PEOPLE AROUND THE HOUSES WITH FIRE: ARCHAEOLOGICAL INVESTIGATION OF SETTLEMENT AROUND THE JAYAVARMAN VII 'RESTHOUSE' TEMPLES

Mitch Hendrickson Department of Archaeology, University of Sydney

The 'resthouse' temples attributed to the reign of Jayavarman VII (1181-1220 CE) remain one of the most important yet enigmatic components of the Angkorian Khmer road system that spreads today from Cambodia into northeast Thailand and southern Laos (Figure 1). Since Lunet de Lajonquière (1902: 296) rediscovered the regularly-spaced temples along the Northwest and East roads a recurring issue in the literature is whether these buildings served religious or practical purposes. This dichotomy is indicated by the range of different names used by French and English scholars. French researchers variously use the terms Teap Chei (Lunet de Lajonquière 1902: 296), dharmaçala (Foucher 1903: 180; Finot 1925; Groslier 1973: 117), maison du charité (Ibid.), gîte d'étape (Im 1998: 53; Dagens 2003: 70; see Cunin 2004), and maison avec du feu/maison du feu (Cœdès 1940; Jacques and Lafond 2004: 387). English language publications similarly employ the term *dharmasala* (Freeman 1996: 14; Welch 1998: 213) but tend to refer to them as guest houses (Higham 1989: 337), rest-places (Snellgrove 2001: 108) or resthouses (Briggs 1951: 235; Chandler 1996: 61; Welch 1998: 213; Stark 2004: 109). Regardless of which name is used it is argued we need to consider that these structures simultaneously acted as both a home for the gods and part of resting places for travellers and officials moving along the road during the Angkorian period. Recent studies in the Greater Angkor area (Greater Angkor Project 2003: 110-111) have demonstrated the dual or multiple roles of Angkorian infrastructure (e.g., embankments as roads and canals) and that masonry buildings are part of larger complexes comprising perishable or earthen features (e.g., moats, walls, secondary buildings). Archaeological investigation of occupation around the 'resthouse' temples is therefore required to document the presence and or extent of secondary features that would support their claim as resting places in the Angkorian past. Before discussing the appropriate term for these buildings they will be referred generically as "structures".

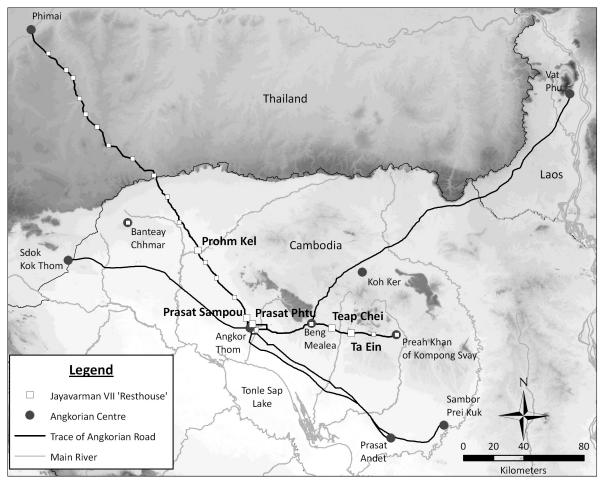


Figure 1. Map showing locations of Angkorian road system and Jayavarman VII era 'resthouse' temples (fire shrines) discussed in the text (background image – SRTM 90m DEM [http://srtm.csi.cigar.org/]).

To set the stage for this discussion, the paper begins with an overview of the history of opinions about resting places in the Cambodian transport systems, specifically highlighting major research trends in the study of Angkorian masonry structures. The significance of these structures to the transport system is then examined through three studies. First is the re-measurement of spacing between them to demonstrate their logistical distribution along the Angkorian roads. This is followed by evidence of occupation or activity areas from recent excavation and topographic surveys at Prasat Sampou and Prasat Phtu, two of these laterite structures in the Greater Angkor region. Finally, results of ground and low aerial ultralight surveys around three regional structures demonstrate the presence of secondary constructions and ceramic production areas. By investigating the transport characteristics of these inherently religious edifices, a more comprehensive understanding of their role in Angkorian society and, reflexively, the structure of Khmer state-level communication, can be produced.

1. Salas and Fire Shrines: The History of Resting Places and Terminology.

Evidence of "resting places" associated with the Cambodian transport system is commonly found from the Angkorian period to the modern day. During the dry season watering locations and shelter are an essential part of facilitating regional communication and are repeatedly mentioned in historic records. The late 13th century account of Zhou Daguan mentioned the presence of *samnak* (rest stops) (Zhou 1902[1295-1296]: 173). While he does not actually describe the Jayavarman VII era structures, he compares them to Chinese post halts found along their main highways (Ibid.). Six centuries later, European explorers repeatedly refer to rest stops or *salas* during their travels through Cambodia. Bastian, for instance, records staying at wooden *salas* variably located beside ponds, rivers, monasteries or outside villages (2005[1864]: 33; 45; 54; 101). Mouhot commented on the frequency of royal 'stations' spaced approximately 20 km apart for the king on the route between Kampot and Udong (2000[1858-60] : 142). Albrecht's survey along one of the Southeast roads refers to a local tradition that the Southeast road from Angkor had a series of *étapes d'éléphant* (elephant stops) marked by a monument (1905: 7). Unfortunately, no trace of these buildings remains as locals informed Albrecht that the Thai destroyed these edifices during their control over the region (Ibid.).

