INTERPRETING SOUTHEAST ASIA'S PAST

Monument, Image and Text

Edited by Elisabeth A. Bacus, Ian C. Glover & Peter D. Sharrock

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Selected Papers from the 10th International Conference of the European Association of Southeast Asian Archaeologists, Volume 2

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with the editorial assistance of John Guy & Vincent C. Pigott

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Cover:

Front cover (top) Viṣṇu Anantashayin on east surface of rock adjacent to the Peung Kumnu rock shelter

(bottom, left) Seated Buddha on a lotus throne making *bhumisparsa mudra* gesture, Lopburi style, twelfth to thirteenth century

(bottom, right) Miniature *stūpa*, with seated Buddha, making *bhumisparsa mudra* gesture, Lopburi style influenced by Pāla-Sena or Pagan styles, twelfth to thirteenth century

Back cover New model of the Bayon eastern corner pavilion

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Chapter 22

Water and Fire — Farming and Ceramics — On Phnom Kulen: Putting People into Angkor

Leedom Lefferts and Louise Allison Cort

Abstract

Discussions of the Angkor area, whether archaeological or ethnographical, often neglect Phnom Kulen, the mountain massif to the north and northeast of the site's temple center. This paper proposes a rethinking of the significance of this mountain in Angkorian life and ritual. The waters of Phnom Kulen had meaning to the farming populace of the Angkor region (newly understood in broad scale) as they did to the rulers. Confirmation of stoneware ceramic production atop Phnom Kulen raises the question of why ceramics were made there. Together, data on water and ceramics indicate that consideration of Angkor must include Phnom Kulen as an active component.

Introduction — Integrating Phnom Kulen into Angkor

The recent confirmation of the presence of historical kilns making glazed stoneware ceramics on Phnom Kulen (Darith et al. 2004; Visoth and Sopheara 2002) raises questions about the reasons for that activity as well as about the full range of activities — aside from consecration ceremonies and monument building — that might have taken place on that mountain (Figure 22.1). At the same time, the comprehensive new survey of the territory between Phnom Kulen and the sequence of Angkorian capitals reveals that it was not 'empty' but filled by canals and other human structures (including additional clusters of ceramic kilns) indicating intensive use of the land by a broadly dispersed population (Darith et al. 2004; Evans and Fletcher 2003; Fletcher 2003; Fletcher and Pottier 2002; Pottier 1998, 1999; Sambath 2002; Sokhan 2004; Sokrithy 2002). The survey raises important questions about the relationship between the natural mountain and the complex of temple-mountains in Angkor. Drawing upon this new evidence, this paper offers some approaches to the essential task of bringing Phnom Kulen into an enlarged understanding of 'Angkor'. We propose that expanding our comprehension of the total Angkorian terrain contributes to attaining a better grasp of the sense of that terrain held by Angkorian people — farmers as well as elite.

Phnom Kulen and its natural resources — notably water, but also wood, wild fruits and vegetables, medicines, animals, and stone (Boulbet 1974) — were integral to Angkorian life, in agricultural as well as ritual contexts. Integrating Phnom Kulen into Angkor involves bringing Angkorian farmers and their irrigation practices into a narrative that thus far has focused primarily on kingly and elite activities. Our task draws inspiration from the work of Michael Vickery (1998) in analyzing the vernacular Khmer inscriptions. We also draw upon the insightful work of the Greater Angkor Project, directed by Roland Fletcher and associates, and of Christophe Pottier of the EFEO. The recent work on newly-recognized ceramic production in the immediate Angkor area and beyond, by Ea Darith and colleagues in collaboration with Japanese archaeologists, also provides much food for thought. Finally, we offer a fresh perspective by bringing to bear some evidence from other 'Hindu' complexes in South and

