CHAPTER 17

Death and Mortuary Rituals in Mainland Southeast Asia: From Hunter-Gatherers to the God Kings of Angkor Charles F.W. Higham

INTRODUCTION

The archaeological sequence in Mainland Southeast Asia, following the long occupation by *Homo erectus*, began with the expansion of anatomically modern humans at least 50,000 years ago. Sites particularly for the earlier millennia are few, and many will have been drowned with the inundation of Sundaland. However, three distinct types of site are known: upland rock shelters, open sites in the interior lowlands, and coastal settlements occupied from about 2500 BC, when the sea level was a few metres higher than at present.

From about 2000 BC, Southeast Asia was penetrated along riverine highways and the coast by intrusive groups of Neolithic rice farmers, ultimately from the Yangtze Valley. They integrated with the indigenous hunter-gatherers, although some of the latter maintain their traditional ways in remote forested habitats, and settled into permanent villages. Since rice can mature in the same fields without rotation provided there is sufficient rainfall, some prehistoric settlements were continuously occupied for centuries, others for millennia. Widespread exchange carried the knowledge of copper-based metallurgy to Thailand by the eleventh century BC, heralding a Bronze Age that lasted for about six centuries, when the opening of a maritime exchange network linking Southeast Asia with Indian and Chinese state societies introduced iron technology and a wide range of new and exotic valuables, including glass, carnelian, agate, and gold. This fertile combination of indigenous aggrandizers and exotic goods and ideas was to generate rapid social changes involving the formation of complex chiefdoms and then state societies, the best known being centred at Angkor in Cambodia. This cultural sequence

incorporates much mortuary data beginning with nuclei of flexed inhumations and ending at Angkor Wat with one of the world's largest mausolea, the tomb of the god king Suryavarman II.

HUNTER-GATHERERS

Since inland rock shelters were occupied briefly, burials are rarely encountered. Between 8000 BC and 13,000 BC, graves at Tham Lod and Ban Rai in northern Thailand (Figure 17.1) comprised a shallow scoop, and burial either in a tightly flexed or an extended position (Pureepatpong 2006). The four burials at the former site were accompanied only by a hammer stone. In southern Thailand at Moh Kiew, a single flexed and three extended burials were found, dating to about 25,000 years ago (Oota et al. 2001). Again, the only mortuary offerings were flaked stone tools and quartz pebbles. Moving north to Guangxi province in southern China, the cavern of Zengpiyan, occupied between 10,000 BC and 5000 BC, contained eighteen burials in a flexed or seated position, six of whom had artificial perforations in the skull, while some graves contained red ochre (Pearson 2005). Sites in the interior plains, particularly when adjacent to rivers, had the potential for longer occupancy. Recent excavations in Guangxi have uncovered extensive areas of hunter-gatherer settlements dating to the fifth to third millennia BC with associated cemeteries. Two tightly flexed burials from Gexinquiao were accompanied by river cobbles, and the cemetery at Chongtang involved a group of twenty-six flexed interments. Niulandong in Guangdong province, occupied between 7000 BC and 6000 BC, contained two burials in a seated, flexed

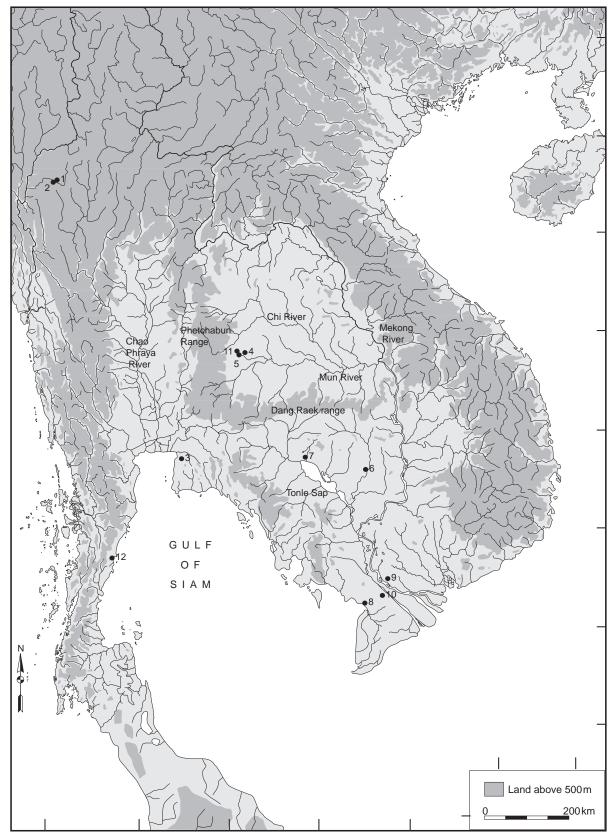


Figure 17.1. Map of Southeast Asia showing the location of the sites discussed in the text. 1, Tham Lod; 2, Ban Rai; 3, Khok Phanom Di; 4, Ban Non Wat; 5, Noen U-Loke; 6, Isanapura; 7, Angkor; 8, Nen Chua; 9, Go Thap; 10, Go Xoai; 11, Non Ban Jak; 12, Khao Sam Kaeo. Guangxi sites are to the north.

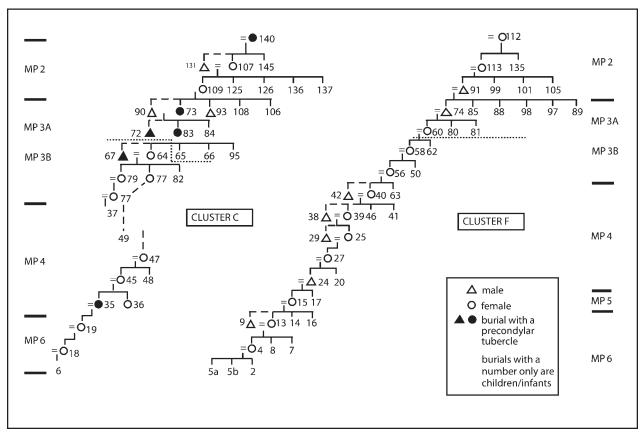


Figure 17.2. The reconstructed genealogy of two descent groups at Khok Phanom Di, showing individuals with a precondylar tubercle.

position, one of whom had two bivalve shells placed over the cranium (Higham and Xie Guangmao 2011).

Such sites are very rare in the inland riverine plains of Southeast Asia, where deforestation and sedimentation have covered early landscapes. At Ban Non Wat in the upper Mun Valley, a cemetery of flexed burials has been uncovered. Dating to the second millennium BC, it has some individuals who were interred with no mortuary offerings and others buried wearing shell ornaments. One woman carried a pig's cranium; there was also one stone adze, a pottery vessel, and, as at Niulandong, large bivalve shells. The graves were scattered across the excavated area, but in two cases there was clearly a relationship between those interred: a woman held an infant in her arms, and a man and woman were found in close proximity.

There is a consistent pattern in the mortuary practices of inland hunter-gatherers over a period of at least 25,000 years. The dead were usually interred in a flexed or foetal position, aggregated in cemeteries. Grave goods and evidence for ritual were minimal. Bivalve shells,

which were to figure prominently in later periods, and red ochre are the only hints at the notion of immortality, or at least rebirth. It is evident that the anatomically modern humans who populated Mainland Southeast Asia, and indeed the islands beyond and Australia, introduced the practice of ceremonial disposal of the dead.

Khok Phanom Di is located on a former shore on the eastern margin of the Gulf of Siam. It commanded the mangrove-fringed estuary of the Bang Pakong River, one of the richest of natural habitats in terms of bio-productivity. Ancestral coastal sites are presumed inundated. Over a period of five centuries from approximately 2000 BC, the mound accumulated to a depth of twelve metres in a mortuary sequence divided into seven phases (Higham & Thosarat 2004). The rapid accumulation of cultural deposits reflects the presence of thick shell middens. This has caused the dead to be buried superimposed. The analysis of cranial abnormalities and patterns of tooth evulsion suggests that the burials contained people related consanguinally. Figure 17.2 shows the reconstructed genealogies of two proposed

descent groups. These are the basis for reviewing a mortuary sequence that allows one to chart mortuary rituals over an estimated seventeen to twenty generations within the context of changes in the social and physical environments.

