

# EXCAVATION AT BAN WANG HI, LAMPHUN PROVINCE, THAILAND

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## *Abstract*

The cemetery of Ban Wang Hi, which lies on the left bank of the Kwang River, was found when a water tank was dug there in 1986, and first investigated by the Fine Arts Department the next year. From 1996 the Thai-French Prehistoric Research Project started systematic excavation there in collaboration with the F.A.D. and the Mission Archéologique Française. Four burials were excavated belonging to the same phase of the late prehistoric period which probably date to between the last centuries BC and the early centuries of the Christian Era. Research will continue in 1997.

## Introduction

In Southeast Asia, the beginnings of history and the establishment of a proto-urban society date back to the first centuries of our era. At this period, the contacts with China and chiefly with India, increased. India then had a great influence in religious and socio-political ideology. On the Southeast Asian mainland funeral sites provided the last witnesses of Bronze and Iron Age times.

In Thailand, the end of the protohistoric period is quite well-known in the north-eastern part of the country and on the vast plains of the Chao Phraya river valley. But the period is still not so well-known in the north. This moderately-high mountain and piedmont region was long thought to have stayed apart from the movements of the end of the last millennium BC in the great plains ideal for rice-growing.

A funeral site of Obluang (Santoni *et al.* 1988: 50-7) and random finds from Ban San

Pha Ka in San Kamphaeng and Ban Yang Tong Tau near the Doi Sakhet are still difficult to place in the chronological evolution of the northern cultures. These elements are also difficult to compare with those of the northeastern regions and the central plain.

The necropolis of Ban Wang Hi (Lamphun) is considered to be a reference for the protohistory of the north. The deposit, 3 km southeast of the provincial capital, lies on the left bank terrace of the Kwang River.

## Trial excavation No. 1

Trial excavation No. 1 is located northeast of the fish-farm tank, close to the scattered archaeological finds. Five human skeletons were discovered in this region, all of them facing southeast. Two of these skeletons seem to correspond to an individual deposit, and the three others were grouped together. Skeletons 1 and 2, discovered 30 cm from one another, were identified as being female, however, this sex determination is uncertain considering the poor condition of the remains. Skeleton 3 was identified as a male, and on his chest were found

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the skeletal remains and the upper part of the skeletons of two other individuals.

Near skeleton 1 a tool was found on the right side of the skull, and an iron blade on the left side of the right femur. In the middle of the body, the archaeologists found the fragments of a red polished vase, and at its feet, a rounded pot. Skeleton 2 also had three tools and an iron blade near its head. Similarly, an iron blade was discovered on the right of skeleton 3. Five stone tools and a dozen stone flakes were found at the inhumation level.

In the upper level, numerous vase fragments of the medieval Hariphunchai periods were discovered.

### **Trial excavation No. 2**

The second trial excavation was located about 25 meters southeast of the first. The two skeletons found there were in a very bad state of preservation. A deposit of glass paste beads was found about 30 cm from the feet of skeleton 1. The second person wore an arm band made of four bronze rings and was lying near two red paste vases. A chip of cut stone was found at the burial level. The upper level of this trial excavation also revealed shards from the Hariphunchai Period and fragments of polished stones. Finds in the paddy fields show that the cemetery extended beyond the zone of the trial excavations, both to the east and west.

### **The 1996 excavation (Trial excavation No. 3)**

This trial excavation was undertaken near the second excavation trench of 1987. Four more burial places – including one of a very young child – were discovered. This brings to eleven the number of burials found at the Wang Hi site (Figure 1). They all are associated with funerary deposits.

#### **Stratigraphy**

The present soil (Layer 1, 15 - 25 cm), a beige, brown or yellow-brown sediment, is

quite loose. In the northern sector this corresponds to the soil removed during the digging of the water tank which led to the site being discovered.

Layers 2 (5 - 10 cm), 3 (10 - 20 cm), 4 (40 - 60 cm) and 5 (a few centimetres only) are all made of a compact, dense and homogeneous, thin, muddy sediment, the colour of which varies from beige-grey to pinkish. This sediment holds greyish clayey deposits that may be due to former paddy field channels and ferruginous inclusions, which easily merge with the osseous tissue.

Layer 6 (30 cm) corresponds to the unaltered natural soil and appears between a depth of 1.3 and 1.6 m with a particularly dense ferruginous gravel. The base of the burial level is about 1.2 m below the present surface.

