CHINESE CERAMICS AND THE ECONOMICS OF EARLY SOUTHEAST ASIAN URBANISATION, 14TH TO 16TH CENTURIES

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ABSTRACT

Archaeological research in Singapore has identified more than 10 sites within the boundaries of a settlement founded at the beginning of the 14th century. The settlement appears to have covered an area of about 85 hectares by the middle of that century. Thereafter, it contracted to a small outpost at the mouth of the Singapore River before disappearing around 1600. The ceramics from this research are still being sorted, but it is now possible to compare the proportions of different types of Chinese ceramics at these sites, and to examine the implications of these proportions for the interpretation of some aspects of early settlement in Singapore.

The study of Chinese ceramics has fallen into an odd kind of limbo in Southeast Asian archaeology. There are large numbers of collectors and connoisseurs who have produced a voluminous literature on the subject, but their interests do not overlap very much with anthropologically-oriented archaeologists since they are not usually interested in provenance or context. They have developed abstruse typologies and specialized vocabularies, only a portion of which is directly relevant to the interpretation and analysis of the foreign ceramic assemblage found in Southeast Asian sites.

The study of ceramics in general in Southeast Asia has gotten a late start. First priority obviously should be given to local earthenwares, for which we still lack a regional framework for analysis and description. This is despite the best efforts of Bill Solheim, though with the accelerating growth of archaeology conducted by residents of the region observable over the last decade, there are at last signs that this is changing, though there is still a lot to be done. Nevertheless, pottery still comes in a distant fourth or fifth in the race to attract students to specialize in a material, behind lithics, bones, statuary, prehistoric bronzes, and even beads. This is clearly far out of proportion to the significance of this category of material culture.

When we come to the proportion of resources devoted to imported ceramics, it is difficult to think of more than a handful of Southeast Asian archaeologists who have allocated attention to this field. A surprising anomaly is that until recently the same could have been said of China. Despite its prominence in the foreign mind (after all, what does "china" with a small "c" mean?), archaeology in the PRC until recently was driven more by the desire to flesh out the historical record, which meant a concentration of resources in north China, on tombs, structures, capital cities, or prehistory. This has now changed. With the growth of archaeology in China south of the Yangzi (Changjiang) River in recent years, and increasing interest in the history of China's maritime links with Southeast Asia, important excavations have been conducted at kiln sites and some habitation areas. Ironically, in some respects we still know more about the distribution of Chinese wares in Southeast Asia than in some parts of China itself, though this situation is now undergoing rapid change.

Archaeologists interested in the process by which complex societies developed in Southeast Asia during the period since AD 800 cannot afford to ignore the subject of Chinese ceramics. We do not have a satisfactory excavation report from a single ancient harbor in Southeast Asia. This is a tremendous gap in our knowledge. There are a few partial exceptions to this rule, such as an obscure publication on a small site in Jakarta (Miksic 1981), but in general it is a safe observation to make. A preliminary conference on the archaeology of Southeast Asian harbors took place in Singapore in 2004, and we hope to have a book on the subject published by SPAFA in the near future. There have been numerous excavations related to the subject, but no substantial publications, at least not in an international language.

Chinese ceramics become a part of the Southeast Asian assemblage in the 9th century. The recovery of the Batuhitam cargo in Indonesia clearly demonstrates this (Flecker 2000). From that point on, this material provides an extremely useful source of data on numerous aspects of Southeast Asian culture.

I became interested in the subject of ancient Southeast Asian trade while living in Malaysia as a Peace Corps volunteer in the late 1960s. Although my first major research focused on the earthenware from a Sumatran port site, almost against my will, I have had to overcome the aversion instilled in me by my reading of Binford in my formative years and immerse myself in the art historical