MPI comprises six graves, presumably early, if not the initial people to occupy the site. One was in a flexed position, the others extended with the head to the east. As with their contemporaries in the interior, mortuary offerings were minimal: a neonate had red ochre and the remains of a fabric shroud, and a man wore twelve shell beads. The others had nothing. The ensuing three mortuary phases present a clear structure: the dead were interred in tight clusters on a chequer board pattern (Figure 17.3). Two clusters were enduring; the others did not last the course. Each comprises the graves of men, women, a few children, and many infants, most of whom died at or soon after birth. MP2 included six such clusters, each revealing a notable amount of energy expended on mortuary rituals. Bodies were wrapped in a shroud of bark cloth or asbestos, covered in red ochre, and laid on a bier in individual graves. Pottery vessels placed with the dead were expertly made, brilliantly burnished, and incised with complex designs. One man wore thirty-nine thousand shell disc beads, a cowrie shell that was probably exotic, and bangles that were fashioned from fish vertebrae. Other grave goods included rhinoceros teeth and burnishing stones used in decorating pottery vessels. No differences have been identified to distinguish the treatment in death of men and women, but some individuals stand out on account of their quantity of shell beads. Many pits were found in the vicinity of the graves, containing unopened shellfish, and thick shell middens suggest that mortuary feasting took place.

With MP3A, the clusters of graves directly above the ancestors were demarcated by a thick shell midden that followed straight lines and turned right angles. This can only have occurred if the shells accumulated against a structure, and we have suggested that there were mortuary houses for the members of different descent groups (Higham & Thosarat 2004). Further pits containing shell-fish are compatible with feasting and food for the dead. Each building contained men, women, infants, and children placed alongside and over each other in a dense grouping of graves. The same range of mortuary offerings as during MP2 continued, but one man was differentiated on the basis of a set of unique items: a rare and exotic nautilus shell, a fish skeleton, a shark's fin spine, and a small stone chisel.

MP3B involved significant developments. Some women who went to the site had been raised in a different environment (Bentley et al. 2007); pottery vessel forms changed and were made from a different clay source. Granite hoes and reaping knives were now being made, and the stomach contents of one woman contained domesticated rice. Significantly, this phase saw the first distinction in the treatment of men and women, which was to strengthen in time. A man was interred with a turtle carapace ornament, and a woman with the anvil used to fashion pottery vessels.

With MP4, there is compelling biological evidence for the advent of fresh water conditions, and the number of shell reaping knives surged. The distinction between men and women was maintained, the former being associated with large turtle carapace ornaments that were deliberately broken over the corpse. The number of shell beads declined quite sharply. Indeed apart from red ochre being dusted over virtually every corpse, grave goods were sparse: one or two pottery vessels, accountrements for making pots with women, and broken turtle carapaces with men.

All this changed dramatically with MP5. In terms of the environment, there was a reversion to saline mangrove conditions as the sea level edged higher. Hoes and shell sickles were no longer found. There was a sharp increase in the manufacture of large storage vessels thought to have been destined for exchange, and burial in clusters ceased. Instead, one woman was found associated with two infants and one man. The woman was interred in a grave larger than any other (Figure 17.4). She lay under a pile of clay cylinders thought to have been preforms for fashioning pots. Her skeleton was thickly coated with blood red ochre, and she had been interred wearing at least two garments covered in reflectant shell beads: there were 120,787 disc beads and a further 950 large I-shaped beads in the form of necklaces. Two horned shell discs lay over the upper chest, and she wore a shell bangle and shell ear ornaments, all the exotic shell being from a clean coralline sea. By her right ankle, there lay a shell containing two burnishing stones and a clay anvil. Her wrist musculature was strongly developed, as would be the case for someone habitually kneading and working clay. Ten fine pottery vessels accompanied her. A contemporary burial in a narrow and precisely adjacent grave contained the headless skeleton of a man with just two pottery vessels.

Beside these, again in a grave far larger than necessary, lay a fifteen-month-old infant again covered in red ochre

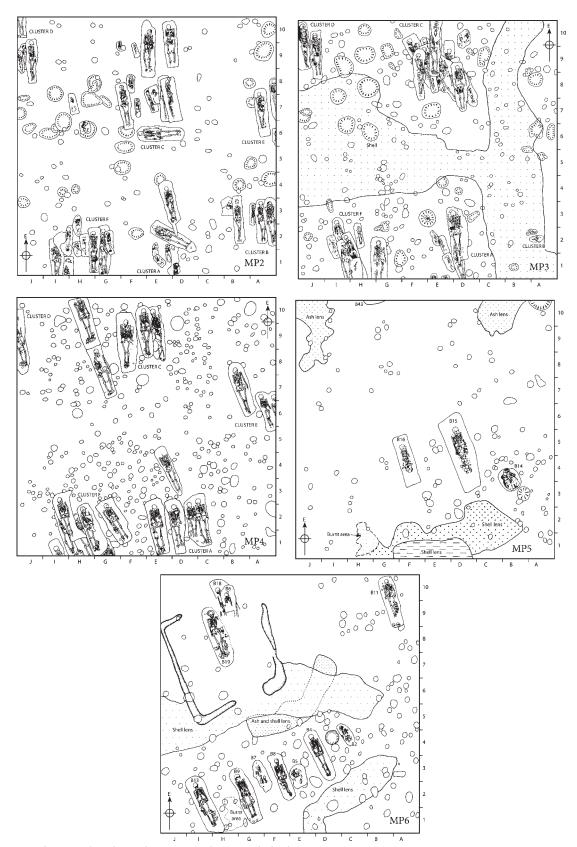


Figure 17.3. The second to the sixth mortuary phases at Khok Phanom Di.



Figure 17.4. Khok Phanom Di, burial 15, a woman wearing more than 120,000 shell beads.

wearing 12,247 shell beads. A shell bangle lay over the infant's wrist, many clay cylinders covered the corpse, and a miniature clay anvil lay beside the ankle. A second man, found just within the excavated area, died when aged about thirty and was also very richly endowed. He wore about 57,000 shell beads, two large shell discs, a shell bangle, and the usual turtle shell ornament.

The sixth phase saw further changes. There were two structures. One, a raised chamber with clay wall foundations and floor contained two richly endowed women and a child (Figure 17.5). Both women were associated

with a clay anvil, and one had two burnishing stones. In front, there was a wooden structure enclosing a row of adult, child, and infant burials with markedly poorer offerings. The three individuals in the raised structure were associated with thirty thousand shell beads, whereas the two men, two women, and four infants in the wooden building wore only fourteen. Both women had the tools for making and burnishing pots.

The mortuary record at Khok Phanom Di covers about seventeen to twenty generations over a five-century period in which we can trace intimate details of environmental change (Higham & Thosarat 2004). Continuity in patterns of tooth evulsion and cranial abnormalities supports the conclusion that each of the clusters included successive members of the same descent group. The evidence from isotopes indicated that the initial settlers travelled to the site from a different environment, followed by continuity save for the introduction of some women into the community during MP3b. Within a sequence in which coastal hunting and gathering dominated subsistence, with a brief interval of lowered sea level that permitted rice cultivation, it is possible to trace threads of both continuity and change. We have proposed four possible social interpretations of this sequence, but will stress common features (Higham & Thosarat 2004).

