Dissertation, University of Sydney.
- . 2005. "Thoughts on some chronological markers of Myanmar archaeology in the pre-urban period." Manuscript submitted to Yangon University Archaeology Journal, 10th Anniversary Commemorative Volume, 1–6.
- Huet, N. 2001. "Eléments de parure, bracelets et perles." In *La Mémoire engloutie de Brunei. Vol. 2. Précis scientifique*, ed. M. L'Hour. Paris: Editions Textuel, 129–38.
- Hung, H. C., Y. Iizuka, P. Bellwood, K. D. Nguyen, B. Bellina, P. Silapanth, E. Dizon, R. Santiago, I. Datan and J. H. Manton. 2007. "Ancient jades map 3,000 years of prehistoric exchanges in Southeast Asia." *Proceedings of the National Academy of Science* 104 (50): 19745–50.
- Hughes-Stanton, P and R. Kerr. 1980. *Kiln Sites of Ancient China*. London: Oriental Ceramic Society.
- I Gusti Putu Phalgunadi. 1996. *The Pararaton. A Study of the Southeast Asian Chronicle*. New Delhi: Sundeep Prakashan.
- I Wayan Ardika. 2008. "Archaeological traces of the early harbor town." In *Ethnoarchaeological Investigations in North Bali Indonesia*, ed. B. Hauser-Schaublin and I Wayan Ardika. Göttingen: Universitätsverlag Göttingen, Göttingen Beiträge zur Ethnologie. Band I, 149–57.
- . 2011. "Sembiran: an early harbor in Bali." In *Ancient Harbours in Southeast Asia*, ed. J.N. Miksic and G.Y. Goh. Bangkok: SEAMEO SPAFA, 21–9.

- I Wayan Ardika and P. Bellwood. 1991. "Sembiran: the beginnings of Indian contact with Bali." *Antiquity* 65: 221–3.
- I Wayan Ardika, P. Bellwood, I Made Sutaba, and K.C. Yulati. 1997. "Sembiran and the first Indian contacts with Bali: an update." *Antiquity* 71: 193–5
- Indrawoath, P. 2009. Un antique royaume urbanisé de Thaïland." In *Dvaravati aux Sources du Bouddhisme en Thaïlande*, ed. P. Baptiste and T. Zéphir. Paris: Réunion des Musées nationaux, 31–45.
- Jacq-Hergoualc'h, M., trans. V. Hobson. 2002. *The Malay Peninsula: Crossroads of the Maritime Silk Road (100 BC–1300 AD)*. Leiden, Boston: E. J. Brill.
- Jacques, C. 1979. "'Funan', 'Zhenla': the reality concealed by these Chinese views of Indochina." In *Early South East Asia*, ed. R. B. Smith and W. Watson. New York and Kuala Lumpur: Oxford University Press, 371–9.
- . 1995 "China and ancient Khmer history." In *South Asia and China: Art, Interaction & Commerce*, ed. R. Scott and J. Guy. London: Percival David, 32–9.
- Jasper, J. E. and M. Pirnagadie. 1927/2010. *De Inlandsche Kunstnijverheid in Nederlandsch Indië*. Leiden: Sidestone Press.
- Joseph, A. 1975. "Blue and white wares." In *South-East Asian and Chinese Trade Pottery*. Hong Kong: The Oriental Ceramic Society of Hong Kong, 26–33.
- Joseph, A. and R. M. Brown, ed. 1975. *South-East Asian and Chinese Trade Pottery*. Hong Kong: The Oriental Ceramic Society of Hong Kong.
- Junker, L. L. 1990. *Long-Distance Trade and the Development of Socio-Political Complexity in Philippine Chiefdoms of the First Millennium to Mid-Second Millennium A.D.* PhD Dissertation, Department of Anthropology, University of Michigan.
- . 1999. *Raiding, Trading and Feasting. The Political Economy of Philippine Chiefdoms*. Honolulu: University of Hawaii Press.
- Kamarudin Ab. Razak. 1998. *Peninggalan Sejarah di Pesisiran Sungai Johor*. Johor Bahru: Yayasan Warisan Johor.
- Karashima, Noboru, ed. 2004. *In Search of Chinese Ceramic-Sherds in South India and Sri Lanka*. Tokyo: Taisho University Press.
- Keith, D. H. and C. J. Buys. 1981. "New light on medieval Chinese seagoing ship construction." *IJNA* 10, 2: 119–32.
- Kemp, B. 1997. "Seeing the light through history." *Ceramics TECHNICAL* 4: 73–7.
- Kenderdine, S. 1995. "Bai Jiao I—the excavation of a Song Dynasty shipwreck in the Dinghai area, Fujian Province, China, 1995." *IJNA* 24, 4: 247–66.
- Kern, H. 1883. "Over eenige oude Sanskritopschriften van't Maleische Schiereiland." *De Verslagen en Mededeelingen der Koninklijke Akademie van Wetenschappen*, Afd. Letterkunde 3, 1: 257–62.
- . 1907. "Concerning some Old Sanskrit inscriptions in the Malay Peninsula." *Journal of the Straits Branch of the Royal Asiatic Society* 49: 95–101.
- Khasnor, Johan. 1999. "The *Undang-Undang Melaka*: reflections on Malay society in fifteenth-century Malacca." *JMBRAS* 72/2: 131–50.
- Khemachat, Thepchai. 1983. "The Excavation at Laem Pho: A Srivijaya Entrepot?" *Final Report, Consultative Workshop on Archaeological and Environmental Studies of Srivijaya, SEAMEO Project in Archaeology and Fine Art Bangkok 1983*. Bangkok: SPAFA, 139–43.
- Kim Wondong. 1986. *Chinese Ceramics from the Wreck of a Yuan Ship in Sinan, Korea—With Particular Reference to Celadon Wares*. Doctoral Dissertation, University of Kansas.
- Kobata, A. and M. Matsuda. 1969. *Ryukyuan Relations with Korea and South Sea Countries*. Kyoto: Atsushi Kobata.
- Koh Lian What. 1989 "Artefacts from Pulau Saigon." *Heritage* 10: 57–75.
- Krahl, R., J. Guy, J. K. Wilson, and J. Raby, ed. 2010. *Shipwrecked: Tang Treasures and Monsoon Winds*. Washington DC: Arthur M. Sackler Gallery, Smithsonian Institution; Singapore: National Heritage Board, Singapore Tourism Board.