Resting places built of perishable materials no doubt played an important role in the Angkorian period but, like their more recent counterparts, have now faded from memory. Masonry structures^{*} were first identified by Lunet de Lajonquière during his surveys along the Angkorian roads to Phimai (Northwest) and Preah Khan of Kompong Svay / Bakan (East) (1902 : 296). Initially referred to as *teap chei*, based on the similarities to a temple located 14 km east of Beng Mealea, these buildings are comprised of a long hall, or *mandapa*, ending with a tower on the west end (Figure 2a-b). A total of seventeen such



Figure 2. Examples of sandstone and laterite fire shrines. (Left) – Preah Khan at Angkor. (Right) – Prasat Sampou.

^{*} Lunet de Lajonquière (1911 : xxix-xxx) identified a second set of structures along the East road opposite the 'teap chei' that are known today as temples d'étapes (see Groslier 1973 : 118). Architectural style and configuration suggests these buildings date to the early 12th century and therefore pre-date the Teap Chei buildings. For further discussion see Hendrickson 2007 : 149-157).

Mitch Hendrickson

laterite structures are found along the Northwest road and three similar sandstone structures are present on the East road between Beng Melea and Preah Khan of Kompong Svay. Attesting to the enigmatic role of these buildings, a further five are found within temple enclosures – Ta Prohm (Angkor), Preah Khan (Angkor), Banteay Chhmar, Preah Khan of Kompong Svay, and Ta Prohm Bati – some of which are not connected to the visible road system. A further and somewhat unique example, Prasat Phtu, is a considerable distance from the trace of the Northwest road and is not within the confines of a temple enclosure, the nearest being the Preah Khan (Angkor).

Relatively little research has focussed specifically on the masonry structures since their initial discovery. The first and only publication specifically addressing the 'teap chei' temples was conducted by Finot (1925) who provided descriptions of the size, decoration, orientation, and spacing of the *dharmaçalas*, a term that suggests both a religious and secular role. Based on the sample of structures the average size of a *dharmaçala* was recorded as 14-15 m in length and 4-5 m in width. Current measurements (see Table 1) show the sandstone examples are slightly longer and wider on both the east and west ends of the building. A further cluster between the different masonry types is also visible in the length/width ratios. Both the laterite and sandstone structures do share the Lokesvara motif depicted in the fronton. The sandstone buildings, however, are more ornately decorated. Structurally both types commonly share features of three to four open windows on the south side, while those on the north are filled in. It has been suggested that this is related to the position of the road as the *dharmaçalas* are normally found to the north of routes (Finot 1925: 417-19). Building orientation, particularly along the Northwest road, follows the position of the road rather than the typical east-west cardinal alignment of Angkorian architecture. This deviation has also been used to suggest that practical rather than strict religious codes governed their construction (Lunet de Lajonquière 1911: xxix ; see Mollerup 2008). Of all the characteristics, it is the regular spacing between temples that provides the justification for applying the specific term 'resthouse' that was initially presented by Finot (1925). Groslier (1997 [1980]: 204) suggested that an average day's travel in ancient Cambodia was 25 km; this distance will act as a guide to determine whether the spacing between these structures would have

Prasat	Location	Material	Length	Width W	Width E	L/Ww ratio	L/We ratio
Prohm Kel	NW Road	Laterite	13	4.4	4.1	2.95	3.17
Prasat Sampou	NW Road	Laterite	14.65	6.1	4.67	2.4	3.14
Prasat Phtu	NW Road	Laterite	14.8	5.9	4.65	2.51	3.18
Teap Chei	East Road	Sandstone	16.6	7.4	4.8	2.24	3.46
Preah Khan	Enclosure	Sandstone	17	8	6.6	2.13	2.58
Ta Prohm	Enclosure	Sandstone	16	8	6.4	2	2.5
Kuk Top Thom	Enclosure	Sandstone	16.28	7.84	na	2.08	na
Prasat Kuk	Enclosure	Sandstone	15.09	7.5	5.63	2.01	2.68

Prasat Dimensions (m)

 Table 1. Comparison of size and ratios between laterite and sandstone fire shrines found along Angkorian roads and within temple enclosures.

been achievable during Angkorian times.

Both the sandstone and laterite 'resthouse' structures are attributed to the late 12th to early 13th century and, most likely, to the reign of Jayavarman VII (1181-1220 CE). This chronological association is derived primarily from the Preah Khan stele dated to 1191 CE (see Cœdès 1941) and the decorative use of the *Lokesvara* motif. The stele describes a series of 121 *vahni-griha* found along three roads and in specific Angkorian temple enclosures; the correlation of the 17 *vahni-griha* listed to *Vimaya* (Phimai) corroborates the number found along the Phimai road (Ibid.). The *Lokesvara* motif, which represents the Buddha of healing, is associated with the switch to Buddhism as state religion for Jayavarman VII and his successor Indravarman II (1220-1270 CE).