### **Funerary collections**

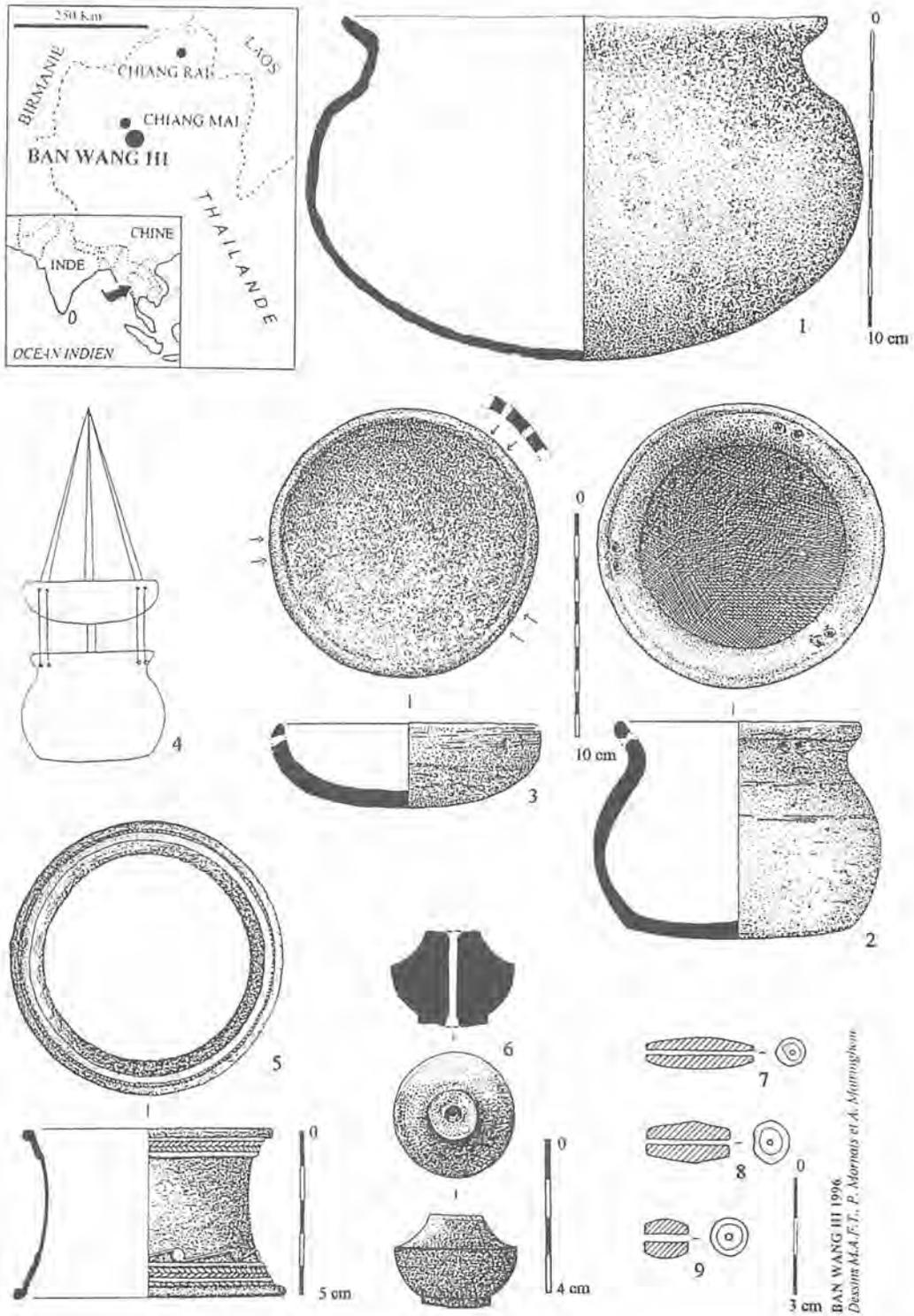
We were able to identify four burial places (a child and three adults) and a funerary deposit covered by a vase (Figure 1).

#### **Funerary deposit no. 96**

Near the child's burial place, but apparently not linked to it, we found a piece of pottery that had been deliberately placed upside down, in order to protect a deposit composed of a curved iron tool and a long necklace made of glass and agate beads. This deposit included a long necklace made of more than 250 glass paste beads and three agate beads together with a curved iron instrument. Similar deposits were observed in most protohistoric burial grounds in the region; for example at Ban Don Ta Phet.

