

Excavation of a Pre-Dvāravatī Site at Hor-Ek in Ancient Nakhon Pathom

Saritpong Khunsong, Phasook Indrawooth and Surapol Natapintu

ABSTRACT—The ancient city of Nakhon Pathom is the largest Dvāravatī moated site in Central Thailand and has been generally dated to about the seventh to eleventh centuries AD. It has been cited as a capital or a cultural centre of the Dvāravatī period. However, most studies of ancient Nakhon Pathom have taken an art-historical approach, such as Pierre Dupont’s seminal work in 1939–1940 and Piriya Krairiksh’s study of Chula Prathon Chedi in 1975. Basic archaeological study of the cultural stratigraphy in the areas of ancient occupation was conducted only in 1981 with the excavations of Phasook Indrawooth. This article presents the results of archaeological excavation of the Hor-Ek site in 2009 that show evidence of human occupation during circa the third to eleventh centuries AD. The new data from Hor-Ek thus extends the occupational sequence back to a Pre- or Proto-Dvāravatī Period.

The Dvāravatī context of ancient Nakhon Pathom

While much valuable research on ancient Nakhon Pathom has been published since the time of Rama IV, including the studies of King Rama IV himself (Fine Arts Department 1985), Lucien Fournereau (1895), Lunet de Lajonquière (1912) and Erik Seidenfaden (1929), ancient Nakhon Pathom did not become a well-known Dvāravatī site until publication of the work of Pierre Dupont in *L’archéologie môme de Dvāravatī* (1959). This landmark study presents an art-historical analysis of Dvāravatī Buddha images and the study of two monuments, Wat Phra Men and Chula Prathon Chedi, which Dupont excavated in 1939 and 1940 in cooperation with the Fine Arts Department.

The significance of Nakhon Pathom in Dvāravatī times is indicated by the discovery of two silver coins with the seventh-century AD Pallava script in Sanskrit language of “*Srī Dvāravatī Svāra Punya*”, meaning “meritorious deeds of the king of Dvāravatī” (Boeles 1964). The designation of Srī Dvāravatī, as translated by George Cœdès, probably corresponds to the ancient kingdom of To-lo-po-ti, or Dvāravatī in Sanskrit, written by Xuan Zhang, the Chinese monk of the T’ang dynasty who travelled from China to India between AD 629 and 645 or the first half of the seventh century (Beal 1969: 200).

While Srī Dvāravatī silver coins have subsequently been found at other Dvāravatī sites such as U-Thong in Suphan Buri province (Boisselier 1972: figure

85 a–b; Fine Arts Department 2002: 124), In-Buri in Sing Buri province (Department of Archaeology 1980: 4), and Ku Bua in Ratchaburi province (Baptiste and Zéphir 2009: 53), ancient Nakhon Pathom is still considered the most important site for the study of Dvāravatī archaeology.

The significance of ancient Nakhon Pathom has been confirmed by the remains of the *stūpa* of Phra Pathom Chedi, Phra Prathon Chedi and Chula Prathon Chedi, and the temples Wat Phra Men, Wat Phra Ngam and Wat Dhammasala. Many Dvāravatī artifacts such as Buddha images, *dhammacakra* or Wheels of the Law and inscriptions in Pālī or old Mon language have been discovered (Usa 2005). The ancient town appears to have been the capital or cultural centre of Dvāravatī communities in central Thailand (figure 1) between the seventh and eleventh centuries AD (see Cœdès 1929: 4; Dupont 1959: 19–21; Boeles 1964: 102; Wales 1969: 32–49; Damrong 1970: 97; Subhadradis 1996: 4; Phasook 1999: 101).



Figure 1. Map of Thailand showing the distribution of Dvāravatī sites

Ancient Nakhon Pathom in historical sources

Ancient Nakhon Pathom was situated in Muang district of modern Nakhon Pathom province (figure 2). The name of the city that is cited in the legend of this old town and Phra Prathon Chedi was Nakhon Chaisrī. It is said to have been constructed by the legendary King Srī Sitthichai Promthep (Fine Arts Department 1985: 20–21). Some texts mention a Brahman village called Ban Tona Brahman that occupied this area and refer to the year 590 AD, when Brahmans enshrined a vessel called Tona that contained a relic of the Buddha in a sanctuary established after 590 AD, sometime around the end of the sixth or the beginning of the seventh century.

The ancient site of Nakhon Pathom covered an area of 7.2 square kilometres. The city plan was likely rectangular in shape. Its central sanctuary of Phra Prathon Chedi may have been constructed in 656 AD by a king named Kāwanna Disarāja (Fine Arts Department 1985: 4, 19, 23; Fine Arts Department 1999: 94, 200). Recent excavation at this monument by the Fine Arts Department has revealed the base of a Dvāravatī *stūpa* beneath a *chaitya* or *phra prang* of a later period (Usa 2009: 145–148), a discovery that appears to corroborate the documentary evidence that a kingdom existed at Nakhon Chaisrī during the seventh century AD.

A major Dvāravatī seaport

The ancient city of Nakhon Pathom had a single moat, which was about 50 to 60 metres wide, enough to enable entry by sailing ships. Bang Kaeo and Bang Kaem are two old canals that run through the city. They led to the ancient seashore that geologists have suggested was not far from the old town (Thiva and Pongsri 1982: 2–5). Although the proximity of the sea to the town in the Dvāravatī period is still unclear, ancient Nakhon Pathom probably was a major seaport from the eighth to the eleventh centuries (Phasook 1999: 101). At least two artifacts found in this city support this notion: a terracotta seal that depicts a sailing ship and a seal that is engraved in ancient Brāhmī script with the Prākṛit words “*varapata(na)*”, meaning “excellent seaport” (Anant 2004: 189–190; see figure 3).

As a major Dvāravatī seaport in central Thailand, ancient Nakhon Pathom was a gateway for the spread of Buddhism to eastern, northeastern and northern Thailand (figure 1). Such seaports in peninsular Thailand as Chaiya in Surat Thani province, Tung Tuk in Phang Nga and Yarang in Pattani also developed at that time with direct connections with Srīvijaya, an empire or state based in Sumatra, particularly at modern Palembang. The worship of Srīvijaya is based on Mahāyāna Buddhism. Srīvijaya dominated overseas commerce from China and Southeast Asia to India and Arabia from the eighth to thirteenth centuries AD (Wolters 1967: 247–253; Coëdès 1968: 81–85; see figure 4).

Historical perspectives of ancient Nakhon Pathom

With the general objective of documenting the cultural development of ancient Nakhon Pathom from its beginnings to the fourteenth century, this article discusses three studies with chronological evidence for dating of the Hor-Ek site.

In 1970, the French art historian Jean Boisselier proposed a chronology for Chula Prathon Chedi based on analysis of terracotta and stucco reliefs that depict Buddhist scenes. Boisselier suggested three stages of construction: (a) the first with Theravāda Buddhist terracotta reliefs of about the seventh or eighth century AD; (b) the second stage with stucco reliefs of the ninth or tenth century that show traces of Mahāyāna influence from Srīvijaya art; and (c) the third stage with Theravāda ornamentation of the tenth century (Boisselier 1970).

The second art historian who commented on the chronology of Chula Prathon Chedi is Piriya Krairiksh. In his dissertation (1975), he points out the appearance at Chula Prathon Chedi of Sarvāstivāda, a Sanskrit Hinayāna form of Buddhism that contradicts Boisselier's conclusions. (See related arguments in Nandana 1977; Prapod 2010: 97–99). In 1980, Piriya proposed a revised chronology of Dvāravatī stylistic development at Nakhon Pathom before the fourteenth century AD. Based on analysis of art objects and monuments, he suggested five stylistic phases from the third to thirteenth centuries (1980) that are shown in table 1.