Foucher (1903: 180) recognised that these structures served first and foremost religious purposes and were not simply 'resthouses', pointing out that stone is a material intended for the gods and not for human habitation. Translation of the Preah Khan stele also provided the first 'true' name of the resthouses – *vahni-griha*, or fire shrines – and potentially their direct association with religious/state-level practices. Jacques has recently supported the use of fire shrine as it more accurately represents the inscription and possibly points to its role in housing a 'sacred fire', images of which are depicted being carried in processions on the walls of Angkor Wat, Banteay Chhmar and the Bayon (Jacques and Lafond 2004: 388). While he agrees that the fire shrines would have served as religious rest stops he rejects past assertions that they functioned as *gîtes d'étapes*, or lodging stations, for travellers. He asserts that these mundane structures would have been made of wood and thatch (Ibid.). To comply with the individual religious function of the stone structures the term fire shrine is adopted for the rest of the paper.

2. The Practical Role of Fire Shrines

The 'resthouse' characteristic of the fire shrines is discussed from three different archaeological data sets. The first section is the recalculation of the spacing between the temples and the implications this distance has on Angkorian travel times. The second presents the results of excavation and topographic survey completed by the Angkorian Dharmasala Project at the temples of Prasat Phtu and Prasat Sampou, the two closest fire shrines along the Northwest road. The final section discusses the results of landscape features identified through ground and low level ultralight surveys around three remote fire shrines.

Spacing

The primary reason for including fire shrines in the transport system is that they are spaced at a practical distance for the modes of Angkorian transportation. Initial measurements between the 11 known fire shrines on the Northwest and East roads were first recorded by Finot (1925) resulting in distances between 1.6 and 108 km. Discovery of the remaining fire shrines along the Northwest road, including three

Mitch Hendrickson

recently identified by the Living Angkor Road Project (2008 : 249), results in an average distance of 16.11 km. Distances along the East road between Beng Mealea and Preah Khan of Kompong Svay measured from a new map of the Angkorian road system (see Hendrickson 2007) are slightly smaller with an average of 14.8 km. Overall, the recalculated distances show that the fire shrines are indeed regularly spaced with the laterite temples on the Northwest road being slightly further apart. An important feature of the East road is the lack of fire shrines between Beng Mealea and Angkor. Given the distance to the capital (45.6 km) we should expect up to three more fire shrines. Either they have not been located, have not been properly identified, or were destroyed. A more intriguing hypothesis is that the temples were not meant to monitor/facilitate transport all the way to Angkor.

The regular spacing between the fire shrines not only provides evidence that they served a practical purpose but indicates how far people travelled in the Angkorian past. Groslier suggested that 25 km was an average distance per day; based on the data calculated here travel along the roads appears to be slightly longer at 30 km, with the fire shrines acting as midday and evening halts, or substantially shorter at 15-16 km. If we assume the former distance is a better correlate the real-time trip between Beng Mealea and Preah Khan of Kompong Svay would be approximately two to three days. Excluding the time required to travel up/down the Dangrek Range it would take four to five days to reach the escarpment from Angkor and a further four and a half to five and a half days to reach Phimai.

3. Prasat Sampou and Prasat Phtu

The religious importance and logistical position of the fire shrines suggests we should find traces of occupation at or around the temples from one or two groups. Based on the lists of people connected to temples from inscriptions, such as the Ta Prohm stele K.273, fire shrines should also have an attendant population of monks living nearby and maintaining the temples. The second type of archaeological signature would be from repeated visits by travellers, merchants, pilgrims and their animals. In both instances we should expect to find evidence of housing structures, domestic activities, and some trade goods. In January 2008, excavation and total station surveys were completed around two laterite fire shrines, Prasat Sampou and Prasat Phtu in the Greater Angkor region (see Figure 3).

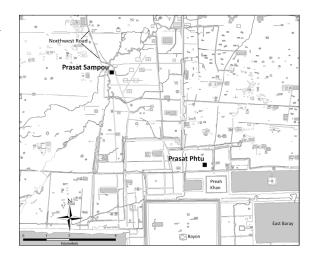


Figure 3. Location of Prasat Sampou and Prasat Phtu in the Greater Angkor region (background data – Pottier 1999 and Evans 2007).

People around the Houses with Fire

Prasat Sampou (IK 610; MH 495) is a typical laterite fire shrine (see Figure 2b), in excellent condition, approximately 8km northwest of the main temple complex of Angkor Thom. A well carved lintel in the Jayavarman VII style is still fixed in the west entranceway and holes above it suggest that a decorated wooden fronton or portico was once attached to the building. This type of wooden structure has been recognized repeatedly at Angkor by Cunin (2007: 170-171). Prasat Phtu, or Preah Phtu (IK 523; MH 407), was originally identified by Lunet de Lajonquière (1911: xxx; 156) as the first 'Teap Chei' temple leaving Angkor presumably along the Northwest road. Located 600 m north of the Preah Khan enclosure, Prasat Phtu is unique among the fire shrines because, instead of the normal south-facing open windows fitted with carved colonettes, it has a single opening divided by laterite blocks on both sides of the building (Figure 4). The shape and length of Prasat Phtu, however, currently justifies its inclusion among the list of Angkorian fire shrines.

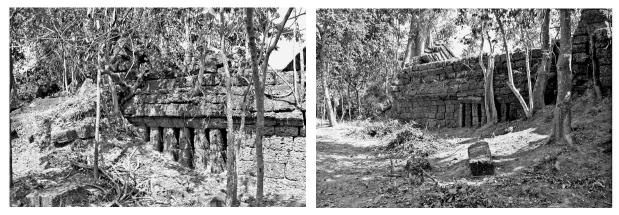


Figure 4. Prasat Phtu. South (Left) and north (Right) elevations showing unique window construction.

