

Recent Archaeological Excavations in Singapore: A Comparison of Three Fourteenth-Century Sites.

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The question of when cities formed in Southeast Asia is partly a matter of definition. According to Prof. Paul Wheatley, urbanization can be said to begin when ceremonial centers establish a kind of economic organization in their surrounding region. This way of seeing urbanization gives primary emphasis to the economic dimension of social complexity.

For an archaeologist, this definition is difficult to apply in practice. It is difficult to establish the nature of socioeconomic relationships which existed over a broad area consisting of an urban center and its surrounding environs with the precision required to establish the nature of the institutions which governed the type of reciprocity between people on different levels of the hierarchy and in different parts of the system. The amount of data required is enormous.

A more conventional definition of urbanization, which takes as its critical variable the existence of physical sites which can be called cities, is easier to implement. Such a definition is not entirely unproblematic either; defining the boundary between one site and another, and between different levels of a settlement hierarchy, may also involve some arbitrary decision-making. Given the realities of the limits to our ability to recover data about the past using archaeological data, however, it seems that the most practical definition of the city would be one which emphasizes the size of a settlement.

When we come to apply this definition to Southeast Asia, however, we encounter another dose of hard reality. Some very large sites such as Angkor in Cambodia contain a large amount of architecture, but of a ceremonial variety. When Angkor Wat and Angkor Thom were built in the 12th century, how much economic activity was conducted in the Khmer kingdom independent of religious and political stimulus? It seems that coinage was not used in Cambodia at that time. This and other data suggest that the Khmer economy of the Angkor period must have been quite different from that which is correlated with

the development of modern urban centers in other parts of the world. Indeed Angkor seems to have left no legacy in terms of further urban development in Cambodia.

We therefore are forced to admit that in order to identify the origins of the modern Southeast Asian city, we need to be able to demonstrate both the existence of large sites with dense populations, and a certain degree of market-oriented economic activity. Given such requirements, it is no surprise that some historians would date the inception of the modern Southeast Asian city as late as the 15th century. Archaeological research of the scale and nature necessary to identify site sizes, populations, and complexity of economic activity for early cities simply has not been systematically pursued. Obstacles to such a pursuit are obvious: the need for large numbers of workers employed over a long period of time with a sustained focus on a search for urban structure and evidence of economic activity, discovery of sites with proper preservation, are just two of the major disincentives to such an enterprise.

Partly due to nothing more than serendipity, it has been possible to overcome some of these obstacles in Singapore. At first glance, it would seem that Singapore would be one of the least likely spots where undisturbed remains of an ancient city would be preserved. However, sometimes one finds the thing sought precisely in the place where one would think it the least likely to be found. Three sites with large quantities of undisturbed 14th century artifacts have now been excavated in Singapore. While more sampling is obviously necessary, a comparison of these three assemblages is sufficient to give a fairly clear picture of the nature of settlement and economic activity on that island. The picture that emerges shows a surprisingly varied society with a range of commercial activities and contacts which at least in this archaeologist's view merit the sobriquet of "urban".

History

The Malay Annals is a literary work purporting to trace the origins and descent of Malay royalty. Singapore plays a significant part in this account. The first Malay ruler, after appearing miraculously in Sumatra, and residing at Palembang for some time, experiences wanderlust and undertakes a journey which brings him first to Bintan in the Riau Archipelago, then to Singapore, where he founds a settlement. This settlement becomes successful and is described as a flourishing trading port. After a century, Singapore is destroyed by an attack from Java. The ruler of Singapore however succeeds in escaping and founds another port, Melaka. From this point on we possess enough conventional historical sources to chart the history of the center of the Malay kingdom.

Sources for the history of Singapore are so scanty and ambiguous, and until recently so lacking in independent confirmation, that some historians have questioned whether they refer to Singapore at all. These references consist of brief notes on diplomatic contacts between a Dragon's Tooth Strait and China, some jottings by a Chinese trader on a port in the land of Temasik and the pirates who lurked at the Dragon's Tooth Strait nearby, an obituary for a Vietnamese prince who is said to have been able to speak the Temasik language, and the appearance of Temasik's name in a list of territories supposedly controlled by the east Javanese kingdom of Majapahit. These references all date from the 14th century. Thereafter Temasik's name vanishes from history. There is thus room for debate on the question of whether Temasik and Singapore even refer to the same place.