The bones lie about 1.4 m below the present surface. They are very eroded and almost mineralised making the identification of small pieces of bone very difficult. The most fragile bones (hip bones, vertebrae and spongy parts) are often very damaged, or have even disappeared. While none of the burial places seems to have been altered, none has totally escaped damage

Excavation at Ban Wang Hi



BAN WANG HI 1996  
 Dessins M.A.F.T., P. Mornais et A. Matringhem

Figure 1. The location of Ban Wang Hi illustrating pottery, bracelet and beads from 1996 excavations (Drawing M. A. F. T., P. Mornais and A. Matringhem).

by termites, burrowing animals and roots.

The corpses had been laid down at the bottom of deep pits; the distribution patterns of artefacts (essentially pottery) show this and also a concentration of the fragments, above the burial places, from the upper layers onwards. The fill and surrounding sediments are very similar, both being very compact, white and of the same granulation. For the three adult burials of the same area, we cannot say whether it is a collective burial or individual graves. The partial superposition of the three skeletons within a few centimetres (skeleton 145 lies under No. 300, itself lying under skeleton No. 146) makes it difficult to determine with any certainty the chronology of the burials and to resolve whether this was a simultaneous collective burial or successive deposits spread over time. A very thin grey clay film seems to preserve the imprint of a container of some perishable material that would have protected the bodies laid in the pits.

All the burials are extended and supine and several taphonomic phenomena lead us to think that the corpses were wrapped in a kind of supple and flexible shroud such as vegetal matting or animal skin which provided some lateral compression.

#### Skeleton 96-1 (No. 145)

This skeleton is that of an adult, lying supine with its upper and lower limbs lying straight. Considering the position of the forearms, close together, and the small bones of the right hand grouped near the right coxal bone, its hands are apparently close to the pubis. A large root severely damaged the skeleton around the shoulder. There are only a few remains left of the badly damaged ribs and rachis. Coxal bones have disappeared. Foot bones, still in fairly good condition, have some loose connections. However, a large part of the right foot is missing.

The whole skeleton, head to the southeast is lying on a slope dipping slightly from north to south. The outline of a container is clearly visible along the sides. The left part

of the skeleton, and particularly the lower limb, seems to 'fit' against this outline.

#### Skeleton 96-2 (no. 146)

This skeleton is oriented southeast to northwest. The third body laid down in the grave has also many parts missing. The entire upper part of the trunk has been cut through by the same termite nest which damaged the above-mentioned burial. The skull, the rachis, the right upper member and right coxal bone have totally disappeared. The left forearm is parallel to the left femur. The hand is lying underneath the femur. The lower limbs, severely damaged, are lying straight. The few small bones lying at the end of these limbs could be the feet. Bad distortions can be noticed near the diaphysis of the two tibiae. They probably result from pathologies. The outline of the container appears here to be clearly defined along the sides.

#### Skeleton 96-3 (No. 300)

Skeleton 300, an adult, also lies supine, southeast to northwest, with its lower limbs lying straight. The right forearm parallel to the trunk is slightly askew. A concentration of small brown spots near the coxal bone possibly come from a small grain bracelet on the left wrist. The skull, which is seriously damaged, has been displaced by termites although the dentition of the maxilla is complete. Teeth are regular but deeply filed. Ribs, rachis and coxal bones remain incomplete. Tibiae are intact but amputated at diaphysis level by the passage of a root or burrow. Due to this, the distant segments and tibiae have been pushed a few centimetres downwards, among the upper trunk bones of the underlying burial 145.

Unlike the previous burial, the outline of the container does not clearly show. However, the position of some bones implies the existence of a larger container.

#### Skeleton 96-4 (No. 124)

Burial 124, partly preserved, is that of a very young child who was buried about 1.5 meters north of the adult skeletons, at a

similar depth. The head is clearly facing eastwards and the feet westwards. In spite of the damage near the skull caused by termites and a small burrow near the pelvis, it is clear that the skeleton is again supine. The position of the forearms is not clearly defined. One of them, displaced towards the pelvis, still has a small grain bracelet around the wrist.

A dentition examination by the Ubelaker method indicates that the infant was about one year old (+/- 4 months).