The third scholar to have examined the archaeological evidence from the Dvāravatī period of ancient Nakhon Pathom is Phasook Indrawooth. Excavation in 1981 at Phra Prathon subdistrict unearthed such artifacts as pottery, bronze ornaments, iron tools, spindle whorls and glass beads. Even though there is no absolute dating from the lowest and middle layers of human settlement, Phasook assumed from the pottery analysis, in conformity with the art-historical data, that the period of prosperity of ancient Nakhon Pathom probably occurred from the eighth to ninth centuries (1983: 72–73). Beyond that period, Phasook based her conclusions on radiocarbon studies of a single sample from her excavation that dates to 1100–1156, or first half of the twelfth century (1983: 72).

The cultural history of ancient Nakhon Pathom thus remains unclear especially for the first phase of its occupation and the prosperous period. Moreover, Phasook's research has been the only archaeological excavation of a settled area inside the ancient part of Nakhon Pathom, while most other scholars have focused on the art history rather than the cultural history. The first author of this article was assigned to the excavation project at the Hor-Ek site to collect archaeological data for investigation of the cultural development of this important centre, as reported in the following pages.



Figure 3. Terracotta seals from ancient Nakhon Pathom

SOURCE: National Museum, Bangkok

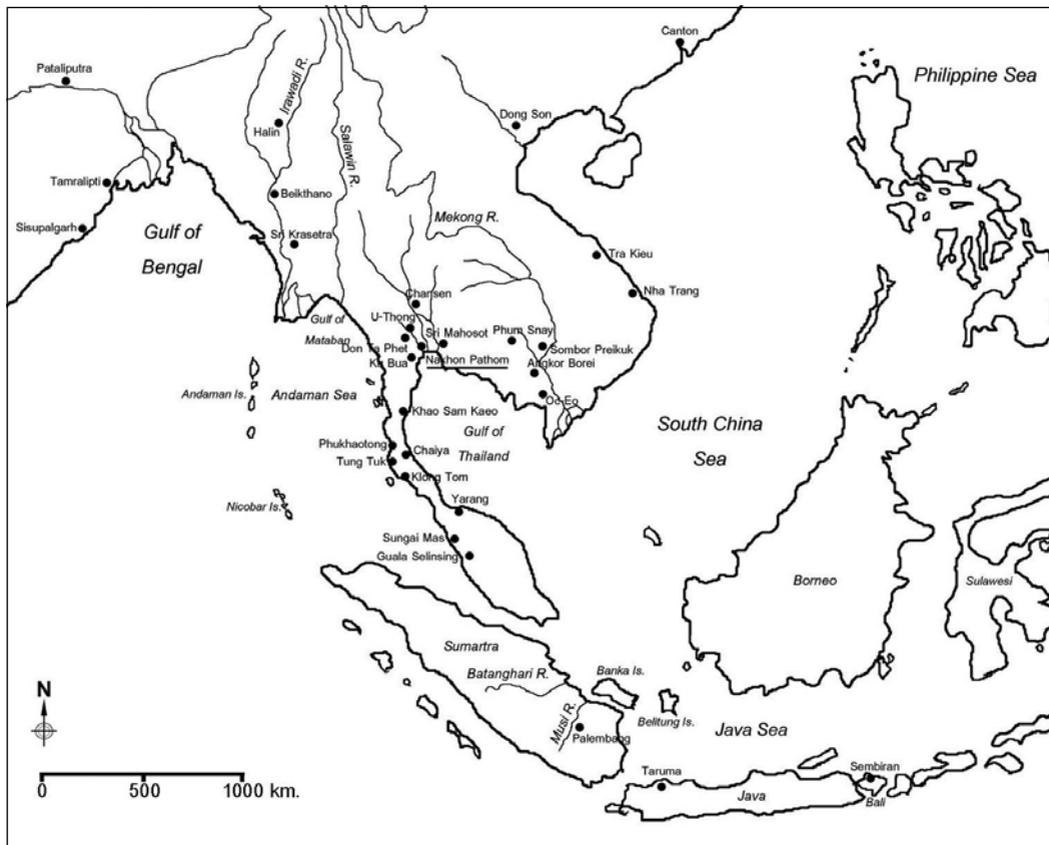


Figure 4. Map of Southeast Asia with towns of the early historical period

Table 1. Cultural development of ancient Nakhon Pathom

PHASE	PERIOD	CENTURY AD	SIGNIFICANT FINDS
1	Indianization	3 rd –5 th	Metal ornaments, silver coin with Sanka
2	Early Mon period	5 th –7 th	First phase of Chula Prathon, Phra Prathon Chedi
3	Mature Mon period	7 th –8 th	Second phase of Chula Prathon, Phra Prathom Chedi (the former <i>stūpa</i>), Wat Phra Men, many Wheels of the Law
4	Decline of the Mon period	8 th –12 th	Third phase of Chula Prathon, some Wheels of the Law, some stucco and bronze statues
5	Khmerization	12 th –13 th	Stucco images from Wat Phra Prathon

Archaeological site and surface collection at Hor-Ek

Named after the primary school of Hor-Ek Witthaya within its bounds, the archaeological site of Hor-Ek occupies about 32,000 square metres in Phra Prathon subdistrict. It is located about 800 metres northwest of Phra Prathon Chedi, within the moat of ancient Nakhon Pathom and near Bang Kaeo canal, which runs through the northern part of the city (see figure 5). Its geographic position, in technical terms, lies at UTM 47618208/1527668.

The importance of the project site was recognized by the National Museum at Phra Pathom Chedi, whose archaeologists initiated a survey along the two canals of Bang Kaeo and Bang Khaem in 2005 (National Museum, Phra Pathom Chedi 2006). Nonetheless, much of archaeological interest has been looted since the Hor-Ek school was constructed in 2003. Fortunately, many objects have been collected for further research by Phaiboon Phoungsamlee. Some valuable artifacts in his private collection are a Buddhist votive tablet in the Bodhagaya style and various terracotta figurines (figure 6).

The most interesting artifact in Phiboon's collection is a small silver coin inscribed with the words "*Srī Dvāravatī Svāra Pūnya*" (figure 7). This find resembles the coins inscribed with "*Srī Dvāravatī*" from ancient Nakhon Pathom which were found at Nern Hin near Phra Prathon Chedi in 1943 and reported 21 years later by J. J. Boeles (1964).