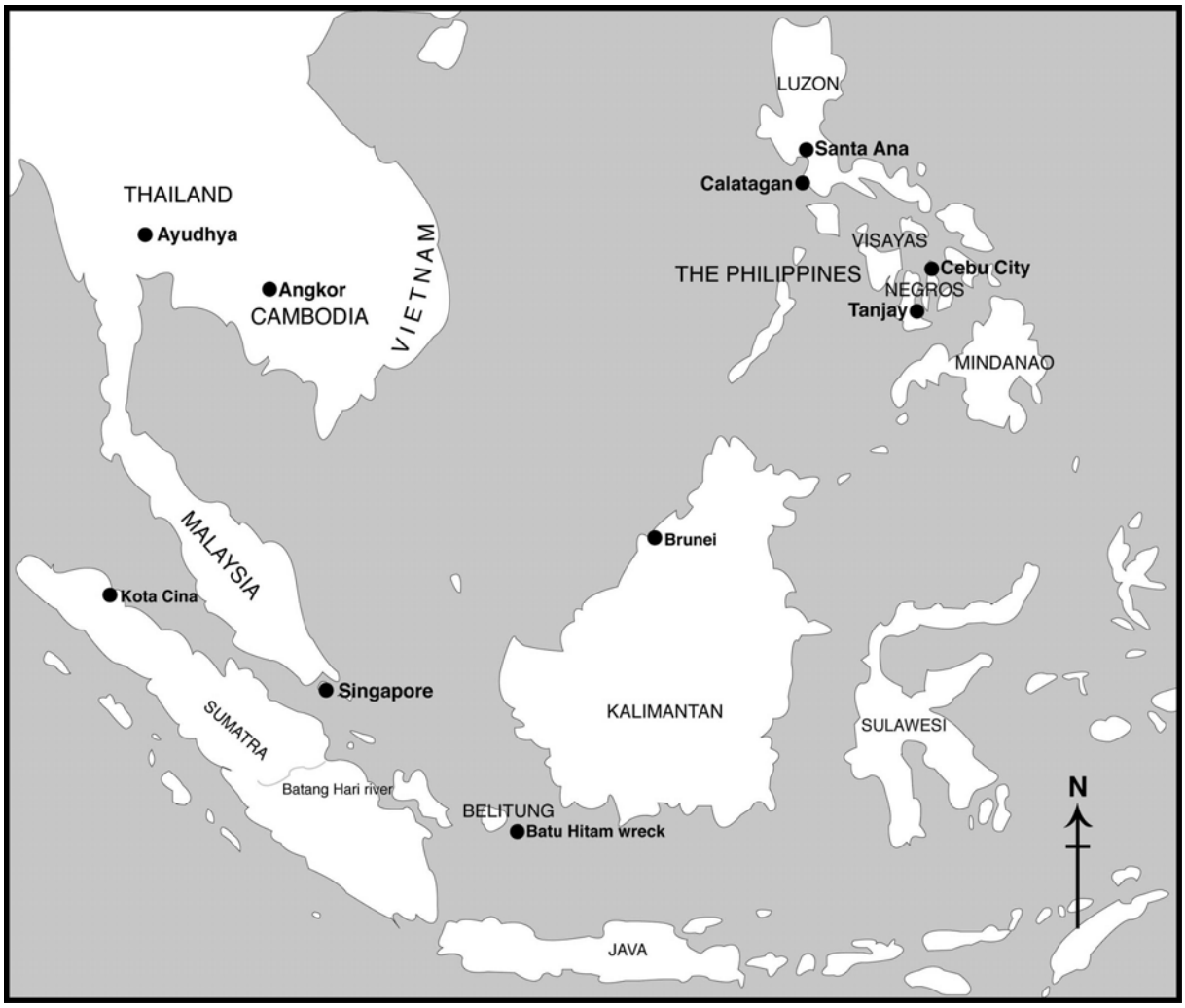

Figure 1. Sites mentioned in the text.

literature on Chinese ceramics. I will not say that it has been a painful experience, though I will forever regret that I did not learn Chinese. By chance I have spent 20 years excavating sites in Singapore, which fortunately turned out to harbor a substantial quantity of 14th century Chinese ceramics in well-preserved contexts. The analysis of this material is now progressing, though at a leisurely pace, partly due to the sheer volume recovered.

There are few other sites in Southeast Asia for which I have been able to find enough information with which to compare the Singapore data (Figure 1). I would like to call attention to a few studies conducted in the Philippines, which are the most useful for my purposes. One of these concerns the work of Elisabeth Bacus. For her dissertation she conducted research at the sites of Yap and Unto, in southeastern Negros. The frequency of imported sherds there was low. At Unto, only one 15th century sherd was found *in situ*. At Yap, the figures are as shown in Table 1 (calculated from Bacus 1995: Appendix B, 407-440).

Table 1. Distribution of ceramics from Yap, Negros, Philippines (Bacus 1995: 407-440).

