

THE LATE PREHISTORIC PERIOD IN WEST-CENTRAL THAILAND

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INTRODUCTION

In this paper I discuss the evidence for metal using societies in the western part of Thailand, particularly in the provinces of Ratchaburi, Kanchanaburi and Suphanburi from the second into the first millennium BC. I argue that the situation in this region was quite different from that in northeast Thailand and Vietnam. There was no true Bronze Age in this part of Southeast Asia, despite the existence of quite a number of bronze tools, weapons and ornaments. I argue that the transition in western Thailand was basically from a developed late Neolithic (polished stone) technology to the manufacture of iron, which came into use among communities which may have been familiar with bronze by the end of the 2nd millennium BC but did not manufacture it at that time. On the other hand they could, from at least the mid first millennium BC, gain access to exotic prestige goods such as drums, Indian stone and glass beads and perhaps imported iron. These transitional Stone-Metal Age communities were probably only weakly stratified and were not territorially organised into anything more than regional chiefdoms. I also maintain that the transition in western and central Thailand from small dispersed, unstratified communities of stone-using farmers to ranked, metal-using communities was rapid. It started perhaps between 700-500 BC and by about 400 BC the use of iron had replaced stone as a production tool in most places. At this time the region was becoming increasingly locked into a much broader system of inter-regional exchange which spread from the Classical societies of the Mediterranean Basin, through India and Southeast Asia to China.

Western and central Thailand were not unique in experiencing such a transformation in the first millennium BC. Similar situations can be found in Peninsular India between about 1000 and 500 BC and perhaps also in Sub-Saharan Africa, although the factors which led to the changes and no doubt many details in the process were probably quite different.

PERIODIZATION

A few years ago a new scheme for periodizing Southeast Asian archaeology was proposed by Bayard (1984) and this has been used by Higham in his recent book (1989) as well as in journal articles. However this seems to have been formulated only with northeast Thailand and northern Vietnam in mind. Certainly it is inappropriate for use in Island Southeast Asia. Personally I do not find it very useful for the archaeological sequence of western Thailand and prefer, for the moment, vague terms with "fuzzy edges". When we have fuller data for the region we may well find that a modified form of Bayard's scheme is useful. So, in this paper I will use the term "Late Prehistoric Period", by which I mean in round terms the millennium from 500 BC to AD 500. This overlaps Bayard's and Higham's General Periods C and D (C: 500 BC to AD 200; D: AD 200 to 1500), but it is a grouping which I find makes more sense when considering the prehistoric sequences, as far as we understand them, of central and western Thailand.

The Late Prehistoric Period saw, in this region, a great increase in the manufacture and exchange of prestige goods of bronze and semiprecious stone, the introduction of iron, which replaced stone and bronze as the dominant material for edged tools and weapons, and the emergence of visible social ranking within communities which previously had been relatively egalitarian, mobile, and probably rather low in density. Bayard and Higham both place the emergence of bronze working and differential status groups in their General Period B (2000-500 BC) but I cannot see any evidence for this in the contemporary archaeological record of central and western Thailand. The two sites from this area which Higham (1989:165) says typify Period B, Khok Charoen and Ban Kao, in fact lack any evidence for "the mining and trade in metals...the use of bronze jewellery and implements...and some family groups of higher rank" (*ibid.*). It is clear that the references are primarily to the northeast of Thailand. However I do not want to dwell on the inadequacies of this generally useful and preliminary integrative framework, but rather point to the considerable regional variability that we can now recognise in the prehistoric record of even one country.

WEST-CENTRAL THAILAND

This is also a rather imprecise term, but I am referring to those regions of Thailand west of the Chao Phraya River, roughly from the town of Singburi (100° 29' E, 14° 47' N) south to the Gulf of Thailand and west to the Burmese border. This includes all or part of 13 provinces, covers an area of about 35,000 square km, today has a population of many millions and is one of the most developed and productive regions of Thailand. Landforms, soils and vegetation are quite varied. The eastern part comprises the recent alluvial plains of the Chao Phraya River, subject to seasonal flooding in the late wet season (August-October) when the rivers bring the monsoon rains down to the sea. When the seasonal forest was cleared and the floods managed, as they have been since the later Middle Ages, these plains are very productive and the area is now the rice bowl of Thailand. Although a few sites, perhaps dating from the late Neolithic to early Metal Age, have been recorded along the river banks (Bhumathon pers. comm.) none have been excavated west of the

main river. It seems probable that the region was heavily forested and sparsely populated before the Late Prehistoric Period.