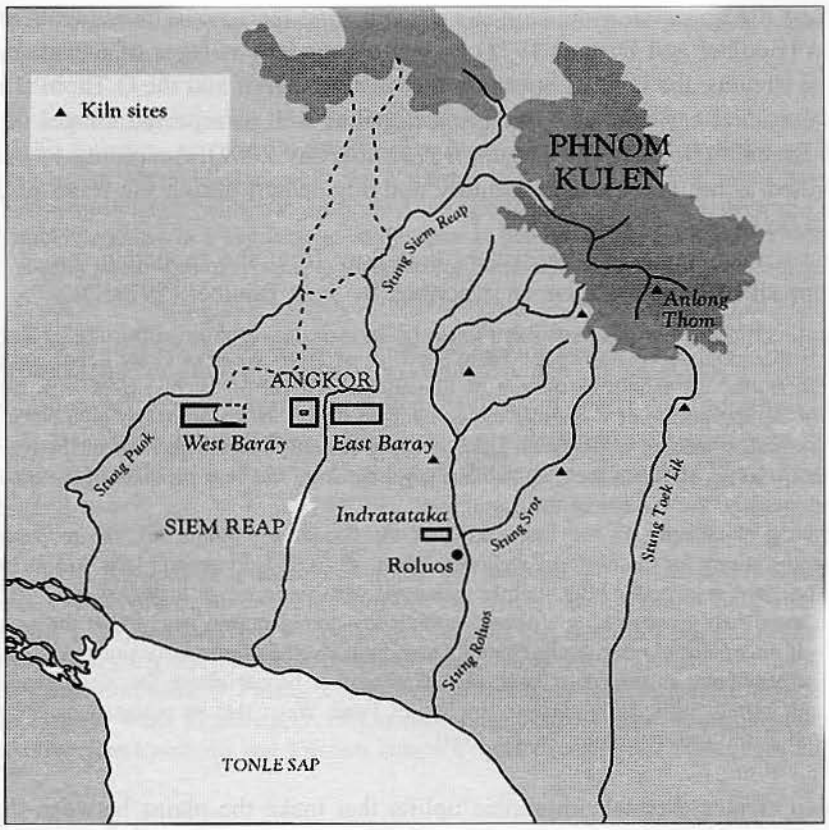

Fig 22.1 The Angkor region. (Map by Kelly Webb)

Southeast Asia that may allow us to visualize more diversity and depth in human activity in the Angkorian region.

Ethnography aids us in this task, especially as we turn to new studies of the Hindu culture of Bali, which suggests models for the integration of the landscape and human behavior centering on cycles of farming and the relationship of irrigation to farming as well as to kingship. This aspect of the paper we call 'ethno-archaeological' in the broadest sense of the term. The ethno-archaeological perspective also permits the insertion of dimensions of change into the relationship between highlands and lowlands, farmers and elite, over the considerable length of time Angkor existed as a center. Consideration of the newly emerging evidence for ceramic production in and around Angkor suggests a process whereby farmers' longstanding relationship to the water power of Phnom Kulen may have been usurped by the Angkorian elite, who manifested an increasing interest in controlling the water issuing from the mountain. Support for such hypotheses may not yet be possible given the limited archaeological reconnaissance of Phnom Kulen. This paper is couched in provisional terms, suggesting avenues of thought to bear in mind as work continues.

Evidence

Phnom Kulen's Meteorology

We begin with a physical description of Phnom Kulen and the impact of its presence. This elongated free-standing mountain, divided in two by a deep crevasse, lies some 30 km northeast of the site we commonly call Angkor — the walled and moated complex of Angkor Thom. Densely forested (although less so than in the recent past; we have no information about the changing extent of forest cover during the Angkorian period), the plateau contains numerous springs, whose waters flow together to feed larger streams cascading down the mountainside to the plains.

Situated along the plateau's waterways are ancient brick and stone monuments and sacred caves and rock shelters (Boulbet and Dagens 1973) as well as modern villages of uncertain age. The stone beds of two of the streams, the O Kbal Spean on the western massif and the O Thom (Ling Mourypoan) on the eastern, bear relief carvings of a 'thousand *liṅga*' as well as repeated images of reclining Viṣṇu and the birth of Brahmā (Boulbet and Dagens 1973; Sokrithy 2002). According to inscriptions, these carvings were added in the mid-eleventh century and augmented during the reign of Jayavarman VII (ruled 1181–1218?) (Jacques 1999).