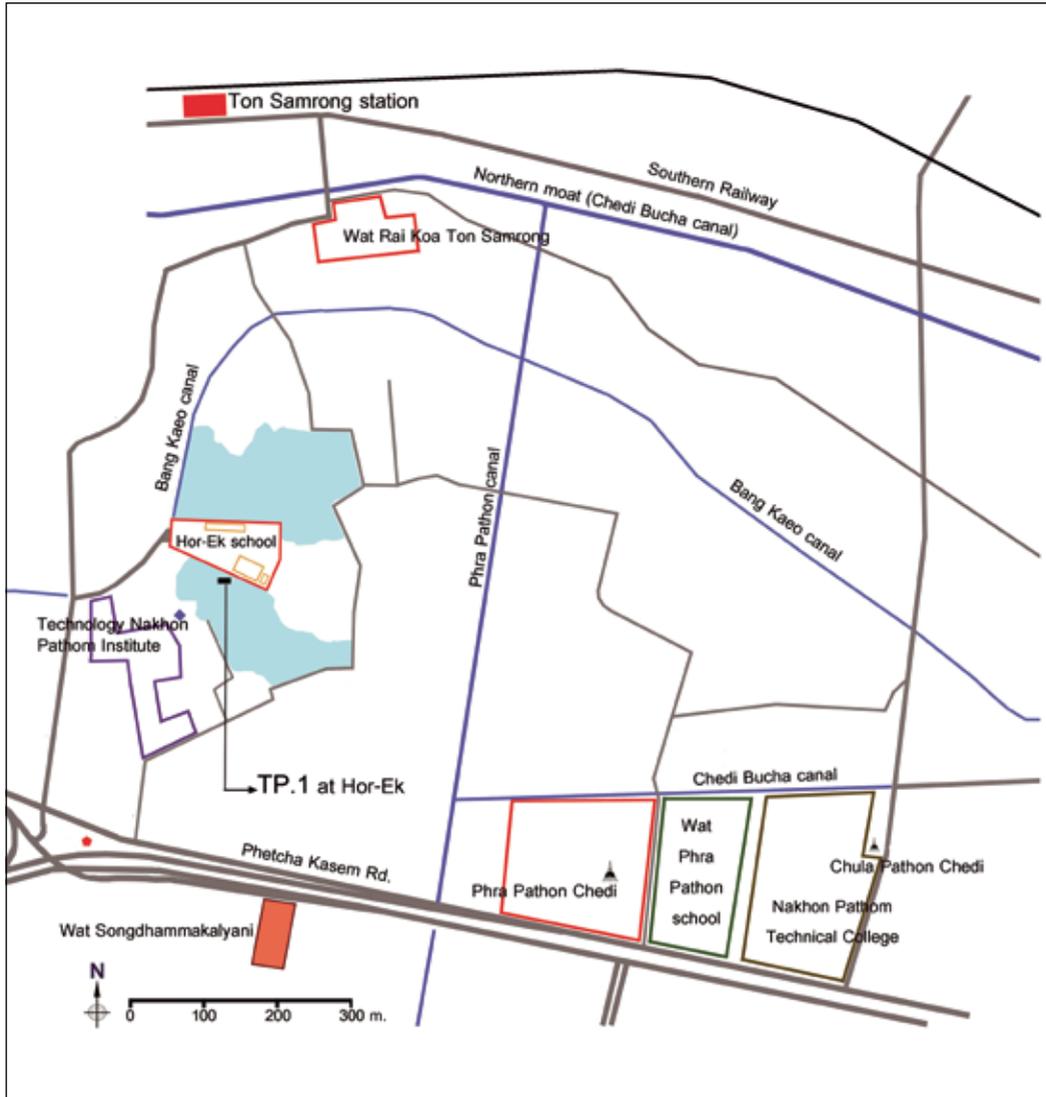


Figure 5. Location of Hor-Ek site and environs

In 2006, the National Museum at Phra Pathom Chedi reported surface finds from the Hor-Ek site that included a stone inscription, a Buddhist votive tablet and a metal earring, among others. (National Museum, Phra Pathom Chedi 2006: 38–40). Many glass and semi-precious stone (carnelian) beads were collected by villagers at the site. Further work by the researchers in 2008 and 2009 also uncovered many artifacts on the ground such as earthenware potsherds, Chinese porcelain (perhaps of the Rattanakosin period), saddle quern and grinding stones, glass beads and bricks. The surface collections confirm that Hor-Ek was one of the ancient communities in the environs of ancient Nakhon Pathom.

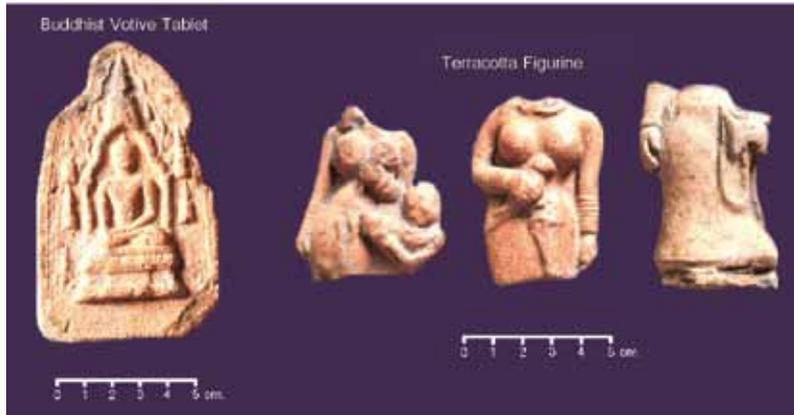


Figure 6. Buddhist votive tablet and terracotta figurines

SOURCE: Collection of Phaiboon Phoungsamlee



Figure 7. Silver coin inscribed with “Sri Dvāravatī Svava Punya”

SOURCE: Collection of Phaiboon Phoungsamlee

Excavation at Hor-Ek

From February to May 2009, a site near a southern wall of the contemporary Hor-Ek school was excavated (see figure 5). Because of time and budgetary limitations, only one trench of 2x8 meters was excavated. This first test pit (TP) was divided into four areas: A, B, C, and D. Each covered 4 square metres and was again separated into four quadrants: NEQ, NWQ, SEQ and SWQ (figure 8).

Excavation procedures were based on arbitrary layer or level, each being 10 centimetres. The surface of TP-1 is about zero centimetres from the datum line