- Krom, N. J. 1931. *Hindoe-Javaansche Geschiedenis* (2nd revised edition). 's-Gravenhage: M. Nijhoff.
- Kulke, H., K. Kesavapany, and V. Sakhuja. 2009. *Nagapattinam to Suvarnadwipa. Reflections on the Chola Naval Expeditions to Southeast Asia*. Singapore: Institute of Southeast Asian Studies.
- Kuwabara, J. 1928. "On P'u Shou-keng, a man of the western regions." *Memoirs of the Research Department of the Toyo Bunko* 2: 1–79.
- Kwa, C. G. 2004. "16th-century underglaze blue porcelain sherds from the Kallang Estuary." In *Early Singapore 1300s–1819: Evidence in Maps, Text and Artefacts*, ed. J. N. Miksic and C.-A. Low M. G. Singapore: Singapore History Museum, 86–94.
- Kwan, K. K. and J. Martin. 1985. "Introduction to the finds from Pulau Tioman." In *A Ceramic Legacy of Asia's Maritime Trade. Song Dynasty Guangdong Wares and Other 11th–19th Century Trade Ceramics Found on Tioman Island, Malaysia*, ed. K. K. Kwan and Jean Martin. Kuala Lumpur: Southeast Asian Ceramic Society, West Malaysia Chapter, 69–82.
- Kwee H.-K. 1997. *Dao Yi Zhi Lue as a Maritime Traders' Guidebook*. National University of Singapore, Honours Thesis.
- Laffan, M. 2005. *Finding Java: Muslim Nomenclature of Insular Southeast Asia from Śrīvijaya to Snouck Hurgronje*. Singapore: Asia Research Institute, Working Paper Series No. 52.
- Laidlay, J. W. 1848. "Note on the inscriptions from Singapur and Province Wellesley", *Journal of the Asiatic Society of Bengal* 17, 2: 66–72.
- Lam, P. Y.-K. 1989. "Decorative techniques and motifs in Guangdong trade wares of the Song Dynasty." In *Guangdong Ceramics from Butuan and Other Philippine Sites*, ed. Brown, R. M. Manila: Oriental Ceramic Society of the Philippines/Singapore: Oxford University Press, 47–59.
- . 2001. "Dating criteria for Chinese blue and whites of the mid to late 15th century from shipwrecks." *Taoi* 2: 35–46.
- Lamb, A. 1961. "Miscellaneous papers on early Hindu and Buddhist settlement in northern Malaya and southern Thailand." *Federation Museums Journal* n.s. 6.
- . 1964. "Notes on beads from Johor Lama and Kota Tinggi." *JMBRAS* 37/1, 88–98.
- . 1965. "Glass beads from the Malay Peninsula." *Man* 30: 36–8.
- . 1966. "A note on glass beads from the Malay Peninsula." *Journal of Glass Studies* 8: 80–94.
- Langdon, M. and Kwa Chong Guan. 2010. "Notes on 'Sketch of the Land round Singapore Harbour, 7 February 1819'", *JMBRAS* 83, 1:1–7.
- Lankton, J. W., L. Dussubieux, and B. Gratuze. 2006. "Glass from Khao Sam Kaeo: transferred technology for an early Southeast Asian exchange network." *Bulletin de l'École Française d'Extrême-Orient* 93: 317–51.
- Lankton, J. W., L. Dussubieux, and T. Rehren. 2008. "A study of mid-first millennium CE Southeast Asian specialized glass beadmaking traditions." In *Interpreting Southeast Asia's Past: Monument, Image and Text*, ed. E. A. Bacus, I. C. Glover, and P. D. Sharrock. Selected Papers from the 10th International Conference of the European Association of Southeast Asian Archaeologists, Volume 2. Singapore: NUS Press, 335–56.
- Lansing, J. S., A. J. Redd, T. M. Karafet, J. Watkins, I Wayan Ardika, S. P. K. Surata, J. S. Schoenfelder, M. Campbell, A. M. Merriwether, M. F. Hammer. 2004 "An Indian trader in ancient Bali?" *Antiquity* 78: 287–93.
- . 2006. "Reply." *Antiquity* 80, 307. Accessed 15 Feb. 2008. <http://www.antiquity.ac.uk/projgall/lansing/index.html>
- Latham, R., trans. 1958. *The Travels of Marco Polo*. Harmondsworth: Penguin.
- Lebar, F. M., ed. and comp. 1972. *Ethnic Groups of Insular Southeast Asia*. Volume I: Indonesia, Andaman Islands, and Madagascar. New Haven: Human Relations Area Files.
- Leeds, A. 1961. "The port-of-trade in pre-European India as an ecological and evolutionary type." In *Symposium: Patterns of Land Utilization and Other Papers*, ed. V. E. Garfield. Seattle: American Ethnological Society, 26–48.

- Legge, J. 1886. *A Record of Buddhistic Kingdoms. Being an Account by the Chinese Monk Fa-Hien of His Travels in India and Ceylon (AD 399–414) in Search of the Buddhist Books of Discipline*. Oxford: Clarendon.
- Leong Sau Heng 1980 “Lembah Bujang.” In *Lembah Bujang: the Bujang Valley*. Kuala Lumpur: Persatuan Sejarah Malaysia, 5–11.
- L’Hour, M. 2001. *Le Memoire engloutie de Brunei, une aventure archeologique sous-marine*. Paris: Editions Textuel. 2 Volumes.
- Li D.-J., Jiang Z.-Y., and Guan J.-K., trans. Lin W.-L. 1980. “Chinese porcelain found in a shipwreck on the seabed off Sinan, Korea.” *Chinese Translations* No. 2. Singapore: Southeast Asian Ceramic Society: 25–50.
- Li H.-L., ed. 1979. *Nan-fang Ts’ao-mu Chuang A Fourth Century Flora of South-East Asia*. Hong Kong: Chinese University Press.
- Li Shu-Hua. 1956. “The south-pointing carriage and the mariner’s compass.” *Tsing Hua Journal of Chinese Studies* New Series 1, 1: 63–113.
- Li Z.-Y. 1993. “Song and Yuan Dehua ware found in the Philippines.” In *Chinese and South-East Asian White Ware Found in the Philippines*. Singapore: Oxford University Press, 15–29.
- Li Z.-Y. and Cheng W. 1989. *Chinese Pottery and Porcelain: Traditional Chinese Arts and Culture*. Beijing.
- Liebner, H. 2010. “Cargoes for Java: Interpreting Two Tenth-Century Shipwrecks.” Paper presented to the 13th International Conference of the European Association of South-east Asian Archaeology, Berlin.
- Lim S. H. 1958. *A History of the Land Use Pattern in Singapore*. BA Honours Academic Exercise, University of Singapore.
- Lim Tse Siang. 2012. *The Temasek Paradigm: Pre-colonial Singapore in Archaeology and History*. MA Thesis, Department of History, National University of Singapore.
- Lin Wolin. 1999. *A Re-examination of the Place Name ‘Long-ya Men’*. Singapore: The South Sea Society.
- Linehan, W. 1947. “The kings of 14th century Singapore.” *JMBRAS* 20, 2: 117–27.
- Listiyani. 2008. “Keramik Cina yang ditemukan di delta Berbak, Provinsi Jambi.” In *Arkeologi Lahan Basah di Sumatera dan Kalimantan*, ed. Sutikno. Palembang: Balai Arkeologi Palembang, 22–38.
- Liu Liangyu. 1994. “Some specimens of trade ceramics unearthed in Taiwan and Penghu—a discussion of certain questions concerning kiln origins.” *International Symposium on Ancient Chinese Trade Ceramics: Collected Papers*. Taipei: National Museum of History, 225–52.
- Liu Xingyuan, et al. 1992. *Ceramic Finds from Jingdezhen Kilns, 10th–17th Century*. Hongkong: The Fung Ping Shan Museum, the University of Hong Kong.
- Liu Xingyuan, trans. A. H.-T. Lin. 1993. “Yuan Dynasty official wares from Jingdezhen.” In *The Porcelains of Jingdezhen*, ed. R. E. Scott. London: Percival David Foundation Colloquies on Art and Archaeology in Asia 16, 33–46.
- Liu Xingyuan, trans. J. Ding. 1999. “Imperial export porcelain from late Yuan to early Ming.” *Oriental Art* 45, 1: 98–100.
- Lo J.-P. 1969. “Maritime commerce and its relation to the Sung navy.” *Journal of the Economic and Social History of the Orient* 12: 59–101.
- Locsin, L. and C. 1967. *Oriental Ceramics Discovered in the Philippines*. Rutland/Tokyo: C.E. Tuttle.
- Logan, J. R. 1849. *The Journal of the Indian Archipelago and Eastern Asia*. Singapore: J. R. Logan.
- Lombard, D. 2010 [2008]. *Gardens in Java*. Jakarta: Pusat Penelitian dan Pengembangan Arkeologi Nasional. Jakarta: École Française d’Extrême-Orient.
- Louis, F. 2010. “Metal objects on the Belitung shipwreck.” In *Shipwrecked: Tang Treasures and Monsoon Winds*, ed. Krahl, R., J. Guy, J. K. Wilson, and J. Raby. Washington DC: Arthur M. Sackler Gallery, Smithsonian Institution; Singapore: National Heritage Board, Singapore Tourism Board, 85–91.