These streams, channeling into the rivers that flow from the mountain, are one aspect of the meteorological impact of Phnom Kulen, as described by Jean Boulbet (1979:1):

> Between the great central depression of the Tonle Sap (Sea of Fresh Water or Great Lake) and the huge pediplain of northern Cambodia, the sandstone plateau of Phnom Kulen (Hill of Litchis) rises with sufficient height and volume to give the appearance of a singular bio-geographic region. In addition, this high place serves as a palace of inexhaustible water, sending to the Great Lake virtually the only permanent river of the region. This river, the Stung Siem Reap, issues not from the mountainous mass but from the very pinnacle of the outcropping, a plateau called, very eloquently, the Plateau of the Springs.
>
> After draining abundantly on the vast massif of the Cardamom Mountains, the monsoon winds from the southwest become stingy for the central Cambodian plain, where the dry season lasts five months, of which two, March and April, are very taxing. But, lightly recharged with moisture as they pass over the Great Lake, they can discharge some rain upon striking a plateau sufficiently dominant and nearby that the same beneficial effect reproduces itself on a reduced scale. Only Phnom Kulen finds itself so fortunately situated, aligned from northwest to southeast perpendicular to the moist flow, that it presents a barrier above the Siem Reap Plain adequate to provoke a rising current sufficiently close to the Sea of Fresh Water that its potential moisture, relatively weak, is not exhausted again. (translation by Louise Cort)

Phnom Kulen creates thermal orographic uplifts that make the plains between the mountain and the Tonle Sap — precisely the area where the Angkorian culture developed — a desirable locale for agriculture. Boulbet's (1979: fig. 5) chart of temperature and rainfall for 1963 through 1971 shows that March and April — the driest months of the year elsewhere in Cambodia — mark the beginning of the rainy season for Phnom Kulen. These rains replenished the groundwater resources that Acker (2006) suggests may have been more essential for irrigation than the water reserves of the bārāys built by royal decree (Groslier 1974, 1979). Regardless of which view of irrigation is accepted, the relationship of farmers to the mountain was tied to the annual cycles of flooding, planting, and harvesting which, because of Phnom Kulen's presence, could be expanded from the norm of other areas of Cambodia.[1]

Phnom Kulen was known during Angkorian times as Mahendraparbata, 'the mountain of Great Indra' (Aymonier 1901). The application of this Vedic name to the plateau coincided with the impact of South Asian Vedic culture on Khmer culture, and whatever earlier or alternate names local people gave to the mountain have been lost. But the name associating the mountain with the domain of Indra, the Vedic 'king of the gods', the bringer of rain, suggests the essential role of the mountain as the major source of water, carried through the rivers and channeled through developing networks of canals and ponds to an expanding system of fields.

This role of 'Great Indra's mountain' was of primary significance to the farmers who created and managed those fields, located between the mountain and what was to become the royal center. The huge tanks constructed in association with the sequence of royal centers can be seen as the outermost extensions of those networks, built by officials drawing upon the wisdom of farmers. The name of the earliest great *bārāy*, associated with the ninth-century capital in Hariharālaya (modern Roluos), is Indraṭaṭaka, 'Indra's basin'. Its role was to collect and conserve water from Indra's mountain, and it was built at the behest of the ruler known as 'protected by Indra', Indravarman I (ruled 877–after 886). Although the *bārāy*'s name is commonly understood as a reference to the name of the sponsoring king, rather than to the deity, it may also convey a common understanding of the importance of Phnom Kulen in distributing Indra's rains.

Vickery (1998: 405) does not refer to the climate of the plain below Phnom Kulen when he posits a mass migration, motivated by a desire to benefit from the centrality of the new location, to account

for the shift of the center of Khmer culture from the Cambodian (now partially Vietnamese) south to Cambodia's north and northwest:

> Jayavarman II, following his alliances with Śambhupura and with the Aninditapura lineage in the central region, migrated with his followers into the Northwest, where there was apparently no strong political center, except perhaps the mysterious Malen/Malyān, while the Northeast was secured by his allies of Śambhupura. Then the capital of the new, much larger polity was established at Angkor, midway between Jayavarman's new northwestern region and Śambhupura, and in a key location at the apex of the Tonle Sap, permitting control of the Tonle Sap, the Mekong, and the northwestern riverine system linking Cambodia's Northwest with the Gulf of Siam.