Excavation

A pair of 2 x 1 m test trenches placed to the east and west of Prasat Sampou (Figure 5) and Prasat Phtu (Figure 6) revealed diagnostic ceramics and various cultural features (e.g. architectural foundation; cooking dump) that support the presence of local occupation. The predominance of Khmer brown glaze pots indicates a contemporary or earlier occupation than the accepted 1191 CE inscription-based completion of the temple. The east trench at Prasat Sampou (Figure 7) revealed a thick, densely-packed cementitious layer with bits of broken sandstone and Khmer brown glaze ceramics extending across the unit. Similar construction layers are commonly found beneath temple foundations (see examples in Dumarçay 1973: 19-20; MAFKATA 2005: 17) and masonry water management infrastructure around Angkor. The presence of this layer at Prasat Sampou suggests a foundation for a perishable construction or causeway between the temple and the road 100 m to the east. The 14C AMS date range of 1020 to 1230 CE (Beta-248233) from this cultural deposit indicates construction before or concurrent with the text-based chronology of the fire shrines. If this cementitious layer pre-dates construction of the temple, the masonry fire shrine may have replaced a perishable structure at this location. Replacement of wooden components with stone has been demonstrated by Cunin (2004) at numerous Angkorian temples, particularly those of the Bayon style.

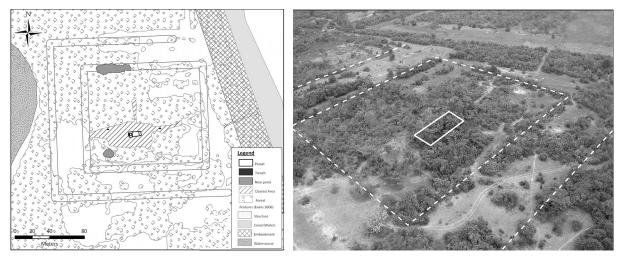


Figure 5. Features identified around Prasat Sampou. (Left) – map showing location of trenches and prasat in relation to features identified from remote sensing (background data – Evans 2007). (Right) – view from ultralight showing location of enclosure features. Note the linear embankment of the Northwest road across upper portion of image.

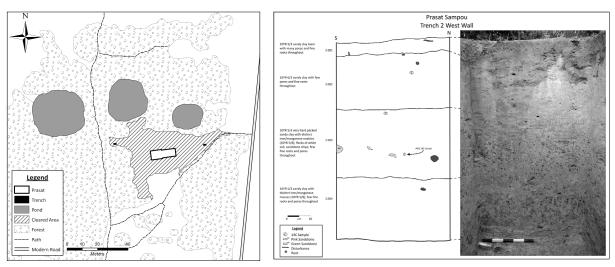


Figure 6. Prasat Phtu. Map of region showing location of infrastructure and archaeological work completed during this investigation.

Figure 7. Prasat Sampou. Section and photograph showing compacted layer (2.003) within East wall of Trench 2.

Evidence of activity areas were also identified around Prasat Phtu. The west trench (Trench 2) revealed a concentration of broken/burned earthenware sherds and charcoal (Figure 8). While no hearth structure was visible, the presence of a secondary deposit close to the *prasat* is further support for local domestic activities. As with the ceramic assemblage at Prasat Sampou, the ceramic evidence of Khmer brown glaze ceramics and examples of datable Chinese trade wares (Qing Bai white box fragment [12th to 13th c. CE]) supports contemporary or post-construction occupation of the space around the temple.

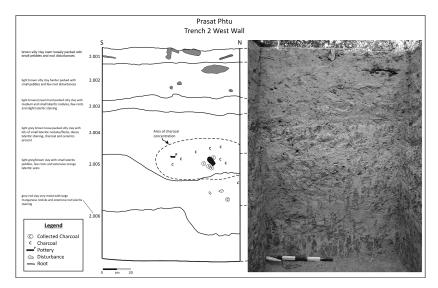


Figure 8. Prasat Phtu. Section and photograph showing location of ceramic concentration (2.004-2.005) from West wall of Trench 2.

Survey

Ground, ultralight and topographic surveys were completed to document evidence of infrastructure and occupation around Prasat Sampou and Prasat Phtu. Evans' (2007) map of the greater Angkor region indicates Prasat Sampou is surrounded by two rectilinear features (see Figure 9). It is apparent now that the north pond documented in Figure 5 is part of a moat. Low level aerial surveys from an ultralight identified also rectilinear

arrangement of vegetation around the site that may be the remnants of an enclosing wall or moat. On the ground, a slight north-south rise between the two west features and at the northeast 'corner' both indicate the presence of infrastructure around the fire shrine; whether this was a base of a wooden rampart surrounded by a moat is uncertain at this time. Presence of walls/moats is not direct evidence for settlement but does indicate a separation of space for specific activities, be they ritual or secular.

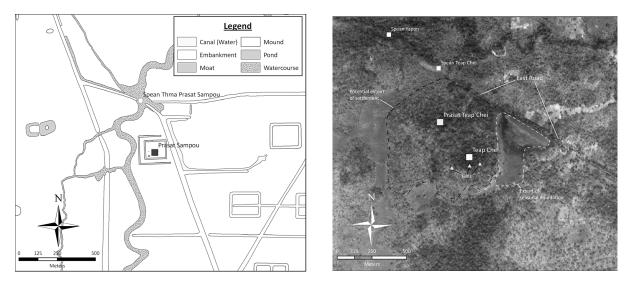


Figure 9. Examples of multi-component landscapes around fire shrines. Left – Prasat Sampou (background data – Evans 2007). Right – Teap Chei (background image – Finnmap 1:25000 air photograph [February 1993 Roll 08 Strip 32w 1978]).