- Loviny, C, ed. 1996. *The Pearl Road: Tales of Treasure Ships in the Philippines*. Makati City: C. Loviny.
- Low, J. 1848. "An account of several inscriptions found in Province Wellesley on the Peninsula of Malacca." *Journal of the Asiatic Society of Bengal* 17, 2: 62–6.
- Low Mei Gek, C.-A. 1996. *Discovering Pulau Saigon*. Singapore: National University of Singapore Honours Thesis.
- . 2002. "Sawankhalok-Sukhothai wares from the Empress Place site, Singapore." In *Sangkhalok-Sukhothai-Ayutthaya and Asia*, ed. Charnvit Kasetsiri. Samutprakan: Toyota Thailand Foundation/Bangkok: The Foundation for the Promotion of Social Science and Humanities Textbooks Project, 130–46.
- Lu Yaw et al. 1983. *Song Ceramics*. Singapore: Southeast Asian Ceramic Society.
- Lu Yaw, Lee Kong Chian Art Museum. 1990. *Collection of Chinese Ceramics, Bronze, Archaic Jade, Painting & Calligraphy in the Light of Recent Archaeological Discoveries*. Singapore: Singapore University Press.
- Lucas P. Koestoro, Soeroso, and P.-Y. Manguin. 1998. "An ancient site reascertained: the 1994 campaign at Kota Kapur (Bangka, South Sumatra). In *Southeast Asian Archaeology 1994*, Volume II, ed. P.-Y. Manguin. Hull: Centre for Southeast Asian Studies, 61–81.
- Luce, G. 1970. *Old Burma-Early Pagan*. New York: Artibus Asiae.
- Ma J.-C. L. 1971. *Commerce Development and Urban Change in Sung China*. PhD Dissertation, University of Michigan.
- Ma, R. "Chinese Muslims in Malaysia in different periods of history." *Colloquium on Chinese Scholarship on the Malay World Studies, 16–17 September 2002*. Bangi: Universiti Kebangsaan Malaysia, 103–19.
- Macfarlane, A. 2002. "Glass in China." Accessed 20 July 2013. www.alanmacfarlane.com/glass/ACHINA.pdf.
- Macgregor, I. A. 1955. "Johore Lama in the sixteenth century." *JMBRAS* 28, 1: 48–125.
- Machi Suhadi. 1985. "Beberapa jenis pajak pada jaman Majapahit." *REHPA* II, 1984 (1985): 215–28.
- Majumdar, R.C. 1986. *Suvarnadwipa*. Delhi: Gian. Reprint Edition. Two Volumes.
- Malleret, L. 1960. *L'archéologie du delta du Mekong. Vol. II: La civilisation matérielle d'Oc-èo. Plates*. Paris: Publications de l'École Française d'Extrême-Orient.
- . 1962. *L'archéologie du delta du Mekong. Vol. III: La culture du Fou-nan*. Paris: Publications de l'École Française d'Extrême-Orient.
- Manguin, P.-Y. 1983a. "Appendix 2. The Bukit Jakas Site, Pulau Bintan, Riau Archipelago, Indonesia." In *The Excavation of the Pattaya Wreck Site and Survey of Three Other Sites Thailand 1982*, ed. Jeremy Green and Rosemary Harper. Albert Park, Victoria: Australian Institute for Maritime Archaeology Special Publication No. 1, 83–4.
- . 1983b. *The Bukit Jakas Wreck Site, a Provisional Report*. Jakarta: École Française d'Extrême-Orient. Special Report.
- . 1984. "Relationship and cross-influences between South-East Asian and Chinese shipbuilding traditions." *Final Report, Consultative Workshop on Research on Maritime Shipping and Trade Networks in Southeast Asia*. Bangkok: SPAFA Coordinating Unit, 213–44.
- . 1985. "Late Mediaeval shipbuilding in the Indian Ocean: a reappraisal", in *Moyen Orient et Ocean Indien, XVI–XIX Siecle* 2: 1–30.
- . 1987. "Palembang et Sriwijaya: anciennes hypothèses, recherches nouvelles." *BEFEO* 76: 337–402.
- . 1991. "The merchant and the king: political myths of Southeast Asian coastal polities." *Indonesia* 52: 41–54.
- . 1992. "Excavations in South Sumatra, 1988–1990: new evidence for Sriwijayan sites." In *Southeast Asian Archaeology 1990: Proceedings of the Third Conference of the European Association of Southeast Asian Archaeologists*, ed. I.C. Glover. Hull: University of Hull, Centre for Southeast Asian Studies, 63–73.

- . 1993a. "Palembang and Sriwijaya: an early Malay harbour-city rediscovered." *JMBRAS* 66, 1: 23–46.
- . 1993b. "Trading ships of the South China Sea: Shipbuilding techniques and their role in the history of the development of Asian trade networks." *Journal of the Economic and Social History of the Orient* 36: 253–80.
- . 1993c. "The vanishing *jong*: insular Southeast Asian fleets in trade and war (fifteenth to seventeenth centuries)." In *Southeast Asia in the Early Modern Era: Trade, Power, and Belief*, ed. A. Reid. Ithaca: Cornell University, 197–213.
- . 2004. "The early maritime polities." In *Southeast Asia from Prehistory to History*, ed. I. Glover and P. Bellwood. London: RoutledgeCurzon, 282–313.
- Manguin, P.-Y. and Agustijanto Indrajaya. 2006. "The archaeology of Batujaya (West Java, Indonesia): an interim report." In *Uncovering Southeast Asia's Past. Selected Papers from the 10th International Conference of the European Association of Southeast Asian Archaeologists*, ed. E. A. Bacus, I. C. Glover and V. C. Pigott. Singapore: NUS Press, 245–57.
- Manguin, P.-Y., Soeroso, and Muriel Charras. 2006. "Daerah dataran rendah dan daerah pesisir: periode Klasik." In *Menelusuri Sungai, Merunut Waktu: Penelitian Arkeologi di Sumatera Selatan*. Jakarta: Pusat Penelitian dan Pengembangan Arkeologi Nasional, 49–64.
- Manning, A., E. Edwards McKinnon and F. E. Treloar. 1980. "Analysis of gold artifacts from the Kota Cina site near Medan, Sumatra." *JMBRAS* 53, 2: 102–16.
- Mao P. W.-C. 1979 "The *shu-fu* wares." In *South-East Asian and Chinese Trade Pottery*. Hong Kong: The Oriental Ceramic Society of Hong Kong, 22–5.
- Masefield, J., ed. 1906. *Dampier's Voyages*. 2 Volumes. New York: E. P. Dutton.
- Mason, R. B. 2003. "Petrography of pottery from Kirman." *Iran* 41: 271–8.
- Mathers, W. M. and M. Flecker. 1997. *The Archaeological Recovery of the Java Sea Wreck*. Annapolis: Pacific Sea Resources.
- Matheson, V. and B. W. Andaya 1982 *Ali al-Haji Riau, The Precious Gift=Tuhfat Al-Nafis*. Kuala Lumpur, New York: Oxford University Press.
- Matussin Omar. 1981. *Archaeological Excavations in Protohistoric Brunei*. Brunei: Muzium Brunei Penerbitan Khas no. 15.
- Maxwell, W. G. 1911. "Barretto de Resende's account of Malacca." *Journal of the Straits Branch of the Royal Asiatic Society* 60: 1–23.
- McLauchlan, R. and R. G. Thomas. 2006. "Indian traders in ancient Bali: a reconsideration of the evidence." *Antiquity* 80, 307. Accessed 15 Feb. 2008. <http://www.antiquity.ac.uk/projgall/lansing/index.html>.
- Medley, M. 1974. *Yuan Porcelain and Stoneware*. London: Faber.
- Miksic, J. N. 1979. *Archaeology, Trade, and Society in Northeast Sumatra*. Cornell University, PhD Dissertation.
- . 1984. "Penganalisaan wilayah dan pertumbuhan kebudayaan tinggi di Sumatra Selatan" [Regional analysis and the origin of civilization in South Sumatra]. *Berkala Arkeologi* 5, 1: 9–24.
- . 1985. *Archaeological Research on the 'Forbidden Hill' of Singapore: Excavations at Fort Caning, 1984*. Singapore: National Museum.
- . 1986a. "Artifact, monument, and urban site restoration." *Final Report—Seminar on Historical Sites of Banten*. Jakarta: Ditlinbinjarah.
- . 1986b. "Banten and Javanese urbanization during the Early Islamic period." Paper Presented to the 85th annual Meeting of the American Anthropological Association, Philadelphia, 3–7 Dec.
- . 1989. "Archaeology in the city: digging at Duxton Hill." *Tanjong Pagar*. Singapore: Tanjong Pagar Citizens Consultative Council, 31–42.
- . 1990. *Old Javanese Gold*. Singapore: Ideations.
- . 1994. "Recently discovered Chinese Green Glazed Wares of the Thirteenth and Fourteenth Centuries in Singapore and Riau Islands." *New Light on Chinese Yue and*

