

Archaeological Survey in West-Central Thailand: A Second Report on the 1982–1983 Field Season

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INTRODUCTION AND RESEARCH AIMS

BETWEEN 1 DECEMBER 1982 and 6 January 1983 an archaeological survey was undertaken by a team from the Institute of Archaeology of the University of London and the Division of Archaeology of the Fine Arts Department of Thailand (FAD), along the western margins of the central plains of Thailand, between Kanchanaburi and Suphanburi towns (Fig. 1). The archaeology of this area is not well known and although a number of prehistoric and historic sites have been identified, and a few excavated, there has been no attempt to systematize this knowledge into a coherent account of human settlement in, and adaptation to, what is in effect Thailand's "dry zone."

Excavations at Ban Don Ta Phet in 1980–1981 (Glover et al. 1984) by the London/FAD team had yielded considerable information about the nature of social and economic life at the beginning of the Christian era. Excavations by the Thai-Danish team in the 1960s in the Kwae Noi and Kwae Yai river basins and by the Thai-British team a few years later at U-Thong had illuminated aspects of earlier prehistory and a Dvaravati Buddhist site. Finally, an excavation by Silpakorn University, Bangkok, in 1983 had found remains at Ban Nalao near U-Thong which, although badly disturbed by local villagers digging for beads, seemed to belong to a period between the cemetery of Ban Don Ta Phet and the early historic town of U-Thong (Pornchoi Suchitta, pers. comm.).

The principal aim of the 1982–1983 survey was to locate late prehistoric settlements contemporary with, and perhaps functionally related to the cemetery of Ban Don Ta Phet so that the results of our work there could be properly placed in the evolutionary process of lowland cultures in Thailand. A secondary aim of the survey was to familiarize the London team with a broad range of archaeological sites and ceramic styles in this area, since our only experience of fieldwork in Thailand had been the excavation at Ban Don Ta Phet. We also used this opportu-

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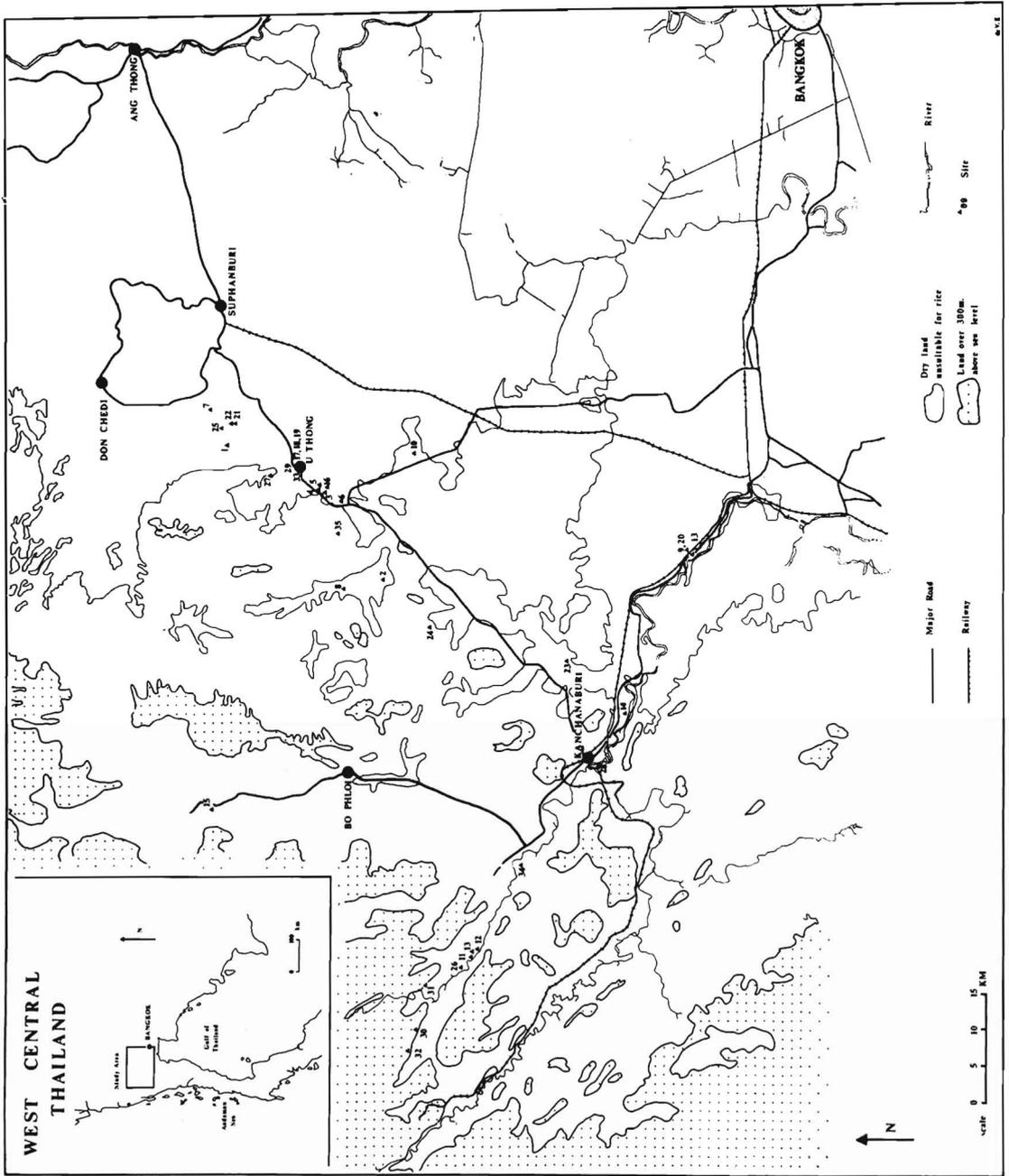


Fig. 1. Map of West Central Thailand.

nity to complete the documentation of the pottery from the 1980–1981 season at Ban Don Ta Phet.

RESEARCH PROCEDURES

The survey team, based at the U-Thong National Museum, concentrated its work in Suphanburi and Kanchanaburi provinces and looked for late prehistoric, iron age sites. The team started by following up information provided by members of the Fine Arts Department in U-Thong and visiting sites that had turned up antiquities or where illegal bead digging had been reported to the Museum or to the Division of Archaeology officers. Villagers, schoolteachers, and local government officials in rural areas were also very generous in providing information about archaeological finds in nearby areas.

Approximately 25 days were spent on survey or working in the museum on collections made in the field; a week was devoted to recording the Ban Don Ta Phet pottery. Thirty-five sites were visited and substantial collections of pottery and other small finds were made.

A separate record sheet was made for each site visited, listing the location of the site with a sketch plan where possible, the numbers and variety of materials recorded and any useful information provided by the villagers. Copies of these records were deposited with the Fine Arts Department, Division of Archaeology, and at the U-Thong Museum. Sites were named according to the nearest village names given to us in the field by the local residents, or identifiable on the 1:50,000 Thai Survey Department maps. The coordinates to the nearest second were recorded. Sometimes the accuracy in location is more apparent than real for, as all archaeological surveyors will know, there was often disagreement among the villagers as to the best names for their village; villages indicated on the maps are not shown where they appear to be on the ground; and on several occasions the survey team was lost among featureless rice fields. Since there is no national site registration scheme in Thailand, we gave the sites identified a three- or four-figure code name based on the village or locality name, which could be written on the bags, finds, and photographs with ease. The sites are listed in this report according to the alphabetical order of these code labels.

All survey finds were washed and documented in the Museum and a substantial part of the collection was photographed in color and in black and white. Copies of photographs were also deposited with the Fine Arts Department officers.

When collecting on sites, we retained only the larger and more diagnostic sherds such as rims, bases, and decorated body sherds, and brought back to the museum a sample of all varieties of pottery visible at each site. We also tried to establish the spatial limits of each site by systematic fieldwalking. Thus, the collections made in the field do not represent a random sample of the pottery present at the sites, nor are the numbers of different vessel types and fabrics in the collections truly representative of those present at the sites.

A large and representative sample of pottery and other small finds—perhaps one third of the collection—was taken to Bangkok for drawing and shipment to London for further analysis; the final report on the survey cannot be written until this work is completed. The rest of the collection was deposited at the National Museum in U-Thong.

PRELIMINARY RESULTS

With varying degrees of confidence, the 35 sites visited can be placed into seven chronological and cultural phases, spanning some ten thousand years as described below. However, the largest single group of sites (9) probably belongs to the period transitional between the Iron Age and the emerging Early Historic Buddhist period which—for the sake of simplification—starts at A.D. 500. This is an arbitrary date that cannot be defended with much conviction, but no other single date is better in this respect. A further eight sites can be attributed either to a purely Iron Age (burial) phase or to the Early Historic period. So to some extent the survey was successful in locating sites of relevance to the further interpretation of Ban Don Ta Phet. Further comments on the results of the survey follow short notes on each site, which are taken from the survey records and personal diaries kept by members of the survey team.

Sites Visited (In Order of Listing in Figure 1)

Code	Ref. No.	Name	Location	Province
BDK	1	Ban Don Kha	99 56' 30" E 14 28' 10" N	Suphanburi

This site was visited on 25 December 1982. Many beads and other antiquities were seen in the hands of villagers. The site, which is within the existing village, has been (and perhaps still is being) dug for antiquities. Some pots from this site had been presented earlier to the U-Thong Museum by the villagers and the survey team was able to collect only a few pieces. The ceramics suggest that occupation at BDK may extend from the late prehistoric Iron Age through to Late Historic times, with most material belonging to the Early Historic or Dvaravati period. Some skeletons are reported to have been found with gold and bronze jewelry which has been sold. Ceramics (Fig. 2, 3a) compare closely with those from Tha Muang at U-Thong, but the site may have earlier material also. It is probably worth further investigation if the limits of clandestine digging could be established with confidence.

BKR	2	Ban Khao Rak	99 46' 17" E 14 16' 08" N	Suphanburi
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The site, situated down a track leading off Route 3342, was visited on 16 December when some bronze and bone fragments had been reported to us as having been found scattered in the fields 1-2 km from the present village. Only ceramics recognized as Late Historic Wares such as Sukhothai celadons were found. The sherds from this site have been labelled DKR for Don Khao Rak in error (Fig. 3c-e).