The fairly straight limit of the container, visible through a thin layer of clay, is clearly defined along the left side of the body. There is a regular gap between this and the line drawn by the bones. Two pieces of pottery, one on top of the other, overlay the burial.

This series of burials forms an apparently homogeneous whole: the grave goods were similar and the depth at which the bodies were buried as well as the orientation of the graves were the same.

The general state of preservation does not enable us to be accurate as to the age group of the buried people, except for the child who, according to the results of the dentition examination, died at about one year old. For these reasons, it is not possible to determine the sex of the skeletons. The slight orange-brown colouring that stains the enamel of most teeth found in the burials searched in 1987 and 1996 (especially that of the infant) were considered, in 1987, by the excavators to be traces of consumption of betel. The mastication of betel chew is still in practice nowadays in this area; it is the traditional privilege of women. The orange colouring seems to be the result of ferruginous oxidation and to have the same origin as the ferruginous gravel of the soil.

#### **Preliminary study of archaeological goods**

The materials excavated include pottery, personal ornaments and some lithic elements. We can note that charcoal is extremely scarce and that there is no trace of macro plant remains, excluding the grain

bracelet worn by the baby.

Personal adornments are the main objects found with the burials. These are objects worn when alive or ornaments specifically for funeral ceremonies, such as the little grain bracelet on the baby's wrist or the bronze arm band, composed of four bangles, on the adult's forearm. Iron tools were found only with the burials excavated in 1987 by the FAD.

#### **Personal ornamentation – glass beads**

More than 250 beads, perhaps from a necklace arranged in short one-colour series, were found inside the upturned vase in burial 54. They are all monochrome, of two colours only – blue-green and red-orange. Other isolated beads were discovered, in the upper levels as well as in contact with the adult skeletons. Another necklace, of 400 glass beads, was excavated in 1987, laid down close to the feet of a skeleton of indeterminate sex.

Two of these beads, one opaque orange-red, the other opaque green, and both from

	Orange-green bead	Orange-red bead
Sodium	12.24	10.17
Potassium	3.23	2.27
Silica	67.79	59.27
Alumina	9.81	5.20
Calcium	2.48	5.12
Lead	<0.1	0.10
Barium	0.19	0.18
Antimony	<0.5	<0.5
Copper	1.18	11.02
Manganese	<0.1	0.11
Magnesium	<0.1	1.02
Phosphorus	0.17	1.52
Sulphur	0.31	0.19
Chlorine	0.93	0.72
Titanium	0.93	0.69
Iron	1.23	2.23
Total	100.49	99.81