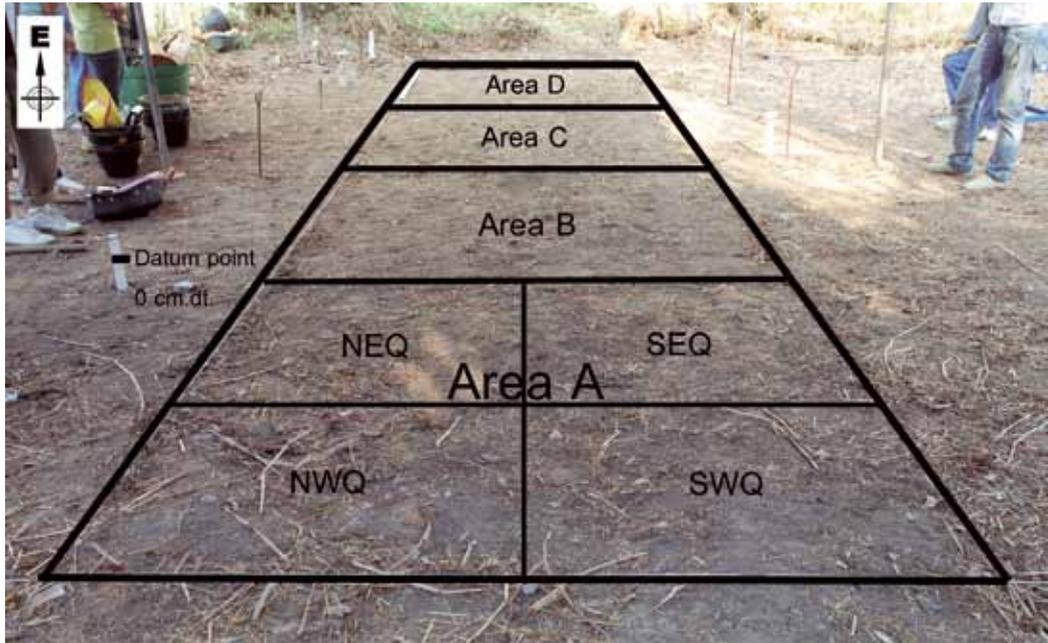


Figure 8. TP-1 at Hor-Ek site

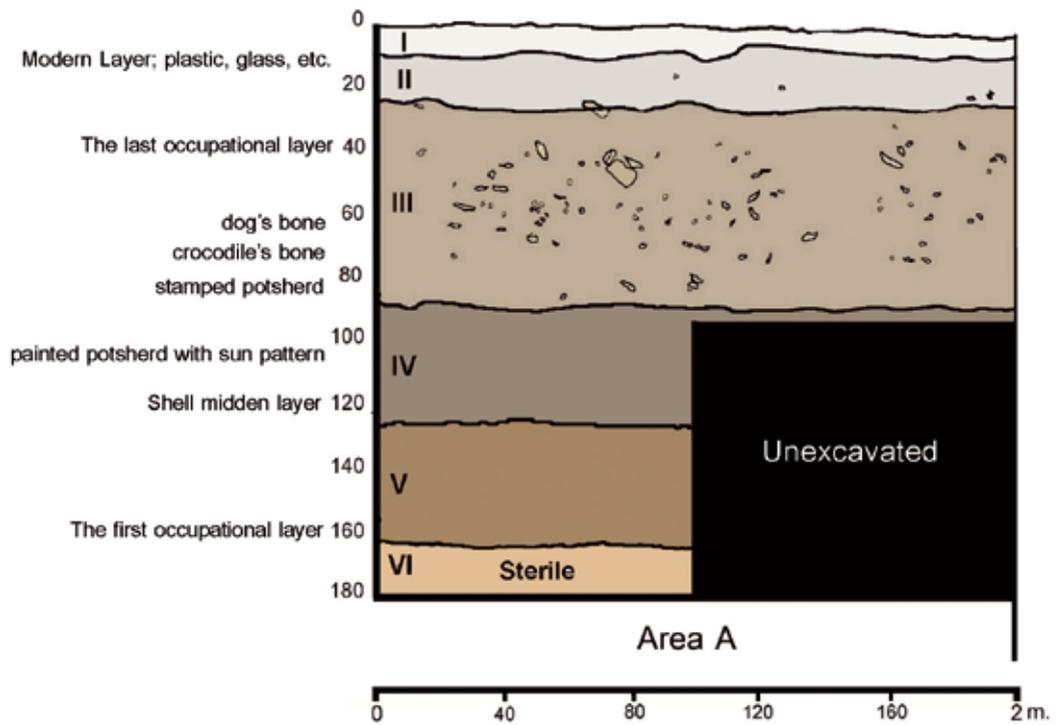


Figure 9. Northern profile of TP-1 (Area A)

(0 cm-dt); hence the depth in cm-dt that is cited in these pages is equal to the depth from the surface. However, the excavation could not reach the sterile or non-cultural layer in every area of TP-1. Only the NWQ or northwest quadrant of area A was excavated to the sterile layer at 180 cm-dt. Consequently, the evidences from area A are an agent data of TP-1 and Hor-Ek site.

Archaeological data from TP-1

In conclusion, the cultural layer at TP-1 is about 120 cm (figure 9). The earliest evidence of cultural activity appears in the lower level (160 cm-dt). Activity continued to the upper level and reached a peak at the middle level (80–90 cm-dt), up to the last phase of ancient occupation that occurred in the upper level (40–50 cm-dt; figure 10). Above the cultural layer lies subsequent modern stratigraphy (0–40 cm-dt) that mostly accumulated when the Hor-Ek school was constructed in 2003.

Interesting finds revealed at each level of the TP-1 cultural layer include the shell midden at 100–140 cm-dt, a crocodile's and dog's bones at 60–80 cm-dt, and several groups of carinated potsherds and the fire chunk areas at 40–50 cm-dt. No artifacts of the later Dvāravatī period were found in TP-1.

Archaeological findings from TP-1 can be divided into two categories of artifacts. The first is ritual finds such as spouted pot or *kendi*, bricks and terracotta roof tiles of the sanctuary. The second is domestic items such as earthenware potsherds, faunal remains, and stone and metal tools (figure 11). The discoveries did not, however, indicate what kinds of ritual had been practiced at Hor-Ek. Some Buddhist votive tablets have been collected (figure 6); they augment the large volume of Buddhist remains that have been found throughout ancient Nakhon Pathom.

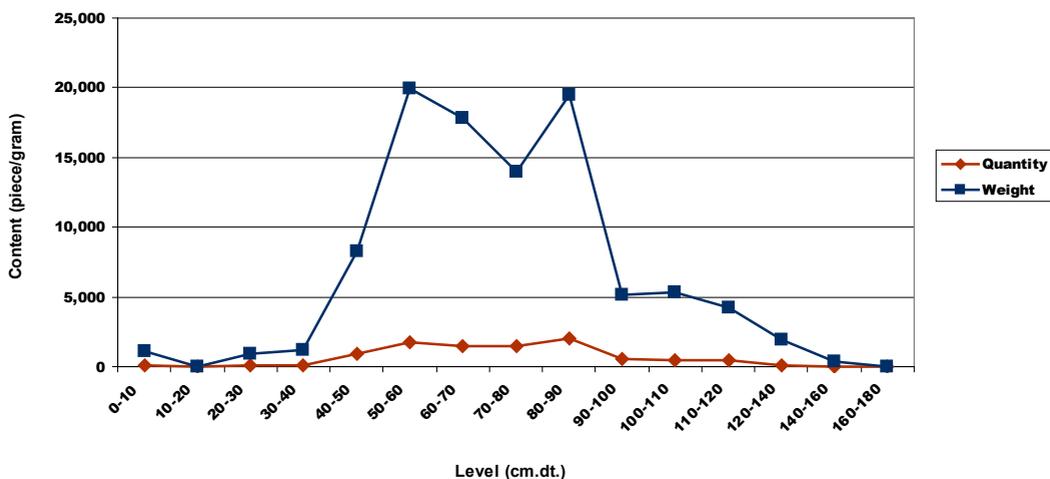


Figure 10. Graph showing the quantity of potsherds from TP-1 (Area A)



Figure 11. Pottery from TP-1 at 40–50 cm-dt

The cultural sequence of TP-1

Most of the artifacts from TP-1 can be dated by typological analysis to the Dvāravatī period. Some evidence indicates that the cultural layer in TP-1 maybe divided into two phases of occupation before the seventh century AD, showing traces of cultural change over time (table 2).

TP-1 Phase I. All shells (freshwater and marine) found at TP-1 were excavated from only the Phase I period of occupation. A total of 7 painted potsherds and 27 pieces of burnished bowls were also discovered from the lower layer (70–140 cm-dt) of this early phase (figure 12).