BHL (a)	3	Ban Nalao, Mu 6	99 52' 40" E 14 20' 40" N	Suphanburi
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Surface scatters of pottery and iron slag were collected in the area of Mu 6 of Ban Nalao village, 100 m or so east of the area excavated by the Silpakorn University team under Pornchoi in 1982. Black and red-slipped rims (Fig. 5a-b), one pedestal with incised stippling, and buff and orange body sherds were among the material collected. No glazed stonewares were found and the material is probably all Early Historic.

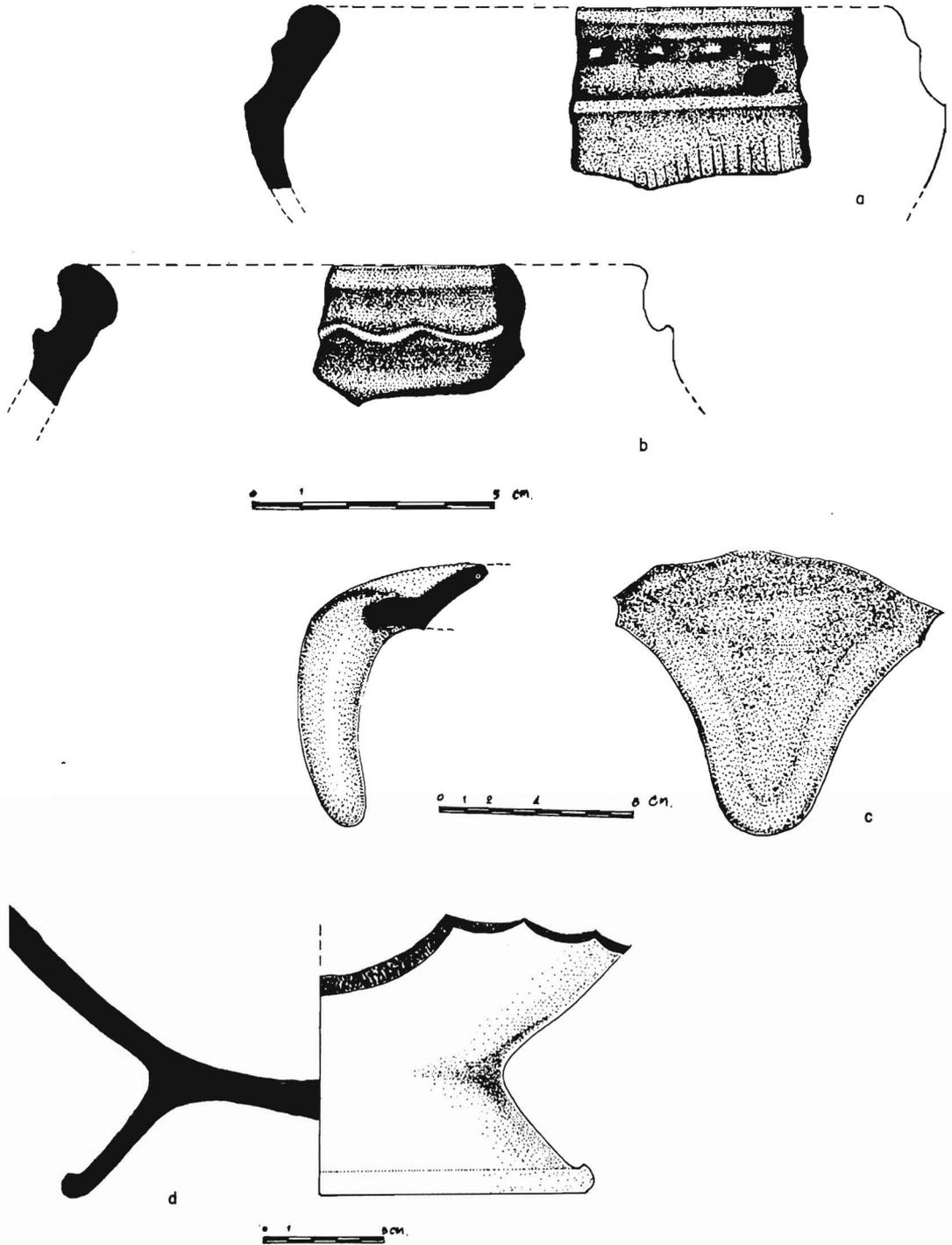


Fig. 2 A selection of pottery from Ban Don Kha (1). *a* and *b* are carinated bowls typical of the Early Historic period, but they may survive well into the second millennium A.D. *c* is the leg of an earthenware pot stand, and *d* is a low pedestal bowl.

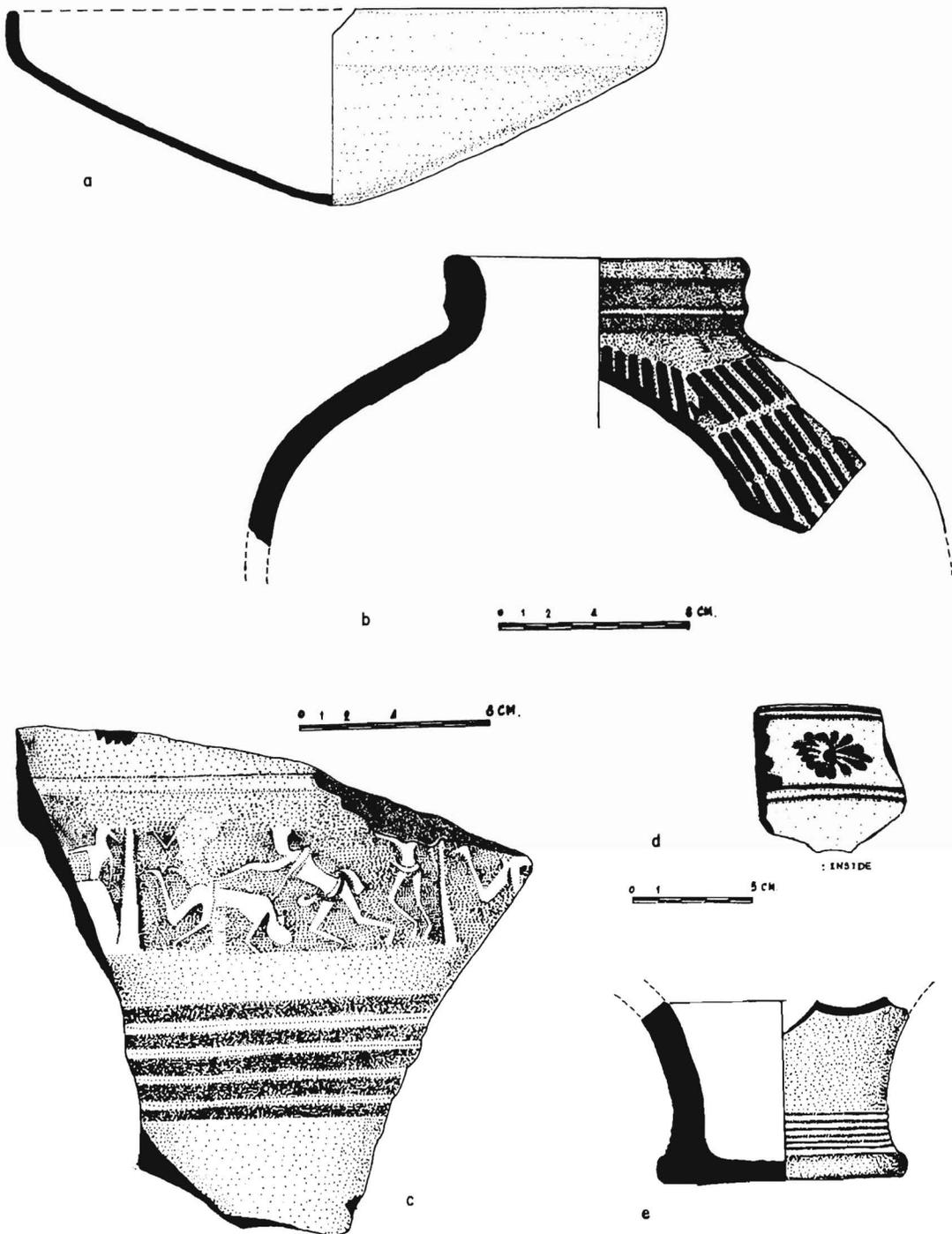


Fig. 3 *a-b* Ban Don Kha. (1) *a* is a low-fired earthenware bowl of uncertain age; *b* is a glazed stoneware storage jar of the Late Historic period. *c-e* Ban Khao Rak (2). *c* is a stamped, unglazed, thick and highly fired grey ware sherd with a scene of fighting, dancing, or acrobatics. It is probably from the shoulder of a narrow-footed "baluster vase" as represented by the sherd *e* on its right. *d* is an imported underglaze blue porcelain bowl. All the material recovered from the site appears to be of Late Historic age.

BNL(b) 4	Ban Nalao, Mu 6	99 52' 40" E 14 20' 40" N	Suphanburi
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This site was a few minutes walk east of BNL(a) and was recognized by scatters of human bones left behind by illicit bead diggers. Only four sherds with red and brown slip, three stone adze fragments, a corroded iron spear head, and some bronze bowl fragments were recovered. The material is probably all from the Early Historic period.

BNL(c) 5	Ban Nalao	99 53' 50" E 14 21' 20" N	Suphanburi
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This important site north of BNL(a) was visited on 19 December. It lies toward the northern end of a large low mound east of the Chorakae Sampan river and south of Wat Pathum Sarawat. A few glazed stonewares including some black "Khmer-like" ware were collected, as were rims of red-slipped, stamped, and carinated bowls (Fig. 4*b-c*). Scattered brick fragments, probably from a ruined chedi, and many freshwater bivalve mollusc shells were also seen. The pottery suggests a long occupation from prehistoric through to the Late Historic period. Although the site has been extensively looted by treasure hunters, further work here would seem likely to be rewarded.

