

# CERAMIC VESSELS FROM CHAIBADAN, LOPBURI, AND THE LATER PREHISTORY OF CENTRAL THAILAND

Sawang Lertrit

Department of Archaeology, Silpakorn University, Bangkok 10200, Thailand

## ABSTRACT

*Most archaeological interpretations of the later prehistory of central Thailand are made using data derived primarily from west-central and north-central Thailand. This bias tends to ignore the potential that other areas in the Central Plain of Thailand may provide an understanding of the archaeology of Thailand and Southeast Asia. Recent excavations at Chaibadan in east-central Thailand yielded a relatively large number of complete and nearly complete ceramic vessels. Preliminary study of stylistic variation among 114 vessels from the site of Chaibadan has revealed a discrete ceramic tradition.*

The Central Plain of Thailand has long been the focus of research conducted by a cohort of Southeast Asian archaeologists. This is not only a good strategic region with access to the outside world, but the Central Plain is also an area where natural resources are abundant. Previous research has shown that the Central Plain was occupied by prehistoric populations back to at least 2000 BC. Much of the knowledge about the later prehistory and protohistory of Southeast Asia has been derived from this area. Yet most archaeological interpretations of the later prehistory of central Thailand rely on data derived primarily from west-central and north-central Thailand rather than from the east-central area. This geographic bias tends to ignore the potential that other areas in the Central Plain of Thailand may provide in our understanding of the archaeology of Thailand and Southeast Asia.

This research represents the first systematic investigation of ceramics from this little known area of central Thailand. Recent excavations at the late prehistoric-early historic period site of Chaibadan in east-central Thailand yielded a substantial number of complete and nearly

complete ceramic vessels. This is the first time that a relatively large collection of pottery vessels has been recovered from a site located in this area of central Thailand.

This article presents a preliminary study of stylistic variation of 114 vessels from the site of Chaibadan. Metric and non-metric variables are used to elucidate aspects of the collection that may shed light on the transition from the late prehistoric period into the early historic period in the region. Whole and reconstructable vessels excavated from Layer 3 at the site are the main focus of this study.

## CHAIBADAN AND ITS MATERIAL CULTURE

Chaibadan is a relatively large archaeological site located on the flood plain of the Pa Sak River in east-central Thailand (Figure 1). It is a low mound extending along the west bank of the river, at latitude 15°04' N and longitude 101°05'26' E. Prior to systematic study, this site was extensively damaged through looting and road construction. Until its inundation by rising water levels after the construction of Pa Sak Dam in 1998, looting constituted the main threat to it.

Chaibadan has been tested three times, during 1996 and 1997. It was first systematically excavated by the Fine Arts Department in 1996, although a project report on that work has not yet been published. Later in 1996, the site was test excavated again by Puranrak as part of an archaeological salvage project directed by the FAD (Puranrak 1996a, 1996b, 1997). This second excavation involved two 2x2 m and two 3x3 m squares located in different parts of the mound (Puranrak 1996a). The 1996 excavations unveiled several artefact-rich layers, and hence led to the 1997 field phase, which involved the more extensive excavation of six 2x2 m and six 3x3 m squares. Again, the 1997 square units were sunk into various parts of the mound (Puranrak 1997).

The occupational time range of the site is between 200 BC and AD 1500. The excavations indicate that Chaibadan is a stratified archaeological habitation site that contains