	Earthenware	Stoneware	Porcelain
15-16 cent.	1365	4	34
12-14 cent.	2089	2	28
11 century	2182	3	3

Bacus (1999:78) provides the information that in the Visayas, the density of glazed (i.e. imported) pottery in three sites is as shown in Table 2.

These sites are located in the central Philippines, which played less prominent a role in ancient history than Luzon in the north or Mindanao in the south. These sites are not mentioned in any known ancient sources. They were probably not visited by early Chinese traders. Chinese porcelain comprises 15%-20% of the ceramics from the prehispanic period found there (Junker 1999: 198).

Table 2. Density of glazed ceramics (gm/m^3) from the Visayan Islands, Philippines (Bacus 1999: 78)

Mid-15th to mid-16th century	Cebu City: 1263 Tanjay: 406 Dumaguete: 736
Mid-14th to mid-15th century	Cebu City: 992
12th-14th century	Tanjay: 169 Dumaguete: 123

At Tanjay, it was possible to detect plans of pile dwellings. Seven were recorded, one of which dates from the 11th to 14th century phase, the other six from the 15th to 16th century. They were identified by such features as outdoor hearths, oval-shaped trash pits, thick midden deposits, and high densities of habitational debris (earthenware sherds, porcelain fragments, shell, bone, chipped stone, metal fragments, carbonized plants). Archaeologists who study the prehispanic Philippines believe (with good reason) that ownership of Chinese porcelain was a sign of high status. At Tanjay, in the 12th to 14th centuries Chinese porcelain was only found in the houses of the elite; in the 15th and 16th centuries, it was more widely distributed, but still more common in elite areas (Junker 1999: 158).

Elizabeth Bacus has pointed out (personal communication, March 23, 2006) that in the Yap site, Chinese sherds from several periods are often found in the same stratigraphic layer. The same situation appears to apply to the Tanjay excavations of Laura. Junker. In her dissertation (Junker 1990), Table 10 gives the densities of porcelain for habitation deposits from the Santiago Phase (c.AD 1100-1400), (149.93 g/cubic meter) and the Osmena Phase (c.AD 1400-1600) (328.96 g/m^3), indicating an increase in imported porcelain.

Junker's Table 16 (here Table 3) lists densities of porcelain and earthenware associated with three habitation structures from each of two locales within the Tanjay site, all dated to the Osmena Phase:

Table 3. Density of porcelain and earthenware from the Tanjay site, Osmena Phase, Philippines (Junker 1990 Table 16).

Structure	Porcelain g/m^3	Plain E'ware g/m^3
Structure 3	88.5	862.1
Structure 4	163.9	1166.7
Structure 5	98.6	827.5
Structure 7	302.3	2003.9
Structure 8	345.2	1737.2
Structure 9	405.7	1041.3

The Tanjay site seems to have experienced the same type of disturbance as Yap. This can be inferred from Junker's Table 6 (here Table 4), which gives the distribution of tradewares (by weight) by stratigraphic layer.

Table 4. Distribution of tradeware (by weight) by stratigraphic layer (from Junker 1990 Table 6).

Layer	Phase	Ceramic period (by century)	% Chinese ceramics by weight
II	Osmena	12 - late 15 late 15 - mid 17 mid 17 - early 20 Mid 17 to present	5% 62.5% 5.9% 12.5%
III	Santiago	Early 12 - mid-14 Mid-14 - late 15 Late 15 - mid 17 Mid 17 to present	13.3% 35.2% 26.2% 0.5%

This span of time represented by sherds in a single phase again indicates significant disturbance. It is improbable that many Chinese ceramics were transported to Southeast Asia long after their production. On the other hand, it is possible that they were moved from one site to another *within* Southeast Asia, as people moved and took their ceramics with them. Such internal transport of Chinese ceramics would make it impossible to reconstruct the importance of trade as the mechanism through which the artifacts were obtained by residents of any particular site, and thus the significance of trade versus other social processes such as migration of elites from one site to another would be difficult if not impossible to disentangle. Thus the discovery of sherds from a period of eight centuries in one stratum introduces a considerable amount of uncertainty into interpretation. Data from such sites cannot be directly compared with other sites such as Fort Canning, Singapore, where all datable sherds fall into a span of less than one century.