The ancestors were remembered and recognized as anchors to the settlement. Death was accompanied by established rituals: the body was wrapped in a fabric or asbestos shroud and interred on a wooden bier or probably in a coffin. Adults and infants were sprinkled with red ochre. Ceramic vessels were placed with the body, and the corpse often wore shell or bone ornaments. From at least MP3B, men and women were distinguished by turtle carapaces with the former, and the tools for making pottery vessels with the latter. Associated pits and shell middens may well have accumulated during mortuary feasts as the dead were placed within chambered collective tombs. Breaking objects was part of the ritual: mens' carapace ornaments, large enough to cover the chest, were fractured; pots were often broken; rims of pots were removed. Some individuals wore more than an ordinary wealth of ornaments during most mortuary phases. This rose to a zenith with MP5, at a time when the quantity of pottery produced showed a marked increase, and exotic shell ornaments were worn in quantities not seen before or since at this site or any other in Southeast Asia. This was followed by the interment of two groups, one rich, the other poor.



Figure 17.5. The mortuary building from Khok Phanom Di, mortuary phase 6.

It is concluded that taking advantage of its nodal estuarine position for exchange, the women of Khok Phanom Di, those who made the pottery vessels for exchange, were critically important to the aspirations of their society: we see this in the treatment of an infant of fifteen months who was interred with clay preforms and a miniature potters' anvil. Several other infants were found interred in women's arms. The consistent employment of blood-red ochre and provision of pottery vessels suited to contain food and drink hint at a belief in immortality by rebirth beyond death. Distinguishing particular individuals through interment with on occasion unusual, even massive, quantities of exotic shell jewellery is seen as reflecting their success in making and trading desirable items, just as is seen among women and men in Melanesia to this day (Battaglia 1983; Lepowsky 1983). Life as a hunter-gatherer-fisher was no impediment to social aggrandizers seeking and obtaining prestige.

THE NEOLITHIC

Ban Non Wat and Noen U-Loke are located in the upper Mun Valley of northeast Thailand. They provide the anchor chronology for the period spanning the initial Neolithic to the end of the Iron Age (Higham & Higham 2009). In addition to data bearing on industrial and economic activities, these sites have yielded nearly one thousand human burials divided into twelve successive phases. They will therefore be the principal vehicle for exploring the treatment of death over an unbroken sequence of about one hundred generations covering later prehistory.

The initial Neolithic settlement of Southeast Asia involved farmers who cultivated rice and millet and maintained domestic pigs and cattle. Originating in southern China, they introduced an established mortuary tradition of interring the dead in an extended supine position associated with a range of grave goods. Burial of adults in pottery vessels was less common.

At Ban Non Wat, such a group settled in the seventeenth century BC (Higham & Kijngam 2011). Their cemetery contained at least seventeen adults and thirteen infants or children. Two adults had each been inserted into a lidded pottery vessel in a seated, crouched position, the man accompanied by a small pot and a bivalve shell (Figure 17.6). The woman was also found with five cowrie shells, while the pot of the man was intricately decorated with red-painted and incised designs. An imaginative interpretation would conclude that the pots are womb

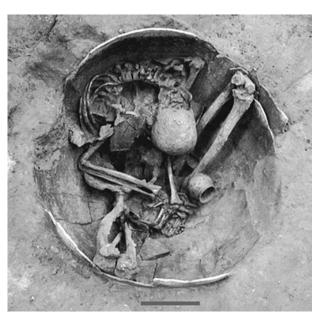


Figure 17.6. Ban Na Di, burial 28, a male jar burial from Neolithic phase 1. Scale 0.20 m.

shaped. Infants were buried in matching but smaller lidded pots in a foetal position. The interior surface of the lids was often painted with parallel red lines forming a stylized design often referred to as human-like. Most adults were found inhumed in a supine position, accompanied by pottery vessels again bearing complex incised and painted designs. Bivalve shells were not uncommon in these graves, and pig bones or fish were also present with some adults and children. Some corpses had been covered in a layer of shellfish. Orientation with the head to the north was preferred, and there was no nucleation of graves, or pattern suggesting more than one group.

The same situation applies to the cemetery of the second Neolithic phase (1250–1050 BC), when pottery vessels were no longer ornamented. Compared with those of the hunter-fishers of Khok Phanom Di, graves were poorly endowed: bivalve shells were rare, there was no red ochre, and only a handful of individuals were accompanied by fish or pig bones.

THE BRONZE AGE

This situation changed dramatically with the early Bronze Age (Figure 17.7, Higham 2011a). The continuity of ceramic forms from the late Neolithic suggests that the properties of copper were introduced to this community without any break in occupation. The seven burials of Bronze Age (BA) I (1050–1000 BC), however, reveal

much more complex behaviour during mortuary rituals. Graves were cut deeply into the substrate, and the dead were contained within a wooden coffin, one of which had a pointed end resembling the prow of a boat. Whereas late Neolithic people were buried with one or two pots, those of the early Bronze Age had up to seventeen, some containing pig bones. Red ochre made its appearance for the first time. Bivalve shells were now more common and located with some care relative to the body. Exotic shell ornaments included hundreds of beads — more than two thousand with one young woman — and marine trochus shell bangles. Two skeletons lay under a carpet of gastropod shells. The burials themselves were confined to a small part of the excavated area.

It was, however, with BA2 that the fullest expression of wealth and ritual behaviour was encountered within the Bronze Age sequence. The dead were now interred in a series of rows containing men, women, infants, and children. Graves were constructed that were far larger than was necessary to contain a coffin. The spaces round the body were filled with rows of up to seventy or eighty pottery vessels. Red ochre was now liberally employed (Figure 17.8). Bivalve shells increased in both frequency and numbers. Copper axes, bells, chisels, and awls were encountered. Exotic marine shell beads numbered in the tens of thousands; tridacna, trochus, and marble bangles abounded. Many pottery vessels were painted with complex red designs, one showing a frieze of dancers, another bearing red imprints of human hands. Infants who survived even for a few months were interred with lavish offerings including copper axes, exotic shell jewellery, and pottery vessels, one of them in the form of a fruit bowl painted with a human face with penetrating eyes. Neonates were found in large lidded and decorated pottery vessels. Some of these were embellished with a raised cordon resembling a snake (Figure 17.9). When describing the later Dian chiefdom of Yunnan, Chinese accounts record that a snake, in that it sloughs its skin, represents rebirth (Ti & Dadao 1983). These same vessels were regularly punctuated with small holes, and the lid of one was painted with a design that could be seen as the act of parturition. Perhaps the most significant characteristic of this BA2 cemetery, however, is that three men and two women were partially exhumed after primary burial, before being reburied. The limb bones of one young man were carefully arranged with the skull placed on top, facing the rising sun.

The interpretation of this unique assemblage in the Bronze Age of Southeast Asia is that the mortuary

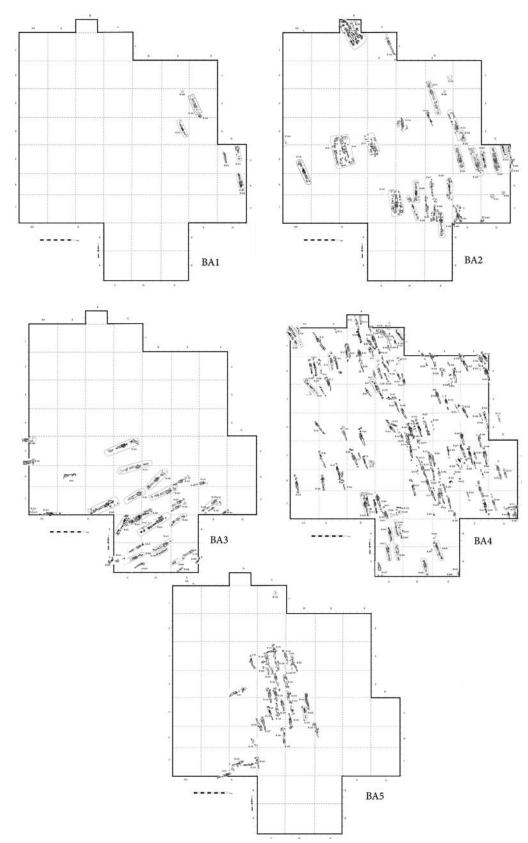


Figure 17.7. The layout of the Bronze Age cemetery of Ban Non Wat over the five phases, 1000–420 BC.