In the south the land is very low-lying with tidal swamps and mangroves around the deltas of the Chao Phraya, Meklong and Suphanburi rivers. As the evidence from Khok Phanom Di shows (Higham 1989:65-80), the swampy coast was probably an attractive habitat for man in the past with rich fishing and wild plant resources, but as yet little is known of its prehistory west of the Chao Phraya delta. Only the site of Khok Phlap lying a few metres above sea level about 15 km northeast of Ratchaburi town (Daeng-Iet 1978a, 1978b) tells us that the edges of the coastal mangroves were being exploited by sedentary communities of fisher-farmers at the end of the 2nd millennium BC.

West of the alluvial plains lies an area of dissected older terraces and weathered outwash sediments from the hills along the Thai-Burmese border which enjoys a longer dry season than the central plains and coast and was, until recently, covered with dry deciduous Dipterocarp forest. Much of the area is too dry or too well-drained for permanent rice cultivation and populations were probably always low and villages moved regularly as soils were depleted. Over the past 10-15 years there has been a great development of dryland farming for cash crops such as sugarcane, maize and cassava in the zone and numerous prehistoric settlements have been found. Many are typically "Neolithic" with assemblages of cord-impressed pottery, polished stone adzes and armrings, and some burials, but few have been excavated let alone fully described. They are found, for the most part, only after deep ploughing by tractor which disturbs archaeological deposits down to 25-30 cm below the surface. As the sites are usually shallow, little coherent evidence remains for the archaeologist.

The far west of the region I am concerned with comprises the foothills and watershed of the Tenasserim range separating Burma and Thailand. This is heavily forested even today, with steep slopes and a high rainfall, especially in the monsoon season between June and October. Populations are low and include a number of ethnic minorities such as the Karen and Mon. Although the agricultural productivity of the mountain zone is low, it is important for two reasons. Firstly it contains mainly hard rocks valued by pre Metal-Age communities of the alluvial plains, gemstones (agates, sapphires etc near Bo Ploi), and minerals such as tin and lead which were in demand among the settled Metal-Age communities of the plains and river valleys. Secondly, there are numerous passes through the mountain chain whose peaks are seldom more than 2000 m high and these afford relatively easy routes from central Thailand to Burma, and more significantly to the coastal ports such as Mergui and Tavoy. The best known of these routes is Three Pagoda Pass linking the upper Kwae Noi Valley with Moulmein and this was been a favoured route for invading armies for centuries.

PREHISTORY IN THAILAND

Thirty years ago, Thailand had no prehistory in the sense that prehistory is an intellectual creation arrived at by certain more or less agreed upon procedures. Thai prehistory really emerged with the work of the Thai-Danish group in Kanchanaburi Province in the early

1960s. Per Sørensen, Chin You-di, Bob van Heekeren and Sood Sangvichien gave us the first reliable and systematic descriptions of ancient material and sites which could be used to create a prehistory. They were closely followed by William Watson, Helmut Loofs and W.G. Solheim in central and northeast Thailand, and Chet Gorman in the northwest. Since then surveys and excavations by many Thai and foreign researchers have proliferated and one thing that has become clear is that the prehistory of Thailand now has to accommodate diversity; what seems to be true in one area may not valid elsewhere. Kennedy (1977) was the first foreign archaeologist to recognise this. There was a time not so long ago when we could summarise Thai prehistory by referring to a few key sites and sequences and put them in an orderly linear sequence from about 10,000 to 1000 years ago.

In this way our understanding of the pre-agricultural Hoabinhian technocomplex depended on the evidence from Sai Yok, Spirit, Steep Cliff, Ment and Khao Talu Caves. For more sedentary, pottery making and presumably agricultural "Neolithic" cultures we looked only to Ban Kao, Khok Charoen, basal Ban Chiang and Non Nok Tha. The Bronze Age meant Non Nok Tha, Ban Chiang, and Ban Na Di; the Iron Age meant Chansen I, late Ban Chiang, Don Ta Phet and the Lopburi Artillery Ground. Archaeological (as opposed to art historical) evidence for the early historic Indianized, Dvaravati civilization came mainly from Chansen, Ku Bua, U-Thong, Nakorn Pathom, Sab Champa and a few other sites. These divisions were seen as both typological and evolutionary stages applicable to most of Thailand.