Table 2. Archaeological evidence from Area A in each cultural layer of TP-1

CULTURAL LAYER	DEPTH (cm-dt)	FOOD SHELLS (gm)	POTTERY DECORATION TECHNIQUES		IMPORTED FINDS		
			PAINTING (pieces)	BURNISHING (pieces)	ORNAMENTS		METAL OBJECTS (pieces)
					GLASS BEADS (pieces)	STONE TOOLS	
Phase II	40 – 50	-	-	-	3	4	2
	50 – 60	-	-	-	6	4	2
	60 – 70	-	-	-	3	2	4
Phase I	70 – 80	-	1	1	-	-	-
	80 – 90	-	1	7	-	-	1
	90 – 100	-	1	3	-	-	1
	100 – 110	2,530	3	6	-	-	-
	110 – 120	7,230	1	6	-	-	-
	120 – 140	4,874	-	4	-	-	-
140 – 160	135	-	-	-	-	-	

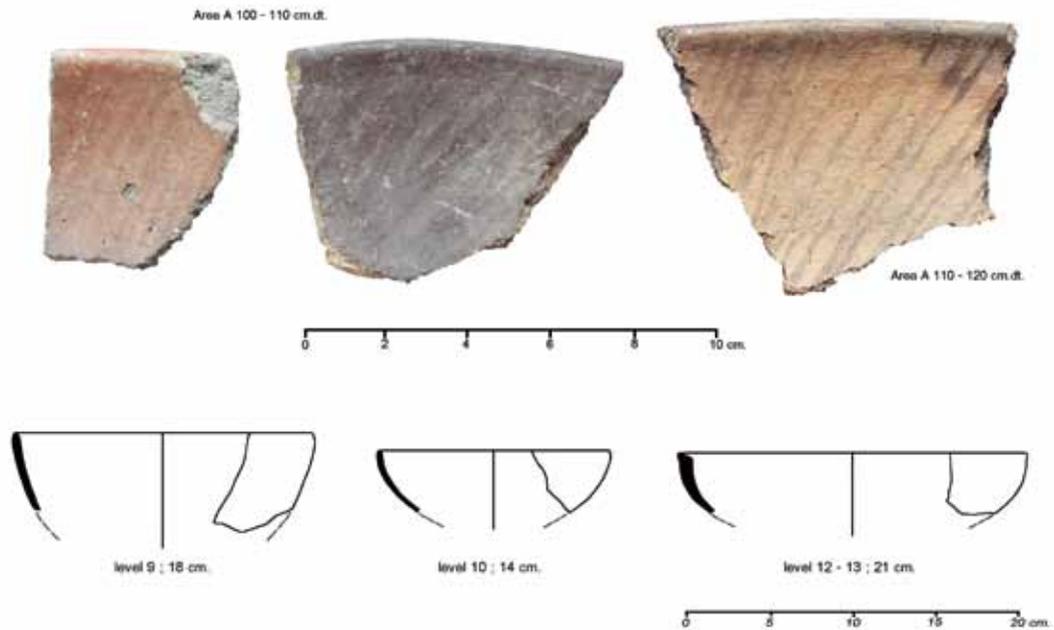


Figure 12. Burnished potsherd from Phase I of TP-1

The most significant discovery from Phase I is the burnished potsherds that resemble Phimai black pottery, which is generally regarded as a diagnostic artefact, an item that is indicative of a particular time and/or cultural group, from the late prehistoric period (ca. 200 BC–600 AD) in northeastern Thailand (Welch and McNeill 2004). Some burnished potsherds resembling Phimai black were also reported from the metal age occupation (about 600 BC–250 AD) and late Funan phase (about 500–600 AD) at Chansen, the moated Dvāravatī site in Nakhon Sawan province (Bronson 1976: 134–135, 192, 272–273, 389–391, figure VIp.). So the burnished potsherds from TP-1 are special finds that represent traces of occupation before the seventh century AD at Hor-Ek.

TP-1 Phase II. Shells as well as painted and burnished potsherds were not found from the upper layer (40–70 cm-dt) of the later phase. Some other objects were discovered from that phase; namely, 12 glass beads, 10 stone tools (pieces of saddle quern or grinding stone) and virtual metal implements. The appearance of such special finds in Phase II of TP-1 is discussed in subsequent sections of this article.

TP-1 chronology

Indications of the relative chronology of TP-1 at Hor-Ek site include the following.

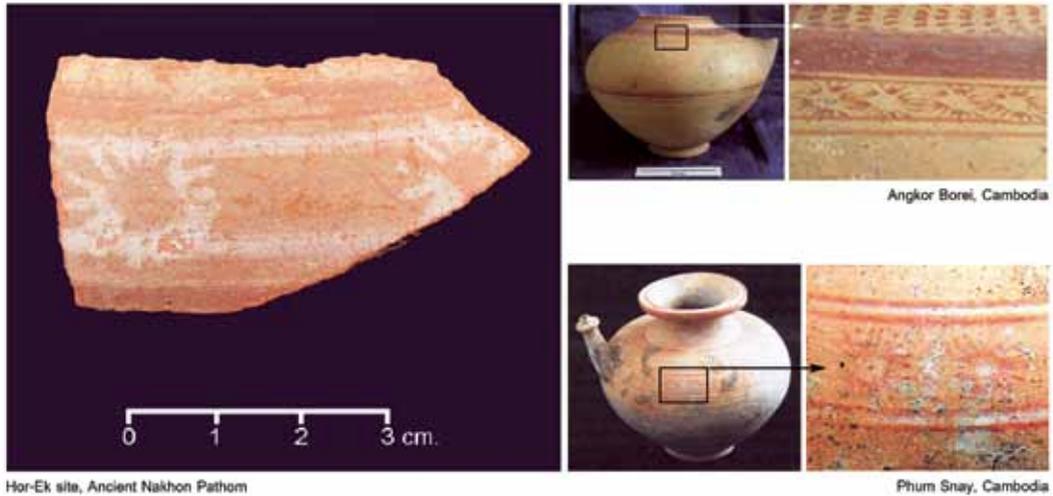


Figure 13. Painted potsherd with sun pattern from TP-1 and kendi from Cambodia

1. The diagnostic artifact from the first occupational layer (160 cm-dt) is a rim potsherd, probably a part of a spouted pot or *kendi*. It compares with the potsherd of TQE type from Chansen that Bennet Bronson has dated to the third to seventh centuries AD (Bronson 1976: 337). This rim potsherd indicates that the first signs of settlement in TP-1 date from that period.

2. Only one painted potsherd with a sun pattern was discovered in 100–110 cm-dt (figure 13). This decoration technique resembles a painted *kendi* from Phum Snay burial No. 7 that has been radiocarbon-dated to the fifth century AD (Yasuda and Phoeurn 2008: 19, 37), and is similar to another from Angkor Borei dated by the relative method to about the fourth to sixth centuries (Fehrenbach: 36–38).

3. A stamped potsherd with floral design was discovered in the middle layer (80–90 cm-dt). It is a diagnostic artifact of the Dvāravatī period (Phasook 1985: 30–32; and 1999: 143–144; Bronson 1976: 434–440).

4. In the uppermost cultural layer of TP-1, many Dvāravatī artifacts were unearthed. The latest ancient occupation at Hor-Ek can be dated to late in the Dvāravatī period, about the eleventh century AD (figure 14).

The relative dating above suggests that the Hor-Ek site may have been occupied by ancient peoples from the third to eleventh centuries AD. Some thermoluminescence dates correspond with the cultural sequence and relative dating above as shown in table 3.