Figure 17.8. Ban Non Wat burial 106, BA2, showing reburied human bones and a pool of red ochre. Scale 50 mm.

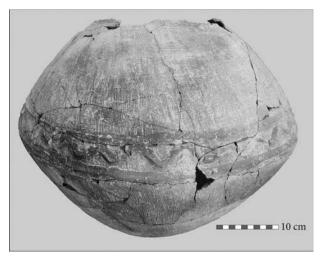


Figure 17.9. Ban Non Wat burial 532, BA2. An infant mortuary vessel embellished with a snake-like raised cordon.

behaviour was generated by a lineage of aggrandizers who controlled the ownership of the new range of exotic

valuables then entering exchange routes and expressed their new-found status in lavish mortuary feasts. Hence, the range of ceramic vessels designed for food and liquid containment, and the quantities of fish and pig remains in the graves. The exhumation of the particularly rich may well have been done to involve illustrious ancestors in further ritual events.

This complex protocol of burial continued into BA3A. Again, burials were found in rows within a defined part of the excavated area although on a different orientation. The weight of exotic stone and shell ornaments may be seen in the fact that one man wore sixty-five shell bangles, and the arms of another were covered by fifty-four trochus, eighteen tridacna, and two marble bangles. An infant wore copper-based anklets to which thirty bells were attached. However, this outstanding wealth fell dramatically with BA3B, a trend that continued into BA4 and 5.

Elite status expressed in mortuary rituals at Bronze Age Ban Non Wat was not easily maintained. The BA₃B and 4 burials reveal just the same characteristics as their forebears. There was the same provision of pottery vessels, the wearing of exotic shell and marble ornaments, the incorporation of food remains, and the placement of the dead in neatly arranged groupings in which the graves formed columns and rows. However, the numbers of pots, quantities of jewellery, and sizes of graves all fell away. Within each of four groups of BA4 burials, only one or two individuals stand out on the basis of mortuary offerings, and none approached the wealth associated with even the poorest BA2 person. One man was interred with twenty-nine clay moulds for casting axes and bangles. Apart from these items, he was poorly endowed. As at Khok Phanom Di, special skills were acknowledged by the interment of a person's personal tools.

Slight changes in pot forms and the superposition of graves signal the fifth and final Bronze Age phase. The dead continued to be interred as their ancestors had been, but now we find that some pots contained several fish skeletons as well as pig and cattle bones. Again, the artisanal skills of individuals were recorded in the death rites: adults were now often accompanied by spindle whorls and caches of grey clay. The former indicate a community involved in weaving; the latter can used as a dye or mordant. Symbolic items continued to include bivalve shells. Red ochre now was in the form of moulded pellets, one man being interred with twelve of these, some placed over the head, others in pottery vessels. Clay artefacts moulded into the form of a phallus were found with two men and a woman; these remain enigmatic objects.

THE IRON AGE

Any consideration of the Iron Age in Southeast Asia must take into account the changing social scene that resulted from the establishment of maritime trade routes. These linked the region with China, India, and beyond to Iran and the Mediterranean world, and came to be known as the 'Maritime Silk Road'. By at least the fourth century BC, Indian craft specialists were present at coastal port settlements such as Khao Sam Kaeo in peninsular Thailand, manufacturing hard stone and glass beads to satisfy local patrons (Bellina & Silapanth 2006). It is possible that it was through this exposure to new ideas and people that knowledge of iron smelting also reached Southeast Asia. No burials have been identified at Khao Sam Kaeo, but at Ban Non Wat and Noen U-Loke, it is possible to examine the impact of this sea-change through Iron Age

cemeteries. Four phases have been recognized, covering the millennium from 420 BC to about AD 600.

At Ban Non Wat, the transition into Iron Age (IA) I (420-100 BC) can be traced seamlessly as the BA5 cemetery expanded eastward, incorporating graves with the earliest iron offerings (Higham 2011b). There are two groups of graves, laid out one with the head to the north, the other with the head to the south (Figure 17.10). Each contains the remains of men, women, infants, and children. They were interred cheek by jowl in hollowed tree coffins, but as one proceeds through time in an easterly direction, individual graves dominated. Again, there was continuity in the ancestral protocols around the dead. Similar pottery vessels were placed in the coffin, often filled with fish skeletons. Pellets of red ochre and bivalve shells were placed with the corpse. As with BA5, spindle whorls and clay caches acknowledged individual skills. However, the availability of novel ornaments signals the beginning of a major change. Iron was used for making bangles. There were very rare glass ear rings, and a handful of individuals were buried with a carnelian or agate bead. Iron was also forged into weapons and tools. There were bimetallic spears, with an iron blade on a bronze socket, as well as spears of iron alone. Socketed hoes were forged, and some adults were interred with kits of small iron tools, including knives and awls, contained within a cloth bag to judge from the surviving pseudomorphic fabric. Compared with the late Bronze Age, there was a distinct but not overwhelming increase in the quantity of bronze ornaments, in the form mainly of bangles. Two infants were found with intricately decorated bangles and anklets, respectively, cast with considerable expertise by the lost wax method. However, the application of multivariate statistics to the complete assemblage of Iron Age burials has failed to identify any significant differences between the two groups, or over time. A handful of adults stand out as being relatively, but not overwhelmingly, richer than the rest, but only by having more of the same range of goods, rather than any that are qualitatively different.

Tracing the further development of Iron Age society in the upper Mun Valley now involves moving to Noen U-Loke, a large mound ringed by five moats and banks just 1.80 km west of Ban Non Wat (Higham et al. 2007). Here, there are only six IA1 burials, but while having the same forms of pottery vessels, the same fish and pig bone offerings and iron spears, they also differ (Figure 17.11). A woman, for example, wore decorative iron neck rings as well as iron bangles. Two men interred beside each

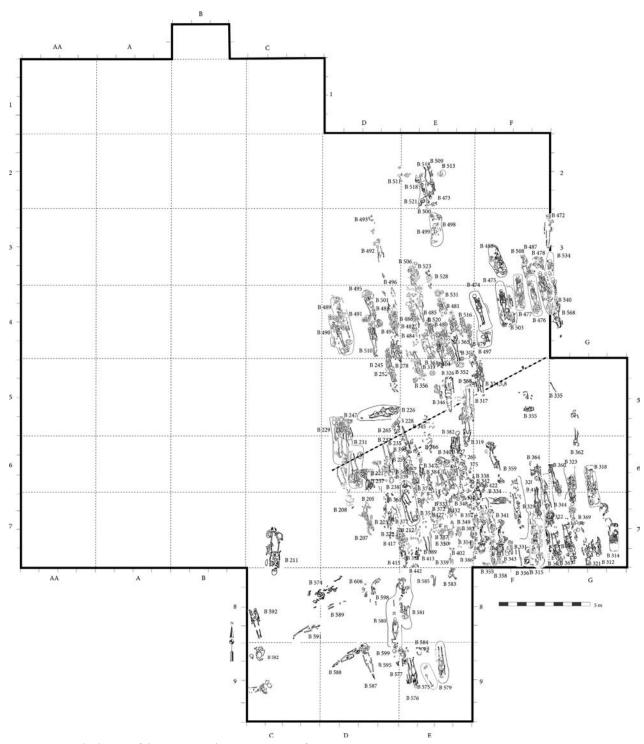


Figure 17.10. The layout of the Iron Age phase 1 cemetery of Ban Non Wat.

other wore necklaces, one of tigers' canines, the other of boars' tusks. The former had bronze bangles, socketed spears, an iron hoe, a massive iron spear, and shell ear discs. One young man, buried prone, had suffered from leprosy.