BCS 6	Ban Chorake Sampan	99 52' 20" E 14 20' N	Suphanburi
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This site comprises only a scatter of finds to the right of a track running northeast of Mu 5 of Ban Chorake Sampan. Among the material collected were three rims, some corded and red-slipped body sherds and one sherd of unglazed stoneware, some blue and white porcelain pieces of no great age and some bricks, probably from a nearby ruined chedi. The site appears to be entirely Late Historic on the basis of a very poor sample.

BPN 7	Ban Plai Nam	99 59' 20" E 14 29' N	Suphanburi
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A collection was recorded and photographed at house 263 in Mu 4 of Ban Plai Nam village. The material probably comes from more than one locality but much of it was said to have come from Don Pacha (DBCC, 21 on Fig. 1). The collection was mainly of beads, but included glass lumps and some unfinished stone beads and a small bronze bell. There is the suggestion here of a glass and perhaps stone bead manufacturing locality. This area would be worth more intensive study, and perhaps test trenching, if one could win the confidence of collectors.

BPS 8	Ban Phai Si	99 46' E 14 19' 30" N	Kanchanaburi
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The site, visited on 10 December, lies 11–12 km from U-Thong and half a kilometer north of road 3342 (U-Thong–Bo Ploi). The site had previously been identified by Mr. Narawat of the FAD Division of Archaeology at U-Thong who plans to excavate there on a future occasion. Some 50 rims and six body sherds were collected together with 14 polished stone adze fragments and one pierced stone disc, and a drilled core from another ring. This seems to be primarily a prehistoric,

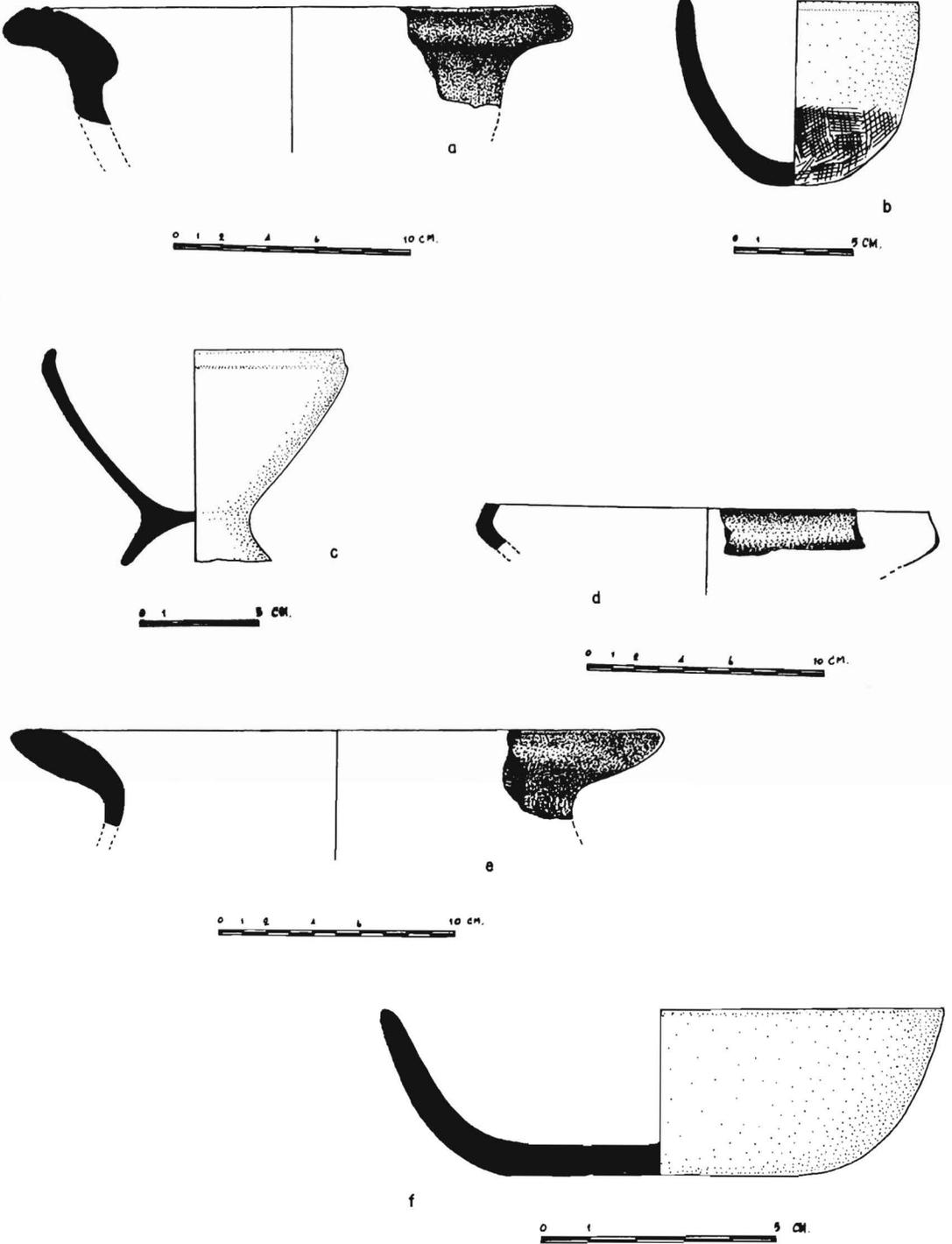


Fig. 4 a-c from Ban Nalao (c), site 5, and d-f from Ban Yang Sung (site 15). Thickened, lenticular sectioned rims (e) are distinctive at this site and compare with those from Ban Phai Si (11).

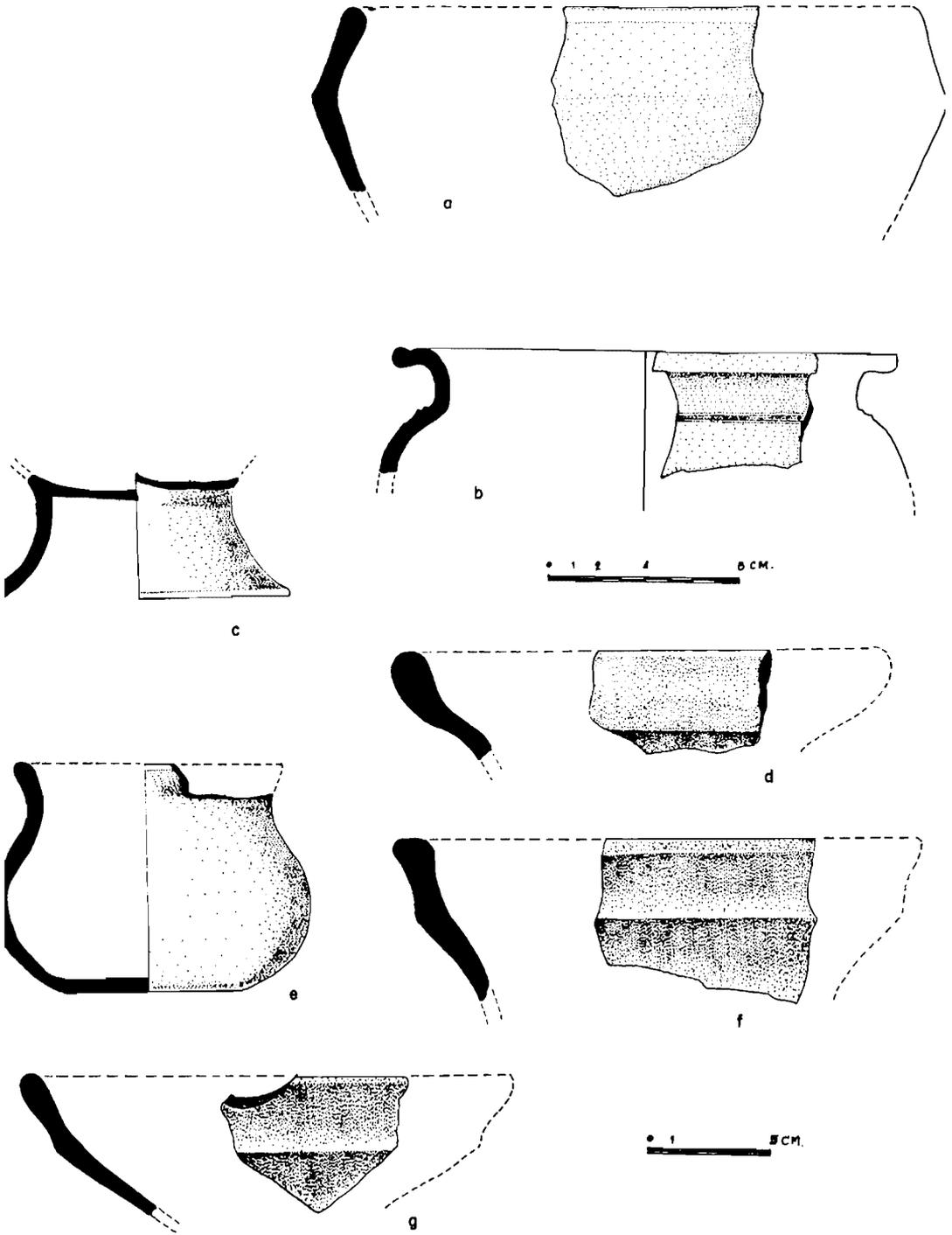


Fig. 5 a-b from Ban Nalao, Mu 6 (site 3), and c-g from Ban Tung Ketchet (10).

perhaps neolithic site, comparable with Ban Yang Sung (15) although rather few stone flakes from adze manufacture, were found in contrast with the latter.

BPT	9	Ban Pong Tuk	99 47' 30" E	Kanchanaburi
			13 54' N	

This is the famous Early Historic site of Pong Tuk where a Graeco-Roman lamp and some Indian images were found early in the century. Coedès (1928) and Quaritch-Wales (1936) have reported on excavations here, and the site is frequently cited for its significance in the context of early trade with India and the Mediterranean world. We visited the laterite vihar base which is maintained by the FAD but were only able to find one undiagnostic sherd. The nearby Wat Dong Sak has a rich collection of antiquities from this and other sites in the neighborhood. Unfortunately the Abbot was away and very little material could be seen or photographed.