**Table 1.** Ban Wang Hi: composition of glass beads

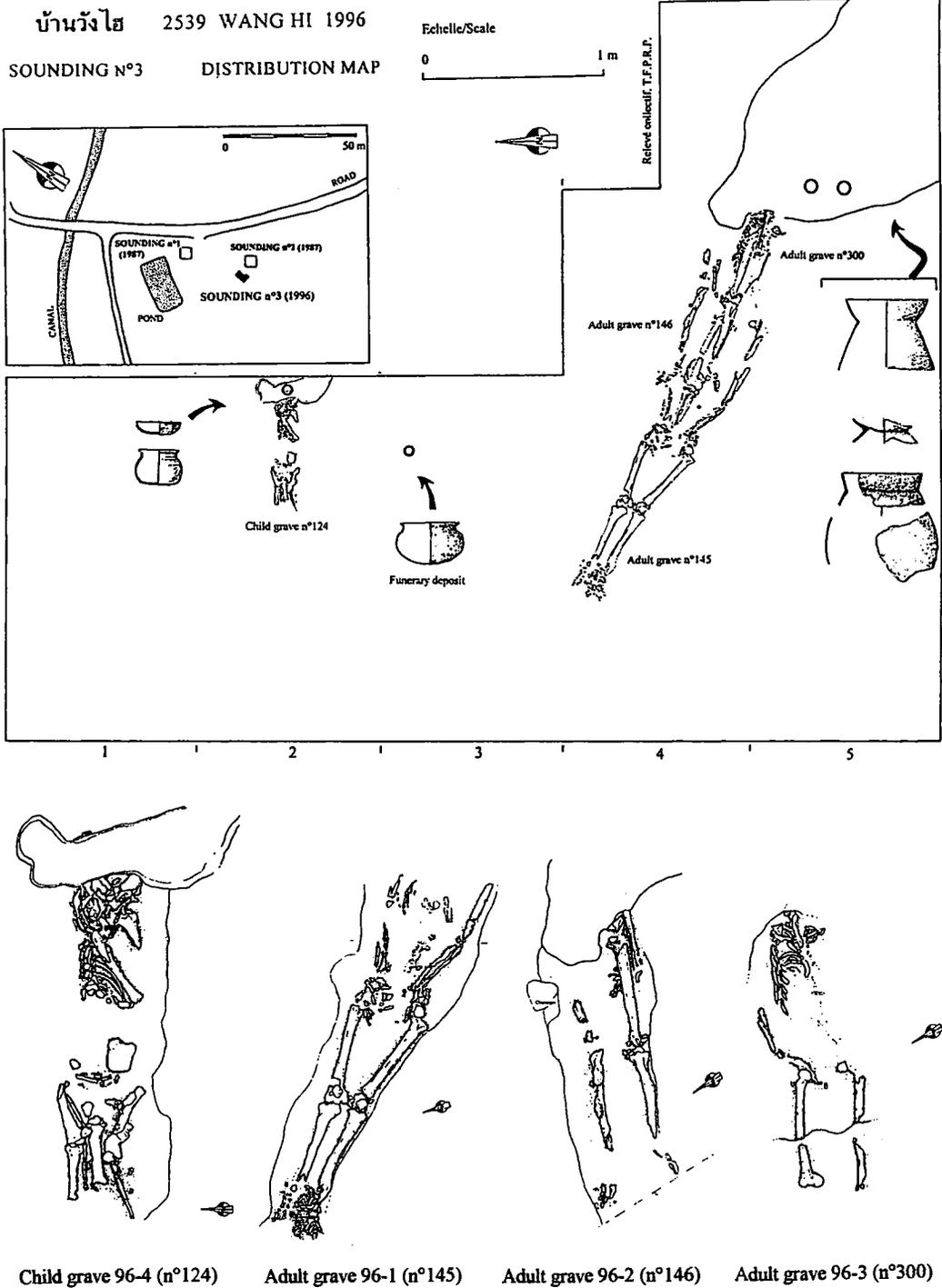


Figure 2. Ban Wang Hi: sounding No. 3, 1996. Location of burials and details of skeletons (Drawing M. A. F. T., P. Mornais and A. Matringhem).

