

LAO PAKO, AN IRON AGE SITE ON THE NÂM NGUM RIVER IN LAOS

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ABSTRACT

From November 1995 to January 1996, a preliminary archaeological investigation and excavation were carried out at the site of Lao Pako, Laos. The investigations have revealed a complex picture of a site that shows evidence of ironworking and textile manufacture as well as an advanced pottery tradition. The distribution of cultural material over the excavated area indicates a division of the site into different activity areas. Initial occupation probably occurred in or before the fourth century AD, followed by the second period of dense occupation in the fifth century AD. Lao Pako belongs to a larger group of contemporary sites in the surrounding area, yet the regional cultural groups also assert their own distinctive characteristics.

INTRODUCTION

The site of Lao Pako is located on the southern bank of the Nâm Ngum river about 40 kilometres northeast of Vientiane, the capital of Lao PDR. Starting in November 1995, an archaeological investigation and excavation were carried out at the site over six weeks, by Anna Källén (this volume) and the writer, Anna Karlström (Källén and Karlström 1997, 1999). The Ministry of Information and Culture, Department of Museums and Archaeology in Vientiane was responsible for the excavation which fell under the general direction of Thonglit Luang Khoth, assisted by Thongsa Sayavongkhamdy.

The Lao Pako site has been known for many years as an archaeologically interesting location. The present land owners have several times reported finds of pottery and other artefacts while building houses for the Lao Pako tourist resort. One minor excavation project had earlier been carried out at the site in 1993 by archaeologists from the Ministry of Information and Culture, Department of Museums and Archaeology, Vientiane, directed by Mr Viengkeo Souksavady.

The aims of this investigation were to obtain a brief summary of the prehistoric functions of the site, to develop an overview of the surrounding area, and to excavate the area which seemed to have been the most densely occupied section of the site. The purpose was to find artefacts, traces of construction and other evidence to indicate not only the former functions and the antiquity of the site, but also the likely orientation of the trade and contact networks in which the prehistoric inhabitants of Lao Pako participated.

This excavation should be seen as a preliminary investigation, designed to serve as a basis for further archaeological research at the Lao Pako site.

The total area excavated, in three squares, was 25 m², of which about 2.25 m² had been disturbed in recent times. The artefacts and other material found during the excavation give evidence of many different kinds of activities occurring about 1600 years ago. The importance of the site in the manufacture or trade of pottery is indicated by the 45 complete buried jars and 270 kilograms of potsherds. Finds of slag, tuyères and iron artefacts are signs of metallurgical activities and the presence of textile manufacturing is indicated by the recovery of spindle whorls. A large number of pebbles and stone tools were also found.

The stratigraphic sections show two compact cultural layers, both containing charcoal, potsherds and other artefacts. Beneath these cultural layers jars have been buried, often in clusters and with no particular contents. The colour of the soil was the same in all the different layers of the three squares, with one exception. In one corner of the largest square the soil was darker and greasy. Together with metallurgical objects, this indicates a place for iron working. Radiocarbon analysis (Källén and Karlström 1997:42 ff.) dates the site to between the fourth and sixth centuries AD (Table 1). The investigations at Lao Pako have revealed a complex picture of a site that shows evidence of metalworking and textile manufacture as well as an advanced pottery tradition.

Table 1. Lao Pako radiocarbon dates from the Laboratory for Isotope Geology, Swedish Museum of Natural History

Lab. code	Material	Calibrated date at one sigma	Calibrated age at two sigma
ST14397/ ST14399 combined	charcoal	1455 ± 50 BP	AD 395-595
ST14398	charcoal	1645 ± 75 BP	AD 155-455

Lao archaeologists have only just started the extensive work of building a national archaeological record and with that a Laotian archaeological tradition. Until more comprehensive data on local sites are available, information has to be sought in surrounding countries. Comparative material for analysis and interpretation is here taken mainly from northeast Thailand, for several reasons. Firstly, the location of Lao Pako on the outskirts of the Khorat Plateau makes the surrounding topography and vegetation similar to that of northeast Thailand which lies at the centre of the same plateau. Secondly, there is an extensive river system connecting the two areas with the Mekong as the artery and the Nâm Ngum river, which flows right past Lao Pako, as one of the major tributaries of the Mekong. Thirdly, major archaeological investigations have been undertaken in northeast Thailand within the past decades. They have resulted in the archaeological mapping of large areas, even if it is still incomplete and insufficient compared to other places with a more prolonged archaeological tradition. These projects have to a large extent been connected to North American archaeology via North American funding, and show clear influences from the processual models of the "New Archaeology" (Bayard 1992).