A few hundred meters downriver is a location which we called BPT 2 where some 30 years ago the villagers found a skeleton, apparently without any grave goods. This spot is now under sugarcane cultivation and nothing could be seen. Almost opposite lay the ruins of Chedi Nai Ma (CNM, 20 on Fig. 1) where an Italian architect, Manfredi, working for the FAD in 1927, "excavated" the ruins of a small chedi with fine stucco decoration. This site, though heavily overgrown, is recognizably the same as in the photograph published by Coedès (1928).

BTKC	10	Ban Tung Ketchet	99 56' E	Suphanburi
			14 14' 30" N	

The site lies 2 km southeast of route 321 and is reached by a lane at km post 125, opposite Wat Chai Mongkon. A large and very fine etched bead, similar to ones from Ban Don Ta Phet and Kok Samrong (27), was obtained by a bead digger here a few years ago and is now the mascot and advertising logo for a small shop selling spices in U-Thong. Along the tracks between the sugarcane fields are many bead diggers' pits and spoil heaps, some with fragmented sherds and bones. A house at Mu 2 had a big collection of agate, carnelian, and glass beads, and it was said that several gold beads, including one in the form of an elephant, had been found in the locality. A spirit shrine, containing many bones and pots from burials disturbed in the fields, was located about half a kilometer from the house. The site may be largely Early Historic but could include some pre-Dvaravati material. Some 55 rims (Fig. 5c–g) and body sherds, one spindle whorl, human teeth and bones, and a fragment of a solid cast copper or bronze bracelet were among the materials collected.

BTM 1	11	Ban Tha Manao 1	99 16' 58" E	Kanchanaburi
			14 09' 56" N	

This is a surface location on the second terrace of the Kvae Yai river which was excavated a few years ago by Plidatet of the Department of Archaeology, Silpakorn University. It is said to be a Hoabinhian site but we could not find any convincing flaked stone artifacts on the surface or from the eroding sections of Plidatet's excavation trench.

BTM 2	12	Ban Tha Manao 2	99 16' 50" E	Kanchanaburi
			14 09' 52" N	

This location is in the village of this name, near the river, on the second terrace. Following surface indications, a small excavation was made there in 1980 by Mr. Banterng (U-Thong Museum) when a skeleton with pottery was found. This skeleton was lifted whole, and we saw it in the office of Mr. Asawin, a journalist, in Kanchanaburi. We were also told that some time later teachers from the Kanchanaburi Teachers College had dug out three more skeletons, at least one of which was said to be at the college; another was taken to Silpakorn University. Some scattered pottery and one chalcedony adze were found. The site appears to be Late Neolithic in age.

BTM 3	13	Ban Tha Manao	3	99 16' 48" E	Kanchanaburi
				14 09' 52" N	

A short distance upstream from BTM 2 a landing place had been bulldozed down to the river, and one burial was disturbed. In the exposed section some pottery could be seen about 40 cm below the surface, and a small, but undiagnostic collection was made.

BTNI	14	Ban Tha		99 35' 30" E	Kanchanaburi
		Nong Jang		13 59' N	

We had been told about this site by Pisit Charoenwongsa, who published a note on his visit in the *Silpakorn Journal* (Charoenwongsa 1972). An electricity pylon had been erected at House 2 in the village in 1971, and a number of stone axes, iron and bronze fragments, carnelian beads, and stone bracelets had been found about 2 meters below the surface. At the time of our visit most of the finds that had been in the monastery of Wat Tha Lo had been dispersed, and some beads, which were said to be in the house of one of the villagers, could not be found. Further excavation here might be worthwhile as the villagers say that the site has not been looted. The material finds suggest a date from the Iron Age through to the Early Historic period.

BYS	15	Ban Yang Sung		99 28' E	Kanchanaburi
				14 29' N	

We were told of this site by Mr. Prasert of the FAD, Archaeology Division, U-Thong, who had made a small excavation here a few years ago with Mr. Asawi, also of the FAD. The site lies in a sugarcane plantation on the second terrace of a small stream, the Lam Taphon. Plowing has unearthed much pottery, many ground adzes in various stages of preparation, and chalcedony flakes from the manufacture of adzes and stone bracelets. Among the pottery are some thick, lens-shaped everted rims (Fig. 4*d-f*) with red slip, like those of Ban Phai Si (8). Ban Yang Sung may be the site at Bo Ploi visited in 1970 by Vidhya Intakosai and again in 1972 by van Liere, van Heekeren, and Hooijer (Intakosai and van Liere 1979). They reported their site to be a Holocene "living floor . . . in the long line of pebble cultures, common in the Far East." However, they reported no pottery, which is abundant at Ban Yang Sung, and it is more probable that these are separate, but nearby locations.

BWK	16	Bang Wang Khon		99 53' E	Suphanburi
				14 21' 20" N	

This site lies across the River Chorake Sampan from Ban Nalao near km post 129 on route 321, and it may be an extension of the same settlement area. Dr. Pornchoi is said to have excavated one trench to the north of House 6 of Ban Wang Khon. The whole area had been extensively disturbed by bead diggers. Finds were scarce, and only 22 rims and a dozen or so other sherds were found. One large, unfinished shouldered adze and one small lenticular adze (Fig 6a) were found, and a few of the sherds seem close to the ones we regard as "neolithic" from BYS and BPS. The collection included some Early Historic wares and some glazed stonewares undoubtedly from the Late Historic period. Later in a house in Ban Mu 5, Chorake Sampan, we were shown more pottery and small finds which are said to have come from bead diggers' pits on this site (Fig. 6b-c).

CDO	17	Chedi O, Ban U-Thong	99 53' 45" E 14 22' 30" N	Suphanburi
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This is a ruined chedi which does not appear to have been given a number on the FAD's plan of U-Thong historical sites. It lies immediately behind and about 100 m from the U-Thong Museum, within the walls of the old town. Sherds (Fig. 6d-g), stucco fragments, and slag litter the surface of a modern banana and sorghum garden. We were told that the site had been thoroughly dug over by treasure hunters two years earlier. Provisionally it has been ascribed to the Early Historic period.

CD 1NW	18	Chedi 1, Ban U-Thong	99 53' E 14 22' N	Suphanburi
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This may be the location mentioned by Boisselier (1965, 1968) where students excavated while the FAD and the French team were clearing and restoring Chedi 1. It lies about 150 m northwest of the chedi, and is a low mound with a recent Chinese cemetery occupying part of it. Only four sherds were collected, three red-slipped rims and one corded body sherd. Despite the poor sample we felt that this might be a Late Prehistoric rather than Early Historic site. If the burials and pottery illustrated by Boisselier could be traced and properly published this locality might be worth more investigation.

CD 3	19	Chedi 3, Ban U-Thong	99 53' 40" E 14 22' 20" N	Suphanburi
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A few weathered sherds, iron slag, a kendi spout, and one base of a celadon vessel were collected immediately to the west of Chedi 3 in the old town of U-Thong. This site probably belongs to the period when the chedi was in active use and can be assigned to the Early-Late Historic periods.

CNM	20	Chedi Nai Ma, Ban Pong Tuk	99 47' 40" E 13 53' 20" N	Kanchanaburi
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This is almost certainly the site uncovered by Manfredi in 1927 and published by Coedès (1928). It is now heavily overgrown and has probably been looted since that time. No pottery was found, but some fine pieces of stucco decoration from the laterite chedi, similar to those illustrated by Coédès, were collected and have been deposited at the U-Thong museum. The site lies a little downstream from the more famous vihar at Pong Tuk (9).