It is not generally appreciated that modern Singapore owes its existence to Sir T.S. Raffles' awareness that the Malay Annals depicted Singapore in such a favorable historical light. His conviction that Singapore had experienced an earlier period of prominence was reinforced soon after the British took possession of the island by the discovery of such antiquities as an earthen rampart and moat, a large inscription in ancient characters on a monolith, and ruins of brick structures associated with Chinese coins and pottery.

After Raffles' time, however, no-one else seems to have taken an interest in Singapore's past. The inscription was blown up, and the wall and brick ruins simply vanish. A chance discovery of gold jewellery identified as 14th century in style in 1926 does not seem to have whetted any new interest in the subject.

Archaeological Research

Fort Canning (FTC)

When the British arrived in 1819, the hill now known as Fort Canning still retained historical associations for the local Malay inhabitants. It was believed that an ancient palace had once stood on it, and therefore it was avoided; it was termed the Forbidden Hill. The discovery of brick ruins on its slopes therefore came as a surprise too all concerned. By 1926, when gold ornaments of 14th-century style were found during construction of a service reservoir on the hilltop, the brief report of their discovery makes no reference to the old stories about the hill.

In 1984, when archaeological research commenced, the oldest visible "antiquities" were 19th century remains of Fort Canning and the old British on the hilltop, the brief report of their discovery makes no reference to the old stories about the hill. In 1984, when archaeological research commenced, the oldest visible "antiquities" cemetery. The only reminder of Singapore's precolonial tradition was a ceremonial site visited mainly by Indian Muslims. The site is known as the Keramat

Iskandar Shah, after the last of the five kings mentioned in the Malay Annals. Alone among the five rulers, he is also a historical personage: he appears in the Ming Annals as the ruler of newly-established Melaka at the dawn of the 15th century. Mystically-inclined believers go there to offer flowers, burn incense, and chant prayers, often with the goal of obtaining supernatural assistance. There is nothing of an antiquarian nature on the site now; the architecture of the Keramat has been revised many times over the past 180 years. The significance of the location derives from that fact that the Keramat probably has been established on the precise position where the largest of the ancient brick ruins, measuring 40 feet square, was found in 1819.

Excavations a few meters north of the Keramat in January 1984 succeeded in demonstrating that precolonial artifacts still lay in an undisturbed context. Chinese porcelain found there all originates from a brief period of time: the first half of the 14th century. Research was resumed in 1987, and has been continued intermittently ever since.

Parliament House Complex (PHC)

In 1994 permission was granted for excavation on a site where a large extension of Singapore's Parliament House is now under construction. This site lies on the left bank of the Singapore River, about mid-way between Fort Canning Hill and the mouth of the river. Excavations here between November 1994 and January 1995 revealed the existence of another stratum containing precolonial artifacts in a depositional context undisturbed for the last 500 years. The Chinese porcelain from this site dates from a slightly longer span of time, from the late 13th to early 15th century.

Empress Place (EMP)

In 1998 a third site was made available for excavation. This location is also on the left bank of the Singapore River, just inside the river's mouth. Ten weeks of research here between early April and mid-June yielded more data on precolonial Singapore. Two different phases were revealed: one is dated by stylistic analysis of Chinese porcelain to the period of the late 13th to mid-15th century, the other by Dutch (VOC) coins and Chinese porcelain to the 18th century.

The approximate boundaries of ancient Singapore can be determined with some precision. In 1819 the right bank of the Singapore River consisted of mangrove swamp. This was soon reclaimed to create the land on which Singapore's Chinatown now stands. Inspection of artifacts recovered from construction projects in this area has yielded only 19th and 20th century remains, as would be expected. According to a British map of 1825, a feature called the "Old Lines" occupied approximately the same land as modern Stamford Road. This referred to an earthen rampart 16 feet (5 meters) wide at the base and 9 feet (nearly 3 meters)

high; on the north side of this rampart was a stream. This feature can be connected with reports of early Singapore. The Malay Annals mention the *parit Singapura* ("Singapore ditch"). Wang Dayuan, who visited Singapore in the 1330s, records that Singapore had a city wall which at least once enabled the Singaporeans to withstand a siege. Examination of construction sites in Singapore has shown that 14th century remains can be found only in the area bounded by the site of the former wall, the Singapore River, Fort Canning Hill, and the former shoreline (which has now been considerably affected by reclamation). It has not yet been possible to take samples of artifacts from controlled excavations in areas away from the river, toward the northern boundary. Samples recovered from public works on the Padang, and along Hill Street, indicate that these areas were indeed utilized in the 14th century. This is not a random sample, but it does suggest that remains of 14th-century activity could be discovered over much of the area enclosed by the boundaries listed above.