This image of 'available space' can be filled in with some details of agricultural potential — the relative abundance of rainfall generated by Phnom Kulen in association with the well-known conservation techniques of wet-rice agriculture — as well as of forest resources and the trade route to which Vickery alludes. Puangthong's paper (2004) on Siam's trading networks with the Trans-Mekong region speaks more explicitly of a trade route through the region that carried important regional forest resources to markets:

> Northwest Cambodia provided an alternative route (to the five through what is now Thailand) for Laotian and uplander goods, some of which were sent to Northeast and Central Siam. Despite the Khone falls, the route that ran from Bangkok to Prachin Buri then to northwest Cambodia and southern Laos was favored by travelers, who wanted to avoid the malaria-infested Dong Phrayayen range while taking advantage of the abundant food along this northwest Cambodian route.... (P)roducts from western Cambodia (esp. cardamom from Battambang...) could also reach the Siamese Water Frontier ports of Chantaburi and Trat, which were important collection centers for forest commodities from Cambodia and Vietnam bought by junks for sale in China. (2004: 103)

Ethno-archaeology — Bali

When discussing one former Hindu-Buddhist agricultural complex-kingship in Southeast Asia, it is appropriate to look to others for contrast and comparison. This process allows us to generate theories as well as to exclude relatively improbable ideas. This may be especially important for the Angkorian complex. Although Groslier (1974, 1979) called attention to agriculture in Angkor and insisted on the concept of Greater Angkor, in general scholars have paid extraordinary attention to kingship, but far less to the roles of agriculture and farmers in shaping the total culture. Contemporary Bali, another Southeast Asian Hindu culture, may provide such a basis for comparison.

Of Bali, it has been said that there were a multitude of universal kings, each proclaiming his universality concurrently (Geertz 1980). We might say that Angkor had a multitude of kings, each proclaiming his universality sequentially. Behind both systems of kingship, however, stood the enduring presence of a mountain — in Bali's case Mt. Agung; in the case of Greater Angkor, Phnom Kulen. Phnom Kulen was a continuing and provisioning — both of water and of meaning — presence, counterbalancing the changing fortunes of the succession of kings in the lowlands, just as Mt. Agung witnessed centuries of kingly succession in the Balinese valleys.

Fortuitously, recent Balinese discussion has centered on issues of kingship, religion, and agriculture. To summarize briefly, Clifford Geertz (1980) emphasized the nature of pre-contact Balinese kingship to decipher the existence of what he calls 'the theatre state'. J. Stephen Lansing (1991) countered that, to the contrary, one must understand the ecological underpinnings of Balinese culture by focusing on farmers and the intricate evolution and interplay of irrigated wet-rice agriculture and canals throughout a millennium of close interaction of people, landscape, and resources. Brigitta Hauser-Schäublin (1997, 2003), however, proposed a much more interactive role between kings and irrigation than either Geertz or Lansing suggests.

Lansing was puzzled by the anomalous continuation of a thriving system of wet-rice cultivation even as the Balinese kings were dethroned and the Dutch took over. *Contra* Geertz, he posited that the politics of kingship were unrelated to the practices of wet-rice agriculture in this Hinduized context. Lansing said that Balinese farmers, in constructing over the centuries a largely self-governing system relying on multitudes of individual actors making their own decisions, embodied sufficient structure to

permit the equitable provision of water across a wide complex of distribution networks. This structure came about not only through tunnels, channels, and multitudes of turnouts and drains, but also — and at least as importantly — through the provision of a hierarchy of temples which, through the ritual of technology (and the technology of ritual), schedules and regulates the distribution of water.

Hauser-Schäublin writes, *contra* both Geertz and Lansing, that kingship and its rituals played a crucial role in irrigation and the agricultural cycle. This discussion carries importance for a reconstruction of the social and political organization of Greater Angkor. Certainly Lansing's and Hauser-Schäublin's approaches suggest that we need to look at the lives of farmers as well as the lives of kings. What was the relation of Angkorian farmers to the water coming off the mountain?