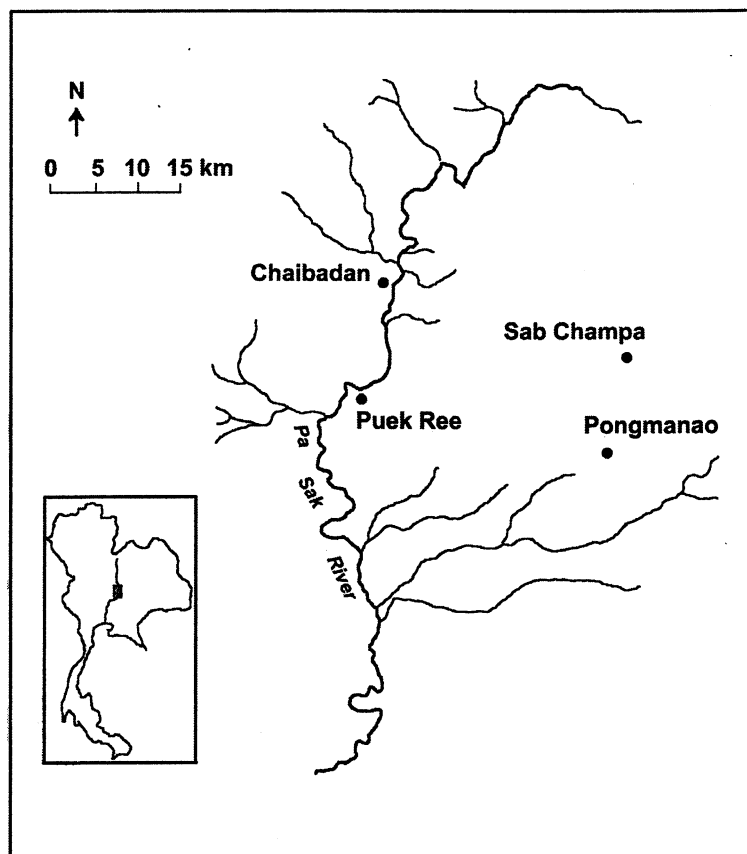


Figure 1: Chaibadan and neighbouring sites.

features and burials. All the test units were stratigraphically correlated and three cultural layers were identified, as summarised in Table 1.

Layer 1, the uppermost, was characterised by a mixture of Lopburi (11th century AD) and Ayutthaya period (16th century AD) sherds. This cultural material appeared after a stratigraphic break in the occupational sequence. Some high-fired Chinese glazed wares dating to the 11th and 12th centuries AD were also recovered in this layer. Compared to Layer 1, Layer 2 saw a gradual decrease in some pottery types (such as burnished black wares) and the appearance of new ones (such as fine-grained orange wares). No burials were recovered in this layer. Layer 3 had a dense and diverse artefact assemblage. It contained numerous ceramic sherds, pottery vessels, iron implements, stone and bronze bracelets, clay spindle whorls, socketed axes, polished stone adzes, and a range of beads made of stone, clay, glass, and gold.

A total of 30 extended supine burials were excavated at Chaibadan, cut from the surface of the occupation deposit of Layer 3 and thus relatively dated to between 200 BC and AD 200. Common grave goods include pottery vessels, potsherds and beads. Some burials contained grave goods

suggestive of ranking and probably exchange with distant regions, as they were richly furnished not only with pottery vessels and beads, but also with exotic and valuable objects. For example, Burial #2 was interred with a bead necklace, a bead bracelet, a ring, and an iron socketed axe. Another burial was adorned with 14 gold beads, 4 jade bracelets, charred rice grains, 2 gold earrings, and a bronze sheet. It should be noted that several burials were poorly preserved as parts of the skeleton were missing. Faunal remains associated with the burials include bones of cattle, pig, dog, deer, turtle, and a variety of gastropods.

Site dating is relative, rather than absolute, since no radiometric dates have been run thus far (although datable materials such as burnt wood, charcoal, animal bones and shells were recovered). The cultural deposits and artefact assemblages can be divided into three general time periods: (1) Iron Age (200 BC - AD 200); (2) Pre or Early Dvaravati Phase (AD 200 - 600); and (3) Historic Phase (11th - 16th centuries AD). Based on cross-comparison of artefacts such as ceramics, iron implements and beads, it is suggested that Chaibadan might have been initially occupied sometime around 200 BC, during the Iron Age. Major occupation continued until the early Dvaravati period (c. AD 500), as evidenced by the presence of *kendi* or spouted vessels and fine-grained orange wares characteristic of this period (Indrawooth 1985; Bhumadon 1996). It should also be noted that *kendi* excavated from other sites in mainland Southeast Asia, such as Angkor Borei (Cambodia) and Tra Kieu (Vietnam), also date to about the same time period (Glover and Yamagata 1995; Stark 2000). After an occupational break, the site was re-used for a short time during the later historic period (13th century AD at the earliest).

#### STYLISTIC VARIATION IN CHAIBADAN CERAMICS

A total of 114 earthenware vessels, all from Layer 3, are suitable for analysis of Chaibadan ceramic variation. Since all came from the same cultural layer, the variation is thus regarded as spatial, rather than temporal. It is apparent that there are both similarities and differences in several dimensions in these ceramics. In the following section, I describe the stylistic variation from two perspectives: (1) general typological classification based on surface treatment and texture, and (2) formal variation. These two perspectives on Chaibadan ceramic variation reveal both inter- and intra-site relationships. While some stylistic aspects are site specific, others reflect similarities with ceramics from sites in neighbouring regions.