Mitch Hendrickson

No clear evidence of settlement mounds was identified at either Prasat Sampou or Phtu. The landscape around both fire shrines, however, contained the remains of several small ponds. Unlike rectilinear *trapeang* commonly associated with larger Angkorian temples and temple enclosures, these small ponds are not regularly placed and are amorphous in shape. The fact that regularly-spaced ponds are an important part of the Angkorian transport system (see Hendrickson 2007) further supports the idea that ponds would be found around fire shrines for travellers and their beasts of burden. Combined with the excavation results there is strong evidence to suggest that fire shrines are not isolated temples but were the centre of a broader complex that supported different activity areas.

4. Regional Surveys: Teap Chei, Prohm Kel, Ta Ein

Surveys conducted around three fire shrines beyond Angkor (see Figure 1) similarly succeeded in identifying remains of secondary infrastructure and activity areas. Ponds again are the most common feature at each temple though position, shape and number show considerable variation. Prohm Kel, situated 65 km from Angkor along the Northwest road, is surrounded by up to five small ponds and the remains of a low laterite wall (Figure 10). Constructed of a single block on the edge of the laterite foundation, this wall represents the only division of space around a fire shrine using masonry. One pond was discovered at Teap Chei and Ta Ein; the example at Ta Ein – whose fire shrine is largely destroyed – is unique among those surveyed as it is both rectilinear and lined with stone. Both of these characteristics show a greater affinity to ponds found in hospital chapel complexes than to the fire shrines.

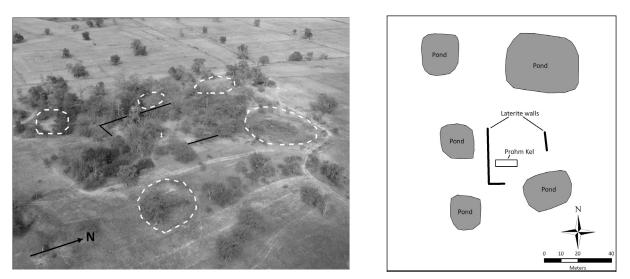


Figure 10. Prohm Kel. Left - aerial view of ponds and walls around fire shrine. Right – plan showing location of infrastructure recorded with GPS.

Clear evidence for intensive activity around fire shrines is the discovery of three Khmer brown glaze kilns near Teap Chei (see Hendrickson 2008). Located south of the fire shrine, the kilns are also close to a seasonally flooded area thus providing a vital water resource for ceramic manufacture and kiln cooling. In addition to the ceramic production sites the surveys noted numerous ceramic concentrations and two Angkorian masonry bridges (see Figure 9). The proximity of Prasat Teap Chei, one of the Suryavarman II-era (1113-1150 CE) *temples d'étapes* along the East road, also highlights the significance of this area during the first half of the 12th century. The presence of multiple features highlights the dynamic nature of the Teap Chei locale and demonstrates the need to examine temples within their landscape instead of as isolated buildings. This strongly suggests that fire shrines, and likely their *temple d'étape* predecessors, may have played an active role not only in supplying a safe place for travellers to stop but also as accessible and state-regulated locations for the production and or distribution of valued commodities. Further detailed survey around the remaining fire shrines is required to clarify whether Teap Chei is an anomaly or representative of their role within Angkorian industries.

5. Discussion

The use of multiple descriptors for these unique buildings represents an unnecessary dichotomy between the religious purpose(s) of the temple versus their collective role in the regional communication system. It is accepted from the small internal dimensions and use of masonry that they were not accommodation for people. Use of the term fire shrine, or *maison avec du feu*, is therefore appropriate as it represents one of the actual functions described in the Preah Khan stele. Adoption of this term should not, however, detract from their role within the Angkorian transport system. Chapels, postal stations and inns commonly found in state-level transport systems are all referred to as forms of resthouses. For this reason, it is also appropriate to refer to fire shrines and the *temples d'étapes* as two types of resthouse infrastructure within the Angkorian system.

The data presented here demonstrates that fire shrines were an integral piece of Khmer transport infrastructure. Written accounts from the 13th to 19th centuries show that resting places for travellers and the ruling elite have a long history in Cambodia. Lunet de Lajonquière recognized the spacing and orientation of the fire shrines, characteristics that separate them from other Khmer temple types. Remeasuring the distance between the fire shrines both corroborates this interpretation and additionally indicates that travellers were able to move at an average of 30 km per day along Angkor's main roads.

Completion of the first comprehensive excavation and surveys around the fire shrines demonstrates that while they were 'islands' of Khmer state control, the area around them was far from isolated and/or uninhabited. Test trenches at Prasat Sampou and Prasat Phtu produced subsurface features (cooking remains, foundation) that, based on the ceramics and 14C AMS date, correspond with the era of

Jayavarman VII and the inscription-derived construction of the laterite fire shrines. The range of Khmer earthenware and stoneware indicates domestic and ritual activities were taking place while the presence of imported Chinese wares allows us to suppose transmission along the road system to the site, integrating it with broader Khmer trade networks.