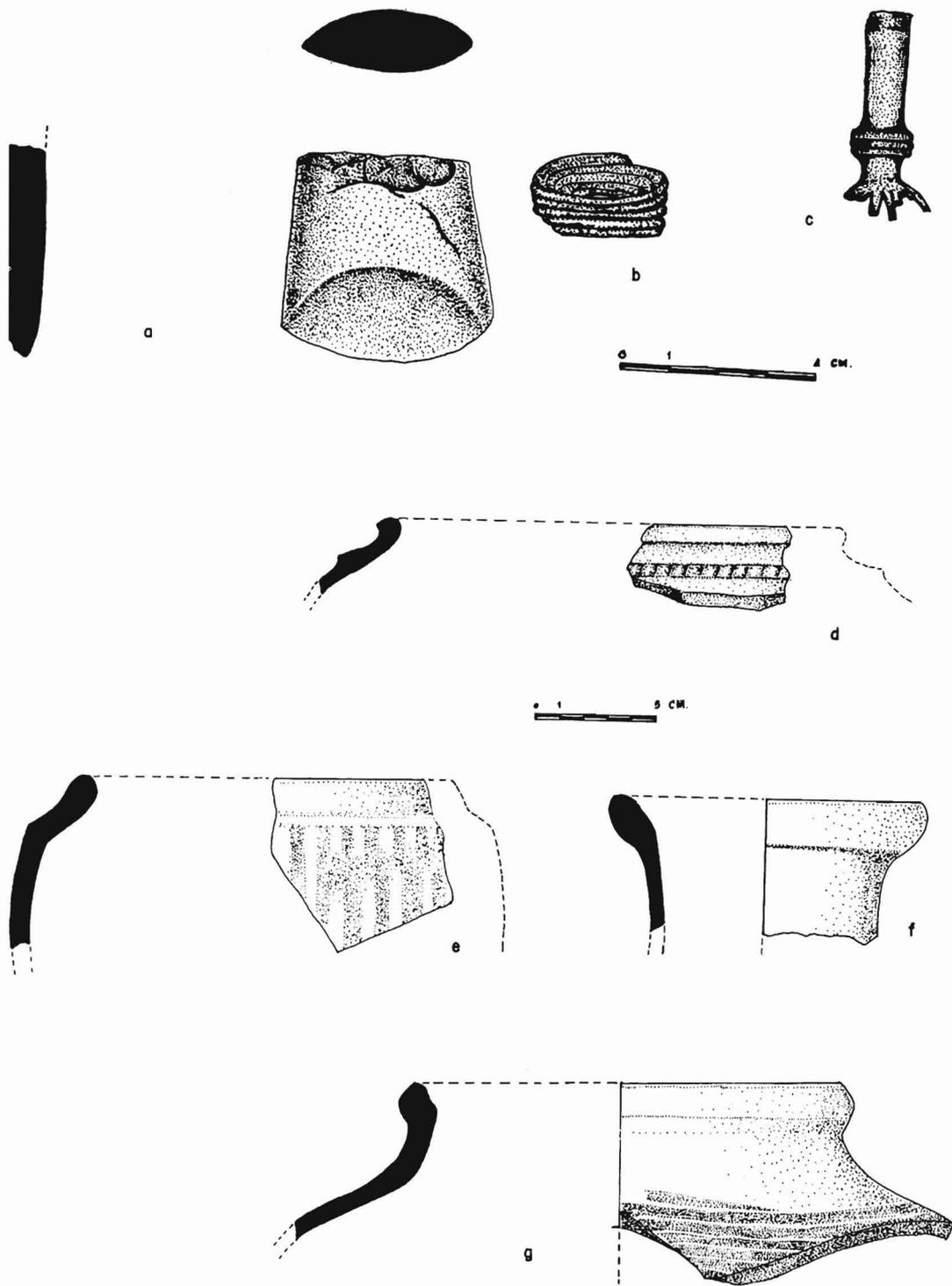


Fig. 6 *a-c* from Ban Wang Khon (site 16). *a* is a ground stone "neolithic" style adze of a form commonly found around the U-Thong district, but very widely distributed in Southeast Asia. *b* is a copper or bronze spiral ring, and *c* is a fragmentary bronze that is suggestively like a broken piece of one of the bird figurines known from Ban Don Tha Phet. These pieces came from a bead digger's collection after the saleable items had been disposed of. *d-g*, from Chedi O (17), are all fairly high-fired wares of probable Early Historic age.

DBCC 21	Don Pacha (canal)	99 58' E 14 28' N	Suphanburi
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This site is an extensive, low unoccupied mound near Ban Plai Nam between Don Chedi and Suphanburi. The site was bulldozed, in part, to extend rice fields and, following the finds made, was looted by bead diggers. At the southern end the mound had been cut by a recent small canal and some Early Historic sherds (Fig. 7*a–b*) were collected which are very like those from the Tha Muang mound at U-Thong (29). Because this part of the mound appeared to lack the more obviously recent glazed and Late Historic wares found on the higher part of the mound to the north, we attribute this locality, provisionally, to the Early Historic period.

DBCM 22	Don Pacha (mound)	99 58' E 14 28' N	Suphanburi
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The northern, and higher, part of the Don Pacha mound is listed as a separate site because of a concentration of Late Historic wares, probably from the Sukhothai and Ayutthya periods, as well as abundant Early Historic ceramics (Fig. 7*c–d*). In addition to the pottery, a fragment of a solid cast copper alloy bracelet and some fragments of dressed stone were found.

DCK 23	Don Chedi, Kanchanaburi	99 41' 35" E 14 03' 20" N	Kanchanaburi
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This is one of two localities said to be the site of the battle in about 1587 when King Nasruen of Ayutthya defeated the Burmese invaders. A small chedi commemorates the event. Villagers have found many iron tools, weapons, armor, and elephant chains in the area, and a FAD excavation yielded similar items. Some are on display in the Kanchanaburi Tourist Authority office. The fields immediately to the north of the memorial chedi are rich in glazed and earthenware ceramics of the Late Historic period, and numerous fragments of iron slag were noticed. The latter seem to be concentrated on the north edge of the pottery distribution.

DMK 24	Don Makhak	99 43' E 14 12' 15" N	Kanchanaburi
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This is a low mound among rice fields close to the new canal being built from Tha Muang (Kanburi) to U-Thong. A small bronze image of the Buddha of the Ayutthya period was said to have been found during work on the canal, and a considerable number of glazed and other Late Historic sherds (Fig. 8*a–d*), iron slag, and brick fragments were found near a large tree by one of the canal access roads. Some pieces from the site, including a fine late style four-legged pestle and rubbing stone, are held at the Wat Salavanaram at Ban Don Ta Phet.

DMK 2 25	Don Makhak	99 58' E 14 29' 50" N	Suphanburi
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The site lies under a modern village of this name between U-Thong and Don Chedi, off route 8230 (the U-Thong–Ban Khong road). The area has been dug regularly for beads since about 1978 and substantial collections are held in the village, especially in House 7, Don Tahai, Tambon Saed Kaeo. The area over which finds have been made is very extensive, and this suggests a very large village or unmoated town similar to Ban Nalao. The bulk of the ceramics seem to be Early Historic, and many specific comparisons could be made to the pottery from

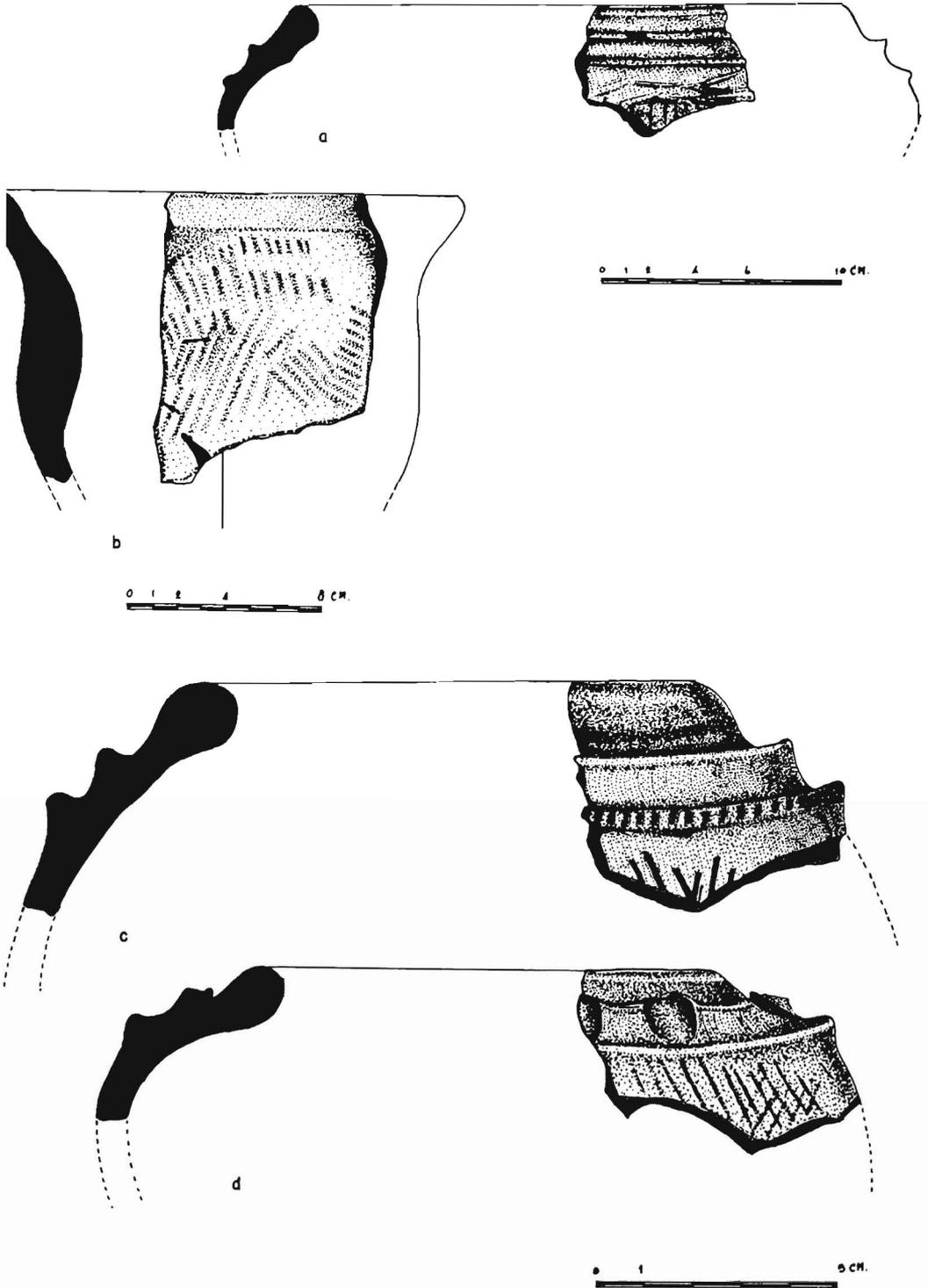


Fig. 7 Sherds from Don Pacha. *a* and *b* are from the canal section (site 21) and *c* and *d* are from the mound (site 22). All the sherds illustrated are typical of Early Historic forms, although later high-fired and glazed wares were also found at the mound site.



Fig. 8 *a-d* from Don Makhak (site 24) and are all high-fired unglazed wares typical of the Late Historic period. *e* and *f* are from Tha Muang (site 29). *e* is a carinated and ridged bowl typical of the Early Historic period, and *f* may be a crucible or vessel for some specific industrial purpose.

Tha Muang, U-Thong, although some later glazed wares were also collected. Despite the illicit digging this is an important site worth further investigation.

HTK 1	26	Huai Ta Khon	99 16' 55" E	Kanchanaburi
HTK 2			14 11' 10" N	

There are two locations along route 3199 about 2 km past Ban Tha Manao where archaeological materials have been found during excavation. Sood Sangvichien is said to have excavated about 200 m south of the road in 1968, finding at least one skeleton and some polished stone adzes together with pottery. This material is in the Museum of Prehistory at Mahidol University, Bangkok. The Archaeology Club of Bangkok excavated north of the road in 1980, under the direction of Mr. Manoon. We were told that the finds from this work were the subject of a current master's degree project by a student at Silpakorn University. We have labelled these two sites HTK 1 and HTK 2 respectively. Trenches were still visible but no artifacts could be found on the surface. We were told that scattered bones and pottery were recovered, perhaps from a habitation or rubbish tip site, but no burials or metal were found. We were not able to see the material or records from these excavations, but the surface indications did not suggest that further work would be very rewarding.