Excavation at Ban Wang Hi

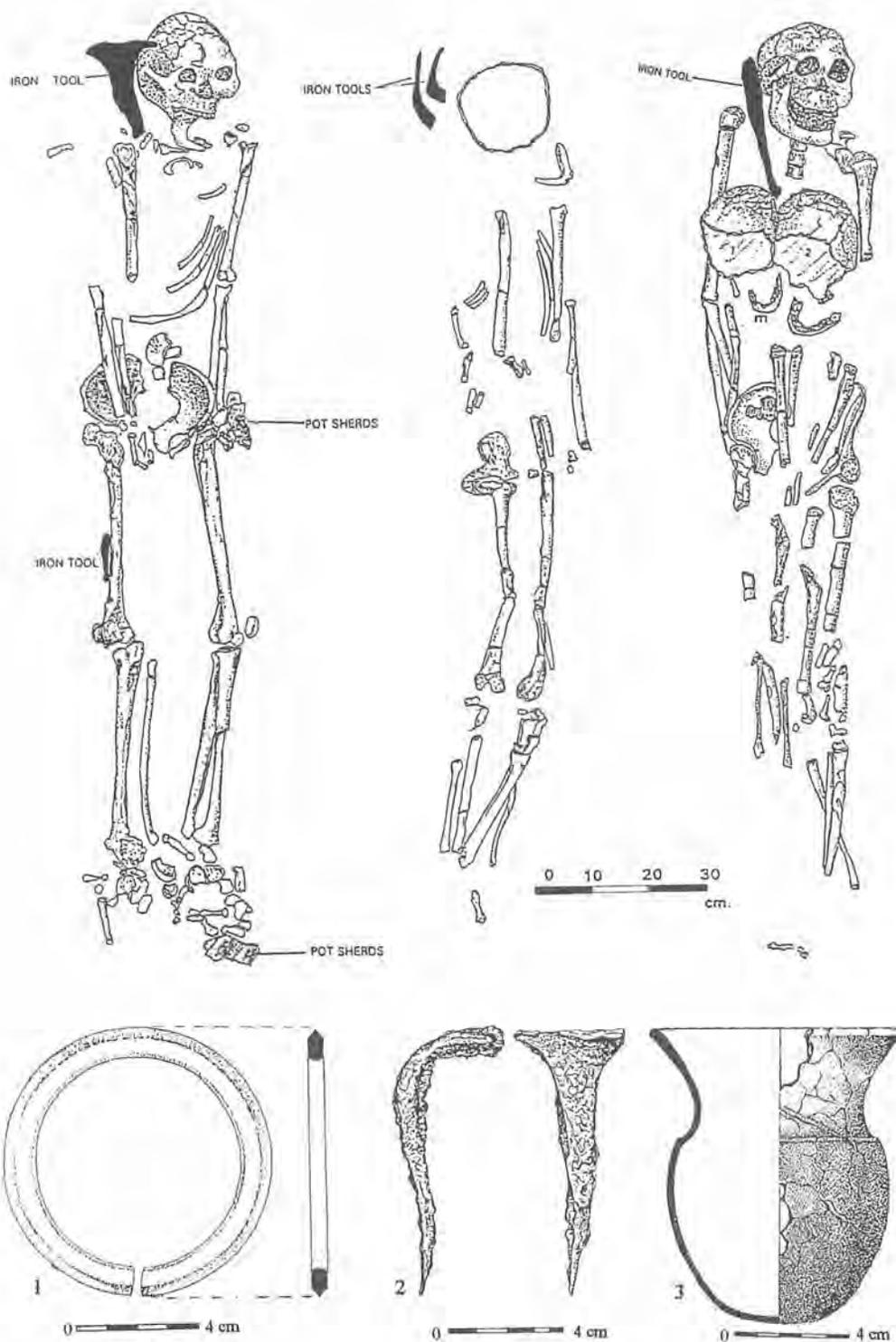


Figure 3. Ban Wang Hi: skeletons from Sounding No. 1, 1987. Glass earring, iron tool and pottery from 1987 excavations (After F.A.D).

Burial 146, were analysed by Amy Salisbury in London (Salisbury and Glover 1997). Results show that they are both a soda glass low in calcium and magnesium, but with high alumina. The low magnesium and high alumina content is characteristic of many glasses from India and it is probable that both these beads were imports. The high copper content in the orange-red bead is also typical of this variety of red Indo-Pacific drawn beads.

#### **Elements of semiprecious stone necklace**

Three elongated stone beads of white-veined brown agate are parts of a necklace. Two are almost circular in section, and the third is faceted. The largest is 27.5mm long by 7.78mm in diameter and the smallest one is 10.8mm long by 10.4mm in diameter. The combination of small glass beads with semiprecious stone elements – and especially agate – seems to be a regular feature of burial sets in Southeast Asian protohistory – as for instance at Ban Chiang and Ban Don Ta Phet.

#### **The bronze bracelet**

A bronze bangle, made through the lost wax process, 8 cm by 7.4 cm in diameter and 5 cm high, was excavated ten metres east of the trial excavation (Figure 1.5). The size is exactly the same as that of the four bangles from trial excavation No. 2, which were found around the radius and the elbow of the skeleton. A horizontal linear decoration is close to both openings. A more complex decoration is near the large opening. Local parallels to these ornaments are rare; one was discovered in 1987 and conserved at the National Museum of Lamphun, but requires cleaning and conservation before a useful stylistic comparison can be made. A spectrographic analysis of the core metal composition taken together with a comple-

mentary analysis of the surface patina suggests an overall composition of the bracelet to be about 71 percent copper, 17 percent lead and 10 percent tin<sup>1</sup>.

#### **Glass earrings**

A fragment of a translucent clear glass earring, about 55 mm in diameter, was found in a rice paddy, to the west of the trial excavation. The polygonal section has flat surfaces, a pronounced angle towards the outside and a slighter one toward the inside. One of the tips corresponds to the opening of the ring, and the other one represents an accidental break.

Five other glass earrings were excavated with the first burials in 1986 during the digging of the basin at Ban Wang Hi. Their sizes are different; the diameters range from 35 mm to 110 mm. Sometimes considered as bangles, these glass earrings are well-known in the contemporary protohistoric necropolises of northern Thailand, such as Ban Chiang.