In contrast to the usual emphasis on kingly control of water in the Angkorian region, the Balinese example would have us look for systematic ways in which farmers controlled the use of the water, independent of the politics of kingship. We might look for inscriptional or archaeological evidence for series of 'water temples' along the newly-discovered canals in the Greater Angkorian area. We might also look for settlements and temples on Phnom Kulen that provided a countervailing yet complementary organization of water control apart from the kingly temple-mountains constructed seriatum in the lowlands.

In this regard, Pottier notes (2000: 104), discussing a segment of the Angkorian plain that he surveyed:

> . . . the strict orientation of these numerous square (rice field) blocks is not at all a *curiosity*; in fact, my recent work in the Angkor area showed that most of these rice field blocks follow a firm geometry; each of them being based on the orientation of a small temple considered as a 'village shrine' or, as epigraphic evidence suggests, the shrine of the village chief (Pottier 1999: 64–5). Here is a key point where we have the evidence of a strong link between agriculture and religion, a deep inter-relation between functionalism and symbolism.

Taken further, the Balinese model might also have us look for archaeological (and perhaps ethnographic) evidence of highland people considered to be somewhat different ethnically from the majority lowland population. These people would be involved in agricultural pursuits that differed from, yet were complementary to, the intensive wet-rice cultivation of the lowlanders. They would have important roles in the regulation of water and the cultural environment of lowland-highland relations as suggested by the recent pioneering studies of Reuter (2002a, 2002b) and Stuart-Fox (2002). Some evidence exists for such populations on Phnom Kulen, at least as reported by a popular French article from the 1930s (Francois 1938), but it is questioned today.[2]

Farmers, Kings, and Water in Greater Angkor

Consideration of the Balinese model leads us to imagine differences in order and pace between the lives of Angkorian lowland farmers and the lives of kings. The control and dispersal of water established the rhythms of farmers' lives and work. Demands of state ritual, construction projects, and warfare set the pace for kings. Understanding the differences and articulations between these groups leads to a more complex understanding of Angkorian culture.

In constructing possible scenarios against which to test the archaeology of Angkor, there are various ways to position kings, farmers, and water along a continuum of relationships. At one pole, kings and water control may be closely linked, with the temples of the kings as the effective agents: this is close to Wittfogel's (1957) concept of Oriental Despotism and the Marxist notion of the 'Asiatic mode of production'. It seems fair to say that this hypothesis is the 'default' position on which some observers of Angkor rely in explaining the relationship of Angkorian kingship to Phnom Kulen, although Groslier (1974:111–12) felt that emphasis on royal power to the exclusion of other factors was too simple an explanation of Angkorian circumstances. At the opposite pole lies the possibility that water control was an aspect of the work of farmers carried on fairly independently of the work of kings. This situation (implied by the conclusions of Acker 2006) would be closer to Lansing's Balinese model.[3] The evidence on the mountain for ceramic production and for the ritual importance of water suggests that the relationship between kings, farmers, and water was not static over the centuries but fluctuated

toward one pole or the other, with eras of a loose association between kingship and water control alternating with times when kings were seen as dispensers of water in return for which the populace gave its allegiance. The roles of cultural evolution (the drama of the court and the paraphernalia of power and ritual) and environmental change (the efficacy of the irrigation system) also need to be inserted. We see the likelihood of this dynamic fluctuating over both the short and long terms.

Water

To counterbalance Acker's (2006) preliminary study of tube wells and ponds drawing upon ground water, we have no readily available information concerning the use by contemporary farmers in the Greater Angkor region of water from the Siem Reap River and other channels. A conviction as to the benefits of ethno-archaeology suggests that illuminating data would be forthcoming from such an inquiry.