*Surface Treatment and Texture*

The pottery from Chaibadan can be divided into three dominant types based on surface treatment and texture (Lertrit 2002:124): Burnished Black Ware, Orange Ware and Fine-Textured Orange Ware. Parallels to these ceramics are found in other regions such as Lopburi, Phimai, and as far away as the lower Mekong delta.

**Burnished Black Ware**

This is characterized by a shiny burnished surface, coarse-grained texture, and relatively thin wall thicknesses (4-6 mm). Surface colour varies but black is the dominant colour. Most Burnished Black Ware vessels were not decorated, but some round-based pots have bases that are stamped with a cord-marked design.

**Orange Ware**

These vessels have an orange exterior color (5 YR 6/4). In overall characteristics, this ware is similar to Burnished Black Ware, but is distinguished by its unburnished surface and greater wall thickness (5-9 mm). Both Burnished Black Ware and Orange Ware vessels exhibit a variety of forms, including jars, pots and bowls.

**Fine-Textured Orange Ware**

This is represented by fine-grained, thin walled, wheel-made earthenware. Diagnostic vessels are globular spouted pots (also called *kendi* or *kundi*) whose surface color ranges from orange to buff. Fine-Textured Orange Ware vessels are less common than the two previous types and may represent an exotic ware at Chaibadan. The spatial distribution of *kendi*, according to data recovered to date, is clearly confined to a few lowland sites in east-central Thailand, such as Chaibadan and Puek Ree (Puranrak 1996a, 1996b). However, there is increasing evidence that their distribution might also have spread to nearby highland sites, including the recently excavated sites of Sab Champa and Pongmanao (Lertrit *et al.* 2001; Natapintu 2002).

*Formal Variation*

The Chaibadan ceramic assemblage displays both paste variation and formal (vessel shape) variation. Formal variation is defined as differences in shape, including presence or absence of attributes such as carinations and spouts. The majority of the vessels examined were excavated from burial contexts. Furthermore, some vessels were filled with charred human bones and thus can be considered as burial jars.

Table 1: The Chaibadan occupational sequence

Occupational Layer	Description	Chronology
Layer 1	Average 20-30 cm thick with low density of artefacts dating to historic period, mainly stoneware ceramics.	11th-16th Century AD
Layer 2	About 30-40 cm thick with the appearance of fine-grained earthenware ceramics.	AD 200 - AD 600
Layer 3	Fairly thick (50-60 cm) layer, with a variety of artefact classes as well as human burials.	200 BC - AD 200

The Chaibadan vessels can be categorized into three main vessel forms: bowls, pots and jars. These vessel shapes are defined visually in Figures 2-6. Open bowls with direct everted or inverted rims (Figures 2-3) are the most commonly found. Pots with restricted contours and everted rims, sometimes with spouts (Figures 4-5), are also common, but fewer than bowls. Jars with inverted rim profiles, either direct or indirect (Figure 6), were as popular as pots. The percentages of these forms overall are bowls 51 (44.7%), pots 31 (27.2%) and jars 32 (28.1%). It should be noted that each of these three major forms has variations in attributes such as rim form, absence or presence of carination, and base type. Table 2 indicates how the vessel forms are distributed across the three wares.

Bowls are the most abundant vessels and exhibit a variety of physical characters (Figures 2-3). The most common are flat-based bowls with straight rims, some carinated (Figure 3b), and some with inflected contours (Figure 2b). Rim diameters vary between 9 and 25 cm (mean 15.5 cm). Maximum heights are between 4 and 11 cm (mean 6.7 cm). None are decorated. The majority have burnished exterior and interior surfaces. A few bowls like those from Chaibadan have been excavated in the Pa Sak River Valley, from sites including Puek Ree (Puranrak 1996b) and Pongmanao (Surapol Natapintu pers. comm. 2002).

The two most distinctive pot forms are round-based, carinated, high necked pots (Figure 4). Despite some variation in bases, decoration, and rim forms, vessels of this class are relatively tall (15 - 22 cm, mean 18.5 cm) and large, with everted rims and restricted necks. Three main types of decoration have been observed, each belonging to a particular vessel form and on a specific part of the vessel. For example, painted motifs are found only around the shoulders of high necked, flat-based, carinated pots (Figure 4c). Stamped designs were applied on the bases of round-based, high neck pots (Figure 4a-d). Cord-marked decoration occurs on the lower portions of round-based