A more intriguing result is the recurring presence of infrastructure in the form of ponds, embankments, and walls around the fire shrines. Water storage is a ubiquitous feature in almost all Angkorian building works and it is not surprising that ponds were frequently recorded during the surveys. Though the ponds are not yet directly dated it is safe to presume that they were built in response to the needs of the fire shrine. Differences in shape and distribution could be related to concern for assisting travellers and traders rather than meeting the official requirements for religious and/or political elite. Conversely, the position of the fire shrine may be related to pre-existing natural springs or low-points in the landscape suitable for water storage. The appearance of walls and low embankments is further evidence that the fire shrines are part of a complex and not isolated temples. Unlike the hospital chapels, the infra-structure around each fire shrine is much more varied and relied not on masonry but perishable construction materials.

The discovery of brown glaze kilns near Teap Chei is important for our understanding of types of activities carried out around 'resthouse' temples and regional ceramic production and distribution. Ceramic and iron production sites have been found along the Northwest road (see Welch 1998; Living Angkor Road Project 2008) however no kilns had been located around a fire shrine and no brown glaze kilns had been found east of Angkor. That the Teap Chei region also shows substantial ceramic concentrations, has access to water and is the location of a *temple d'étape* 'resthouse' (Prasat Teap Chei) suggests it played an important role in local ceramic activities throughout the 12th century. If the kilns are contemporaneous with Teap Chei, the site was likely selected because the road facilitated trade of ceramics to the capital and surrounding communities.

The restricted distribution of fire shrines to the Northwest and East roads is also important in the discussion of regional distribution practices. Specifically, we must consider that their placement was guided by Angkor's need to establish greater control over movement of people or commodities to or from Phimai and Preah Khan of Kompong Svay. Welch (1998) and Hendrickson (2007) previously indicated the likely salt-fish trade between Angkor and Phimai, while Jacques (Jacques and Lafond 2004: 259-300) and Hendrickson (2007: 246-248) have noted the importance of maintaining access to the iron smelted at Preah Khan of Kompong Svay. The lack of salt and iron near Angkor strongly suggests that the fire shrines represented state-level authority over the road – and its goods – and/or as safe locations for state-level traders to rest on their journeys. Interestingly, the fact that fire shrines do not directly connect Angkor to Preah Khan of Kompong Svay suggests that iron and the sacred fire were either transported to Beng Mealea via a different mode of transport (i.e., water) or Angkor did not have control over this route.

A final issue that needs to be raised is construction dates of the laterite and sandstone fire shrines, and particularly the inclusion of Prasat Phtu within this group of resthouse temples. Fire shrines share the same basic composition and spacing along roads but there are some subtle differences in length, decoration and ratio between those constructed of sandstone and those in laterite. The laterite fire shrines are almost certainly those named in the 1191 CE Preah Khan stele. Jacques (2007: 40) argues that since the fire shrines of Banteay Chhmar and Preah Khan of Kompong Svay (Prasat Kuk) are not mentioned in the Preah Khan stele that these sandstone structures post-date the laterite examples. Given the similarity in shape and decoration of Teap Chei we can similarly presume that those on the East road were later constructions. Prasat Phtu, while sharing the correct dimensions is distinguished from its laterite counterparts by the presence of north and south facing windows divided by laterite blocks and its location. Lunet de Lajonquière suggested that Prasat Phtu was the first fire shrine along the Northwest road, positioned approximately 1.6 km northeast of the north gate of Angkor Thom. Prasat Phtu is located close to the entrance of the Preah Khan temple – and the stele describing the fire shrines – however the road east of Phtu does not link directly to the north gate and may be a modern construction. Others, including the author (see Hendrickson 2007; Living Angkor Project 2008) have previously suggested that Prasat Sampou is the first fire shrine on the Northwest road to Phimai, whose embankment is clearly visible 100m to its east. Currently the network of canals and embankments south of Sampou prevent us from clearly following the Northwest road into the capital Angkor. Determining where the road begins - at Angkor Thom or Preah Khan – is a crucial task for assessing whether Prasat Phtu is an antecedent or descendent of the laterite fire shrine type. The fact that Preah Khan has a fire shrine and Angkor Thom does not is an important point that needs to be considered in the perambulation of the supposed sacred fire.

Jacques, a strong proponent of the religious function of fire shrines, conceded the important point that we need to identify the function of these buildings in order to better understand the role of the Angkorian roads (see Jacques and Lafond 2004: 286). Since we are restricted to historic records of the 'sacred fire' that was purported to have been stored at these temples, we are left to explore their concurrent purpose as a resting place within the transportation system from archaeological evidence. Findings presented here from historic documents, excavation, and surveys have successfully identified their secular role as a type of 'resthouse' temple. Discovery of occupation, water storage and production centres demonstrates that fire shrines are not isolated temples ignored by travellers and pilgrims on their travels to and from Angkor. The fire shrines represent the most visible feature of a greater complex within the Angkorian landscape. With clearance of land mines from around these sites, further work will no doubt shed more light on the important religious, political, economic and social roles that these buildings played in Angkorian society.