The excavations at the three sites investigated up to this time (FTC, PHC, and EMP) have yielded large assemblages of artifacts which can be compared in order to draw conclusions regarding the diversity of material culture in 14th century Singapore. Only preliminary results can be given at this point, but they are sufficient to demonstrate that each of the three sites had a distinctive pattern of activity. This finding yields important inferences regarding Singapore as a representative of a settlement type of 14th century Southeast Asia.

Comparison of FTC, PHC, and EMP

All three sites share a similar assemblage from the standpoint of range of materials. At each, the largest single artifact category consists of Chinese stoneware, mainly utilitarian storage vessels (jars and basins). The second largest category is that of Chinese glazed porcelain, mainly green in color, but with white and cobalt blue decorated ware as well. Earthenware of local origin, similar in style to artifacts found in Malaysia and western Indonesia, is also present. In addition to ceramics, other significant artifact types include coins, Chinese in origin with the exception of one coin from Sri Lanka; glass, mainly Chinese in origin, but with one Indian example; gold; iron; bronze; and stone.

The FTC site is located on the north slope of Fort Canning Hill. According to tradition, the palace of the ancient kings stood on this hill. The British description of brick ruins suggests that some religious structures also were built here.

Only fragments of ancient brick have been discovered at FTC. Excavations on the site of the Keramat itself showed that the original structure found here in 1819 has been completely effaced. Approximately 40,000 artifacts have been recorded from the 14th-century context at the site.

The PHC site lies approximately midway between the hill and the river mouth. The excavated area is about 50 meters away from the river; the area nearest the riverbank was found to be completely disturbed by colonial-period and more recent activity. Approximately 30,000 artifacts were recovered from the precolonial stratum of the site.

EMP lies just inside the river mouth. In the 14th century it was probably a rivermouth sandbar just above the normal high tide mark. A rough estimate of artifacts recovered from this site would be at least 40,000.

Duration of Occupation

Fort Canning seems to have been occupied for the shortest period of time. Aside from the coins, all datable artifacts, i.e. Chinese porcelain of identifiable age, dates from the late Yuan, approximately AD 1300-1367. All other signs of occupation derive from the 19th and 20th centuries. At PHC, porcelain of the 13th century (late Song-early Yuan) and late 14th-early 15th centuries (early Ming) is also found.

The EMP site has the most complex chronology. The lowest stratum spans the late 13th to mid-15th century. This is overlain by a different assemblage which relates to the 18th century. Almost nothing is known of this period in Singapore historiography. Available written sources give accounts of Singapore up to the early 17th century, when Singapore seems to have been deserted, perhaps due to pressure from the Portuguese (at least one Portuguese attack on the Malay settlement at Singapore is documented). A British trader mentions Singapore in 1700, but does not mention any inhabitants. The small village which Raffles found on the Singapore River in 1819 seems to have been established only a few years previously. Above this 18th-century assemblage is a stratum containing artifacts typical of other colonial-period sites in Singapore.

Ceramic Types

The stonewares from Singapore have not been analyzed in detail. They will therefore be omitted from this discussion. The porcelains from EMP have not been analyzed in detail either. It is however possible to draw some general conclusions.

Green Porcelain

The green porcelain from FTC differs from the sub-assemblages of PHC and EMP in one interesting respect: the raised double-fish motif which is so typical of Song-Yuan collections from other sites in the area is completely absent. The large amount of green porcelain recovered from FTC makes it highly unlikely that this is the result of sampling error. The double-fish is found at PHC although it is rare there; it is

more common at EMP. It is not clear why the double-fish motif should have been excluded from use at FTC, but it seems impossible to escape from the conclusion that it was intentionally avoided. Perhaps it was simply less popular in the 14th century than earlier, but this remains to be established.

White Porcelain

The white porcelain from all three sites consists of two types: the highly fired, dense ware associated with Jingdezhen, and the more porous Dehua ware. The FTC sub-assembly contains several shapes not found in the other two sites; these include large incense burners, fragments of an ornate pillow in the form of a theatre, and fragments of other as yet unidentified objects.