There are two tightly nucleated groups of graves in IA2 (100 BC–AD 200). One may be earlier than the other, but this is not established. This group contained the earliest agate pendant and glass beads, and pig bones, including a complete skeleton, accompanied the dead. The second

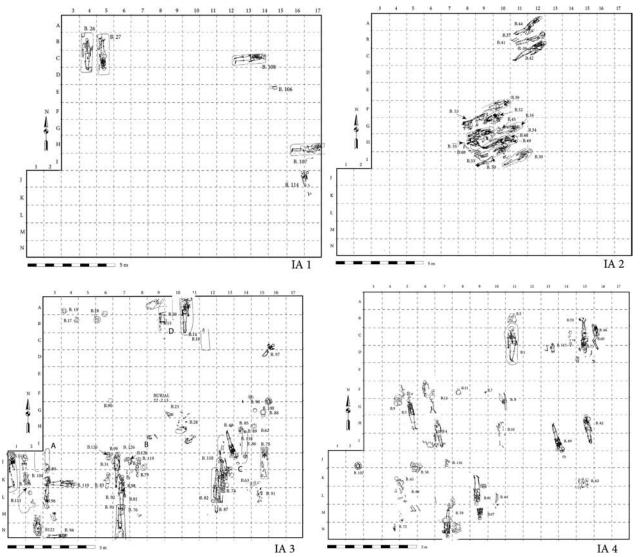


Figure 17.11. The layout of the four Iron Age mortuary phases at Noen U-Loke.

group was far the richer and death rituals incorporated a significant new development in that the graves were filled with rice that had been subjected to considerable heat. Strings of glass beads were worn as necklaces, embellished with beads of carnelian and agate. Bronze ornaments include finger and toe rings, bells, bangles, and a large spiral attached to the side of a young man's head. It was also at this juncture that the first evidence for residential burial was identified, where some graves were sealed by a floor that had been severed by a late interment (Higham & Thosarat 2007, 162). Hitherto, the Neolithic to Bronze Age burials seem to have been confined in cemeteries within the bounds of the settlement. A change to residential burial has significant implications for the rise of competitive descent groups (Adams & King 2010).

During IA3 (AD 200–400) at Noen U-Loke, mortuary rituals reached the height of complexity (Figure 17.12). Again the dead were interred in tightly nucleated groups, on a chequer board pattern, although there is no clear evidence for associated house structures. Each contained the graves of men, women, infants, and children. Rice filled the graves, some of which were walled and capped with clay. Even infants in burial jars were covered with burnt rice. It is considered likely that each of these groups comprised individuals related consanguinally or affinally and represents social divisions in the community at large. The single most significant finding is that there was a remarkable surge in mortuary wealth, with at least one person in three of the four nuclei being outstanding. In cluster A, for example, a woman wore 2 agate pendants,

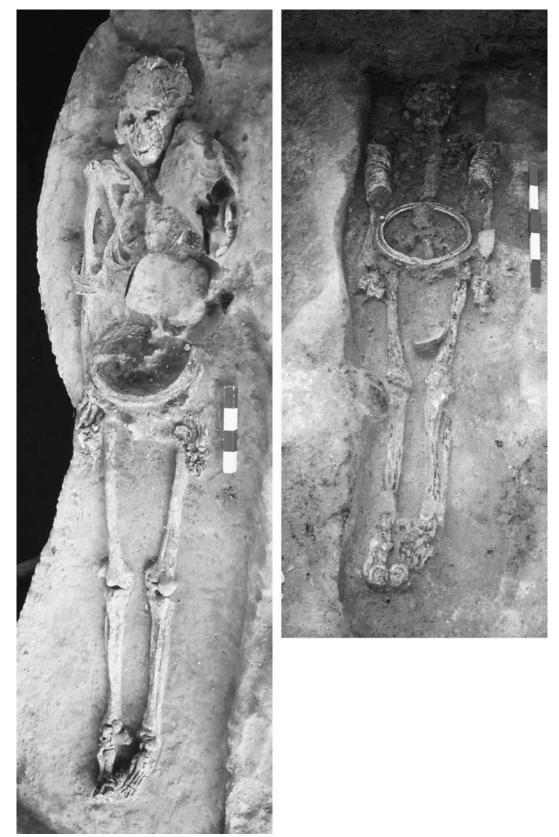


Figure 17.12. Two elite males from IA3 Noen U-Loke: burial 69 on the left has four bronze belts; burial 14 has three, together with 150 bronze bangles.

a necklace of gold and agate beads, and many bronzes including 64 finger rings, 9 toe rings, 38 bangles, spirals in each ear, a silver ring on a finger, and another on a toe. A man in cluster C wore 4 bronze belts, 124 bronze finger rings, 33 toe rings, 20 bangles, 2 ear discs, and 4 rings of bronze and iron. Another man in cluster D was the richest of all, with 3 bronze belts, 150 bangles, 45 finger rings, and at least 2 novel finger spirals on the left hand and 16 rings and 4 spirals on the right. There were also 2 bronze toe rings on each foot. This man wore 2 ear coils made of silver covered in gold foil. There were also 2 agate pendants and 2 bimetallic bronze rings in the area of the neck (Figure 17.12).

Cluster B contrasts with the other three in that no individual was interred with similar wealth: the central figure was a woman whose skull had been cleaved with a heavy weapon. This cluster also included far more spindle whorls than its contemporaries. One find unique to this cemetery was a complete egg placed as a mortuary offering.

Infants in each of these clusters matched adults in terms of relative wealth, but one burial is set aside from these groups. It contained the skeleton of a child who died when aged about two to three years. Interred distant from any cluster, the child had suffered from cerebral palsy and was interred wearing ivory bangles and no other offerings. Rare medical conditions were, it seems, acknowledged with modified treatment at death: we have already seen a leper interred prone, and with IA4, we will find that a young man killed by an arrow was also interred alone in a prone position.

A man in cluster C was interred with a pot filled with rice, within which lay a socketed iron ploughshare. This directs attention to the surrounding banks and moats, which must have entailed the organization of a large labour force, followed by regular maintenance of the channels in controlling the ingress and reticulation of water. Moreover, the broad moats would have greatly increased the value of the land they covered by providing a large and ready supply of fish and shellfish. New evidence from contemporary sites in Cambodia suggests that rice was now cultivated in bounded permanent fields (Hawken 2011), and the moats might well have also been used to supply irrigated water. The radiocarbon dating of the banks shows that they were in place during the span of IA3–4.

With IA4 (AD 400-600), the nucleation of graves gave way to a more dispersed pattern, and the degree of

wealth declined. One man wore fifty-nine bronze bangles and twenty-two finger rings, another had fifty-nine gold beads, but the others were modestly endowed in death. There was at this juncture a marked increase in iron weaponry in occupation layers, and a large tanged arrowhead had severed the spine of a young man.

The sequence at Noen U-Loke is unique in Southeast Asia in that it involves a single community in which the dead were interred over the ancestors for the entire span of the Iron Age. Any interpretation of the reaction to death in this community must involve several environmental and cultural factors. The site was one of many, crowded into a strategic exchange node that benefitted from inexhaustible deposits of high quality salt and iron ore of sufficient quality to exploit. Settlements were located along the same rivers from which water was tapped into extensive reservoirs. New exotic valuables entered the exchange network: agate, carnelian, gold, silver, glass. Ethnographic analogies are unanimous in identifying such a situation as being charged with competitive emulation (Alpers 1969; Ekholm 1977; Brenner 1988). Competition by aggrandizers both within and between communities for land, production, and status, it is suggested, would have encouraged the rise of social elites and tended to generate friction, and warfare. The hint that this was also a period with interment within houses has been confirmed at the site of Non Ban Jak. This site was occupied during IA 3-4, and from the earliest contexts, men, women, and infants were interred within residential structures. As Laneri (2010) has demonstrated in Mesopotamia, such a practice may be linked to the growing social prominence of wealthy families during a period of increasing competition over improved land, long distance exchange, and conflict.