KSR	27	Kok Samrong	99 54' E	Suphanburi
			14 25' 50" N	

The site, which lies by route 8230 (U-Thong–Ban Khong), 6 miles north of U-Thong, is a mound that was bulldozed a few years ago to extend the surrounding rice fields. Burials with pottery, metal artifacts, and beads were noticed and the site was then extensively looted. We were told that up to 1000 people were digging there for antiquities. Many agate beads and at least one very large etched carnelian bead from this site were seen and photographed at a small dealer's shop in U-Thong town. Some sherds, including types from Prehistoric to Early Historic, were collected at the site. We noticed large quantities of human bone stacked in and below a new concrete chedi, built to commemorate the spirits disturbed by this vandalism. To judge from the small amount of material seen, this was an important archaeological site, now totally destroyed by agricultural development and bead collectors.

PIL	28	Pilok	99 32' 40" E	Kanchanaburi
		Mining Co. Store,	14 00' N	
		Kanchanaburi		

We were informed of this site by Pisit Charoenwongsa of the Division of Archaeology, FAD and visited it on 28 December. Apparently a skeleton had been found here many years ago when an access slipway was dug for the mining company through the first terrace of the Meklong River. Some of the finds made then are said to be kept at the nearby Wat Thai but they could not be found for our visit. The site is now a rubbish dump and, although a few sherds were found on the surface, they may be relatively modern.

Tha Muang is a big habitation mound (also given the name of Noen Ploeb Pla) within the ancient city of U-Thong, and appears to be primarily Early Historic (Dvaravati) in age. It was excavated on a limited scale some 17 years ago by a joint Thai-British team under Watson and Loofs, but only preliminary reports have been published (Watson and Loofs 1967; Loofs 1970). The site had been dug continuously by well-organized teams of treasure hunters for more than two years and at the time of our visit trenches up to 2.5 m in depth were standing. We were able to watch these illicit diggers systematically wet sieving all the screened earth. They showed us the beads (including some small granulated gold beads) and other small finds which they had just recovered.

Two intermittent layers of charcoal were visible in apparently undisturbed deposits, one about 70 cm and the other at about 1.5 m below the present surface. Below each charcoal lens was a layer of compacted yellow earth 3–4 cm thick which we tentatively interpreted as floors. At the eastern end of the mound is a banana grove around an old pond; fragments of slag were particularly abundant on the surface among the fruit trees. This may be the area where one of the trenches of Watson and Loofs was situated but unfortunately no map of the site at that time is available.

Over 15 kg of pottery were collected on four visits to Tha Muang mound, mostly from the spoil heaps of bead diggers. Included were three complete vessels and many large pieces as well as spindle whorls, painted sherds, fragments of metal, casting moulds, slag, glass beads missed by the treasure hunters, bricks, pieces of legged stone mortars and rubbers, and a great variety of rim, pedestal, and base sherds (Fig. 8e–f, 9).

TDD	30	Tham Da Duang	99 12' 50" E	Kanchanaburi
			14 13' 58" N	

This painted cave site, quite well known to archaeologists, is situated high in the limestone hills overlooking the Ta Thung Na Dam on the river Kwae Yai. It is approached by a track opposite the dam offices, and requires a steep climb through dry and prickly bamboo forest. Sood Sangvichien has recorded and published some of the rock paintings, which include a remarkable scene in which two men are carrying two large, round objects slung from a pole. This rock painting is sometimes interpreted as a Dongson-style drum, which is a plausible, if not the only possible explanation. Another panel portrays figures with arms and legs outspread. No cave earth deposits have been retained at this location as the floor slopes evenly towards the front. However, a few Hoabinhian-type pebble choppers were found scattered on the rock floor of the shelter by Mr. Kamnunkhet, and he retained them for the FAD collections.

TKSL	31	Tham Khao Sam Liam	99 15' 50" E	Kanchanaburi
			14 14' 55" N	

This is a cave site lying at about 270 m above sea level facing northeast on Khao Phu Prom hill. It is approached along a dirt track, 4–5 km long after leaving route 3199 toward the northeast just before the kilometer stone, 22 km from Ban Yat La. This site has also been described by Sood Sangvichien (1977) who conducted an excavation there. We were told that Mr. Chin Youdi had also excavated at this site but we could not find any reference to a published report. Sangvichien reported it

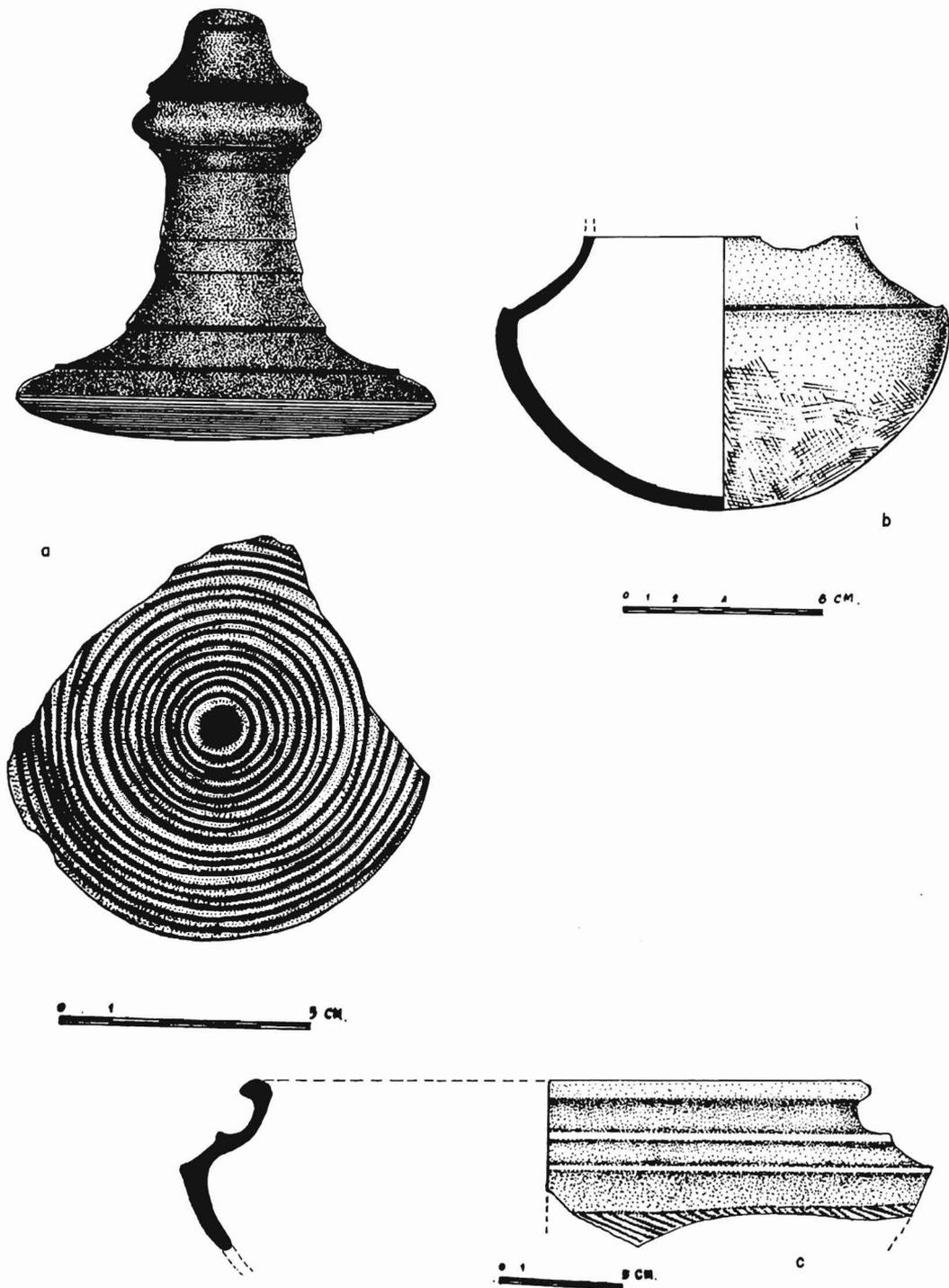


Fig. 9 Pottery from Tha Muang (site 29). *b* and *c* are typical Early Historic carinated bowls, while *a* is a very finely made example of the enigmatic "tampons" commonly found on Early Historic sites such as U-Thong, Chansen, and Nakom Pathom. Much more crudely executed samples were also recovered from the treasure hunters' waste heaps at U-Thong.

as a neolithic burial cave with the pottery showing strong resemblances to that from the cemetery of Ban Kao (Sørensen and Hatting 1967), which has been dated to the second millennium B.C. Since Sanvichien's work there the site has been extensively disturbed by treasure hunters and guano diggers, and we found that the cave floor was littered with sherds, small shell beads, and some polished stone adzes. A collection was made for comparative purposes.

TPAD	32	Tham Pu Ai Di	99 10' 10" E	Kanchanaburi
			14 14' 55" N	

This is another burial cave 200 m above sea level in limestone hills between the Kwae Yai and Kwae Noi rivers. The cave is further along the track leaving route 3199 by the Ta Thung Na Dam and past the base of the hill with Tham Da Duang painted cave. It lies above the stream Huai Thap Sila and is approached by a forestry track from Ban Thap Sila. This is a deep cave facing northeast, with the entrance obscured by massive rock falls from the cliff above. We were told that it had recently been found by villagers looking for fertilizer, and there had been much digging at the time of our visit. At least ten "boat"-shaped hollow log coffins more than 3 meters long and some 70-80 cm wide had been piled haphazardly at one side of the main chamber by the guano diggers. Some contained bones and pottery and more were scattered on the floor. Some had probably been placed in the coffins following the digging, and we were far from clear as to whether the pottery came from other burials or habitation deposits in the cave floor, or whether it had all been contained within the wooden coffins. The coffins closely resemble those reported by Sørensen (1974:137) at the nearby cave of Tham Ongbah on the Kwae Yai. One of these has been dated to 2180 ± 100 B.P. (K-1300).