White Porcelain Decorated with Cobalt Blue

The FTC artifacts contain fragments of one type of object not found elsewhere: a kind of ceramic compass, in the form of a bowl with characters for the wind directions written beneath the glaze, using either cobalt or possibly iron oxide. For use as a compass, the bowl would have been filled with water and a magnetized needle would have been floated on the surface.

Vietnamese and Thai Ware

Fragments of Sawankhalok pottery from Thailand have been found at all three sites. Vietnamese blue and white ware has only been identified from one location: EMP. It is not plentiful there either.

Earthenware

Significant amounts of earthenware have been found at all three sites. Most is presumably of local manufacture. All three sites also yield fragments of a fine untempered ware which probably was imported from south Thailand. The EMP site seems to have more of this ware than the other two sites, but no statistics yet exist with which to verify this impression.

The earthenware from FTC contains a large proportion of white-slipped ware with no other surface decoration. Some of these sherds belong to kendis. The paddle-marking typical of decorated earthenware from the Malaysia-Sumatra-West Java area is rare at FTC compared to EMP and PHC. On the other hand, the FTC assemblage yields three forms not found at the other sites. Kendis are so far only attested from FTC, as is an object which may have served as an incense burner. The third type of object is made of a very coarse material, an orange earthenware which contains very coarse quartz inclusions. It has been identified as an eavesboard tile (Miksic 1985).

Coin Distribution

FTC has yielded 16 coins, either partial or whole. The oldest dates from the Tang Dynasty (AD 618-906). Most date from the Northern Song (AD 960-1126). Only one

datable example dates from the Southern Song, and this is from the first Southern Song reign, that of Gao Zong, and was issued between 1127-1130.

PHC has yielded 124 Chinese coins, the majority of which also date from the Northern Song period (Tang Dynasty: 2; Northern Song: 90; Southern Song: 6; others unidentifiable). (I thank Dr. Brigitte Borel and Ms. Joyce Fan for analyzing the coins.) In addition, one Sri Lankan coin datable to about 1300 was also discovered (reign of Bhuvanika Bahu I, 1273-1302). EMP yielded only 6 Chinese coins, which have not yet been dated.

One artifact has been identified tentatively as a coin made in Melaka or Johor. Its distorted condition makes it impossible to verify its identity with certainty (Shah Alam Zaini 1997: 32).

Glass

The FTC excavations have so far yielded over 6,000 glass beads, several hundred fragments of small polychrome glass vessels, approximately 1,500 glass globules of irregular shape, and about 50 fragments of glass bangles. One of the bangles has been identified as Indian in origin. The beads and vessel fragments according to chemical analysis were made in China. In appearance the vessels are unlike anything yet reported from China, however.

No ancient glass was recovered from PHC. The EMP site yielded just 5 fragments of early glass.

Bronze/Copper

This section draws heavily on analysis performed by Mr. Shah Alam Zaini in 1997 as the subject of his M.A. thesis at the University of Michigan. Only one fragment of bronze was found at FTC. It is a relatively thick, slightly curved piece, probably from a bowl. At EMP, a bronze projectile point was recovered, and a small fishhook. The PHC site yielded large quantities of copper/bronze. Much of this is in the form of wire of pure copper: 233 fragments of wire, some of it tightly braided, were recorded. Eleven fishhooks were also found; the larger examples were of bronze, the smaller of pure copper. It is suspected that much of the bronze wire may have been used as a leader for the hooks. The largest, with a length of 46 mm, has an eyelet with copper leader wire attached. Microstructural analysis indicates that the hook was made by drawing (Shah Alam Zaini 1997: 27).

Other copper/bronze objects take the form of small bars a few cm long and 2 or 3 mm in diameter. Two small bells, one decorated with a face, were also found. Thirty-three fragments of iron, possibly all originating from the same artifact, a cauldron, were identified. One iron fragment retained enough metallic content to be analyzed by metallography. It proved to be cast iron. Fragments of other iron objects were

also recovered, but most are too corroded to be identified. Eleven fishhooks were found, of two sizes: one with a curve diameter of 30mm, the other 25 mm. All are barbed. One has a copper or bronze leader wire, attached to an eyelet.

A total of 799 grams of slag, and ten copper prills, were recovered from PHC (Shah Alam Zaini 1997: 13 and figure 11).