Table 3. Thermoluminescence dates from TP-1

NOS.	SAMPLE	LEVEL	DATE BY TL	MEAN	PERIOD
A_0003	Brick (Area D)	40–50 cm-dt	1,220 ± 97 B.P.	AD 789	AD 692–886
A_0240	Carinated pot (Area D)	40–50 cm-dt	1,543 ± 77 B.P.	AD 467	AD 391–544
A_0241	Fired chunk (Area B)	50–60 cm-dt	1,552 ± 93 B.P.	AD 458	AD 365–551
A_0242	Brick (Area A)	60–70 cm-dt	1,477 ± 305 B.P.	AD 533	AD 228–838
A_0002	Brick (Area A)	90–100 cm-dt	1,410 ± 112 B.P.	AD 599	AD 487–711
A_0243	Potsherd (Area A)	110–120 cm-dt	1,842 ± 120 B.P.	AD 168	AD 48 – 288
A_0004	Shell (Area A)	120–140 cm-dt	2,772 ± 222 B.P.	763 BC	985 BC–541 BC

NOTE: TL = thermoluminescence. Dated at the Thermoluminescence Laboratory, Department of Earth Sciences, Kasetsart University, Bangkok.

From table 3, the date of shell sample No. A_0004 is older than and inconsistent with relative dating for the first occupation; however, this sample and No. A_0242 have a wide range of standard deviation of about 222 and 305 years, respectively. Moreover, some dates did not correspond with the soil stratigraphy such as A_0240 from 40–50 cm-dt, which yields an earlier date than does A_0002 from 90–100 cm-dt. However, thermoluminescence dating using samples such as pottery or brick may not correspond directly with the dates of associated cultural stratigraphy. Rather, it shows the date of the last time since material containing crystalline minerals was heated.¹ No absolute dating from TP-1 is later than the eleventh century AD, so this site may indeed have been occupied just from the third through eleventh centuries as indicated by the relative dating above.

Discussion

The analysis of glass beads that were unearthed only from Phase II indicates that ancient Nakhon Pathom had commercial relations with other geographic areas.

¹ Krit Won-In and Chawalit Khaokhiew, personal communication, 2011.

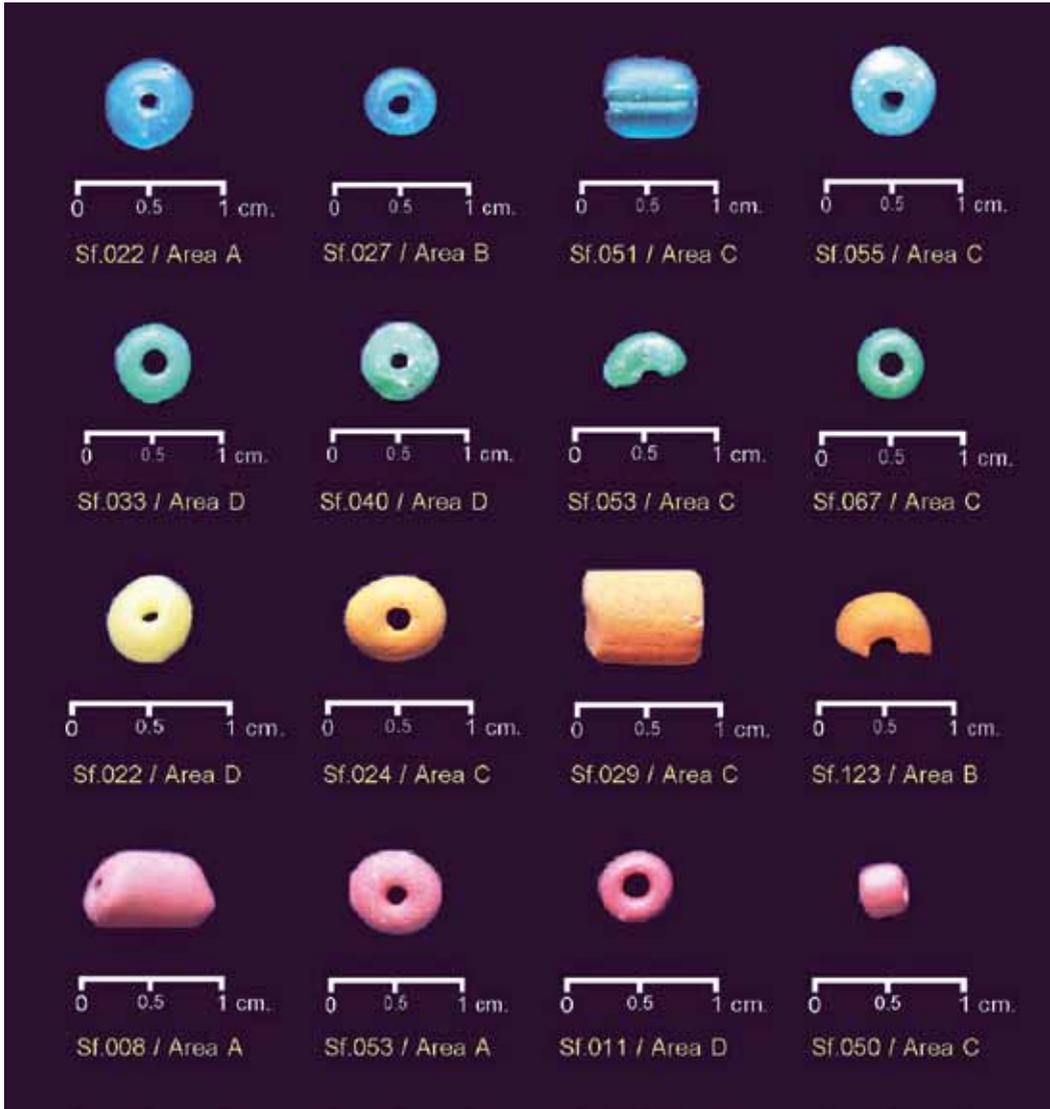


Figure 15. Monochrome glass beads from Phase II of TP-1

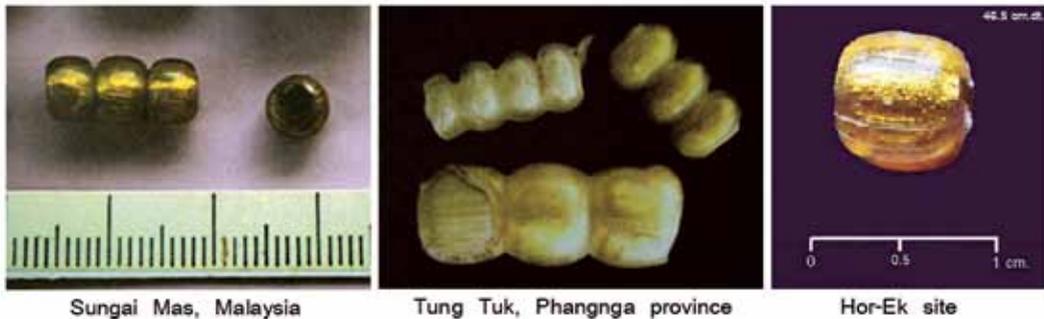


Figure 16. Golden segment beads from Sungai Mas, Tung Tuk and Hor-Ek

A total of 45 glass were collected from TP-1; they are monochrome beads or Indo-Pacific beads (figure 15). Intensive analysis of glass beads using scientific methods (SEM/EDX, PIXE and Synchrotron) shows some similarities in attributes between the TP-1 glass beads and glass beads from peninsular Thailand². An example from TP-1, a golden segment bead, makes an interesting comparison with examples from Sungai Mas in Malaysia (Francis 2002: colour plate 21) and Tung Tuk in Phangnga province (Boonyarit and Raerai 2007: 112); see figure 16.