Information from the recent past, however, supports the notion of a close interaction between kings, water, and farmers. The ceremony of 'Drinking of the Water of Allegiance' is known from Cambodian and Thai kingship (Aymonier 1895–7; Quaritch Wales 1931: 193–8). There is also the example of the Ayutthayan king's role, as described to the Dutch merchant Theodorus van den Heuvel in 1737, in opening the sluice gates of a small tank near Lopburi during the dry season so that people downstream could gather its sacred water (Raben and Dhiravat 1997: 32–3, 41). Quaritch Wales notes the existence of a Siamese royal 'Rain or Varuna Festival' to encourage the coming of the rains (1931: 222–5) and a 'Speeding of the Outflow' ritual (ibid: 225–6). (Draining water from flooded paddy fields at the appropriate time is as critical as the introduction of water at the beginning of the cycle). He attributes both rituals to Brahmanic influences, probably from Cambodia. Both bring the king into ritual relationship with the requirements of flooded wet-rice agriculture. For Angkor, Porée-Maspero (1962, II: 385) records legends of the participation by kings and their Brahman priests in rituals to 'honor the waters' at the end of the rainy season. The West Mebon shrine, with its shaft in the form of an inverted *liṅga* filled by waters of the Western Bārāy, may have served a practical as well as sacred purpose of measuring the ebb and flow assured by proper performance of royal ritual (Dumarçay 1997: 94).

The practice of capturing and preserving a token amount of sacred water was a measure of its value. Ruben and Dhiravat (1997: 86) cite eighteenth-century travelers' notes regarding the ritual significance, for both royalty and commoners, of the water from the stream that flowed into the Buddha's Footprint at Saraburi:

> The custom of going on pilgrimage to the Footprint shrine was not solely a royal tradition, but was a popular one too. A practice which is reported by Baldaeus, but not by any other of the foreign travellers, is the custom of bringing home in a bamboo cylinder some water, which had been put into and ladled out of the Footprint, and which would bring somebody who poured the water over his head 'indulgence', in the Christian terms of the writer. . . .

In addition to using the water that flowed from Phnom Kulen for agriculture, we suggest that Angkorian-period farmers paid reverent visits to the sources of the water, in order to bathe in it and to collect a token of its power. Such visits may well have preceded the attempts by Angkorian kings and ministers, around the mid-eleventh century, to imprint royal power and authority on the flow of water from the mountain (Choulean 1997; Filliozat 1948; Sokrithy 2002: 34).

On Phnom Kulen in February 2004, we observed activities taking place in the streams that suggested ways to imagine the actions of Angkorian-period visitors to the mountaintop:

> . . . a crowd of Khmer adults and children approaches the opposite bank of the River of 1000 *Liṅgas* and ventures carefully into the shallow water, partially darkened by the shade of overhanging trees, partially shining golden in the shafts of sunlight. Beneath the shallow flow of water, the stone riverbed has been divided into grids filled with hemispherical representations of the *liṅga*. The visitors crouch down to splash the water running over the *liṅga* over themselves, and they collect it in various containers. An old man instructs a child, perhaps his granddaughter, in the proper procedure. Further downstream, we watch a young man take a ritual bath beneath the waterfall, near which are carvings. Several friends accompany him solicitously. Our Khmer colleagues interpret that he has recovered from an illness and is bathing to purify himself and give thanks. (Cort fieldnotes)

Fire

How does the new and dynamically evolving understanding of Khmer ceramic production help in the task of representing Phnom Kulen? As reported by Ea Darith et al. (see Chapter 21 in this volume), seven kiln groups are identified in the region between Phnom Kulen and Angkor, as well as one group north of Phnom Kulen. Surely more remain to be found. Their products were stoneware — high-fired ceramics requiring a specific technological package of appropriate clay and a kiln to fire the clay to the temperature necessary for vitrification. Although many products of these kilns were unglazed, some were glazed — coated with a mixture of wood ash and clay that, when fired, became translucent and glassy, adding attractiveness as well as additional water-proofing — in a process that also complicated the requirements of firing. In all likelihood the technical and aesthetic prototypes for glazed stoneware were the Chinese ceramics imported into the region, for which evidence begins with wares dating to the tenth century (Dupoizat 1999; Groslier 1981: 21), although glazed stoneware was also made at kilns in northern Vietnam by this time (Nishimura and Bui 2004).