- Longquan Wares: Archaeological Ceramics Found in Eastern and Southern Asia, A.D. 800–1400*. Hong Kong: The University of Hong Kong Press, 229–50.
- . 1995. “Hubungan sejarah antara Srivijaya Palembang dan Lembah Bujang.” In *Tamadun Melayu*, ed. Ismail Hussein, A. Aziz Deraman, and Abd. Rahman Al-Ahmadi. Volume 3. Kuala Lumpur: Dewan Bahasa dan Pustaka, 894–917.
- . 2000a. “Chinese Ceramics and Local Cultural Statements in Fourteenth-Century Southeast Asia.” In *Studies in Southeast Asian Art: Essays in Honor of Stanley J. O’Connor*, ed. Nora A. Taylor. Ithaca: Cornell University, Southeast Asia Program, 194–216.
- . 2000b. “Heterogenetic cities in premodern Southeast Asia.” *World Archaeology* Volume 32, 1: 106–21.
- . 2002. “Sebuah arca timah hitam dari Tebing Sungai Singapura [A Lead Statue Recently Discovered at a Majapahit-Period Site in Singapore].” 8th Scientific Archaeology Conference, Yogyakarta (Indonesia) 15–8 Feb. 1999. In *Kumpulan Makalah Pertemuan Ilmiah Arkeologi VIII*. Jakarta: Ikatan Ahli Arkeologi Indonesia, 425–8.
- . 2003. “Thai wares in the islands of Riau Province.” In *Sangkhlok-Sukhothai-Ayuthaya and Asia*, ed. Charnvit Kasetsiri. Samutprakan: Toyota Thailand Foundation/Bangkok: The Foundation for the Promotion of Social Science and Humanities Textbooks Project, 147–51.
- . 2004. “14th-century Singapore: a port of trade.” In *Early Singapore 1300s–1819: Evidence in Maps, Text and Artefacts*, ed. J. N. Miksic and Low M. G. Singapore: Singapore History Museum, 41–54.
- . 2009. “Research on ceramic trade, within Southeast Asia and between Southeast Asia and China.” In *Southeast Asian Ceramics. New Light On Old Pottery*, ed. John Miksic. Singapore: Southeast Asian Ceramic Society, 70–99.
- . 2010a. “Geography and traditional warfare in pre-British Southeast Asia: the place of Singapore.” In *Between Two Oceans. A Military History of Singapore From 1275 to 1971*. Singapore: Marshall Cavendish, 1–35.
- . 2010b. “Why the British came to Singapore.” In *Between Two Oceans. A Military History of Singapore from 1275 to 1971*. Singapore: Marshall Cavendish, 36–55.
- . 2012. “Riverbeds of Sumatra: the latest target of treasure hunters.” *International Institute for Asian Studies Newsletter* 59, Spring: 47.
- Miksic, J. N., B. Bronson, R. Brown, and M. Flecker. 1997. *The Java Sea Wreck Archaeological Report*, ed. W. M. Mathers and M. Flecker. Annapolis: Pacific Sea Resources.
- Miksic, J. N. and Kamei Meitoku. 2010. *Research on Ceramics Discovered at the Trowulan Site in Indonesia*. Tokyo: Senshu University.
- Miksic, J. N. and C. T. Yap. 1990. “Fine-bodied white earthenwares of South East Asia: some X-ray fluorescence tests.” *Asian Perspectives* 28, 1: 45–60.
- . 1992. “Compositional analysis of pottery from Kota Cina, North Sumatra: implications for regional trade during the 12th to 14th centuries.” *Asian Perspectives* Volume 31, 1: 57–76.
- Miksic, J. N., C. T. Yap and Y. N. Hua. 1994. “Archaeology and early Chinese glass trade in Southeast Asia.” *JSEAS* 25, 1: 31–46.
- Miksic, J. N., Yap C. T., S. Fong Y. L., and K. Wan. 2000. “EDXRF Analyses of Some Yuan Dynasty Artifacts Excavated in Singapore.” *Keji kaogu luncong* [Studies in Archaeometry] 2: 228–36.
- Miksic, J. N. and Soekatno, ed. 1995. *The Legacy of Majapahit*. Singapore: National Heritage Board.
- Miksic, J. N., C. T. Yap, and Vijiyakumar. 1996. “X-Ray fluorescence analysis of glass from Fort Canning, Singapore.” *BEFEO* 83: 187–202.
- Miksic, J. N. and Lim Chen Shien. 2004. *Archaeological Research on The Padang and in the St. Andrew’s Cathedral Churchyard: St. Andrew’s Cathedral Archaeological Research Project Progress Report Summary September 2003–June 2004*. Singapore: ARI Working Paper.

- Miller, J. I. 1969. *The Spice Trade of the Roman Empire*. Oxford: Clarendon.
- Milner, A. C. 1982. *Kerajaan: Malay Political Culture on the Eve of Colonial Rule*. Tucson: University of Arizona Press, The Association for Asian Studies Monograph No. XL.
- Mills, J. V. G., ed. and trans. 1970. *Ma Huan, Ying-yai Sheng-lan*. Cambridge: Hakluyt Society.
- Mills, J. V. G. 1974. "Arab and Chinese navigators in Malaysian waters in about A.D. 1500." *JMBRAS* 47, 2: 1–82.
- . 1997. *Eredia's Description of Malaca, Meridional India, and Cathay*. Introduction by Cheah Boon Keng. Kuala Lumpur: MBRAS Reprint 14.
- Mohd. Kamaruzaman bin A. Rahman. 1989. "Penelitian awal tentang manik di Malaysia." *Jurnal Arkeologi Malaysia* 2: 82–92.
- Mohd. Nazir. 1980/81. *Benda-Benda Arkeologi Klasik Daerah Jambi*. Jambi: Proyek Pengembangan Permuseuman Jambi.
- Moore, D. and J. 1969. *The First 150 Years of Singapore*. Singapore: D. Moore.
- Moquette, J. P. "De eerste vorsten van Samoedra-Pasé (Noord Sumatra)." *Rapporten van het Outhheidkundige Dienst 1913*: 1–12.
- Mouliérac, J., J.-Y. Marin, M. Rey-Delqué. 1992. *Terres Secrètes de Samarcande*. Paris: Musée de l'Institut du Monde Arabe.
- Moulton, J. C., comp. 1921. *The Annual Report on the Raffles Museum and Library for the Year 1919*. Singapore: Government Printing Office.
- Mudar, K. M. 1999. "How many Dvaravati kingdoms? Locational analysis of first millennium AD moated settlements in central Thailand." *Journal of Anthropological Archaeology* 18: 1–28.
- Murray, D. 1994. "Silver, ships and smuggling: China's international trade of the Ming and Qing Dynasties." *Ming Qing Yanjiu*: 91–143.
- Nakagawa, T. 2000. *Annual Report on the Technical Survey of Angkor Monument 2000*. Tokyo: Japan International Cooperation Centre.
- Narveker, S. 2007. "Astronomical instruments in ancient India." Paper presented to the 12th IFToMM World Congress, Besançon (France), 18–21 June 2007.
- National Museum Singapore. 1990. "Report on the Excavation at the Parliament House and the Recovered Artifacts." Unpublished report on file at the National Heritage Board.
- Needham, J. 1958. *The Development of iron and Steel Technology in China*. London: Newcomen Society.
- Needham, J. with Wang Ling and Lu Gwei-Djen. 1971. *Science and Civilisation in China* Volume 4, Part 3: "Civil Engineering and Nautics." Cambridge: Cambridge University Press.
- Netscher, E. 1864. "Togtjes in het gebied van Riouw en onderhoorigheden (vervolg)." *TBG* 14, 5: 4th series, 1–23.
- Ng C. -K. 1991. "The case of Ch'en I-lao: maritime trade and overseas Chinese in Ch'ing policies, 1717–1754." In *Emporia, Commodities and Entrepreneurs in Asian Maritime Trade, C. 1400–1750*, ed. R. Ptak and D. Rothermund. Stuttgart: Franz Steiner Verlag.
- Nie D. 1997. "Chinese merchants and their maritime activities under the ban on maritime trade in the Ming Dynasty (1368–1567)." *Ming Qing Yanjiu*: 69–92.
- Nik Hassan Shuhaimi bin Nik Abdul Rahman. 2011. "The archaeology of later prehistoric ports and pre-Melakan entrepots and evidence of inter-regional trade in Malaysia." In *Ancient Harbours in Southeast Asia*, ed. J. N. Miksic and G. Y. Goh. Bangkok: SEAMEO SPAFA, 69–80.
- Nik Hassan Shuhaimi bin Nik Abdul Rahman and Othman Mohd. Yatim. 1990. *Antiquities of Bujang Valley*. Kuala Lumpur: Museum Association of Malaysia.
- Nik Hassan Shuhaimi bin Nik Abdul Rahman and Kamaruddin bin Zakaria. 1993. "Recent archaeological discoveries in Kedah." *JMBRAS* 66, 2: 73–80.
- Nishimura, M. 1992. *Long Distance Trade and the Development of Complex Societies in the Prehistory of the Central Philippines: the Cebu Central Settlement Case*. PhD Dissertation, University of Michigan. 3 Volumes.