#### **Spindle whorls**

Three ceramic spindle whorls were discovered with the burials; one near the feet of an adult, in the first 1987 trial excavation. The presence of spindle whorls, together with the use of betel, is used to characterise female burials. Two spindle whorls were also found in trial excavation No. 3. They are respectively 32 and 30 mm in diameter and 24 and 15 mm high. The biggest one, an asymmetrical smooth black example, was laid down with the ceramics placed at the top of Burials 145 and 146.

Spindle whorls are only found in Thailand in the late stages of the Metal Age and particularly at sites containing iron tools and weapons, and also at protohistoric sites such as Ban Chiang, Non Pa Kluay or Ban Don Ta Phet (Glover 1990: 175). They seem to be associated with the use of spun textile fibres and might characterise female tasks.

<sup>1</sup> Analyses by J.-R. Bourhis, UMR 153 CNRS (Université de Rennes 1, Campus de Beaulieu, 35042, Rennes, France).

### **Iron tools**

Trial excavation No. 3 revealed only one iron tool: a strongly corroded blade coming from the funeral site and covered by the upturned vases. It is about twenty centimetres long, and bent in the middle, with a tapering tang widening to a straight cutting edge. Iron tools and blades were already found in 1987. Some of them might have had sockets. Others were interpreted as fish-spears. The similarity between these three objects and another one found in 1996 proves that these are instruments, once with wooden handles, that were probably used to work the land. In 1987, trial excavation No. 1 also produced a bifurcated blade which could have belonged to a dagger or a little spear.

The deposit of iron instruments with the bodies is attested during this period in this region (sites near Ban San Pha Ka and Ban Yang Thong Tai). Another remarkable example is the Ban Don Ta Phet cemetery with its numerous socketed iron tools.

### **Lithic material**

In 1996 a heavy scraper was found in the upper levels of trial excavation No. 3. It has unifacial marginal retouches and an intact tang. The 1987 research exposed a stone tool left of the skull of a skeleton. A quartzite instrument was found near another body. Lithic material (entire or broken, quarried stones and tools) was found in a significant quantity in Ban Wang Hi if the earlier finds are taken into account. All the stones, worked or not, probably came from the nearby river, and are thus extraneous to the direct environment of the site. It is unlikely that their presence in the site is by chance. These stone tools, probably linked to the working of bamboo and associated with human remains and iron tools, cannot be considered as chronological evidence of archaism.

### **Ceramic**

These are the most numerous objects (Figures 1-3). Their arrangement and numbers in the grave do not correspond to any precise rule. The pottery vessels are found either near the feet or above the abdomen (1987 burials). Most of the time, they are found near the skull or above it or rather high in the pit fill. The vases found near the burials in Ban Wang Hi are bowls with rounded bottoms, and different forms of flat based pots with globular bodies, short necks; round-based hemispheric vessels, and big jars. Cord impression is the only form of decoration and the vessels were undoubtedly used in the everyday life.

### **Pottery technology**

All pottery vessels found in the protohistoric cemetery were hand formed and the broken edges indicate the use of the coil-built method. Colours of the pastes range from ochre to grey on outer surfaces, and from dark ochre to black on the inner surfaces. Temper was derived from local sands. Most of the time they show an exceptionally thin, medium grain-sized distribution, and frequently have coarse-grained inclusions. Most vessels have a smoothed surface or were buffed with a burnishing tool. Several bases have traces of cord-prints made by a beater.

### **Pottery morphology**

The pottery shapes display little variety. Two major types dominate the whole of the productions. First are open vases like porringers and bowls. These are all small or medium-sized vessels. Their mouth diameters are around 12 cm and they are mainly around 3 cm high, or slightly more. All these small bowls display a sub-vertical or slightly incurved edge, a rounded or slightly flattened bottom. Most vases or fragments of this kind have suspension holes. They seem to go together with vessels such as pots, which are equipped with the same

orifices as displayed in the deposit above the child's burial (see Figure 1.4).

The second common type are globular vessels with an upper incurved side and a more or less pronounced everted neck. In this category, there are small pots with flattened bottoms and large jars that have either a rounded bottom or a pedestal.

Among the flat-base pots, we notice small sized specimens, that are pot-bellied, and have short everted necks with rounded lips, bases marked by incisions made with a beater. Their height is always less than the mouth diameter. The vase above the child's burial belongs to this category. So does the slimmer vessel found in trial excavation No. 2. Many vases and fragments of this kind also have suspension holes.