Gold

In 1926 a chance discovery of gold objects came to light just a few meters from the Keramat on FTC. During the excavation of a reservoir, finger rings, ear ornaments, and an arm decoration were recovered. The objects can be stylistically dated to the 14th century. Controlled excavations at Fort Canning have yielded no finished artifacts, but a few pieces of gold have been found, including a piece of gold wire threaded through a triangular gold sheet. This was probably part of a headdress.

At PHC three gold flakes were found. At EMP a fragment of a gold band encrusted with corroded bronze was recovered.

Organic Remains

No organic remains have been recovered from FTC. The two riverbank sites however provide better conditions for preservation of organic materials. The faunal materials from PHC have been extensively studied by Dr. Barbara A. Lewis (1996). A large quantity of mollusc shells was identified, which were gathered from three different habitats: mangroves and estuaries, coral reefs, and intertidal rocks. Most are of edible species. Other animals represented include turtle, birds, fish, mammals (including rats, squirrels, macaque, cat, otter, sambar deer, and pig), and snakes.

At EMP, few bones were recovered. Shells of molluscs were however extremely common; they formed lenses several centimeters thick in places. These have not yet been studied.

Analysis

The three Singaporean sites from the 14th century each possess a distinctive character. Artifacts from FTC include numerous artifact types associated with ritual and elite lifestyles. There is also strong evidence for small-scale craft activity in the form of glass recycling. The prevalence of glass globules, some stuck to potsherds, suggests that the broken glass vessels were being recycled, perhaps to make bangles. This explanation does not however account for the presence of thousands of glass beads in the same area. The tentative reconstruction of the FTC site is that it represents a center of glass recycling within the area of a palace and temple precinct. Artisans were common components of the populations of traditional Southeast Asian royal compounds. FTC may have been established as a royal center sometime in the first half of the 14th century. It may have been abandoned shortly before

1400; several sources indicate that Singapore was attacked about 1396 and its leader fled, re-emerging from the Malayan forest to found Melaka in 1400.

PHC yields abundant evidence for commercial activity in the form of coins, and metal working in the form of copper and bronze artifacts and by-products of finishing processes such as prills and small bits of slag, possibly knocked off after smelting. Faunal remains suggest that food was prepared and consumed in the same general area. A few postmolds were discerned in the soil, but it cannot be determined whether these were for residential or other structures.

The EMP assemblage has not been analyzed yet. Preliminary impressions suggest that the site consisted of a sloping sandbar on the edge of the river, where the main activity was probably disposal of artifacts and food remains used nearby.

Conclusion

The range of variation between the three 14th-century sites in Singapore suggests that different parts of the settlement were used for quite different and specific activities. By analogy, the society of the time was also occupationally varied and specialized. Singapore was not simply an outpost dependent on tapping long-distance maritime trade passing by its shores. It was also an importer of raw materials and exporter or at least producer and consumer of finished artifacts. In this respect Singapore resembles the growing commercial cities of Europe of the late Middle Ages and early Renaissance. Singapore was not a major ceremonial center. Its existence and character were determined by a range of economic pursuits.

Singapore's habitation area was well defined by natural boundaries on three sides, and a man-made boundary on the fourth. The density of habitation within these confines cannot be determined, but chance finds suggest that settlement within this area was relatively dense.

These traits portray 14th-century Singapore as a representative of a category of settlement which was emerging more or less simultaneously in Asia and Europe: the economically-generated city. Singapore was probably not the earliest such city to evolve in Southeast Asia; the type may have begun to exist one or two centuries earlier, as suggested by such sites in Sumatra as Kota Cina.

Models of urbanization are obviously in need of much greater sophistication. Many types of urbanization obviously can be distinguished. The formation of the ceremonial center with economic functions is one type of urbanization, but it remains to be seen whether the economically-based city grew naturally from it. The roots of the modern city, with a complex

network of economic and social relations among a population divisible into many segments, probably grew from a different source (or set of variables). The modern Southeast Asian city probably began to appear in the 12th century. By the time Singapore formed in the 14th century, it may already have been something of a common settlement type. Unfortunately few urban areas have been subjected to even the minimal amount of archaeological research which has taken place in Singapore. If more effort is devoted to this type of research, new insights into the nature of early urban formation in Southeast Asia should result.

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