- Nordman, D. 1998. "La Méditerranée dans la pensée géographique française (vers 1800–vers 1950)." In *From the Mediterranean to the China Sea: Miscellaneous Notes*, ed. C. Guillot, D. Lombard, R. Ptak. Wiesbaden: Harrassowitz Verlag, 1–20.
- Nurhadi Rangkuti. 2008. "Arkeologi Lahan basah di Sumatera Bagian selatan." In *Arkeologi Lahan Basah di Sumatera dan Kalimantan*, ed. Sutikno. Palembang: Balai Arkeologi Palembang, 1–21.
- O'Connor, S. J. 1972. *Hindu Gods of Peninsular Siam*. Ascona: Artibus Asiae.
- . 1974. "Buddhist votive tablets and caves in Peninsular Thailand." In *Art and Archaeology in Thailand: in Commemoration of the 100th Anniversary of the National Museum*. Bangkok: Fine Arts Department, 67–84.
- . 1985. "Metallurgy and Immortality at Candi Sukuh, Central Java." *Indonesia* 39: 53–70.
- Oudheidkundig Verslag*. 1912. Batavia: Albrecht & Co.'s Hage: M. Nijhoff. Commissie in Nederlandsch-Indië voor Oudheidkundig Onderzoek op Java en Madoera. Bataviaasch Genootschap van Kunsten en Wetenschappen.
- Van Orsoy de Flines, E. W. 1941–7. "Onderzoek naar en van keramische scherven in de bodem in Noordelijk Midden-Java, 1940–42." *Oudheidkundige Verslag*, Bijlage A: 66–84.
- Pagani, L., trans. S. Knight. 1990. "Introduction." *Cosmography. Maps From Ptolemy's Geography. Claudii Ptolemaei Cosmographia Tabulae*. Leicester: Magna Books.
- Panitia Nasional. 2010. *Catalogue of the Cirebon Wreck, Sunken Treasures from the Tenth Century (Five Dynasties or Early Northern Song)*. Jakarta: Ministry of Maritime Affairs.
- Peacock, B. A. V. "New light on the ancient settlements of Kedah and Province Wellesley." In *Lembah Bujang*, ed. Persatuan Sejarah Malaysia. Kuala Lumpur: Percetakan, United Selangor, 1980, 82–8.
- Pearson, R., Li Min, and Li Guo. 2001. "Port, city, and hinterlands: archaeological perspectives on Quanzhou and its overseas trade." In *The Emporium of the World: Maritime Quanzhou, 1000–1400*, ed. A. Schottenhammer. Leiden: Brill, 177–235.
- . 2002. "Quanzhou archaeology: a brief review." *IJNA* 6, 1: 23–59.
- Peng Shifan et al. 2002. *Yuan and Ming Blue and White Ware from Jiangxi*. Jiangxi: Jiangxi Provincial Museum; Hong Kong: The Art Museum, The Chinese University of Hong Kong.
- Perret, D. and Sugeng Riyanto. 1998. "Les poteries proche-orientales engobées à décor incisé et jaspé de Lobu Tua. Étude préliminaire." In *Histoire de Barus: Le Site de Lobu Tua. I. Études et Documents*, ed. C. Guillot. Paris: Cahiers d'Archipel 30, 169–88.
- Perret, D. and Heddy Surachman. 2009. "Verre." In *Histoire de Barus III. Regards sur une place marchande de l'océan Indien (XIIe–milieu du XVIIe s.)*, ed. D. Perret and Heddy Surachman. Paris: Cahiers d'Archipel 38, 325–84.
- Phraya Lithai, trans. F. E. Reynolds and M. Reynolds. 1982. *The Three Worlds According to King Ruang: A Thai Buddhist Cosmology*. Berkeley: Center for South and Southeast Asian Studies, Berkeley Buddhist Series 4.
- Picard, Ch. 1955. "La lampe Alexandrine de P'ong Tuk (Siam)." *Artibus Asiae* 18: 137–49.
- Pigeaud, T. G. Th. 1960. *Java in the Fourteenth Century: A Study in Cultural History*. The Hague: M. Nijhoff, Koninklijk Instituut voor Taal-, Land- en Volkenkunde, Translation Series no. 4, Volumes II, III.
- Polanyi, K. C., M. Arensberg, and H. W. Pearson, ed. 1957. *Trade and Market in the Early Empires*. New York: Free Press.
- Price, H. 1921. "Planting in Singapore." In *One Hundred Years of Singapore*, ed. W. Makepeace, G. E. Brooke, and R. St. J. Braddell. London: John Murray. Vol II: 79–84.
- Prior, R. 1998. "Ceramics from early historical sites in Vietnam." In *Southeast Asian Archaeology 1994*, ed. P.-Y. Manguin. Hull: Centre for Southeast Asian Studies, University of Hull, 92–110.
- Prishanchit, S. 1996. "Maritime trade during the 14th to 17th century: evidence from the underwater archaeological sites in the Gulf of Thailand." In *Ancient Trades and Cultural*

- Contacts in Southeast Asia*. Bangkok: The Office of the National Culture Commission, 275–300.
- Pryce, T. O., B. Bellina-Pryce, and A. T. N. Bennett. 2006. “The development of metal technologies in the Upper Thai-Malay Peninsula: initial interpretation of the archaeological evidence from Khao Sam Kaeo.” *Bulletin de l'École Française d'Extrême-Orient* 93: 295–315.
- Ptak, R. 1991. “China and the trade in tortoise-shell (Sung to Ming periods).” In *Emporia, Commodities and Entrepreneurs in Asian Maritime Trade, C. 1400–1750*, ed. R. Ptak and D. Rothermund. Stuttgart: Franz Steiner Verlag.
- . 1995. “Images of maritime Asia in two Yuan texts: *Daoyi zhilue* and *Yiyu zhi*.” *Journal of Song-Yuan Studies* 25: 47–75.
- . 1998a. “Ming maritime trade in Southeast Asia, 1368–1567: visions of a ‘system’.” In *From the Mediterranean to the China Sea: Miscellaneous Notes*, ed. C. Guillot, D. Lombard, and R. Ptak. Wiesbaden: Harrassowitz Verlag, 157–91.
- . 1998b. “Possible Chinese references to the Barus area (Tang to Ming).” In *Histoire de Barus: Le Site de Lobu Tua. I. Études et Documents*, ed. C. Guillot. Paris: Cahiers d'Archipel 30, 119–47.
- . 2001. “Quanzhou: at the northern edge of a Southeast Asian ‘Mediterranean.’” In *The Emporium of the World: Maritime Quanzhou, 1000–1400*, ed. A. Schottenhammer. Leiden: Brill, 395–428.
- Raffles, Lady Sophia. 1991 [1830]. *Memoir of the Life and Public Services of Sir Thomas Stamford Raffles*. Singapore: Oxford University Press.
- Raffles, Sir T. S. 1978 [1817]. *The History of Java*. Petaling Jaya: Oxford University Press. 2 Volumes.
- Raja Ali Haji ibn Ahmad, trans. V. Matheson and B. W. Andaya. 1982. *The Precious Gift (Tuhfat al-Nafis)*. Kuala Lumpur: Oxford University Press.
- Rao, K. P. 2004. “Kottapatnam—a South Indian port trading with eastern lands.” In *In Search of Chinese Ceramic-sherds In South India and Sri Lanka*, ed. Karashima, Noboru. Tokyo: Taisho University Press, 11–5.
- Reid, A. R., 1980. “The structure of cities in Southeast Asia, fifteenth to seventeenth centuries.” *JSEAS* 11, 2: 235–50.
- . 1988. *Southeast Asia in the Age of Commerce 1450–1680*. Volume 1: The Lands below the Winds. New Haven: Yale University.
- . 1992. “The rise and fall of Sino-Javanese shipping.” In *Looking in Odd Mirrors: The Java Sea*, ed. V. J. H. Houben, H. M. J. Maier, and W. van der Molen. Leiden: Vakgroep Talen en Culturen van Zuidoost-Azie en Oceanie.
- . 1993a. *Southeast Asia in the Age of Commerce 1450–1680*. Volume Two: “Expansion and Crisis.” New Haven: Yale University Press.
- . 1993b. “The unthreatening alternative: Chinese shipping in Southeast Asia 1567–1842.” *Review of Indonesian and Malaysian Affairs* 27, 1–2: 13–32.
- . 1996. “Flows and seepages in the long-term Chinese interaction with Southeast Asia.” In *Sojourners and Settlers: Histories of Southeast Asia and the Chinese*, ed. A.R. Reid. St. Leonards: Allen and Unwin, 15–49.
- . 2001. “Understanding Melayu (Malay) as a source of diverse modern identities.” *JSEAS* 3: 295–314.
- Reith, Rev. G. M. 1892. *Handbook to Singapore*. Singapore: Singapore and Straits Printing Office.
- Renfrew, C. 1975. “Trade as Action at a distance: questions of integration and communication.” In *Ancient Civilization and Trade*, ed. J. A. Sabloff and C.C. Lamberg-Karlovsky. Albuquerque: University of New Mexico Press, 3–60.
- Report of the Fourth Intra-ASEAN Archaeological and Conservation Workshop Singapore, 1–21 November 1987*. Unpublished Report on File with the National Archives, Singapore.