Only one kilo of pottery could be collected as the cave was very dark and we lacked adequate lights. This sample contained some corded body sherds and 17 rims (Fig. 10*b-d*) with a very fine black slip, sandy temper, and some with a little red painted decoration. One damaged "boat coffin" was taken by our party for display at the U-Thong Museum, and Mr. Banterng intended to send a team to collect one of the well-preserved examples for the U-Thong Museum.

UTM	33	U-Thong Museum	99 53' 45" E	Suphanburi
			14 22' 30" N	

During the laying of a water pipe in the Fine Arts Department compound to the north of the access road to the museum, the trench cut through a rich black layer with numerous sherds and small finds. This trench lay below a concrete platform which was said to have been the base of the old museum building built in the reign of King Rama VI. Some of the larger sherds were collected from the workmen for comparison with those from the Tha Muang mound. It is probable that the area had been disturbed and that the collection was of mixed periods and contained some quite recent pottery.

WKK	34	Wat Kanchanaburi Kao	99 24' 20" E	Kanchanaburi
			14 06' 50" N	

This is the site of old Kanchanaburi town until it was moved to its present location at the junction of the Kwae Noi and Kwae Yai rivers by King Rama IV in the mid-nineteenth century. It lies on the north bank of the Kwae Noi just past the

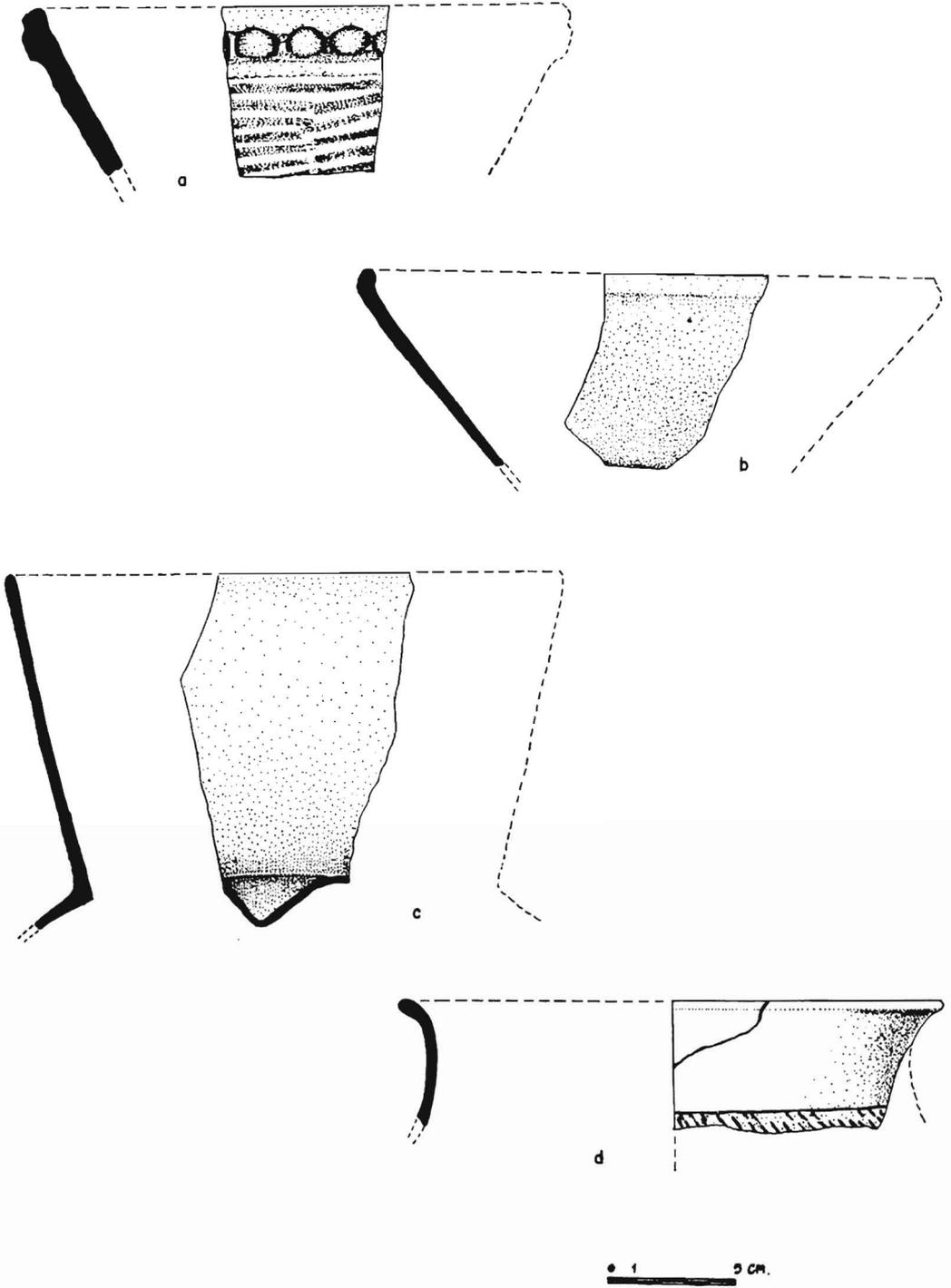


Fig. 10 Pottery from the Iron Age burial cave of Tham Pu Ai Di in the Kwaie Noi and Kwaie Yai watershed region (site 32). This cave had been badly disturbed by guano diggers and it is unclear whether the pottery was found in the hollow log coffins or had been included with other burials in the cave earth.

junction of routes 323 and 3199 and can be recognized by the Ayutthya period chedi along a track opposite the fourth kilometer post of 3199.

A high school was recently built within the area of this old frontier fortress and a number of antiquities had been found and are preserved in the headmaster's office. These include items that seem to range from Prehistoric to the early Bangkok period. Some objects were generously given to us by school officials, and the more interesting items in the collection were photographed. Surface collections by our party yielded only Late Historic and Bangkok period pottery, but we recorded some small, cone-shaped lead ingots—probably from the lead mines further up the Kwae Noi—socketed iron tools, and two examples of the *lien* type of bill hook of which the only other recorded examples I know come from Ban Don Ta Phet. We were told that polished stone adzes had also been found in the area by schoolchildren and villagers, but there were none in the school collection at the time of our visit. The area seems a promising one for a more detailed survey and test excavation.

WL	35	Wat Luang	99 50' E	Suphanburi
			14 20' 30" N	

Close to the better-preserved Wat Nong Chik, lying among rice fields, this ruined, late Ayutthya period chedi is approached by a meandering track barely suitable for a four-wheel drive vehicle, which leaves the Kanchanaburi–U-Thong road near kilometer post 132. The chedi was visited by Prince Damrong some 80 years ago, hence its present name. About 3 kg of pottery were collected from the surface from around the chedi, including high-fired earthenwares, some carved or stamped, some glazed porcelain, and brown-glazed stonewares resembling Khmer pottery. Some legged vessels and tile fragments were found. The collection is in keeping with the late Ayutthya period attributed to the chedi Wat Luang, but near Wat Nong Chik a Chinese cemetery on a small mound has thrown-up pottery which probably belongs to an earlier period. Our field notes refer to this pottery as “pre-Dvaravati” but the sample collected was too small to yield more than an impression of greater antiquity.

SUMMARY OF RESULTS FROM THE SURVEY

In the Preliminary Report on the survey (Glover 1983), which was submitted to the Fine Arts Department and to the National Research Council of Thailand, I suggested that the 35 sites visited between 8 December 1982 and 5 January 1983 could be grouped, with varying degrees of confidence, into six chronological and cultural phases (or seven if the much older Hoabinhian sites are included) spanning several thousand years. Since writing that report we have had no substantial new evidence for the archaeology of west-central Thailand, and I have no reason to revise that grouping to any substantial extent. However, it should be reemphasized that the attributions and dating in that report, and repeated below, are very preliminary and provisional; perhaps they are no more than tolerably well-informed guesses. Subsequent work on these sites—if it takes place—could show that some sites are quite wrongly dated, and others may show long multiperiod occupation where I have suggested the contrary. However, it seemed worthwhile to try to group these sites on the basis of the surface collections and also to see if we could make generalizations about the settlement history of the region on the basis of our

TABLE 1. PRELIMINARY PERIODIZATION OF SITES IDENTIFIED IN SURVEY

PHASE	APPROXIMATE DATE	SITES
1. Hoabinhian	10th-3rd Millennia B.C.	BTM 1, TDD
2. Neolithic settlement	3rd-2nd Millennia B.C.	BPS, BYS, HTK 1 & 2
Neolithic burial	3rd-2nd Millennia B.C.	BTM 2 & 3, TKSL
3. Iron Age burial	1st Millennium B.C.	TPAD, PIL
4. Iron Age- Early Historic	1st Millennium B.C.- 1st Millennium A.D.	BDK, BNL, BPN, BTNI, BTKC, BWK, CD 1, KSR, WKK
5. Early Historic	1st Millennium A.D.	BPT, CDO, CNM, DBCC, TM, UTM
6. Early- Late Historic	1st-2nd Millennia A.D.	CD3, DBCM, DMK 2, WKK
7. Late Historic	2nd Millennium A.D.	BKR, BCS, DCK, DMK, WL

small, and anything but random, collections (Table 1). It can be seen that the largest group of sites is in the Iron Age-Early Historic category, and this is where Ban Don Ta Phet can also be placed. To some extent this placement can be explained by the fact that sites of this age often contain beads and other saleable antiquities, they have been pillaged most, and both the villagers and archaeologists know about them.

One of the aims of the survey was to locate sites similar, contemporary, and, hopefully, functionally related to Ban Don Ta Phet. We failed to do this with any certainty. Sites from which the materials did exhibit some similarity to those from BDTP, such as Kok Samrong (27), BTKC (10), and WKK (34), were either very badly disturbed or were clearly multiperiod sites, and other than in one or two beads we could not see the close and specific links that we sought. Although disappointing in terms of our hopes, this is an interesting result for which there are several possible explanations. First, most of the sites we visited had been extensively disturbed, some even totally destroyed, through the combined efforts of agricultural developers and treasure hunters. Second, our sampling methods under the varying conditions of the sites were, of necessity, inconsistent and inadequate to yield a full representation of all archaeological materials. However we can advance some hypotheses to account for the lack of site comparable with Ban Don Ta Phet.