In addition, some scholars have suggested that Sungai Mas and Tung Tuk were the major sites for monochrome bead export from the ninth century when Śrīvijaya controlled overseas commerce in Southeast Asia (Francis 2002: 36). Consequently, contact between Śrīvijaya and the Dvāravatī (Nakhon Pathom) is probably the main factor that affected the cultural difference in TP-1 at Hor-Ek site. This conclusion is supported by the earlier comment of Jean Boisselier about the influence of Mahāyāna from Śrīvijaya art that is reflected at Chula Praton Chedi (2nd stage) during the ninth or tenth century AD (Boisselier 1970: 64).

The results of the Hor-Ek excavation demonstrate a sequence of cultural evolution at Nakhon Pathom that can be divided into the following three phases.

Ancient Nakhon Pathom Phase I. The initial occupation probably dates from sometime around the third to sixth centuries AD. This dating is based mainly on the dating of the Phimai black potsherds, the *kendi* rim and the painted potsherd with the sun pattern from the lower level (see figures 12–14). Thus, this information also supports documentation mentioned earlier that relates to the Brahman village that existed here before the heyday of this town in AD 590 or at the end of the sixth century AD.

The archaeological data also confirm Piriya's observation about the earliest phase of ancient Nakhom Pathom that can be dated to the third to fifth century as shown in table 1. But the metal object and silver coin with Sanka, that Piriya Krairiksh cited it in his idea of Indianization period, are artefacts of unknown provenience. Hence, the pieces of *kendi* from the lower layer of TP-1, coming from the earliest phase of occupation, are the first archaeological evidence that can be linked clearly to Indian culture (Phasook 1985: 22–24; Singh 1969: 118–123). However, further archaeological data are needed to support the emergence of Indian contact or the Indianization concept at ancient Nakhon Pathom around the third to sixth centuries AD.

Phase I of ancient Nakhon Pathom is identical with Chansen Phase III. Bennet Bronson has dated Chansen Phase III to AD 250–500 and cited a connection between Chansen and Oc-Eo, a famous early historical site in southern Vietnam (Bronson 1976: 14–15). Supporting this connection is the discovery of the painted

² Pisutti Dararat and Krit Won-In, personal communication, 2010.

potsherd with a sun pattern at the Hor-Ek test pit that resembles the *kendi* from Phum Snay and Angkor Borei in Cambodia.

The first phase of ancient Nakhon Pathom was also contemporary with U-Thong Phase II. The dates from Tha Muang near U-Thong that were recently calibrated by Andrew Barram show Phase II of U-Thong to range from about the first to fourth centuries (Barram and Glover 2008: 180). The analysis of the pottery by Barram also shows that settlement at U-Thong continued from Phase II up to Phase V in the Dvāravatī period (Barram and Glover 2008: 180), which is consistent with evidence found at Hor-Ek.

For appropriate identification this period from the first to sixth centuries, Quaritch Wales long ago, in discussing the archaeology of U-Thong, suggested the term “Pre-Dvāravatī” (Wales 1969: 4, 6–7). Subsequently, Phasook assigned the label “Proto-Historic” or “Pre-Dvāravatī” to indicate contemporaneity with the Indo-Roman period in India (1999: 227–228). Barram and Glover have used recent data from U-Thong in suggesting that the term “Early or Proto-Dvāravatī” might be a suitable designation for the period before the sixth century, since Indian civilization was exerting its influence in central Thailand then (Barram and Glover 2008: 181). On the other hand, Chinese texts have mentioned Dvāravatī (“To-lo-po-ti” of Xuan Zhang) only in the seventh century (Beal 1969: 200). So the terms “Pre- or Proto-Dvāravatī” would appear to be more apt a designation than “Early Dvāravatī”.

Ancient Nakhon Pathom Phase II. TP-1 stratigraphy and the yield of artifacts reveal continuity of human activity from initial occupation up to the second phase. The stamped potsherd in floral design uncovered from 80–90 cm-dt and thermoluminescence dating of brick No. A_0002 (AD 599) from 90–100 cm-dt are typical finds of this phase. This evidence possibly relates to the legend of Nakhon Chaisri which referred to the ancient monarchy that ruled Nakhon Pathom during the seventh century.

The second phase may be dated to the seventh or eighth century AD or “Early Dvāravatī period”, in the opinion of the first author of this article. That assertion is supported by observations of such researchers as Jean Boisselier, who commented on construction of Chula Prathon Chedi (the first stage of which occurred during the seventh to eighth centuries), and Piriya whose term “Mature Mon period” in his revised idea on the art of Nakhon Pathom as shown in table 1. Furthermore, all of the archaeological and historical evidence from the ancient Nakhon Pathom in this period also correspond to the seventh-century kingdom of “To-lo-po-ti” (Dvāravatī) in the well-known Chinese record of Xuan Zhang (Beal 1969: 200).

Ancient Nakhon Pathom Phase III. Large number of artefacts especially a lot of potsherd that have been found from the upper level of TP-1 at Hor-Ek indicate a high density of human settlement during this phase. Analysis of glass beads from

TP-1 reflects cultural changes consequent on the commercial relations between Nakhon Pathom and Srīvijaya that had begun in the ninth century AD.

Such findings support Phasook's observations (1983: 72-73) that Nakhon Pathom's period of prosperity may have occurred during the eighth or ninth centuries AD and that it played a great role as the major Dvāravatī seaport from the eighth to eleventh centuries. Beyond that period, however, the Hor-Ek excavation reveals no further developments above the Dvāravatī cultural layer, contrary to Piriya Krairiksh's statements that the Khmer culture was introduced into this area around the twelfth to thirteenth century AD (Piriya 1980: 125). Hence, ancient Nakhon Pathom Phase III should probably be designated the "Late Dvāravatī" period and dated about the ninth to eleventh centuries.

Conclusions

The excavations at Hor-Ek, inside the ancient city of Nakhon Pathom, show evidence of human occupation from third through eleventh centuries AD. The results of this recent project support the notion of the significance of ancient Nakhon Pathom in Dvāravatī times. They have also introduced new archaeological evidence for the beginnings of human settlement at the site as early as the third to sixth centuries—in effect, a Pre- or Proto-Dvāravatī period.

The analysis of monochrome glass beads suggests that cultural changes probably occurred as a result of the commerce between Dvāravatī and Srivijaya, which apparently began in the ninth century AD. The archaeological evidence corresponds with the observations of Jean Boisselier on the influence of Mahāyāna Buddhism from Srīvijaya art that emerged at Chula Prathon Chedi during the ninth or tenth century. The excavations at Hor-Ek show, however, that the prosperity of Nakhon Pathom declined and came to an end around the eleventh century AD, after which no further Dvāravatī cultural evidence is to be found.

ACKNOWLEDGEMENTS

First author Saritpong gratefully acknowledges support of the Office of the Higher Education Commission for the fellowship that has enabled the search reported in this article. The author is equally grateful to Assoc. Prof. Mayurie Veraprasert, Assoc. Prof. Dr. Rasmī Shooongdej, Assoc. Prof. Dr. Thanik Lertchanrit, Assoc. Prof. Dr. Duangduen Krailash, Dr. Pisutthi Dararat, Dr. Krit Won-In, Asst. Prof. Chawalit Khaokhiew, Mrs. Usa Nguanphienphak, Mr. Manassak Rak-U, Mr. Phiboon Phoungsamlee, Mr. Vichaya Vasiksiri, Mr. Thanakrit Joompol, Mrs. Pisamai Nualchan, Miss Nanthawan Sangarun, Mr. Tana Smithsakul and his students at Department of Archaeology for their comments and support in the writing of his doctoral dissertation. All of the opinions expressed in the article remain solely his responsibility.