- Retno Purwanti. 2009. "Kolam Telagarajo situs Muarajambi: fungsinya di masa lalu." In *Muaro Jambi Dulu, Sekarang, dan Esok*, ed. Mundardjito. Palembang: Balai Arkeologi Palembang, 59–74.
- van Rijn van Alkemade, J. A. 1883. "De hoofdplaats Palembang." *Tijdschrift van het Nederlandsch Aardrijkskundige Genootschap* 7: 51–69.
- Robson, S. 1995. *Desawarnana (Nagarakertagama) by Mpu Prapañca*. Leiden: KITLV Press.
- Rockhill, W. W. 1914. "Notes on the relations and trade of China with the Eastern Archipelago and the coast of the Indian Ocean during the fourteenth century." *T'oung Pao* 15: Part 1, 419–47; Part 2, 61–159, 236–71, 374–92, 435–67, 604–26.
- Rouffaer, G. P. 1921. "Was Malaka emporium voor 1400 A.D. genaamd Malajoer? En waar lag Woerawari, Ma-Hasin, Langka, Batoesawar?" *Bijdragen tot de Taal-, Land- en Volkenkund van Nederlandsch-Indie* 77,1: 1–174, 359–600.
- Saitowitz, S. J. and D. L. Reid. 2001. "Early Indian Ocean glass bead trade between Egypt and Malaysia: a pilot study." *Bulletin of the Indo-Pacific Prehistory Association* 21, 5: 119–23.
- Salmon, S. 2002. "Srivijaya, la Chine et les marchands chinois (Xe–XIIe s.). Quelques réflexions sur la société de l'empire sumatranais." *Archipel* 63: 57–78.
- Sampaongen, Pongdhan. 2004. "Archaeological evidences in the upper Malay Peninsular: related to the religion and belief." In *Thailand-Malaysia: Malay Peninsula Archaeology Programme*. Unpublished Seminar Report.
- dos Santos Alves, J. M. 1998. "The foreign traders' management in the Sultanates of the Straits of Malacca." In *From the Mediterranean to the China Sea: Miscellaneous Notes*, ed. C. Guillot, D. Lombard, and R. Ptak. Wiesbaden: Harrassowitz Verlag, 131–42.
- Sastri, K. A. Nilakanta. 1949. *History of Sri Vijaya*. Madras: University of Madras.
- . 1949a. "Takuapa and its Tamil Inscription." *JMBRAS* 22, 1: 25–30.
- Schafer, E. W. 1967. *The Vermilion Bird: Tang Images of the South*. Berkeley: University of California Press.
- Schoff, W. H. 1912. *The Periplus of the Erythraean Sea*. New York: Longman Green.
- Schottenhammer, A. 2001. "The role of metals and the impact of the introduction of Huizi paper notes in Quanzhou on the development of maritime trade in the Song period." In *The Emporium of the World: Maritime Quanzhou, 1000–1400*, ed. A. Schottenhammer. Leiden: Brill, 95–176.
- Schweizer, A.-V. 2000. "La dynastie d'Indrapura (Quang Nam, Viet Nam)." In *Southeast Asian Archaeology 1998*, ed. W. Lobo and S. Reimann. Proceedings of the 7th International Conference of the European Association of Southeast Asian Archaeologists. Hull: Centre for South-East Asian Studies, University of Hull/Berlin: Ethnologisches Museum, Staatliche Museum zu Berlin, Stiftung Preußischer Kulturbesitz, 205–18.
- Seligman, C. G. and H. C. Beck. 1938. "Far eastern glass: some western origins." *Museum of Far Eastern Antiquities Bulletin* 10: 1–64.
- Sen, Tansen. 1996. "Administration of maritime trade during the Tang and Song dynasties." *China Report* 32, 3: 251–65.
- . 2003. *Buddhism, Diplomacy and Trade: The Realignment of Sino-Indian Relations, 600–1400*. Honolulu: University of Hawaii.
- Van Sevenhoven, J. L. 1825. "Beschrijving van het hoofdplaats Palembang." *Verhandelingen van het Bataviaasch Genootschap* 9: 41–126.
- Seyock, B. 2007. "Trade ceramics from the Goto Islands (Japan), circa sixteenth to early seventeenth century: the Yamami underwater site (Ojika) and related issues." *Asian Perspectives* 46, 2: 335–60.
- Shackley, M. 1988. "Sources of archaeological obsidian in the southwest." *American Antiquity* 53/4: 752–72.
- Shah Alam bin Mohd. Zaini. 1997. *Metal Finds and Metal-Working at the Parliament House Complex, Singapore*. MA Thesis, University of Michigan, Ann Arbor.
- Shah Alam bin Mohd. Zaini and A. Cowan. 2006. *Survey of the Lower Batang Hari*. Unpublished Report.

- Shamsul A. B. 2001. "A history of an identity, an identity of a history: the idea and practice of 'Malayness' in Malaysia reconsidered." *JSEAS* 32, 3: 355–66.
- Shellabear, W. G. 1975. *Sejarah Melayu*. Petaling Jaya: Penerbit Fajar Bakti.
- Shen Hsueh-Man. 2002. "Luxury or necessity: glassware in *sarīra* relic pagodas of the Tang and Northern Song periods." In *Chinese Glass: Archaeological Studies on the Uses and Social Context of Glass Artefacts from the Warring States to the Northern Song Period (fifth century B.C. to twelfth century A.D.)*. *Orientalia Venetiana XIV*, ed. Cecilia Braghin. Firenze: Leo S. Olschki Editore, 71–110.
- Shi Yōng Gu Han You Da Ci Dian*. 1995. N. P.: Henan People's Press.
- Sjostrand, S. 1997. "The 'Xuande' wreck ceramics." *Oriental Art* 43, 3: 7–14.
- Sjostrand, S., Adi Haji Taha, and Samsol Sahar. 2006. *Mysteries of Malaysian Shipwrecks*. Kuala Lumpur: Department of Museums Malaysia.
- Skeat, W. W. and H. N. Ridley. 1969. "The Orang Laut of Singapore." *JMBRAS* 42, 1: 118–20.
- So, Billy K. L. 1994. "Trade ceramics industry in southern Fukien during the Song." *Journal of Song Yuan Studies* 24: 1–19.
- . 2000. *Prosperity, Region, and Institutions in Maritime China. The South Fukien Pattern, 946–1368*. Cambridge (Mass.): Harvard University Asia Center.
- Solheim, W. G. II. 1965. "The prehistoric earthenware pottery of Tanjong Kubor, Santubong." *Sarawak Museum Journal* 12, 25–6: 1–62.
- . 1984. "Southeast Asian prehistoric pottery." In *Studies on Ceramics*. Jakarta: Pusat Penelitian Arkeologi Nasional, 131–55.
- . 2003. "Southeast Asian earthenware pottery and its spread." In *Earthenware in Southeast Asia*, ed. J. N. Miksic. Singapore: Singapore University Press, 1–21.
- Solheim, W. G. II and E. Green. 1965. "Johore Lama Excavations, 1960." *Federation Museums Journal* X. Special Issue.
- Sopher, D. E. 1977. *The Sea Nomads*. Singapore: National Museum Singapore.
- Southworth, W. 2000. "Notes on the political geography of Campa in central Vietnam during the late 8th and early 9th centuries A.D." In *Southeast Asian Archaeology 1998. Proceedings of the 7th International Conference of the European Association of Southeast Asian Archaeologists*, ed. W. Lobo and S. Reimann. Hull: Centre for South-East Asian Studies, University of Hull/Berlin: Ethnologisches Museum, Staatliche Museum zu Berlin, Stiftung Preußischer Kulturbesitz, 237–44.
- Spence, J. D. 1985. *The Memory Palace of Matteo Ricci*. New York: Penguin.
- Sri Patmiarsi Retnaningtyas. 2004. *Permukiman di Delta Batanghari, Pesisir Timur Jambi, Abad 11–13 Masehi*. MA Thesis, Program Studi Arkeologi, Fakultas Ilmu Pengetahuan Budaya Universitas Indonesia, Depok.
- Sri Soejatmi Satari. 1985. "Kehidupan ekonomi di Jawa Timur dalam abad xiii–xv." *REHPA II, 1984*: 331–42.
- Srisuchat, A. 1994. "Discovering Chinese Yue and Longquan green glazed wares and reconsidering their socio-economic roles in the development of ancient communities in Thailand." In *New Light on Chinese Yue and Longquan Wares: Archaeological Ceramics Found in Eastern and Southern Asia, A.D. 800–1400*, ed. Ho Chuimei. Hong Kong: Centre of Asian Studies, The University of Hong Kong, 213–28.
- . 1996. "Merchants, merchandise, markets: archaeological evidence in Thailand concerning maritime trade interaction between Thailand and other countries before the 16th century A.D." In *Ancient Trades and Cultural Contacts in Southeast Asia*. Bangkok: The Office of the National Culture Commission, 237–66.
- . 2003. "Earthenware from archaeological sites in southern Thailand: the first century B.C. to the twelfth century A.D." In *Earthenware in Southeast Asia*, ed. J. N. Miksic. Singapore: Singapore University Press, 249–61.
- Stammeshaus, F. W. 1946 "Atjehsche munten." *Cultureel Indie* 8: 113–21.