The basic questions remain of what motivated the Khmer to replicate this complex technology in order to produce glazed stoneware, how and when they did so, and who were the intended users.[4] The wares of these stoneware kilns consist of roof tiles and a variety of vessel shapes (see Chapter 21 in this volume; Aoyagi and Sasaki 2006). Since roof tiles, whether unglazed or glazed, were used for palace buildings and monasteries, as indicated by their excavation from such sites (Dumarçay 1973), that aspect of production was probably directed in some way for the benefit of the court and the religious establishments. The most numerous vessel types in the repertory constitute a distinctive and eclectic mix of Chinese forms (notably round lidded boxes and cylindrical lidded containers) and Indian forms (especially water bottles — both small round bottles and larger jugs with elongated necks). What were the uses of these vessels, especially in their glazed versions? Is it appropriate to think of the boxes and bottles as a hybrid 'set' created for local ritual purposes?

Setting aside for the moment the possible uses of the lidded containers, can we hypothesize that the bottles played a role in pilgrimage to stream sources on the mountaintop? The small glazed stoneware bottles (Figure 22.2) suggest the form of the metal *lotha* or water bottle found in India, with a narrow neck to keep the contents from splashing and a wide rim easy to grasp and carry. In a Hindu context, the *lotha* plays roles in both daily practice and in pilgrimage as a vessel for sacred water. After the purification of the daily bath in the local stream, pond, or tank, many Vaisnavite bathers fill the *lotha* with water to take home to water the sacred *tulasi* shrub, whose leaves are required for household

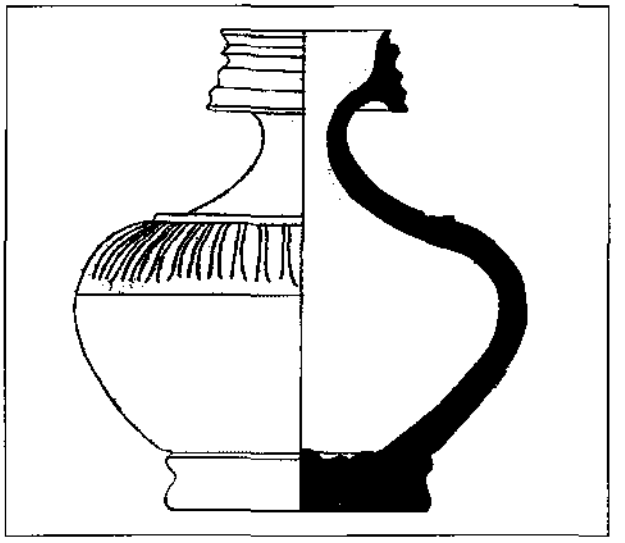

Fig 22.2 Measured drawing of stoneware bottle found on Phnom Kulen in 1920. H. 11.0 cm. National Museum of Cambodia, Phnom Penh, H. 42, H. 44, 2.

rituals. The *lotha* also plays a role in collecting water from the sacred river Ganga during pilgrimages to Banaras or other holy sites along the river or to any of the homologous rivers throughout India. The essential meaning of pilgrimage is *tirtha-yatra*, 'undertaking journey to river fords', not to cross but to bathe in the river at that place. The water of the Ganga — the heavenly river that flows to earth through Śiva's hair — purifies one of all sins (Bhardwaj 1973: 2, 4–5, 33, 76, 86). Pilgrims collect Ganga water in metal jars, whose mouths are then sealed with wax. The sealed bottle of water is saved for a crisis, when its contents have the same power to purify a sick or dying person as an actual bath in the river.

Angkorian identification of the waters flowing from Phnom Kulen with the Ganga, pouring from the head of Śiva and flowing into the ocean, is documented in inscriptions associated with monuments no later than the eleventh century (Groslier 1974: 117; Jacques 1995: 153–4, 157). The small ceramic bottles that can now be associated with the kilns on Phnom Kulen and at its foot are widely distributed over Angkorian sites, including those in what is now northeast Thailand (e.g. Childress and Brown 1978: 70). Can we imagine that water from the streams on Phnom Kulen was carried home by pilgrims? Stoneware bottles would serve such a purpose well, whereas porous earthenware bottles would leak. Possibly wealthier pilgrims used metal bottles that have not survived.