LERTRIT: CERAMIC VESSELS FROM CHAIBADAN

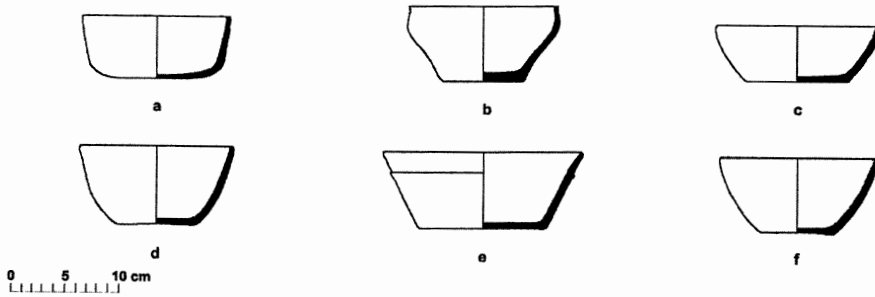


Figure 2: Bowl forms from Chaibadan.

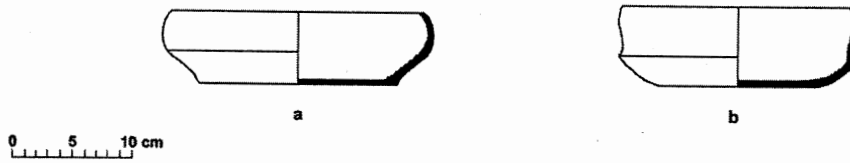


Figure 3: Bowl forms from Chaibadan.

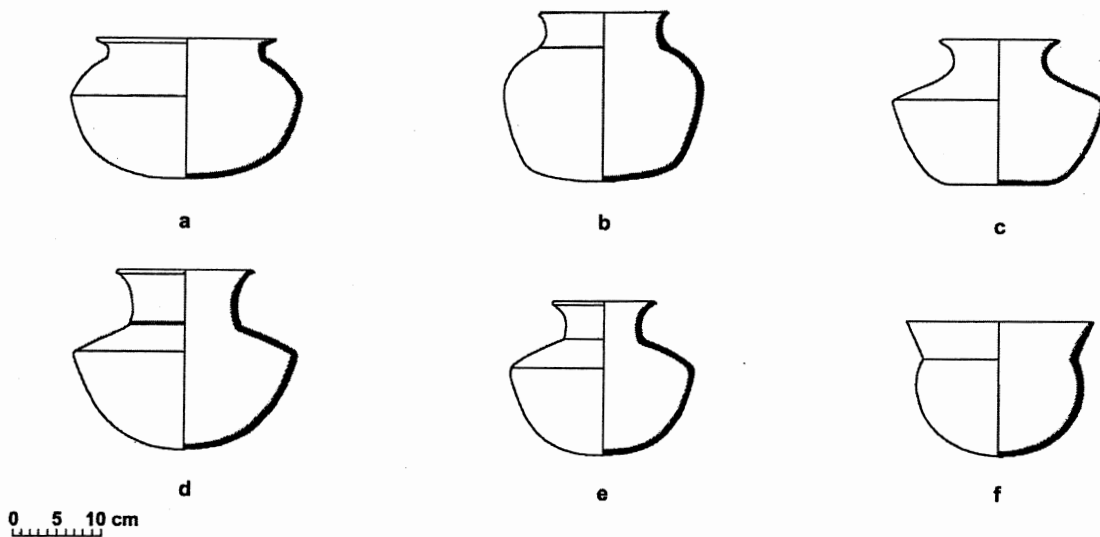


Figure 4: Pot forms from Chaibadan.



Figure 5: Spouted pot forms from Chaibadan (not to scale).