The surviving evidence suggests that large mortuary feasts were held, surplus rice was burnt and filled graves, whole pigs were placed with the dead, fish filled mortuary pots, red ochre and bivalve shells fulfilled ancestral customs favouring an afterlife, and the elite leaders, men and women, were interred weighed down with prestigious valuables. Talbot (2007) has plausibly suggested that where the nucleated burials of IA3 indicate competition between different groups in the community, the dispersal of graves from AD 400 reflected a reduction in social tension. Fortunately, IA4 partially coincided with the advent of early written records, which document the early historic sequel.

THE MARITIME SILK ROAD

From at least the fourth century BC, Southeast Asia entered as a participant into a maritime trading network that linked it with both India and China. Most cultural influence emanated from the former, including the Sanskrit language, Hinduism, Buddhism, and associated mortuary practices. There was then a move away from inhumation into cremation, together with a new ideology that affected the rituals of death. Temple sites and associated cemeteries in the nodal Mekong Delta involved brick chambers containing the ashes of the deceased. At Nen Chua, brick and stone temple foundations as well as a stone linga have been uncovered (Le Xuan Diem et al. 1995). The linga, a phallic object, is a central cult object of Hinduism and was widely adopted as an object of veneration in Southeast Asia. Small brick chambers incorporated into this structure contained cremated human bone and offerings of gold leaf decorated with images representing Shiva and Vishnu, both central Hindu deities. Dating to the fifth and sixth centuries AD, these burials show how Hinduism, associated with the practice of cremation, had taken root in this part of Southeast Asia. The same evidence occurs in Go Thap, where a Funan burial site covered a prehistoric settlement. More brick-lined chambers here contained cremated human bone, while offerings included glass and semi-precious stone beads, and gold leaves decorated with Vishnu in his avatar as a turtle. An entire sacred Buddhist text was found impressed into gold at the site of Go Xoai on the delta, dating probably to the seventh or eighth century AD. The ritual importance of the linga as an object of veneration was deployed as a means of projecting royal status. These stone phalluses were placed within unicameral brick temples, named after the god and the monarch. Their symbolic role in projecting fertility and continuity has serious implications for the process of the deification of rulers as immortals, stages of which may be traced in the succeeding period known as Chenla.

CHENLA: FROM ELITE LEADER TO LIVING GOD

Chenla is the name given to the period AD 500–800 in Cambodia and the Mun Valley. The introduction of Hinduism and Buddhism into Southeast Asia led to a radical change in mortuary traditions in which cremation was preferred to inhumation. The archaeological record for burials during this seminal period in the

development of state societies is virtually silent. However, the inscriptions set down in Sanskrit and Old Khmer illuminate relevant social, political, and economic issues (Vickery 1998).

The archaeological record for the late Iron Age at Noen U-Loke dovetails neatly with the epigraphic record of early Chenla. Relevant inscriptions describe communities centred on their temple, under the leadership of a man with the title *pon*. The *pon* had authority over reservoirs, and settlements included metal casters, weavers, potters, and rice field workers. Temples were a focus for not only the worship of exotic gods and ancestral spirits, but also economic transactions and the accumulation of wealth expressed in surplus production. Chenla was divided into many polities, some of which show all the signs of the transition from complex chiefdoms into early states.

It is in the titles ascribed to elite humans and gods that we can identify the progressive deification of rulers during this period (Vickery 1998). Thus, while a pon was a chiefly leader, a kpon was a god. As Vickery has noted, this 'suggests that gods and human elites were ranked in a single hierarchy'. Titles present an unbroken continuum between kings and gods. By the early seventh century, successive kings at the major centre of Isanapura were accorded the hitherto divine title vrah kamratan an. This text might have been describing dead, deified kings. In AD 664, the first use of this divine title by a living king is recorded in an inscription in the reign of Jayavarman I (protégé of victory). It does not unduly stretch the available evidence to conclude that the passage from an elite leader of IA3 at Noen U-Loke to a living god at Isanapura took place over a period of eight to ten generations.

ANGKOR, CITY OF THE GOD KINGS

The foundation of the kingdom of Angkor is traditionally placed in the year AD 802, when Jayavarman II was consecrated supreme ruler. We know little of this king and his successor, but the survival of the court centre of the third king at Hariharalaya, Indravarman I (protégé of Indra; reign AD 877–89), opens a window on the image his monuments and inscriptions were designed to project. This centre comprises a reservoir of unprecedented size from which water was reticulated south to feed the moats round three major temple complexes. The first, known as Preah Ko, had at its centre a raised platform



Figure 17.13. Temple mausolea of Angkorian kings. 1, The Bakong, Indravarman I (reigned AD 877–89); 2, Koh Ker, Jayavarman IV (AD 928–41); 3, Pre Rup, Rajendravarman II (AD 944–68). 4. Ta Keo, Jayavarman V (AD 968–1001); 5, Angkor Wat, Suryavarman II (AD 1113–1150); 6, The Bayon, Jayavarman VII (AD 1180–1220).

bearing six brick unicameral shrines formerly decorated with sacred scenes in painted stucco. The front three were dedicated to Jayavarman II, and the father and maternal grandfather of the king, the back three to their respective consorts. The name of each ancestor was combined with that of Siva, indicating their deification. The much

larger Bakong temple lying to the south had as its focal point a linga (Figure 17.13, 1). The contemporary record noted, 'In 881, the king, like a god, dispenser of riches, has erected a linga named Indresvara here'. This name combines that of the king with the god Siva (Esvara), indicating a submergence of the king with the deity into a

single object of devotion. Eight smaller sanctuaries round the base of the temple were dedicated to and employed for the worship of the king's male and female ancestors. For the first time, access to the monument involved a naga bridge. The Naga, a mythical serpent and guardian of earthly wealth, represented the threshold from the profane world of men to the sacred realm of the gods. It is highly likely, but not certain, that the king's ashes were interred in this temple mausoleum, and that he was worshipped thereafter as an ancestral god. Certainly his son, Yasovarman (protégé of glory), had a new island temple constructed in the centre of his father's reservoir, the four shrines of which were dedicated to the new king's father, maternal grandfather, mother, and maternal grandmother.

It is important to appreciate the symbolism of the succession of temple mausolea constructed from the ninth to the early thirteenth century at Angkor (Figure 17.13). A god king, being immortal, was transported on corporeal death to heaven. Each sovereign therefore set in train the construction of a suitable heavenly abode, his temple and mausoleum, representing Mount Meru, the home of the gods. This is seen at its apogee in the monuments constructed by two sovereigns of the Dynasty of Mahidharapura. Suryavarman II (protégé of the sun, reigned 1113-50) was responsible for the temple known as Angkor Wat (Figure 17.13, 5). He is the first Angkorian king for whom we have an image, seen on the bas reliefs of this monument, reliefs that also depict scenes from his court, Hindu epics, and perhaps of the greatest relevance, the churning of the ocean of milk, in which demons and angels spin Mount Mandara to extract amrita, the elixir of immortality. The walls and the five central shrines of Angkor Wat, symbolizing the peaks of Mount Meru, carry reliefs that include at least one thousand apsaras, celestial dancers. We read that Suryavarman, on death, was accorded the posthumous name Paramavishnuloka, 'he who has entered the heavenly world of Vishnu'. A stone container recovered from the central tower with a hole at its base provides a hint of the rituals associated with the king's translation from earth to heaven. Southeast Asian royal burial traditions retain the practice of placing the body in such a container for many months prior to cremation. Placing the ashes in the main sanctuary before a statue of the king would then animate the image, rendering it an object of worship and devotion. Within this mortuary tradition, Angkor Wat should be seen as the preserve of the immortal sovereign merged with Vishnu, in a heaven populated by celestial aspsaras.