One of the most interesting outcomes of the surveys and excavations of the past few years is the recognition of regional variability; that what is true for the northeast does not hold for central, west or southern Thailand. In the northeast, for instance, there is abundant evidence for the casting of bronze tools and ornaments at many sites by the end of the 2nd millennium BC. The work by Udon Theetiparivata and Vincent Pigott (1984), Surapol Natapintu (1989) and Anna Bennett (1990) at Phu Lon north of Loei and in the Wong Prachan Valley northeast of Lopburi shows that the mining and smelting of local sources of carbonate and sulphide copper ores was being practiced on a considerable scale before the end of the third millennium BC (Pigott 1990). These were specialised mining and refining sites exporting copper metal which was alloyed and cast into tools elsewhere, and the products of this industry are widespread and well-known in east central Thailand and on the Khorat Plateau.

Evidence for a preceding, purely Neolithic phase of settled village agriculture without the use of bronze tools in northeast Thailand is still weak to my knowledge and still rests on a few burials without metal at Non Nok Tha, Ban Chiang, Ban Pak Top and a few other sites. It is not well identified or closely dated. As far as I know the Hoabinhian-Neolithic transition in northeast Thailand which Chet Gorman postulated and which he sent students to seek some 15 years ago still remains to be found.

In contrast, the picture seems to be very different to the west of the Chao Phraya River. In the limestone hills of the Kwaie Yai and Kwaie Noi basins Hoabinhian assemblages are quite common and significant ones have been excavated by van

Heekeren at Sai Yok (van Heekeren and Knuth 1967), by Sørensen at Tham Ongbah (1973), and by Surin Pookajorn at Petch, Heap, Ment and Khao Talu Caves near Ban Kao (Pookajorn 1990). The dates obtained for the Hoabinhian agree well enough with those obtained by Gorman for Spirit Cave and Steep Cliff Cave in the northwest, and at some of these sites there does seem to be a transition or interface between the Hoabinhian and riverine Neolithic traditions. This transition is similar to but much later than (mid-late 3rd millennium BC) the transition proposed by Gorman (1971) for Spirit Cave and the northwest.

A classic Neolithic culture is still best represented (at least in publication) by the Ban Kao cemetery (Sørensen and Hatting 1967), but other similar sites are numerous along the Kwae Noi Valley and the western margins of the Central Plain. These include Ban Yang Sun near Bo Ploi, Khon Do on the south bank of the Kwae Noi (Shoocongdej 1991), and Ban Na Khun Saen 1 in Suen Pheung District further south into Ratchaburi Province. Although the dating and periodisation of Ban Kao was challenged by Parker (1968), Bayard and Parker (1976) and MacDonald (1978), I think that later work (Leth 1989) and further dates from Ban Kao (Tauber 1973) and other sites broadly confirm Sørensen's interpretation that this was a pre-Metal Age culture of the early-mid second millennium BC. It was thus contemporary with the bronze-using sites of the northeast.

Only two graves at Ban Kao (B 12 and B 23) contained metal, and the metal was iron. The pottery from B 12, which I examined earlier this year, is remarkably similar to that from Ban Don Ta Phet, which can now be dated securely to the 4th century BC (Glover 1990a). In addition, Sørensen (1973:151-4) records that about eight iron artifacts and more fragments of iron, one bronze bell and fragments of bronze bracelets were found in habitation refuse deposits about a quarter of the way down the excavation profile (layers 5-6 in squares E, F and G2-3). As Higham notes (1989:159), this is below the absolute level of some of the "Neolithic" burials (two in fact; B 17 and 21 both in Layer 3), but Leth's subsequent analysis (1989) of the non-burial materials at Ban Kao shows that the ancient ground surface following the burial phase was quite different from the modern one and sloped steeply towards the river. These iron and bronze pieces may have come from later Iron Age burials subsequently eroded and reburied. Certainly, the entire group of iron and bronze finds at Ban Kao is entirely conformable with the mid-1st millennium BC assemblage from Ban Don Ta Phet and the Ongbah Cave material of the same age, as Sørensen (1973:145) made clear.