The hemispheric shapes with rounded bottoms and short everted necks resemble traditional pots used today in everyday life for cooking. These vases, which are about 12 cm high and from 15 to 18 cm wide, often have traces of beating on the bottom or on the entire belly. The vessel that contained the necklace and an iron tool belongs to this category, together with one vase from trial excavation No. 1.

An entire series of much larger vessels belongs to the jar category. These were originally used for storage. One pot that was found near burial No. 145 was at least 40 cm high, with a 20 cm diameter at its opening and 30 cm diameter at the widest point. Its short everted neck ends in a rounded lip. Another vase found above burial No. 300 should have the same capacity as that of the previous one. The almost straight upper side of the belly is marked by a wide carination to the fairly flared neck.

#### **Pottery decoration**

Decoration is relatively limited, comprising incisions and cord impressions made by a beater. They are found either on the vase bottom or its belly under the carination. After smoothing, they only appear in small areas. The necks are often smoothed, however they are never decorated. The

carination may be emphasised by a horizontal cord in relief.

#### **Ceramic comparisons**

On the basis of such a small sample, it is still difficult to say whether the style variations that are observed on the pottery are the results of, a) the limited range of pottery in use in the community at the time the cemetery was used; b) the personality of the deceased (such as sex, occupation or wealth), or c) wider cultural or chronological phenomena. There is no doubt though of the cultural unity of the cemetery.

One of the most important characteristics of neolithic and protohistoric Thai pottery remains the cord impressions, which were apparently made by a beater bound with cords. Globular vases with curved necks as well as rounded vases are usually embellished with such ornamentation which is often 'over-carved'. This is the case in Ban Wang Hi. Like in the other regions, cordate vases are often associated with more easily characterised pottery types. The large jars can be found on numerous more or less contemporary sites, but like globular vases with cordate bellies, it does not seem possible that they represent any reliable cultural or chronological feature. It is only through association with other artefacts such as personal ornaments and tools that valid comparisons can be established.

#### **The Hariphunchai ceramics**

The Indianised Mon Kingdom of Hariphunchai from the region of Lamphun remained independent until it was conquered by King Mengrai in AD 1292, and the Lamphun Museum holds several vessels similar to those which were excavated in the upper levels of Ban Wang Hi.

Two main morphological categories of Hariphunchai ceramics can be distinguished: 1) bottle-shaped vessels, rather pot-bellied, with long thin necks and a curved rim. 2) ovoid vases with a short enlarged pedestal and a small curved rim.

Of course, hand-made pieces of pottery such as everyday cooking vases must have been used in the Hariphunchai Period as they have been known for a long time.

The decorative motifs of Hariphunchai Period vases remain characteristic of this period. The flat-bottomed bottles are made up of three ornamental zones, the first one being at the top of the neck, just at the junction with the curving neck. In almost every case, there is a thin horizontal relief, sometimes with impressions, and surrounded by fluting. The other pottery vessels are mainly decorated with parallel and horizontal flutings and bulb edges.

The fragments of these historic-period vases from the upper levels of Ban Wang Hi have sometimes been interpreted as the remains of funeral urns. But nothing in the work at the site in 1996 could confirm the theory that the necropolis continued into the Buddhist period.

### Some general comparisons

There are notable differences between the Ban Wang Hi necropolis and the rare comparable nearby burial places. Only Ban Wang Hi has provided wheel-made ceramics and numerous glass beads together with elements from a semi-precious stone necklace. Glass earrings and large bronze arm bands have no equivalent in the sites near Ban San Pha Ka or Ban Yang Tong Tau. The pottery accompanying the burials are also quite different from those in the two other cemeteries. And in Ban Wang Hi no burnished axes, marble bracelets or glazed ceramics were found.

The Ban Wang Hi site might have been occupied at the end of the first millennium BC or into the early centuries AD. The very limited investigation so far prompts us to caution. Similar cemeteries in Northeast Thailand, as well as in the Central Plains, were used over a long period of time and broad comparisons are relatively meaningless. The associations for each deposit must be established and chronological, sexual, social and ethnic markers must be defined

for each group.

The excavation of the Ban Wang Hi cemetery site has to be continued to gather more data concerning the internal chronology and social organisation of the cemetery. This work would add to our knowledge of the evolution of prehistoric populations in northern Thailand where the protohistoric period also remains largely unknown.

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