JayavarmanVII (reigned 1181–1215) was a Mahayana Buddhist. His reservoir, known as the Jayatataka, had in its centre a temple known as Rajasri in which water gushed through the mouths of a horse, lion, elephant, and human. This represented Lake Anavatapta, the sacred Himalayan lake imbued with miraculous curative powers. We read of pilgrims crossing the water to this shrine to remove the slime of their sins. This reflects the king's status as a bodhisattva, one who assists others in their path to Nirvana. He is portrayed on his temple mausoleum, the Bayon, known originally as Madhyadri, in the form of massive heads gazing benignly over his realm (Figure 17.13, 6). Ancestor worship is documented in the foundation inscriptions of the king's other foundations. Preah Khan contained an image of his father in the form of Bodhisattva Lokesvara. This text also lists twenty-three locations in the kingdom favoured with statues of Jayabuddhamahanatha, a name indicating that the king was represented as a Buddha. Special rituals were also established in favour of Jayarajacudamani, the deified mother of the king. This woman was the issue of a long royal line, and the foundation stela of the Ta Prohm temple traces her ancestry back generation by generation to the mythical founding ancestors of the state. Her image in the temple is said to represent the mother of the Buddha. She was not the only god ancestor to be worshipped at Ta Prohm, for subsidiary temples were dedicated to the parents of court grandees whose names incorporated the term -isvara, indicating the incorporation of the qualities of a bodhisattva.

CONCLUSIONS

One of the central facts about Southeast Asian prehistory is that the pervasive warmth, regularity of the monsoon rains, and naturally high bio-productivity make possible sedentary settlement by hunter-gatherers. While this does not apply to all the varied environments, particularly the dense tropical rain forest, proximity to a river or estuary does favour long term settlement. There are, thus, several sites that reveal how early anatomically modern humans were familiar with death and its consequences by at least thirty thousand years ago. They interred the dead in a flexed foetal, extended, or seated position, with a limited range of offerings. From the third millennium BC, when the sea level rose higher than at present and raised beaches formed behind the present coasts of Thailand and Vietnam, hunter-gatherer-fisher settlements included cemeteries in which the dead were

interred in kin groups. This is most clearly expressed at the site of Khok Phanom Di, located on a former estuary behind the present Gulf of Siam. This site presents the opportunity to explore, in a detailed manner, mortuary rituals in a largely marine hunter-gatherer context over a period of approximately twenty generations, five hundred years, beginning in 2000 BC.

Perhaps the most compelling aspect of this cemetery was the practice of interring the dead, be they adults, infants, or children, in tightly nucleated groups within mortuary structures. Because of the rapid accretion of the cultural deposits, we find that successive generations were placed over the graves of their ancestors. The corpse was given ritual treatment by being wrapped in a fabric or asbestos shroud and interred on a wooden bier or in a coffin, within a collective tomb structure. Blood red ochre was placed over the body, symbolic perhaps of rebirth or life after death. Pits containing food remains might indicate mortuary feasting.

The passing of the generations produced changes in the mortuary rituals but always to the same basic protocol. Pottery vessels were regularly placed in graves, and individuals wore shell and fish bone ornaments. However, from the fourth mortuary phase, men and women were increasingly distinguished from each other, the former being associated with broken turtle carapace ornaments, the latter with anvils used to fashion pottery vessels. Khok Phanom Di was a major pottery manufacturing centre, and after a brief interval when rice cultivation was undertaken locally with a temporary fall in the sea level, marine conditions returned at the same time as a break with the long term burial in collective tombs. We find instead a woman interred in a large grave with extreme wealth, associated with two unusually wealthy infant burials, and a headless man with virtually no mortuary offerings at all. The energy expended in this group suggests strongly that the woman had achieved high status within the community and was seen as a special individual, perhaps reflecting her expertise in manufacturing fine pottery vessels, for both she and the infant beside her were accompanied by their necessary tools. A marked disparity in wealth continued into the next phase, seen in the raising of a mortuary building in clay to contain a second richly endowed woman whose grave contrasted with the relative poverty of a row of burials in front of her tomb. This hunter-gatherer community was deploying the rituals of death not only to fulfil the basic obligations of kinship, but to project the elevated status of their place in the community. Covering the corpse in

red ochre may also be seen as symbolic of the blood of life, with implications for a hereafter. Moreover, the long duration of this cemetery of a community that controlled a key, rich nodal trading location endowed with predictable natural food resources suggests that the presence of the ancestors was a confirmation of territorial ownership.

From about 2000 BC, intrusive Neolithic groups introduced their long-established mortuary customs, which involved the placement of both adults and infants in lidded ceramic vessels embellished with complex incised, impressed, and painted designs. Most adults, however, were interred in an extended, supine position associated with pig bones, often a carpet of shellfish, and pottery vessels. This set the stage for continuity at the site of Ban Non Wat, with minor variations, for the next eighty to one hundred generations over at least two millennia. Within this period, which encompassed the adoption of both copper-based and iron metallurgy, we can identify social changes. There were rises and falls in the wealth placed with the dead. Particularly rich Bronze Age aggrandizers were partially exhumed, and symbols of rebirth, of fertility, and of blood were employed. The superposition of burials over a depth of many metres and the few instances of disturbance affecting earlier graves suggest that the location of the ancestors was recorded.

Details of the Bronze Age protocols for interring dead infants provide some insight into the cognition of those responsible. They placed the infant at the base of a womb-shaped lidded ceramic vessel, the interior of which was coloured red. The exterior of the pot was often embellished with a snake-like cordon. When the Han Chinese began to describe the Dian chiefdom of Yunnan in the second century BC, they noted that the snake rituals involved the notion of rebirth, since the snake sloughs its skin to re-emerge anew. The lid of one vessel bears a painted scene that looks like the process of parturition. Again both with infants and adults, bivalve shells that might well have been fertility symbols were placed with the dead throughout the one hundred generations of this cemetery.

In my interpretation of this Bronze Age cemetery, together with its Neolithic predecessor and Iron Age successor, I have stressed the provision of mortuary feasting in both securing and maintaining the social status of the relatives of the deceased. This may be seen in the placing of lidded pottery containers in graves with fish, shellfish, chickens, eggs, pigs, cattle, and water buffalo bones in graves. In this manner, the dead served the living elite, a practice that might have been enhanced when

the bones of particularly rich Bronze Age grandees were exhumed perhaps to participate in post mortem rituals, and then carefully reinterred.

A further aspect of the Bronze Age mortuary tradition at Ban Non Wat lies in the fact that the cemetery plans reveal sharply defined boundaries. The rows identified during BA2 contain the graves of adult men and women, infants, and children. They are uniformly orientated, placed with clear relationships to the contemporary graves, and are all particularly wealthy in terms of jewellery and other mortuary offerings. To find a poor grave in this grouping would be jarring. It is almost self-evident that this was a reserved space from which poorer members of the community were excluded.

Similar exclusivity, evidence for mortuary feasting, and oscillations in the relative wealth or poverty of social components of the community continued in this longue durée of mortuary behaviour. At Noen U-Loke, where we have a millennial Iron Age sequence divided into four superimposed phases, the community was exposed progressively to new exotic goods - carnelian, glass, agate, iron, gold, and silver - which were deployed in death to project the social achievements and status of the living. The second and third phases again saw the dead clustered into tight groups, almost certainly protected by wooden or clay structures that, at least at Non Ban Jak, take the form of residential dwellings. Feasting the dead saw graves filled with burnt rice, while animal bones, eggs, and other food offerings may be considered in conjunction with butchering floors where buffaloes and cattle were slaughtered and dismembered. This was a period when several lines of evidence point to an agricultural revolution: large-scale engineering works ringed sites with banks and broad moats and iron ploughshares linked with animal traction would have greatly increased rice production. Salt was being produced on an industrial scale, and settlements were foci for a wide range of manufacturing for cloth, iron, bronzes, and ceramics. Again, the tight clustering of similar burials suggests that there were restrictions of access to kin-based segments or lobes of the cemetery.