- Stark, M. T. 2006. "Pre-Angkorian settlement trends in Cambodia's Mekong Delta and the Lower Mekong Archaeological Project." *Bulletin of the Indo-Pacific Prehistory Association* 26: 98–109.
- van Stein Callenfels, P. V. 1926. "Oudheidkundige aantekeningen." *Oudheidkundige Verslag 1926*, 165–9.
- Subbarayalu, Y. 1998. "The Tamil merchant-guild inscription at Barus. A rediscovery." In *Histoire de Barus: Le Site de Lobu Tua. I. Études et Documents*, ed. C. Guillot. Paris: Cahiers d'Archipel 30, 25–33.
- Subrahmanyam, S. 1998. "Notes on circulation and asymmetry in two Mediterraneans, ca. 1400–1800." In *From the Mediterranean to the China Sea: Miscellaneous Notes*, ed. C. Guillot, D. Lombard, and R. Ptak. Wiesbaden: Harrassowitz Verlag, 21–43.
- Sukarto K. Atmodjo, M. M. 1986. "Mengungkap masalah pembacaan prasati Pasrujambe." *Berkala Arkeologi* 7/1: 39–55.
- Sullivan, Michael. 1962. "Notes on Chinese export wares in Southeast Asia." *Transactions of the Oriental Ceramic Society* 33: 61–77.
- Sumarah Adhyatman. 1981. *Keramik Kuna Yang Ditemukan di Indonesia. Antique Ceramics Found in Indonesia*. Jakarta: Himpunan Keramik Indonesia. The Ceramic Society of Indonesia.
- Sunarto H. and V. Sukanda-Tessier. 1983. *Cariosan Prabu Silihwangi*. Jakarta/Bandung: École Française d'Extrême-Orient. Naskah dan Dokumen Nusantara. Textes et documents Nousantariens IV.
- Swan, R. and D. Scott. 1990. "Gold work from Kota Cina: a technical study." In *Southeast Asian Archaeology 1986*, ed. I. and E. Glover. Oxford: BAR International Series 561, 261–74.
- Tagliacozzo, E. 2004. "A necklace of fins: marine goods trading in maritime Southeast Asia, 1780–1860." *International Journal of Asian Studies* 1, 1: 23–48.
- Takakusu, J. 1896. *A Record of the Buddhist Religion as Practised in India and the Malay Archipelago (AD 671–695) by I-Tsing*. Oxford: Clarendon.
- Tan, R. C. et al. 1993. *Chinese and South-East Asian White Ware Found in the Philippines*. Singapore: Oxford University Press.
- Tan, R. C. 1998/99. "A note on the dating of Ming minyao blue and white ware." *Oriental Art* 44, 4: 69–76.
- . 2005. "Prosperity in Quanzhou during the 12th–14th centuries and its impact on the ceramic industry of Fujian with reference to Philippine finds." In *Proceedings of the International Conference: Chinese Export Ceramics and Maritime Trade, 12th–15th Centuries*, ed. Cheng Pei-Ki, Li Guo, and Wan Chui Ki. Hong Kong: Chinese Civilisation Centre, University of Hong Kong, 230–52.
- Tan Y. S. 1974. "The Sri Vijayan inscription of Canton (A.D. 1079)." In *Papers on Early South-East Asia*, ed. C. Jack-Hinton. Singapore: The Journal of Southeast Asian History, 17–24.
- . 1975. "Chinese element in the Islamisation of Southeast Asia—a study of Njai Gede Pinatih, the great lady of Gresik." *Journal of the South Seas Society* 30, 1/2: 19–27.
- Taylor, K. W. 1983. *The Birth of Vietnam*. Berkeley: University of California Press.
- Tegengren, F. R. 1920. "The quicksilver deposits of China." *Geological Survey of China* 2: 1–36.
- Temple, R. 1986. *The Genius of China. 3,000 Years of Science, Discovery, and Invention*. Introduction by Joseph Needham. New York: Simon & Schuster.
- Temple, R., ed. 1914–36. *The Travels of Peter Mundy in Europe and Asia, 1608–1667*. London: Hakluyt Society, Series 2. 5 Volumes.
- Than Tun. 2003. *Myanmar Terracottas. Pottery in Myanmar and Votive Tablets of Myanmar*. Yangon: Khyit Saya Sape.
- Theunissen R., P. Grave and G. Bailey. 2000. "Doubts on diffusion: challenging the assumed Indian origin of Iron Age agate and carnelian beads in Southeast Asia." *World Archaeology* 32, 1: 84–105.

- Thorn, Maj. William. 1815. *Memoir of the Conquest of Java*. London: T. Egerton,
- Tibbetts, G. R. 1971. *Arab Navigation in the Indian Ocean before the Coming of the Portuguese*. London: Oriental Translation Funds, New Series XLIII, RAS.
- . 1979. *A Study of the Arabic Texts Containing Material on South-East Asia*. Leiden: E.J. Brill.
- T'ien J.-K. 1981. "Chêng Ho's voyages and the distribution of pepper in China." *Journal of the Royal Asiatic Society* 2: 186–97.
- Tim Peneliti. 1992. *Laporan Penelitian Sumatra Barat Tahap II di Situs Padang Rokok, Desa Sungailangsar-Siluluk, Kecamatan Perwakilan Pulaupanjang Kabupaten Sawahlunto-Sijunjung, Sumatra Barat*. Jakarta: Pusat Penelitian Arkeologi. (Stenciled)
- Tim Penelitian Arkeologi Klasik (TPAK). 1996/97. *Laporan Penelitian Arkeologi: Situs Gedung-karya, Kabupaten Batang Hari, Propinsi Jambi*. Jakarta: Departemen Pendidikan dan Kebudayaan, Pusat Penelitian Arkeologi Nasional.
- Ting, Joseph S. P. ed. 1996. *The Maritime Silk Route: 2000 Years of Trade on the South China Sea*. Hong Kong: The Urban Council of Hong Kong.
- Tobler, A. 1921 "Djambi Verslag uitkomsten van het geologisch-mijnbouwkundige onderzoek in de residentie Djambie 1906–1912." *Jaarboek van het Mijnwezen in Nederlandsch Oost-Indie. Verhandelingen* 48.3.
- Tregear, M. and S. Vainker. 2000. *Art Treasures in China*. New York Harry N. Abrams.
- Treloar, F. E. 1967. "Ritual objects illustrating Indian alchemy and Tantric religious practice." *Isis* 58: 396–7.
- . 1968. "Chemical analysis of some metal objects from Chandi Bukit Batu Pahat, Kedah: suggested origin and date." *JMBRAS* 41: 193–8.
- . 1972. "The use of mercury in metal ritual objects as a symbol of Siva." *Artibus Asiae* 34/2–3: 232–40.
- . 1974. "Stoneware bottles in the Sarawak Museum: vessels for mercury trade?" *SMJ* 20: 40–1.
- Tri Marhaeni SB. 2010. "Pengamatan di situs-situs Arkeologi." In *Expedisi Sriwijaya. Mencari Jalur Yang Hilang*, ed. Bambang Budi Utomo. Palembang: Balai Arkeologi Palembang, 27–47.
- Trocki, C. A. 1979. *Prince of Pirates*. Singapore: Singapore University Press.
- van Tuijn, J. 1932. "De batoe-manik van oost Palembang en de noordelijk Lampoengdistricten." *De Mijningenieur* 2: 20–2.
- Tweedie, M. W. F. 1953. "The Stone Age in Malaya." *JMBRAS* 26, 2.
- Veeraprasert, Mayuree. 1992. "Khlong Thom: an ancient bead-manufacturing location and an ancient entrepot." In *Early Metallurgy, Trade and Urban Centres in Thailand and Southeast Asia*, ed. I. Glover, P. Succhitta, and J. Villiers, 149–61. Bangkok: White Lotus.
- Vickery, M. 1998. *Society, Economics, and Politics in Pre-Angkor Cambodia: The 7th–8th Centuries*. Tokyo: The Centre for East Asian Cultural Studies for UNESCO/The Toyo Bunko.
- Võ Sĩ Khai. 1997. "Plans architecturaux des anciens monuments du Delta du Mékong du I^{er} au 10^e siècles AD." In *Southeast Asian Archaeology 1994*, ed. Pierre-Yves Manguin. Volume I. Hull: Centre for Southeast Asian Studies, University of Hull, 207–14.
- Wade, G. P. 1991. "The *Ming Shi-lu* as a source for Southeast Asian history—14th to 17th centuries." Paper presented at the 12th Conference of the International Association of Historians of Asia. Hong Kong: University of Hong Kong.
- . 1994. *The Ming Shi-lu (Veritable Records of the Ming Dynasty) as a Source for Southeast Asian History 14th to 17th Centuries*. PhD Thesis, University of Hong Kong. Volumes I–III.
- . 2000. "The Ming Shi-lu as a source for Thai history." *JSEAS* 31, 2: 249–94.
- Wake, C. 1997. "The great ocean-going ships of southern China in the age of Chinese maritime voyaging to India, twelfth to fifteenth centuries." *International Journal of Maritime History* 9, 2: 51–81.
- Walker, M. J. and Santoso S. 1977 "Romano-Indian rouletted pottery in Indonesia." *Mankind* 11: 39–45.