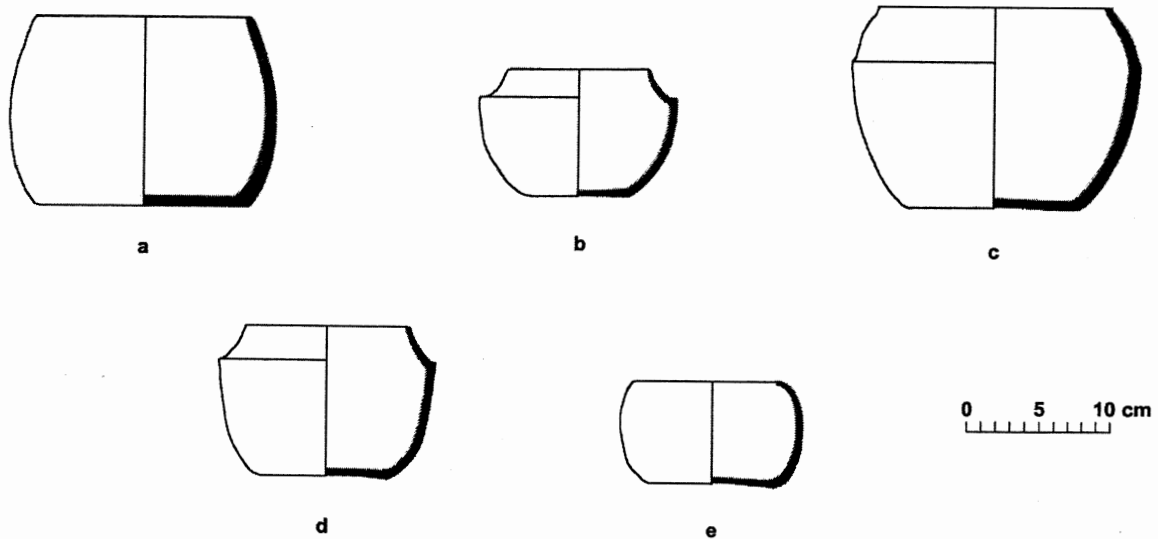


Figure 6: Jar forms from Chaibadan.

pots like that in Figure 4f). Spouted pots (Figure 5) are included in this group in Table 2.

The jar form is considered the most distinctive in the Chaibadan ceramics. No parallels, except from the site of Puek Ree, have been reported from any other sites in the Pa Sak River Valley or elsewhere in central Thailand. The form shows little variation and can be subdivided into carinated and non-carinated types. Both types exhibit no decoration and are flat-based. The carinated jars are generally unique, with concave rim walls separated from body walls by a tiny carination at the shoulder (Figure 6b, d). Jars of this type exhibit a wide range of rim diameters from 8 to 20 cm (mean 11.6 cm), with maximum heights between 6.7 and 17.2 cm (mean 10 cm).

Table 2: Bowls, jars and pots in terms of the three Chaibadan ware classes

Vessel Form	Ware Type			Total
	Burnished Ware	Orange	Fine-Textured Orange Ware	
Jar	28	4	0	32
Pot	24	5	2	31
Bowl	38	13	0	51
<b>Total</b>	<b>90</b>	<b>22</b>	<b>2</b>	<b>114</b>

## LERTRIT: CERAMIC VESSELS FROM CHAIBADAN

Restricted but non-carinated jars have inverted rim forms (Figure 6) and some of these vessels show a high degree of rim convexity. Such jars recovered at Chaibadan have rim diameters between 9.5 and 15.5 cm (mean 11.1 cm.) and maximum heights from 6.8-13.5 cm (mean 9.2 cm). Vessels similar in form have been found at the sites of Phu Noi and Tha Kae in north-west Lopburi (Silapee 1985; Rispoli 1992). In her analysis of ceramics from Tha Kae, Rispoli (1992) uses the term "hole-mouth jars" to describe vessels with similar morphology to the jars recovered at Chaibadan.

The Chaibadan vessels exhibit a variety of decoration techniques. They can be plain or burnished, slipped, cord-marked, stamped, painted, and incised. However, plain or burnished surfaces are dominant (see Table 3).

### DISCUSSION AND CONCLUSIONS

The Chaibadan pottery represents a unique cultural tradition, geographically restricted to the Pa Sak River Valley. Archaeologists often equate restricted ceramic distributions to a lack of interaction between groups and to a strong expression of exclusive identity (Plog 1980; Stark 1998). That is, the less the groups interact, the more limited the geographical distribution of artefact classes will be. On the contrary, intensive interaction may increase the widespread distribution of certain artefact classes, in that the exchange of ideas and knowledge may lead to similar patterns of cultural behaviour (Wobst 1977; Hegmon 1995; Stark 1998).

A related interpretation to explain the restricted distribution of Chaibadan ceramics would be that the inhabitants of Chaibadan expressed and maintained their cultural identity through a particular ceramic tradition. Given that the ceramic vessels used in this study are mortuary vessels, it can be argued that these vessels were vehicles for ideological expression.