Much of the theoretical discussion on Southeast Asian archaeology has lately been oriented towards this particular area and especially sites such as Ban Chiang, Non Nok Tha, Ban Chiang Hian and Ban Na Di. One major debate has concerned the features of early metallurgy as well as its origin and dating. The dating of the Lao Pako site shows that it has nothing to do with the earliest evidence for metallurgy, which can be traced back to the middle second millennium BC (Higham 1996:338), with iron working probably appearing about a millennium later (Suchitta 1992:115). Nonetheless a lot of the cultural material from Lao Pako shows clear similarities to that from the later phases of Ban Chiang, Ban Na Di and Ban Chiang Hian.

THE STRATIGRAPHY AT LAO PAKO

The stratigraphic sequence generally shows two distinct cultural layers, about 0.6 m beneath ground level, containing charcoal, pottery sherds and other artefacts. The two layers appear to be similar concerning their contents, but are in large part separated by a less dense layer with scattered potsherds, charcoal and miscellaneous artefacts. Beneath the two cultural layers stretches yet another layer of scattered charcoal, potsherds and other artefacts down

to a thin layer of charcoal about 1.20 m beneath ground level. Underneath the layer of charcoal is sterile untouched soil.

The lowest, and therefore also the earliest cultural level of the Lao Pako stratigraphy consists of a thin layer of charcoal in otherwise sterile soil, occurring almost all over the excavated area. Such a charcoal layer must come from a burning of the whole area, just before the first evidence of settlement was deposited. This burn-off may have been produced voluntarily by the first inhabitants in order to clear the site from forest vegetation. (See Sayavongkhamdy and Bellwood, this volume, for dating of this charcoal layer.) The following layer is thick and contains scattered potsherds and artefacts of the same kind that are found in the later, compact cultural layers. The currently favoured interpretation of this layer is that it derives from a longer period of less intense occupation, possibly seasonal settlement.

The first dense cultural layer from the earliest phase of intensive occupation is a layer of packed potsherds, other artefacts and charcoal. It is similar to the one above, from a later phase of occupation, in terms of the texture of the sediments and the material contents. These two dense cultural layers are separated by a layer of scattered cultural material. The analysis of the potsherds shows an interesting divergence in the use of temper between the two main cultural layers. A technological change in the composition of the paste for pottery vessels has thus occurred between the two phases of dense occupation.

However, the stratigraphic sequence could also be interpreted as representing one coherent cultural layer deposited during a single period of occupation. The rapid build-up of sediments in a tropical climate could be the cause for the impression of "scattered" materials. In that case, the two dense layers could be the result of two separate occasions when large amounts of potsherds and so on were deposited.

The many similarities in both typology of finds and manufacturing techniques certainly show that the residents must have been people belonging to the same cultural group that had repeatedly occupied the site, without any major cultural changes occurring between the habitation phases. One support for that conclusion is the tradition of burying clusters of jars, as occurred during both phases of dense settlement. From the stratigraphic sequence we see that pits were dug down from both occupation levels, jars had been buried, and the pits refilled. The depth of the pits varies and some jars were merely covered by a very thin

layer of refill, while others were buried deep into the sterile bottom layer. The depth of the burial pits does not seem to vary according to any particular pattern. Another support for the hypothesis of one cultural group is the metallurgical tradition associated with both dense cultural layers.

Along with the sequence of layers there are pits dug down from both the upper and lower cultural layers. Some are clearly connected to a jar burial. Others seem to have no particular contents. The sizes of the pits vary, some having been cut deep into the sterile soil and some being shallow. All are refilled with a mix of cultural deposits and sterile sediment, or with sediments containing scattered finds. In addition to the pits formed for jar burials, the sections adduce evidence of other kinds of pits. Their function could not possibly have been as postholes, because the pits are too wide in comparison to their depth. There should also be traces of supporting stones around and inside any postholes, but none are present in the pits at Lao Pako. The posthole function is also unjustifiable on the grounds that no discolouration (as a result of decayed posts) has been found. A possible explanation is the function as garbage pits. This could be neither confirmed nor falsified, since no sediment samples from the pits were collected for macrofossil analysis.