In highland Sumatra, Chinese porcelains of the 12th and 13th centuries were still commonly found hanging on the walls of houses in the early 20th century (Bartlett 1973). In the 1980s, it was still possible to see Chinese porcelain plates of the 15th century in the possession of the village chief in Pariangan, West Sumatra; these plates were loaned out to other members of the village to be used in social events such as weddings in which most villagers were involved. It is thus possible that Chinese porcelain might enter the archaeological record in the form of sherds centuries after they were imported to Southeast Asia. The rate of breakage of these heirlooms is difficult to estimate.

In Cebu City, ten locales were excavated in a project in the 1980s. The sites yielded few pre-15th century remains. In all, earthenware comprised about 98% of the entire assemblage (Nishimura 1992: II). At a burial site, Santa Ana, Manila, from the Song-Yuan period, 30% of burials had no goods; the 9 richest burials (4.5% of total) contained 25% of all porcelain from this site. One grave alone contained 57 porcelains and stonewares. This imbalance in porcelain was considered to be an accurate indicator of status differences between burials.

At Tanjay, only poor quality greenware was found. This porcelain was apparently not correlated with wealth, age, or sex of the deceased (Junker 1999: 173). Sites of the 15th and 16th centuries displayed much more complex status hierarchies and a wider distribution of foreign trade wealth (Junker 1999: 175-179). In the burials of the 15th and 16th centuries, a few burials contained porcelain, but many burials had no goods. Unlike the 11th 14th century phase, burials with porcelain and bronze were found in both elite and non-elite zones.

Archaeologists discovered two burial sites of the pre-Hispanic period named Pulong Bakaw and Kay Thomas in the Calatagan area, 100 km south of Manila. The sites seem to have been utilized in the 14th and 15th centuries. In 505 graves excavated in 1958, 411 Chinese wares were recovered, two-thirds of which were underglaze blue types. The Chinese examples constitute 75% of all imported ceramics, including some Yuan, but mostly Ming; Sawankhalok (22%), Vietnamese (3%) and unknown (1%) comprise the rest. One Hongwu coin (late 14th century) was found separately (Fox 1959).

Most graves contained only one or two pots. There is little evidence for elaborate social stratification in the burial offerings. The ratio of imported to local ceramics was approximately 50/50. Other offerings found in the graves included glass beads and bracelets, as well as Chinese-style brass handles and locks for wooden containers.

Srisuchat (1996: 225) reported that 32 sites, the majority of them ports, in Thailand have yielded Longquan greenwares of pre-Ming date. Unfortunately no detailed statistical information on the comparative frequencies of various types of wares from these sites have yet been published in English. A study of the distribution of these sites, and a comparison of the local and imported ceramics in them, would significantly assist our attempt to understand the roles of trade and communication in the operation of the Silk Road of the Sea during this period. Ayudhya 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.

In Cambodia, the major period of temple construction at Angkor ended in the 13th century. The kingdom thereafter came under increasing pressure from the Siamese, but retained great respect from other kingdoms, as the report of the Chinese ambassador Zhou Daguan in 1296 shows (Zhou 2001). Brief inspection of surface finds in various parts of Angkor, and discussions with colleagues involved in restoration of Khmer temples, shows that Chinese ceramics continued to reach this ancient political and religious capital far from the sea after the kingdom declined from its apogee in the 11th and 12th centuries. Research in Cambodia will contribute important additional data for the study of long-distance trade in the economy of mainland Southeast Asia.

One of the major studies of Brunei archaeology deals with a relatively small sample of 6230 sherds exposed by drainage work at the site of Kota Batu. In this sample, only stonewares and porcelains were included. Stonewares comprised 66.5% of the total (B. Harrisson 1970).

Another site in Brunei, Sungai Lumut, yielded a wide range of artifacts, including stoneware, porcelain, beads and bangles of glass, shell, stone, iron, bronze, and damar. Of 6,000 sherds, 49% representing 22% of the vessels are coarse stoneware (probably big jars). Thai ceramics comprised 13.5% of the sherds, or an estimated 10% of the vessels. The most common vessels are south Chinese, 72% of the total vessels. Although there are no bones, 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 site probably dates from 1350-1500. The practice of burying the dead with offerings of ceramics and other goods, many of them imported, indicates that the population was probably closely affiliated culturally with the people of Riau.