Bronze tools (axes and spears) and ornaments are of course found in western Thailand. But they are virtually all scattered finds, out of context and, despite many excavations in the area, not demonstrably belonging to a recognisable phase characterised by the use of bronze and preceding the arrival of iron. Only one site at Uthai Tani (Amara Srisvohat: pers. comm. May 1990) has produced bronze crucibles and moulds similar to those of the northeast, and I have come across only one mention of a Bronze Age site at Ban Karn Sian near Kanchanaburi town. In a layer below remains of the Ayutthaya Period Wilaikaeo (1988: 80) refers to "the manufacture of bronze arrowheads and

socketed axes... a development never before found in any studies of the Kwae Yai River Valley for more than two decades".

When we look for an early Metal Age site in western Thailand the best example is Khok Phlap near Ratchaburi, excavated by Sod Daeng-iet in the mid 1970s and published in some detail (Daeng-iet 1978a, 1978b). In addition to the fairly numerous stone and bone tools are a few bronze ornaments, a spearhead and arrowheads (Higham 1989:165-6). I am not sure if Khok Phlap has been dated, but my guess is that it belongs to about 700-500 BC.

When metal does appear in quantity in sites in west Thailand then it is iron, and the best documentation for this comes from Ban Don Ta Phet, half-way between Kanchanaburi and U-Thong, where about 1000 iron tools and weapons (including fragments) were recovered from the three excavation seasons. The site produced only two or three tools of stone and none of bronze, although bronze was in plentiful use for figurines, containers, bracelets, bells and rings (Glover 1990b). The site can now be dated to a rather short period in the early part of the 4th century BC (360-390 cal. BC). With such a dominance of iron for edged tools and weapons it seems unlikely that Don Ta Phet marks the very beginning of the metal's adoption in western Thailand.

So was there a Bronze Age in west Thailand? The evidence at the moment suggests not, as Charoenwongsa (1985: 17-8) recognised some years ago. The main thrust of the technical transition in this region appears to have been from stone to iron in the early to mid 1st millennium BC, as in Peninsular India, much of Sub-Saharan Africa, and probably also in Peninsular Thailand, Malaysia, Indonesia and the Philippines. The work at Khok Phanom Di on the eastern coast of the Bay of Bangkok only equivocally supports this model. There Higham and his colleagues excavated an impressive sequence of burials and occupation of the mid-late 2nd millennium BC, with no metal at all (Higham *et al.* 1987; Higham and Bannanurag 1990). Later they excavated at Ban Non Noen, also in the Bang Pakong Valley, where a late Khok Phanom Di type ceramic workshop was overlain directly by Iron Age material with glass and carnelian beads such as those from Ban Don Ta Phet (Charles Higham: pers. comm. 14.2.90). However, early in 1991 Higham and his team excavated a settlement and cemetery at Nong Nor, only 14 km southeast of Khok Phanom Di, and found that Mortuary Phase 2b, dated to the third millennium BC (five dates with a pooled calibrated mean of 2400 BC), contained five tin bronze bracelets (Higham *et al.* nd). The implication is that while bronze was certainly being produced in central Thailand in the 3rd millennium BC, its availability was very restricted.

Why should there be such a difference in the pattern of technical developments between northeast and western Thailand? To some extent explanations are premature since the phenomenon is barely established as an observed "fact" of archaeology. Nevertheless, some factors can be suggested. These include differences in the history of external contacts of the regions; variations in the availability of the raw materials for the manufacture of polished stone tools as well as for bronze and iron; and differences in agricultural potential giving rise to different internal trajectories of cultural and technical development. Above all I think we can look to the direction of communications. Before

the development of lateral canals and then rail and road transport crossing the lower Chao Phraya plains, east-west movement (or vice versa) was slow and difficult. The natural lines of movement were north-south. These physical constraints on communications will be explored in rather more detail in a paper now in draft (Glover 1991), when emphasis will also be placed on the development of exchange networks with India and the western world for the social, cultural and technical transformation in western Thailand in the 1st millennium BC.

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