Assessing the known kiln sites in the region between Phnom Kulen and Angkor, Japanese archaeologist Sugiyama Hiroshi observed that the kilns at the Anlong Thom site on Phnom Kulen and immediately below that area of the mountain at the Sar Sey site made closely related, glazed stoneware vessels of higher quality than those of any other kilns. On the basis of East Asian models for elite sponsorship of superior-quality ceramics, he suggests that these two kilns could have been 'royal kilns', supported by the ruling establishment (Nara Bunkazai Kenkyujo 2005: 105). Can we hypothesize that the development of technology for making glazed stoneware ceramics was supported by the same Angkorian kings who sought to lay royal claim to the power of the waters flowing from Phnom Kulen?

The operation of kilns on top of the plateau is puzzling, considering the difficulty of transporting the finished wares to their place of use, unless that use was initiated on the mountaintop. It is possible that the making of ceramics on top of the mountain — on its southeastern escarpment facing Angkor — may have had significance in and of itself. This activity may have been related to Phnom Kulen's symbolic meaning. While it is seemingly coincidental that Phnom Kulen lies to the northeast of Angkor, its location might be understood as an aspect of its importance. The northeast is a problematic direction in many East and Southeast Asian cultures (Paris 1936). The Siem Reap River, identified with the Ganga, flows off the mountain on its way to its 'ocean', the Tonle Sap. The northeastly position of the mountain from which the waters come gives, we contend, additional meaning to this place as part of Greater Angkor.

Consideration of the location of the Anlong Thom kiln group raises questions of the topographic relationships of all the kilns to one another and to Angkor. It may be that some or all of these locations are themselves purposeful for something other than — or in addition to — access to clay and firewood for making pots and to canals and streams for transport.

Concluding Discussion

Capitalizing on the recent re-energizing of archaeology in the Angkor region, this paper endeavors to contribute to a broadening of the context of discussions of Angkorian behavior, even as evidence becomes vaster and more complex. The explosion of information regarding the true expanse of the site encourages us to insist that the highland location now known as Phnom Kulen is an integral part of lowland Angkor. Including Phnom Kulen as an active agent in Greater Angkor suggests the possibility of seeing Bali (as the sole remaining Hinduized Southeast Asian culture and as dependent on the hydraulic relationship between the highlands and agriculture) as an ethno-archaeological model for aspects of Angkorian ecology and kingship.[5] We also note the possible role of ceramics in understanding Angkorian dynamics. Water and fire seem to be crucial fulcrums for understanding Angkor. We urge that they be kept in mind as studies continue in this region.

Acknowledgments

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Notes

1. It is not our intention to get involved in the debates concerning Angkor's hydrology — whether water resources were utilized through irrigation channels (see Pottier 2000), ground-water supplies (Acker 2006), or a combination of these and other methods. [Pottier's 2000 article goes far towards helping to clarify the nature of — as he terms it — a 'dialogue of the deaf' (2000: 100)]. We assume that the farmers of Angkor knew that Phnom Kulen was the source of both surface and subsurface water, and revered that source accordingly.
2. Boulbet (1974: 201) describes the resettlement in the nineteenth and early twentieth centuries of a terrifying terrain that had reverted to the abode of elephants and other wild animals. This leaves open the question of the nature of the earlier population.
3. This does not exclude local temples acting in some kind of 'bottom-up' organizational framework.
4. This discussion of stoneware in no way invalidates the essential role of earthenware in Angkorian life. Much work remains to be done on this subject.
5. The inclusion of Bali gives an opportunity to note the following: the Austronesian background of the Balinese may articulate with the Angkorian past, at least as proposed on the basis of linguistic evidence by Vickery (1998: 444). This relationship may provide a linkage to Austronesian dualism, as in highlands-lowlands and water-fire. The latter is especially prominent in the ethnographically-recorded Kings of Water and Fire among the Jarai, with whom post-Angkorian kings had extensive tribute relations (Hickey 1982: 136–43).

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