- . 1980 “Romano-Indian rouletted pottery in Indonesia.” *Asian Perspectives* 20, 2: 228–35.
- Wallace, A. R. 1869. *The Malay Archipelago*. London: Macmillan.
- Wan Maggie C. K. 2003. “Motifs with an intention: reading the eight trigrams on official porcelain of the Jiaying period (1522–1566).” *Artibus Asiae* LXIII, 2: 191–221.
- Wang G. W. 1958. “The Nanhai trade. A Study of the Early History of Chinese Trade in the South China Sea.” *JMBRAS* 31, 2: 1–135.
- . 1991 *China and the Overseas Chinese: Selected Essays*. Singapore: Eastern Universities Press.
- . 1992 *Community and Nation. China, Southeast Asia and Australia*. St. Leonards, NSW: Asian Studies Association of Australia in association with Allen & Unwin.
- Warmington, E. H. 1928. *The Commerce Between the Roman Empire and India*. Cambridge: Cambridge University Press.
- Wee, V. 1985. *Melayu: Hierarchies of Being in Riau*. Australian National University, PhD Dissertation.
- Weeraprajak, K. 1985. “Inscriptions from South Thailand.” In *SPAFA Final Report, Consultative Workshop on Archaeological and Environmental Studies on Srivijaya (I-W2b)*. Bangkok: SPAFA. Appendix 5c: 131–60.
- Wheatley, P. 1959. “Geographical notes on some commodities involved in Sung maritime trade.” *JMBRAS* 32, 2: 1–140.
- . 1961. *The Golden Khersonese*. Kuala Lumpur: University of Malaya Press.
- . 1983. *Nagara and Commandery: Origins of the Southeast Asian Urban Traditions*. Chicago: University of Chicago Department of Geography, Research Paper No. 207–8.
- Wheeler, R. M. 1954. *Rome Beyond the Imperial Frontiers*. London: G. Bell.
- Wicks, R. 1992. *Money, Markets, and Trade in Early Southeast Asia: the Development of an Indigenous Monetary System to AD 1400*. Ithaca: Cornell University Southeast Asia Program.
- Williams-Hunt, P. D. R. 1951. “Recent archaeological discoveries in Malaya (1945–1950).” *JMBRAS* 24, 1: 186–91.
- Wilson, J. K. and M. Flecker. 2010. “Dating the Belitung shipwreck.” In *Shipwrecked: Tang Treasures and Monsoon Winds*, ed. R. Krahl, J. Guy, J. K. Wilson, and J. Raby. Washington DC: Arthur M. Sackler Gallery, Smithsonian Institution; Singapore: National Heritage Board, Singapore Tourism Board, 35–7.
- Winstedt, R. O. 1938. “The Malay Annals or Sejarah Melayu. The earliest rescension from MS. No. 18 of the Raffles collection, in the Library of the Royal Asiatic Society, London.” *JMBRAS* XVI, III.
- . 1969. “Gold ornaments dug up at Fort Canning, Singapore.” *JMBRAS* 42, 1: 49–52.
- Wolters, O. W. 1958. “Tambralinga.” *BSOAS* 21/3: 587–607. Reprinted in Vladimir Braginsky, ed. 2002 *Classical Civilisations of Southeast Asia*. London, New York: RoutledgeCurzon, 84–104.
- . 1966. “A note on the capital of Srivijaya during the eleventh century.” In *Essays Offered to G.H. Luce, Vol. I*, ed. B. Shin, J. Boisselier and A. B. Griswold. Ascona: Artibus Asiae, 225–39.
- . 1967. *Early Indonesian Commerce: A Study of the Origins of Srivijaya*. Ithaca: Cornell.
- . 1970. *The Fall of Srivijaya in Malay History*. Ithaca: Cornell.
- . 1975 “Landfall on the Palembang coast in medieval times.” *Indonesia* 20: 1–54.
- . 1979. “Studying Srivijaya.” *JMBRAS* 52, 2: 1–32.
- Wong, G. 1979. *A Comment on the Tributary Trade Between China and Southeast Asia*. Singapore: Southeast Asian Ceramic Society, Transaction 7.
- Wong Wai-ye. 2011. “Kwantung jar sherds with stamped potters’ marks found in the 14th century Fort Canning archaeological site, Singapore and related problems about some ceramic vessels of shipwrecks and their cargoes.” In *Navigation: Trace of Civilization*. Shanghai: National Maritime Museum of China, Shanghai Gujī Chubanshe, 80–114.

- Worsley, P. 1986. "Narrative bas-reliefs at Candi Surawana." In *Southeast Asia in the 9th to 14th Centuries*, ed. D. G. Marr and A. C. Milner. Singapore: ISEAS/Canberra: Research School of Pacific Studies, Australian National University, 335–68.
- Writing Group Reporting on the Excavation of a Sung Dynasty seagoing vessel at Ch'üan-chou Bay, trans. Douglas Merwin. 1977. "A brief report on the excavation of a Sung Dynasty Seagoing Vessel at Ch'üan-chou Bay." *Chinese Sociology and Anthropology* 9, 3: 6–53.
- Wurtzburg, C. E. 1984. *Raffles of the Eastern Isles*. Singapore: Oxford University Press.
- Xu Qingquan. 1983. "Song chuan cu tu de xiao kou tao ping nian dai he yong tu de tan tao." [Analysis of the period and uses of the 'small-mouthed jars' excavated from a Sung ship.] *Hai jiao shi yan jiu* 5: 112–4.
- Yamagata, M. and Nguyen Kim Dung. 2010. "Ancient roof tiles found in central Vietnam." In *50 Years of Archaeology in Southeast Asia: Essays in Honour of Ian Glover*, ed. B. Bellina, E. A. Bacus, T. O. Pryce, and J. W. Christie. Bangkok: River Books, 194–205.
- Yang Shaoxiang. 1985. "A brief account of ceramic exports from Guangdong during the Tang and Song Dynasties." In *Ceramic Finds from Tang and Song Kilns in Guangdong*. Hong Kong: Fu Ping Shan Museum, University of Hong Kong, 22–31.
- Yang Xiaochuan. 1998. "Ceramic production and export in Nanan during the Song and Yuan periods." Paper presented at the Conference on Fujian Ceramics and Their Trade in Southeast Asia in Singapore, Singapore History Museum, 24–26 Apr. 1998.
- Yi J.-L. and Tu S. J. 1991. "Chinese glass technology in Boshan around the 14th century." In *Scientific Research in Early Chinese Glass*, ed. R. H. Brill and J. H. Martin. Corning: Corning Museum of Glass, 99–101.
- Yukongdi, Pakpadec and Pornthip Pantukowit. 2004. "A report on the excavation of ancient Yarang monument." *Thailand-Malaysia: Malay Peninsula Archaeology Programme*. Unpublished Report of a Seminar.
- Zainie, C. (with T. Harrison). 1967. "Early Chinese stonewares excavated in Sarawak, 1947–1967[:] a suggested first basic classification." *SMJ* XV, 30–1 (New Series): 30–90.
- Zeng Fan, trans. Poon Ching-han. 1990 "An archaeological study of ceramics from the Dehua kilns in Fujian." In *Dehua Wares*. Hong Kong: Fung Ping Shan Museum, University of Hong Kong, 26–34.
- Zhu Boqian. 1998. *Longquanyao Qingci/Celadons from Longquan Kilns*. Taipei: Artist Publishing Company.
- Zoetmulder, P. J. 1982. *Old Javanese-English Dictionary*. 's-Gravenhage: M. Nijhoff.



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