1. Ban Don Ta Phet is earlier than the other sites in Group 4 above, but later than the Iron Age cave burials in Group 3.
2. The culture represented at Ban Don Ta Phet represents an alien and intrusive group in west-central Thailand, and other sites of the culture will be rare and have yet to be recognized.
3. Ban Don Ta Phet is a special-purpose, perhaps unique, site, such as the funerary site of an elite group within a political or religious hierarchy.

4. The ceramics of Ban Don Ta Phet are poorly made and fired, and contrast with the richness of the bronze and iron artifacts and the glass and semiprecious stone beads; they do not survive in identifiable form on the surfaces of disturbed sites such as those we visited. Thus we may have failed to recognize sites similar and contemporary to Ban Don Ta Phet.

At present I am unable to discriminate between these and perhaps other possibilities.

Among the six sites identified as Neolithic only TKSL can be reliably linked to a known archaeological culture—the Ban Kao neolithic of the Kwae Noi and Kwae Yai valleys of the late third to mid-second millennia B.C. (Sørensen and Hatting 1967; Pookajorn 1984). Two of the sites that were tentatively characterized as neolithic, Ban Phai Si (12) and Ban Yang Sung (15), yielded a rather different and distinct pottery which included a number of red-slipped vessels with restricted necks and thick, lenticular sectioned rims (Fig. 4e). One of these, BYS, is clearly a production site for flaked and polished adzes and arm rings of some significance. I believe that these sites may belong to a new, or yet barely recognized, local neolithic tradition in the Bo Ploi–U-Thong region, and need further investigation.

During the survey we found no evidence of a local Bronze Age culture preceding the use of iron for tools and weapons in west Thailand: That is, something equivalent to the material from Non Nok Tha Early period 3–Middle period 5 (Bayard 1971) or Ban Chiang (Gorman and Charoenwongsa 1976; Schauffler 1976; White 1982) or sites such as Ban Nadi (Higham and Kijngam 1982) in the northeast of Thailand. Similar materials such as cast socketed copper alloy axes and bivalve moulds are known from the eastern part of the central plain, for instance around Lopburi (Ho 1983), and we saw some in the Don Chedi (Suphanburi) area from Don Makhak (DMK 2, 25), but nothing farther to the west. This is not an original observation; indeed, it has been made quite recently by Surapol Natapintu (1982) in his synthesis of the Bronze Age cultures of Thailand. Our survey records confirm this.

The lack of a Bronze Age in west Thailand may help to explain the apparently rapid acceptance and dominance of iron when it came, probably in the middle of the first millennium B.C. (Bronson 1984). By the start of the pre-Christian era at Ban Don Ta Phet, wrought iron, or in some cases mild steel, was being used for all edged tools and weapons and bronze was in use only for ornaments and containers. Over 1000 iron artifacts were recovered during the three excavation seasons, and we found only one polished stone adze. This stone adze had been fire-shattered into widely scattered fragments on the edges of burial context 46, and whether or not it was an intentional part of the grave furnishings is far from clear. At contemporary sites in the northeast of Thailand and North Vietnam, where bronze had been widely used since at least the end of the third millennium B.C., we find bronze and iron (and perhaps also stone) coexisting, apparently in contemporary use for functional tools and weapons.

Another result of the survey has been the demonstration that “Indianization” in west-central Thailand did not mark a complete break with the past. Many ceramic types persist from the late prehistoric Iron Age into the Early Historic period and many sites demonstrated some continuity of settlement, although it seems clear

that new settlements developed in the first millennium A.D. on the poorly drained lowlands of the central Chao Phraya plain.

We found that many of the sites that did exhibit some continuity into the Historic period on the basis of ceramics, beads, and some iron types—such as Ban Don Ka, Ban Nalao, Ban Phai Nam, Ban Tung Ketchet, and Kok Samrong—were those that suffered the most destruction due to deep plowing and looting for antiquities. Many of these sites seem to have been so extensively disturbed that excavation appears to be unjustified.

One problem of this survey remains unresolved: the identification for future excavation of habitation deposits relating to the cemetery at Ban Don Ta Phet. Given the lack of surface finds in the village other than those clearly emanating from the modern settlement, it is difficult to see how identification can be achieved unless by accident or if a bulldozer turns up relevant material.

At various places in this report I have called attention to the destruction of sites through agricultural development and by treasure hunters seeking ancient beads and other relics for sale. Although this latter activity is, I believe, illegal under Thai law, it was still being actively pursued on a number of sites of which the most important was the Noen Ploeb Pla mound at Tha Muang in the ancient city of U-Thong (TM, 29 in this report), only a kilometer or so south of the Museum. Many other Early Historic sites that we visited, such as Kok Samrong, Ban Don Ka, Ban Nalao, Don Pacha, Ban Plai Nam, Ban Tung Ketchet, Ban Wong Khon, and Don Makhak 2, as well as some prehistoric sites such as Tham Khao Sam Liam and Tham Pu Ai Di, have been destroyed as useful archaeological sites as a result of treasure hunting. The extent of the damage is enormous. Unless this illicit digging is curbed, it is doubtful if it will be possible to arrive at a satisfactory understanding of the emergence of the Early Historic states of west-central Thailand from the archaeological remains in the region.

In the preliminary report of this season (Glover 1983) I made some recommendations for future work, in particular, I suggested that specific protection be given to some important sites by the Fine Arts Department, and that at sites such as Ban Don Ta Phet, where looting has been minimal, further archaeological excavation should be considered before it is too late. Since writing that report the FAD gave permission for us to continue the work started there in 1980–1981, and this took place over the dry season of 1984–1985. A preliminary report on this work has been submitted to the National Research Council and the Fine Arts Department.

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Figure 1 was drawn in London by Miss Harvey de Vere Ellery and is based on the 1:250,000 map series. Figures 2–10 were drawn in Thailand by Mr. Nara Yingmahisaranon.

REFERENCES

- BAYARD, DONN T.
1971 *Non Nok Tha: The 1968 Excavation, Procedure, Stratigraphy, and a Summary of the Evidence*. University of Otago Studies in Prehistoric Anthropology 4. Dunedin.
- BENNETT, ANNA
1982 *Metallurgical Analysis of Iron Artifacts from Ban Don Ta Phet, Thailand*. B.Sc. report. London: Institute of Archaeology.
- BOISSELIER, J.
1965 Recent recherches archéologiques en Thaïlande. *Arts Asiatiques* 12:125–174.
1968 *Nouvelles connaissances archéologiques de la ville d'U-Thong*. Bangkok: Fine Arts Department.
- BRONSON, B.
1984 Notes on the history of iron in Thailand. Duplicated.
- CHAROENWONGSA, PISIT
1972 More finds from Kanchanaburi. *Journal of the Faculty of Archaeology, Silpakorn University* 3(4).
- COEDÈS, G.
1928 The excavations at P'ong Tuk and their importance for the ancient history of Siam. *JSS* 21:195–209.
- GLOVER, I. C.
1983 Preliminary report on the West-Central Archaeological Survey, November 1982–December 1983. Duplicated.
- GLOVER, I. C., PISIT CHAROENWONGSA, B. ALVEY, AND NAWARAT KAMNOUNKHET
1984 The cemetery of Ban Don Ta Phet, Thailand: results from the 1980–81 excavation season. *South Asian Archaeology 1981*, edited by B. and F. R. Allchin, pp. 319–330. Cambridge: University Press.
- GORMAN, CHESTER, and PISIT CHAROENWONGSA
1976 Ban Chiang: a mosaic of impressions from the first two years. *Expedition* 18(4):14–26.
- HIGHAM, C. F. W., AND AMPHAN KIJNGAM
1982 Ban Nadi, N. E. Thailand: further radiocarbon dates. *Southeast Asian Studies Newsletter* 7:1–3.
- HO, CHUI-MEI
1983 Bronze artefacts found in Lop Buri. In *Thai Treasures*, edited by Suraphan Yanthong, pp. 23–32. Bangkok: Krung Siam Publishing House.
- INTAKOSAI, VIDHYA, AND W. J. VAN LIERE
1979 A bi-facial stone industry from Bo-Ploi, Thailand. *Modern Quaternary Research in Southeast Asia* 5:27–33.
- LOOFS, H. H. E.
1970 A brief account of the Thai-British Archaeological Expedition, 1975–76. *APAO* 5(3):177–84.
- NATAPINTU, SURAPOL
1982 The development of prehistoric bronze metallurgy in Thailand. M.Sc. thesis, University of Pennsylvania.
- POOKAJORN, SURIN
1984 The Hoabinhian of Mainland Southeast Asia: new data from the recent Thai excavations in the Ban Kao area. Paper no. 16, Thai Khadai Research Institute. Bangkok: Thammasat University.

QUARITCH-WALES, H. G.

1936 Further excavations at P'ong Tuk. *Indian Art and Letters* 10:42-48.

SANGVICHEN, SOOD

1977 *Prehistoric pottery from Khao Sam Liam Cave. Kanchanaburi*. Bangkok: Ryankaeo.

SCHAUFFLER, WILLIAM

1976 Archaeological survey and excavation of Ban Chiang culture sites in Northeast Thailand. *Expedition* 18(4):27-37.

SØRENSEN, P.

1974 Prehistoric iron implements from Thailand. *AP* 16(2):134-173.

SØRENSEN, P., AND T. HATTING

1967 *Archaeological Excavations in Thailand, Vol. II: Ban Kao*. Copenhagen: Munksgaard.

WATSON, W., AND H. H. E. LOOFS

1967 The Thai-British Archaeological Expedition: a preliminary report on the work of the first season. *JSS* 55(2):237-262.

WHITE, JOYCE C.

1982 *Ban Chiang: Discovery of a Lost Bronze Age*. Philadelphia: University of Pennsylvania and The Smithsonian Institution.