BIBLIOGRAPHY

- Anant Klinphoglab. 2004. "A study on the identification and art styles of seals in the early historical period at U-thong National Museum, U-thong, Suphan Buri". Thesis submitted to Silpakorn University in partial fulfillment of the degree of Master of Arts in Historical Archaeology. [In Thai.]
- Baptiste, Pierre and Thierry Zéphir, eds. 2009. *Dvāvaratī : aux sources du bouddhisme en Thaïlande*. Exhibition catalogue. Paris: Réunion des musées nationaux.
- Barram, Andrew and Ian Glover. 2008. "Re-thinking Dvaravati". In *From Homo erectus to the Living Traditions*, edited by Jean-Pierre Pautreau et al., 175–182. Choice of papers from the 11th International Conference of the European Association of Southeast Asian Archaeologists. Chiang Mai: Siam Ratana.
- Beal, Samuel. 1969. *Siyuki: Buddhist Records of the Western World*. Translated from the Chinese of Hiuen Tsiang (629 CE). Delhi: Oriental Books Reprint Corporation.
- Boisselier, Jean. 1970. "Récentes recherches à Nakhon Pathom", *JSS* 58.2:55–65.
- . 1972. "Travaux de la mission archéologique Française en Thaïlande (juillet – novembre 1966)", *Arts Asiatiques* 25:27–90.
- Boeles, J. J. 1964. "The king of Śri Dvāravatī and his regalia", *JSS* 52.2:99–114.
- Boonyarit Chaisuwan and Raerai Naiyawat. 2007. *Tung Tuk: The Ancient Port*. Bangkok: Fine Arts Department. [In Thai.]
- Bronson, Bennet. 1976. "Excavation at Chansen and the cultural chronology of protohistoric central Thailand". Doctoral dissertation, University of Pennsylvania Museum.
- Cœdès, George. 1929. *Recueil des inscriptions du Siam, 2e partie. Inscriptions de Dvāravatī, de Çrīvijaya et de Lāvo*. Bangkok: Sophon Pipattanakorn Printing. [In Thai.]
- . 1968. *The Indianized States of Southeast Asia*. [Histoire ancienne des états hindouises d'Extrême-Orient.] Walter Vella, ed. Sue Brown Cowing, tr. Honolulu: University of Hawai'i Press.
- Damrong Rajanupab, H.R.H. Prince. 1970. *Tamnan Phra Bhudha Chedi Siam*. Bangkok: Silapa Bannakarn. [In Thai.]
- Department of Archaeology, Silpakorn University. 1980. *Excavation and the Cultural Study of Ancient Community at Ban Ku Muang, In Buri District, Singburi Province*. Bangkok: Department of Archaeology. [In Thai.]
- Dupont, Pierre. 1959. *L'archéologie môme de Dvāravatī*. [Two vols.] Publications de l'École française d'Extrême-Orient, Vol. 41. Paris.
- Fehrenbach, Shawn Szjeda. 2009. "Traditions of ceramic technology: An analysis of the assemblages from Angkor Borei, Cambodia." Thesis submitted to the University of Hawai'i in partial fulfillment of the degree of Master of Arts in Anthropology. Fine Arts Department, Ministry of Culture.
1985. *The Stories of Phra Pathom Chedi*. 2nd ed. Nakhon Pathom, Thailand: Fine Arts Department. [In Thai.]
- . 1998. *Traiphum Books of Ayutthaya and Thon Buri*. Bangkok: Fine Arts Department. [In Thai.]
- . 2002. *The Archaeology of U-Thong*. Nonthaburi: Saha Mitra Printing. [In Thai.]
- , National Museum, Phra Pathom Chedi. 2006. *Project of Study and Public Relations of the Culture along Bang Kaeo – Bang Khaem for Tourist Development*. Nakhon Pathom: Petkasem Press. [In Thai.]

- Fournereau, Lucien. 1895. *Le Siam ancien, archéologie, épigraphie, géographie*. Paris: Ernest Laroux.
- Francis, Peter, Jr. 2002. *Asia's Maritime Bead Trade: 300 B.C. to the Present*. Honolulu: University of Hawai'i Press.
- Lajonquière, Lunet de. 1912. "Essai d'inventaire archéologique du Siam," *Bulletin de la Commission archéologique de l'Indochine*, 19–181.
- Nandana Chutiwongs. 1977. "On the Jātaka reliefs at Cula Pathon Cetiya", *Silpakorn Journal* 21.4:28–56 (November 2520 BE). [In Thai.]
- Phasook Indrawooth. 1983. "Report of excavation at Tambon Phra Praton, Amphoe Muang, Changwat Nakhon Pathom". Nakhon Pathom: Silpakorn University. [In Thai.]
- _____. 1985. *Index of Pottery in the Dvāravatī Period*. Bangkok: Silpakorn University. [In Thai.]
- _____. 1999. *Dvāravatī: A critical study based on archaeological evidence*. Bangkok: Aksorn Samai. [In Thai.]
- Piriya Krairiksh. 1975. "The Chula Pathon Cedi: Architecture and sculpture of Dvāravatī." Doctoral dissertation (unpublished), Harvard University.
- _____. 1980. "New ideas about Nakhon Pathom before the 14th century A.D." In *Report of the Seminar on Art Criticism*. [No editor/author given.] Nakhon Pathom: Silpakorn University. [In Thai.]
- Prapod Assavavirulhakarn. 2010. *The Ascendancy of Theravada Buddhism in Southeast Asia*. Chiang Mai: Silkworm Books.
- Seidenfaden, Erik. 1929. *Guide to Nakon Patom*. 2nd ed. Bangkok: The Royal State Railways of Siam.
- Singh, Prasad. 1969. "Spouted vessels in India." In *Potteries in Ancient India*, B. P. Sinha, ed., 118–123. Patna: Patna University.
- Subhadradis Diskul, M.C. 1996. *Art in Thailand*. 11th edition. Bangkok: Thammasat University Printing. [In Thai.]
- Thiva Supajanya and Pongsri Vanasin. 1982. "Study of the aerial photograph of an ancient community in Nakhon Pathom." In *Seminar on the History, Archaeology and Art Culture of Nakhon Pathom*. Nakhon Pathom: Silpakorn University. [In Thai.]
- Usa Nguanphenphak. 2005. *Artifacts in Phra Pathom Chedi National Museum*. Nonthaburi, Thailand: S. Pichit Printing Co. Ltd. [In Thai.]
- _____. 2009. "Fouilles récentes au Phra Pathon Chedi." In *Dvāravatī : aux sources du bouddhisme en Thaïlande*, Baptiste and Zéphir, eds., 145–149. Exhibition catalogue. Paris: Réunion des musées nationaux.
- Wales, H. G. Quaritch. 1969. *Dvāravatī: The Earliest Kingdom of Siam (6th to 11th century A.D.)*. London: Bernard Quaritch, Ltd.
- Welch, David J. and Judith R. McNeill. 2004 "The Original Phimai Black Site: A New Look at Ban Suai, Phimai, Thailand," in *Southeast Asian Archaeology: Wilhelm G. Solheim II Festschrift*, edited by Victor Paz, 522–543. Manila: University of the Philippines Press.
- Wolters, O. W. 1967. *Early Indonesian Commerce: A Study of the Origins of Śrīvijaya*. Ithaca, New York: Cornell University Press.
- Yasuda, Yoshinori and Chuch Phoeurn. 2008. *Preliminary Report for the Excavation in Phum Snay 2007*. Kyoto: International Research Centre for Japanese Studies.