B. Harrisson and P.M. Shariffudin (1969) note that a great transformation took place in pottery-making in 14th century north Borneo. Earthenware almost entirely dropped out of use on the coast by the 15th century, although it was still used inland. The best study of Bruneian earthenware is a comparison of Sungai Lumut and Kupang (Matussin Omar 1981). At Kupang, local ceramics comprised 52.4% of the total assemblage. Imports included Chinese, Thai, and some European. Of 254 porcelains and glazed stonewares, about 6% of the assemblage (4,891 sherds) were of Song age. There were approximately equal amounts of coarse stoneware of the Song-Yuan period, and post-Yuan ceramics.

Three earthenware fabrics were discerned, one of which is probably post-Song (after 1260). 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, out of 1,348 sherds, only 2.9% (39 sherds) were of local origin. The site is estimated to date from the 14th to 16th century. The ceramics here were described as being 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; he believes it was a ceremonial centre where pots were buried, but not for burials, since no human bones were discovered.

In the 1970s intensive excavation was performed at the site of Kota Cina, northeast Sumatra. This turns out to have been a probable port of the late 11th to mid-13th centuries, which overlaps with the Barus site (Guillot 1998, 2003). Its cosmopolitan nature is indicated by the variegated nature of the remains found there: south Asian/Srilankan, Near Eastern, Chinese, and local. Sculpture, architecture, and evidence for local handicraft production (metalworking, including gold) all point to an economically complex society dependent on frequent communication with numerous external communities for maintenance of its lifestyle. It has not been possible to link this site with those mentioned in Zhao Rukua's 1225 *Zhufan Zhi (Chufan Chi)* (Hirth 1966)or any other written

sources. The ceramic index of this site is 35% Chinese by weight.

In 2005 a joint Indonesia-Singapore team carried out archaeological survey along the lower Batanghari valley in east Sumatra. We didn't carry out any excavation, but we found more than 20 sites, mainly by making systematic collections of artifacts exposed in riverbanks. A large proportion of these sites date from the 11th century. The river was probably the center of a kingdom cited in Chinese sources as Sanfoqi, in indigenous documents as Malayu.

From 1984 to 2003, archaeological research in Singapore concentrated on Fort Canning Hill and the Singapore River's left bank. Large quantities of artifacts, 90% from the 14th century, were recovered. In 2003 two opportunities to excavate sites away from the river arose. Excavations at the Singapore Cricket Club and in the grounds of St. Andrew's Cathedral raised the total number of sites in the 14th century urban zone to 7. It is now possible to perform a detailed analysis of spatial use in the 85-hectare area of the ancient port. Each site excavated had distinctive characteristics, including artifact types and proportions. Singapore's internal layout seems to have been determined largely by economic rather than symbolic considerations (Miksic 2006).

In Singapore only 17% of the assemblage of 14th century ceramics, calculated in terms of weight, is local earthenware; 83% are Chinese imports. An experiment was done using a sample from STA to see what happens if sherd counts are used instead of weights. The results showed that if sherd numbers were compared, the figure changes drastically, to near-equality. A third dimension of variation would be captured if we could compare absolute numbers of vessels, but much more analysis is needed before this can be accomplished. Almost all the ceramics in Singapore are broken, so that it will be some time before such calculations can be made.

In terms of special artifact types, it is possible to pinpoint some contrasts. Fort Canning Hill, probable site of the ancient rulers'palace, is marked by the discovery of a few special rarities, including much glass, both vessels and beads, and other items such as rare types of imported ceramics. Another site, Parliament House Complex, near the bank of the Singapore River, has yielded much evidence of production of copper fishhooks, and many Chinese coins.

Returning to the subject of ceramics, scrutiny of comparative proportions of the three major categories (earthenware, porcelain, and stoneware) yields evidence of considerable diversity of activities within the boundaries of the city. The Parliament House Complex (PHC) for example has nearly twice as much earthenware as the average for the six main sites excavated. Empress Place (EMP), near the mouth of the river, has less than half the average earthenware, and much more stoneware. Each of the other four sites also deviates significantly in one category or another from the average. In short, the internal diversity of ceramic use in Singapore was quite high.

Many reasons for this diversity can be hypothesized. In addition to difference in ethnic identity of the local inhabitants, other factors such as different occupations and different social statuses could be responsible. One interesting example of the kind of results which further research may yield came from a study performed by a graduate student in Singapore (Foo 2005). She demonstrated a correlation between one type of porcelain, namely underglaze blue decorated white ware, and social status. The student examined the distribution of this type of ware among different sites in 14th century Singapore. According to Brown (2004), porcelain with underglaze blue decoration only began to be produced in quantity in Jingdezhen, Jiangxi Province, around 1328, and that production ceased for some time around 1352 due to unrest attendant upon the erosion of the Yuan Dynasty's authority.