With the opening of the Southern Maritime Silk Road, exotic goods and ideas reached Southeast Asia. The established elites found in the esoteric Hindu religion an ideological pathway to elevated social status that progressively moved them closer to divine status. By the seventh century, just two centuries after the last Iron Age leaders were interred at Noen U-Loke, a Khmer king was accorded a title hitherto employed only for

gods. With the foundation of the Kingdom of Angkor in the early ninth century, texts inscribed for royal temple mausolea accord the rulers divine titles. Ancestors likewise were worshipped. The construction of increasingly massive temple mausolea, such as Angkor Wat and the Bayon, engaged armies of stone masons, sculptors, architects, priests, goldsmiths, and labourers in a common endeavour whereby merit was gained through contributing to the tomb of a god. In this manner, it is possible to identify in the Angkorian monuments the physical evidence for the exploitation of the populace by the ruling line. One of the particular features of this behaviour is the stress placed upon legitimacy through descent from the divine ancestors. The temple of Preah Ko at Hariharalaya, for example, has six shrines, each dedicated to the worship of King Indravarman's male and female ancestors.

Many village communities and the surpluses they generated were assigned to the maintenance of these temples. In 1186, the foundation stela of the Rajavihara temple mentioned more than eighty thousand people to sustain a temple dedicated not only to the king's mother, but also to the ancestors of grandee court families. A key to understanding this ideology is that on death, the deified ruler moved seamlessly, under a new name, to his temple mausoleum built to represent the home of the gods.

As anybody who witnessed the mortuary rituals of the Thai Queen Somdet Phra Nang Chao Ramphaiphanni Phra Borommarachini in 1985, or observed people praying before an image of King Phra Bat Somdet Phra Poraminthra Maha Chulalongkorn Phra Chunla Chom Klao Chao Yu Hua will know, the tradition forged at Angkor continues to this day.

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REFERENCES

Adams, R. L. & S. M. King (eds.), 2010. Residential burial in global perspective. *Archaeological Papers of the American Anthropological Association* 20, 1–16.

Alpers, E.A., 1969. Trade and society among the Yao in the nine-teenth century. *Journal of African History* 93, 405–520.

- Battaglia, D. B., 1983. Syndromes of ceremonial exchange in the eastern Calvados: The view from Sudest Island, in *The Kula: New Perspectives on Massim Exchange*, eds. J. W. Leach & E. R. Leach. Cambridge: Cambridge University Press,
- Bellina-Pryce, B. & P. Silapanth, 2006. Weaving cultural identities on trans-Asiatic networks: Upper Thai-Malay peninsula an early socio-political landscape, in *The Archaeology of Prehistoric Trans-Asiatic Exchange: Technological and Settlement Evidence from Khao Sam Kaeo*, ed. B. Bellina-Pryce. *Bulletin de l'Ecole Française d'Extrême-Orient* 93, 257–93.
- Bentley, A., N. Tayles, C. F. W. Higham, C. Macpherson & T. C. Atkinson, 2007. Shifting gender relations at Khok Phanom Di, Thailand: Isotopic evidence from the skeletons. *Current Anthropology* 48(2), 301–14.
- Brenner, E., 1988. Sociopolitical implications of mortuary ritual remains in seventeenth century native southern New England, in *The Recovery of Meaning: Historical Archaeology in the Eastern United States*, eds. M. Leone & P. Potter. Washington, DC: Smithsonian Institution, 147–81.
- Ekholm, K., 1977. External exchange and the transformation of central African social systems, in *The Evolution of Social Systems*, eds. J. Friedman & M. J. Rowlands. London: Duckworth, 115–36.
- Hawken, S., 2011. Metropolis of Ricefields: A Topographic Classification of a Dispersed Urban Complex. Unpublished Ph.D. thesis, University of Sydney.
- Higham C. F. W., 2011a. The Bronze Age of Southeast Asia: New insight on social change from Ban Non Wat. *Cambridge Archaeological Journal* 21, 365–89.
 - 2011b. The Iron Age of the Mun Valley, Thailand. *Antiquaries Journal* 91, 1–44.
- Higham, C. F. W. & T. F. G. Higham, 2009. A new chronological framework for prehistoric Southeast Asia, based on a Bayesian model from Ban Non Wat. *Antiquity* 83, 125–44.
- Higham, C. F. W. & A. Kijngam (eds.), 2011. The Origins of the Civilization of Angkor. Volume IV. The Excavation Ban Non Wat: The Neolithic Occupation. Bangkok: Fine Arts Department of Thailand.
- Higham, C. F. W., A. Kijngam & S. Talbot (eds.), 2007. *The Origins of the Civilization of Angkor.* Volume II. *The Excavation Noen U-Loke and Non Muang Kao.* Bangkok: Fine Arts Department of Thailand.

- Higham, C. F. W. & R. Thosarat, 2004. The Excavation of Khok Phanom Di. Volume VII. Summary and Conclusions. London: Society of Antiquaries of London.
- Higham, C. F. W. & R. Thosarat, 2007. The burials of Noen U-Loke: Mortuary phase 3 cluster A, in *The Origins of the Civilization of Angkor*. Volume II. *The Excavation Noen U-Loke and Non Muang Kao*, eds. C. F. W. Higham, R. Thosarat & S. Talbot. Bangkok: Fine Arts Department of Thailand, 152–72.
- Higham C. F. W. & Xie Guangmao, 2011. The prehistory of a friction zone: First farmers and hunter gatherers in Southeast Asia. *Antiquity* 85, 529–43.
- Laneri, N., 2010. A family affair: The use of intramural funerary chambers in Mesopotamia during the later third and early second millennia B.C.E. Archaeological Papers of the American Anthropological Association 20, 121–35.
- Lepowsky, M., 1983. Sudest Island and the Louisade Archipelago in Massim exchange, in *The Kula: New Perspectives on Massim Exchange*, eds. J. W. Leach & E. R. Leach. Cambridge: Cambridge University Press, 467–502.
- Le Xuan Diem, Dao Linh Con & Vo Si Khai, 1995. *Van Hoa Oc Eo Nhung Kham Pha Moi*. Hanoi: Nha Xuat Ban Khoa Hoc Xa Hoi.
- Oota, H., K. Kurosaki, S. Pookajorn, T. Ishida & S. Ueda, 2001. Genetic study of the Paleolithic and Neolithic Southeast Asians. *Human Biology* 73, 225–31.
- Pearson, R., 2005. The social context of early pottery in the Lingnan region of south China. *Antiquity* 79, 819–28.
- Pureepatpong, N., 2006. Recent investigations of early people (late Pleistocene to early Holocene) from Ban Rai and Tham Lod rock shelter sites, Pang Mapha district, Mae Hongson province, Northwestern Thailand, in *Uncovering Southeast Asia's Past*, eds. E. A. Bacus, I. C. Glover & V. C. Pigott. Singapore: NUS Press, 38–45.
- Talbot, S., 2007. The analysis of the mortuary record, in *The Origins of the Civilization of Angkor.* Volume 2. *The Excavation of Noen U-Loke and Non Muang Kao*, eds. C. F. W. Higham & A. Kijngam. Bangkok: Fine Arts Department, 305–53.
- Ti, H. & W. Dadao, 1983. Commentary on the plates, in *The Chinese Bronzes of Yunnan*, ed. J. Rawson. London & Beijing: Sidgwick and Jackson and Chinese Relics Publishing House, 217–41.
- Vickery, M., 1998. Society, Economics and Politics in Pre-Angkor Cambodia. Tokyo: Centre for East Asian Cultural Studies for Unesco.