As for the later prehistory of Southeast Asia in general, and for the prehistory of Thailand in particular, the Chaibadan ceramic collection has a lot to contribute to the better understanding of socio-cultural dynamics. The evidence suggests that the Chaibadan inhabitants were not actually an isolated group, despite the typological isolation of their pottery, since they maintained contacts outside their community, especially during the Iron Age. Thus, perhaps long distance trade and at the same time a preservation of cultural identity were major concerns for Chaibadan inhabitants. Chaibadan is located on an alluvial plain where clay suitable for ceramic production was abundant, so it is not surprising that some pottery made there has been found at Sab Champa, about 15 km to the east. Two examples of Chaibadan burnished vessels were excavated here (Lertrit 2003). As ceramic analysis begins to answer some questions regarding the cultural identity of the ancient people of

Table 3: Distribution of decorative techniques on Chaibadan vessel forms

Surface Decoration	Jar	Pot	Bowl	Total
Plain/Burnished	29	25	49	103
Incised	0	3	2	5
Slipped	3	7	0	10
Cord-marked	0	10	0	10
Stamped	0	7	0	7
Painted	0	3	0	3

Note: Some vessels (especially pots) possess more than one type of surface decoration

Chaibadan, further research on socio-economic organization is also necessary.

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### REFERENCES CITED

- Bhumadon, P. 1996. Ceramics of the Dvaravati Period in Early Thailand. Presented at Conference on Asian Ceramics: Functions and Forms, The Field Museum, Chicago.
- Glover, I., and M. Yamagata. 1995. The origins of Cham civilization: indigenous, Chinese and Indian influences in central Vietnam as revealed by excavation at Tra Kieu, Viet Nam 1990 and 1993. In Yeung Chun-Tong and Li Wai-Ling Brenda (eds), *Conference Papers on Archaeology in Southeast Asia*, pp. 145-69. Hong Kong: University Museum and Art Gallery, University of Hong Kong.
- Hegmon, M. 1995. *The Social Dynamics of Pottery Style in the Early Puebloan Southwest*. Cortez, Colorado: Crow Canyon Archaeological Center.
- Indrawooth, P. 1985. *Index Pottery of Dvaravati Period*. Bangkok: Siam Press (in Thai with English summary).
- Lertrit, S. 2002. Some notes on new data from recent archaeological excavations in the Pa Sak River Valley, central Thailand. *Silpakorn University International Journal* 2(1):119-35.
- Lertrit, S. 2003. Late prehistoric and early historic periods: evidence from the Pa Sak River Valley and the central Highland. *Muang Boran Journal* 29(1):72-87 (in Thai).
- Lertrit, S., P. Jumprom and A. Klinpoklab. 2001. Preliminary results of the 2001 archaeological field investigation at Sab Champa. *Muang Boran Journal* 27(3):117-33 (in Thai).

- Natapintu, S. 2002. The archaeological site of Pongmanao. *Muang Boran Journal* 28(2):139-42 (in Thai).
- Plog, S. 1980. *Stylistic Variation in Prehistoric Ceramics: Design Analysis in the American Southwest*. Cambridge: Cambridge University Press.
- Puranrak, Inc. 1996a. *Report on the 1996 Excavation at Chaibadan, Chaibadan District, Lopburi Province*. Ayutthaya: Report submitted to the 3rd Office of Archaeology and National Museums (in Thai).
- Puranrak, Inc. 1996b. *Report on the 1996 Excavation at Puek Ree, Tha Luang District, Lopburi Province*. Ayutthaya: Report submitted to the 3rd Office of Archaeology and National Museums (in Thai).
- Puranrak, Inc. 1997. *Report on the 1997 Excavation at Chaibadan, Chaibadan District, Lopburi Province*. Ayutthaya: Report submitted to the 3rd Office of Archaeology and National Museums (in Thai).
- Rispoli, F. 1992. Preliminary report on pottery from Tha Kae, Lopburi, central Thailand. In Ian Glover (ed.), *Southeast Asian Archaeology 1990, Proceedings of the Third Conference of the European Association of Southeast Asian Archaeologists*, pp. 129-42. Hull: Centre for Southeast Asian Studies, University of Hull.
- Silapee, K. 1985. A Study of Ceramics from Ban Phu Noi, Ban Mi District, Lopburi Province. BA dissertation, Department of Archaeology, Silpakorn University, Bangkok (in Thai).
- Stark, M.T. (ed.) 1998. *The Archaeology of Social Boundaries*. Washington, DC: Smithsonian Institution Press.
- Stark, M.T. 2000. Pre-Angkor earthenware ceramics from Cambodia's Mekong Delta. *Journal of Khmer Studies* 1:69-90.
- Wobst, H. M. 1977. Stylistic behavior and information exchange. In C.E. Cleland (ed.), *For the Director: Research Essays in Honor of James B. Griffin*, pp. 317-42. Ann Arbor: University of Michigan, Museum of Anthropology.