Chinese scholars, however, divide Yuan blue and white into three phases. The first is named after Emperor Yan You. He reigned from 1314 to 1320, but the style continued until 1340. It is thought that no examples from this phase were exported. The second phase, Zhi Zheng, has not been positively dated, but a Chinese scholar estimates that it began in 1340 and lasted until about 1350, when foreign demand stimulated the production of large wares using imported cobalt. Famous examples of this period include items in the collection of the Topkapi in Istanbul. In the Final Yuan (*Yuan Mo*), after 1350, trade with the Near East was curtailed, and it was difficult to obtain imported cobalt. By 1360 Jingdezhen was under the control of Zhu Yuan Zhang, who founded the Ming in 1368. Jarlets and cubical water containers found in the Philippines (of which one fragment has been found in Singapore) may date from this phase. They are rare in China, and Chinese scholars think they were mainly for export. In excavations in the Yuan palace site in Beijing between 1964 and 1974, blue and white porcelain represented about 4% of the ceramics. In the early 15th century production revived when this style became popular among the Ming imperial rulers.

It has been suspected that blue and white porcelain was highly valued by Southeast Asians from its inception. If this is true, one would expect that this variety would be found in association with neighborhoods or sites occupied by people of high status. In Singapore, there are good reasons to believe that the hill now known as Fort Canning was such a site. Blue and white ceramics have been found on all sites within the 85-hectare zone of the 14th century settlement, so this variety of porcelain was not a monopoly of the upper class. Fort Canning has however yielded a higher proportion of this variety than other sites; out of about 300 sherds (representing at least 108 vessels), 181 or more than half have been excavated on the hill.

Chinese textual sources also provide useful data for interpreting the ware. According to a late 14th century text, the *Ming Hui Dian* (cited in Wong 1978: 62) a role of silk, a luxury item, cost 500 *guan* per roll. The same source gives prices for blue and white porcelains of different forms. A bowl cost 300 *guan*, a plate or a vase cost

500, whereas a wine jar, a large item, was 1,500. Thus blue and white porcelain was quite expensive, and larger items were more expensive. Large items represented on Fort Canning include a jar, 3 vases of which one has the special mei ping shape, a gu or wine jar, and a basin. Several sites along the bank of the Singapore River yielded a total of only 2 or 3 large items (ewers/*kendis*). Items from the riverbank are mainly small cups and jarlets. Even bowls were rare except on the hill.

A comparison of sherds found in Singapore with the Chinese typology shows that Singapore did obtain small jars and cups made in the late Yuan for export to Southeast Asia. Chinese writers use disparaging terms to refer to these export wares, which are marked by such traits as rough potting and yellowish glaze. Some items from FTC have decoration and other traits indicative of the Zhi Zheng or middle phase such as finely drawn decoration, medium size, and and brilliant blue color. Thus in the 14th century, members of Singapore's elite class possessed ceramics such as medium to small vessels believed to have been used in China during the Zhi Zheng phase. Middle-class people on the riverbank however seem to have been content or restricted to owning export-quality (i.e. lower value) items, according to the Chinese classification system. This conclusion is reinforced by a study of the decorative motifs used in different sites in Singapore. In China, a wide range of themes was painted, including landscapes, the three friends (plum, bamboo, and pine), and lotus panels enclosing Buddhist or Daoist treasures, but in Singapore only flora and fauna appear. Here again a distinction can be observed between FTC and the riverbank: the nobility on the hill seem to have favored *lingzhi*, whereas the riverine population appreciated the chrysanthemum flower.

More theories can be spun on the basis of this data, but by now the implications of this discussion should be clear. Chinese research on porcelain can enable archaeologists working on Southeast Asian sites to see the objectives of their research more clearly. Under the right conditions, which include long-term research on sites, used in conjunction with other data, fine-grained analysis of this material can enable us to make much stronger arguments regarding the internal organization of local societies, and much more. I do not think that Singapore was necessarily any different from many other trading ports in much of Southeast Asia during the 700 years between the 9th and 16th centuries. Research on other sites of the same or higher levels of the trading network will no doubt eventually yield similar data on the integration of this type of artifact into Southeast Asian socieconomic patterns.

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