Acknowledgements

This research was aided by a Postdoctoral Fellowship for East Asian Archaeology and Early History from the American Council of Learned Societies, with funding from the Henry Luce Foundation held at the University of Calgary, the Social Sciences Humanities Research Council of Canada Doctoral Fellowship, and the Australian Research Council (Discovery Project 0558130). I would like to thank individually the Greater Angkor Project, An Sopheap, APSARA Authority, Christophe Pottier and the École Française d'Extrême Orient, Donald Cooney of Angkor Ultralight Services, Dougald O'Reilly and HeritageWatch, Lanh Udomrangsey, Andrew Wilson, Ngaire Richards, Caitlin Evans, Son Chanthoeun, Chan Sovichetra and Damian Evans who assisted in various ways in the field and out. I would also like to thank Roland Fletcher, Liz Holt and Eileen Lustig who read early drafts of this work. Any inconsistencies or errors are solely my own.

References cited

- Albrecht, M. 1905. « Reconnaissance de l'ancienne chaussée khmère ». Bulletin de la Societé des Études Indochinoises, Saigon: 3-17.
- Bastian, A. 2005[1864]. A Journey in Cambodia and Cochin-China (1864). Bangkok: White Lotus Press.
- Briggs, L. P. 1951. The Ancient Khmer Empire. Philadelphia: The American Philosophical Society.
- Chandler, D. 1996. A History of Cambodia. Boulder: Westview Press.
- Cœdès, G. 1940. « Les gîtes d'étapes de la fin du XIIe siècle ». Bulletin de l'École Française d'Extrême-Orient 40: 347-349.
- Cœdès, G. 1941. « La Stèle du Práh Khan d'Angkor ». Bulletin de l'École Française d'Extrême-Orient 41: 255-302.
- Cunin, O. 2004. De Ta Prohm au Bayon. Analyse comparative de l'histoire architecturale des principaux monuments du style du Bayon. Unpublished PhD Thesis. L'Institut National Polytechnique de Lorraine.
- Cunin, O. 2007. « The Bayon: an archaeological and architectural study », *Bayon: New Perspectives, ed.* Clark, J., Bangkok, River Books: 136-229.
- Dagens, B. 2003. Les Khmers. Guide Belles Lettres des Civilisations. Paris: Les Belles Lettres.
- Dumarçary, J. 1973. Histoire Architecturale du Temple. Le Bayon, Paris, EFEO: 1-76.
- Evans, D. 2007. Putting Angkor on the Map: A New Survey of a Khmer 'Hydraulic City' in Historical and Theoretical Context. Unpublished PhD thesis. Department of Archaeology, University of Sydney.
- Finot, L. 1925. « Dharmaçalas au Cambodge ». Bulletin de l'École Française d'Extrême Orient 25: 417-422.

Foucher, A. 1903. « Nouvelles et Mélanges. Critique de E. Lunet de Lajonquière, 1902, Inventaire descriptif des monuments du Cambodge ». *Journal Asiatique*, 10: 174-180.

Freeman, M. 1996. A Guide to Khmer temples in Thailand and Laos. New York: Weatherhill.

- Greater Angkor Project. 2003. « Redefining Angkor: Structure and environment in the largest, low density urban complex of the pre-Industrial world ». UDAYA 4: 107-126.
- Groslier, B. P. 1973. Les Inscriptions du Bayon. Le Bayon, pp. 83-308. Paris: EFEO.
- Groslier, B. P. 1997 [1980]. « Prospection des sites Khmers du Siam », Mélanges sur l'archéologie du Cambodge (1949-1986), Paris, Presses de l'EFEO: 189-220.
- Hendrickson, M. 2007. Arteries of Empire: An Operational Study of Transport and Communication in Angkorian Southeast Asia (9th to 15th centuries CE). Unpublished PhD thesis. Department of Archaeology, University of Sydney.

Hendrickson, M. 2008. « New evidence of brown glaze stoneware kilns along the East road from Angkor ». *Bulletin of the Indo-Pacific Prehistory Association* 28: 52-56.

- Higham, C. 1989. The Archaeology of Mainland Southeast Asia. Cambridge: Cambridge University Press.
- Im, S. 1998. Réseaux routiers et moyen de transport à l'époque angkorienne du IX^{ème} au XIV^{ème} siècles. Unpublished Master of Arts Thesis. École des Hautes Études en Sciences Sociales, Paris.
- Jacques, C. 2007. « The historical development of Khmer culture from the death of Suryavarman II to the 16th century », *Bayon: New Perspectives*, ed. Clark, J., Bangkok, River Books: 28-49..
- Jacques, C. & Lafond, P. 2004. L'Empire Khmer. Cités et Sanctuaires Vème-XIIIème siècle. Paris: Fayard.
- Living Angkor Road Project 2008. Living Angkor Road Project Phase II. Nakon Nayok, Chulachomklao Royal Military Academy. http://larp.crma.ac.th/larp/report/fullreport/RDG5000003.PDF.
- Lunet de Lajonquière, É. 1902. Inventaire Descriptif des Monuments du Cambodge, t. I, Paris: Ernest Leroux.
- Lunet de Lajonquière, É. 1911. Inventaire Descriptif des Monuments du Cambodge, t. III, Paris: Ernest Leroux.
- Mission Archéologique Franco-Khmère sur l'Aménagement du Territoire Angkorien (MAFKATA) 2005. *Campagne 2005.* Rapport. Siem Reap: EFEO.
- Mollerup, A. 2008. The Dharmasala Route from Angkor to Phimai an ancient route in revival. http://www.sundial.thai-isan-lao.com/dharmasalaroute.html
- Mouhot, H. 2000 [1858-60]. Travels in Siam, Cambodia, Laos, and Annam. Bangkok: White Lotus.
- Snellgrove, D. L. 2001. Khmer Civilization and Angkor. Bangkok: Orchid Press.
- Stark, M. T. 2004. « Pre-Angkorian and Angkorian Cambodia », A Cultural History of Southeast Asia: From Earliest Times to the Indic Civilizations, eds. Bellwood, P. and Glover, I., New York, Routledge Curzon Press: 89-119.
- Welch, D. J. 1998. « Archaeology of Northeast Thailand in Relation to the Pre-Khmer and Khmer Historical Record ». International Journal of Historical Archaeology 2: 205-233.
- Zhou, D. 1902[1295-1296]. « Mémoires sur les coutumes du Cambodge. Traduits et annotés par P. Pelliot ». Bulletin de l'École Française d'Extrême Orient 2: 123-177.

សផ្ទេថ

People around the Houses with Fire: Archaeological investigation of settlement around the Jayavarman VII 'resthouse' temples ដោយ Mitch Hendrickson

អត្ថបទនេះពិនិត្យទៅលើមុខងារនៃ "សាលាសំណាក់" សាងក្នុងរាជ្យព្រះបាទជ័យវរ្ម័នទី៧ តាមបណ្ដោយថ្នល់ ដែលចេញពីអង្គរទៅខាងពាយព្យនឹងខាងកើត។ អ្នកស្រាវជ្រាវពីមុនមកហៅអាគារប្រភេទនេះតាមឈ្មោះផ្សេងៗគ្នា ធ្វើឲ្យ យើងយល់ថាអាគារនេះបម្រើសាសនា ប្ដូមាននាទីធម្មតានៅក្នុងបណ្ដាញផ្លូវសម័យអង្គរ។ ដោយសារគម្រោង "Angkorian Dhamasala Project" នេះ មានការធ្វើកំណាយជាលើកទីមួយ ហើយធ្វើឡើងនៅទីតាំងអាគារផង ជុំវិញនោះផង។ យើងហៅ អាគារនេះឲ្យត្រឹមត្រូវថា "ហោភ្លើង" ហើយដឹងថាហោនេះពុំមែនសាងឡើងទោលតែឯងទេ គឺគ្រាន់តែជាផ្នែកមួយប៉ុណ្ណោះនៃ ទីតាំងសហគមន៍មនុស្សដែលមានដីធ្លីលំនៅស្ថាន, កំពែង, ត្រពាំង, ឡាធ្វើកាជន៍ជាដើម។ លទ្ធផលកំណាយឲ្យយើងយល់កាន់តែ ច្បាស់អំពីនាទីនៃហោភ្លើង ក្នុងក្របខ័ណ្ឌនៃការគ្រប់គ្រងអាណាចក្រទាំងមូល។ ជាពិសេសទៅទៀត គឺជម្រុញឲ្យយើងគិតថា ត្រូវធ្វើកំណាយរបៀបទេះតទៅទៀត ក្នុងការស្រាវជ្រាវអំពីសំណងដែលធ្វើពីវត្ថុធាតុចាប់ពុកផុយនិងសំណល់ដែលមើល ពុំឃើញស្តែងដែលនៅសល់ពីសម័យអង្គរមក។

Abstract

People around the Houses with Fire: Archaeological investigation of settlement around the Jayavarman VII 'resthouse' temples Mitch Hendrickson

This paper examines the function of the Jayavarman VII era 'resthouse temples' found along the Northwest and East roads from Angkor. Over the past century, academic publications have used numerous terms for these buildings implying that they played a religious or pragmatic purpose within the Angkorian transport system. The Angkorian Dharmasala Project represents the first direct archaeological investigation of these buildings, properly referred to as fire shrines, within their surrounding landscape. Through a combination of excavation and survey it is demonstrated that the fire shrines are not isolated religious edifices. Instead the fire shrine represents the best preserved component of a larger community structure, which can include subsurface settlement activity, walled complexes, reservoirs, and ceramic kilns. These results greatly expand our understanding of the dual role of fire shrines within the territorial control mechanisms of the Khmer Empire and, more broadly, provide impetus for conducting similar archaeological research for perishable or 'less-visible' remains around Angkorian period temples.

People around the Houses with Fire

Résumé

People around the Houses with Fire: Archaeological investigation of settlement around the Jayavarman VII 'resthouse' temples Mitch Hendrickson

Cet article tente d'explorer la fonction des « chapelles de gîte » de l'époque de Jayavarman VII trouvées le long des chaussées nord-ouest et est partant d'Angkor. On trouve dans les publications du siècle dernier de nombreux termes utilisés pour désigner ces constructions, suggérant leur destination religieuse ou pragmatique dans le système des transports angkorien. Le projet de recherche sur les dharmasala angkoriens constitue la première recherche archéologique sur ces constructions, correctement désignées par « chapelles du feu », considérées dans leurs ensembles respectifs. Fouilles et sondages montrent que les chapelles du feu n'étaient pas des édifices religieux isolés, mais qu'elles représentent seulement les éléments les mieux préservés des structures communautaires comprenant aires d'occupation, complexes d'enceintes, réservoirs, fours de céramique. Dès lors nous percevons beaucoup mieux le double rôle des chapelles du feu au sein des mécanismes de contrôle de l'Empire khmer, et nous sommes confortés dans l'idée qu'il faut appliquer le même procédé de recherche aux vestiges périssables ou moins visibles autour des temples angkoriens.