The homogeneity of the colour of the sediments made excavation by stratigraphic units impossible. Otherwise, this would have been the preferable method as it follows each demarcated occupation level, or cultural layer, and excavates them in the reverse sequence of their formation. In the case of Lao Pako, the unavoidable use of arbitrary excavation units (spits) may have resulted in later deposited cultural layers being split between different excavation units. Therefore, in the analysis we cannot assume that all the material collected in any one excavation layer belongs to the same occupation phase.

The probable chronology of the site spans quite a short period of time. The first main occupation phase would have occurred in or before the fourth century AD, while the second phase of dense occupation would lie in the fifth century AD. (But note the C14 dates for Lao Pako in Thongsa and Sayavongkhamdy, this volume: eds). Lao Pako can be set against the general cultural framework developed by Donn Bayard on the basis of excavation projects in northeast Thailand. Those sites that are contemporary with Lao Pako are: Ban Chiang, end of Late Period (X); Ban Na Di, Level 3 (?); Non Nok Tha, early Don Sawan phase; Non Dua, Phase 2; and Ban Chiang Hian, early Phase 3 (see Higham 1989:98). With reference to Bayard's chronology for this area, the datings imply that initial settlement at Lao Pako occurred during the transition from General Period C to General Period D, and continued for several centuries into General Period D. This means that we can place Lao Pako at a time of centralized societies and chiefdoms, extended exchange net-

works, well-developed agriculture and specialized metallurgy. Influences from India and China were beginning to contribute to the adoption of new religious beliefs and, later, the rise of the "mandala" states (Higham 1989).

POTTERY AND POTSHERDS

A considerable quantity of earthenware was found during the excavation (Figure 1). 270 kilograms of potsherds were collected from the occupation levels and pits in the three squares, together with 45 complete jars varying in size and shape. In general these complete jars seem to have been buried underneath the main cultural layers. The buried jars often appear gathered in clusters, placed on top of or inside one another (Figure 2). It is an interesting observation that they were buried in such an organized way. The fabric, colour and decoration of the complete jars correspond to those of the potsherds found in both



Figure 1. Illustration of the complexity among the jars and potsherds.

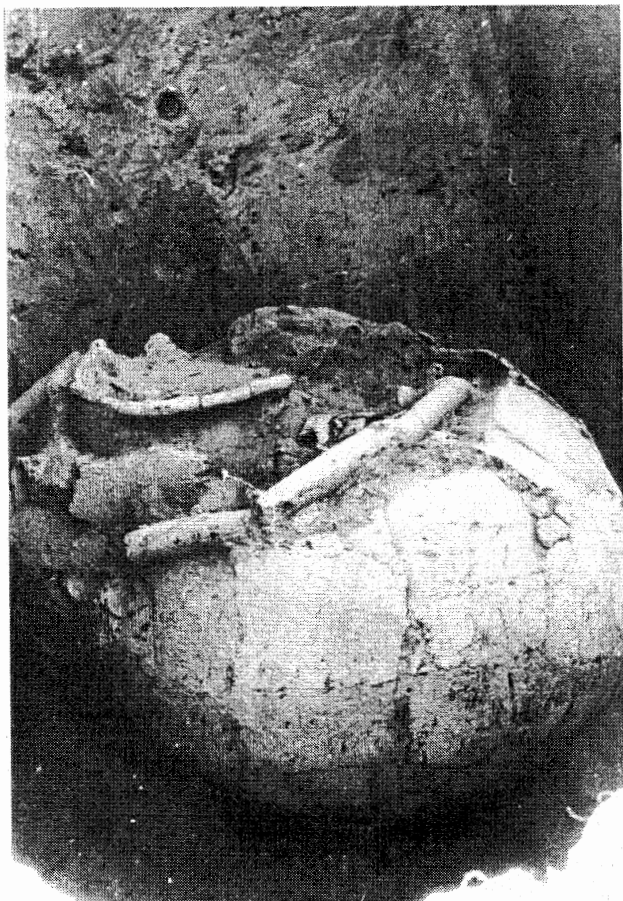


Figure 2. J2 in the initial stage of excavation, with J28 visible.

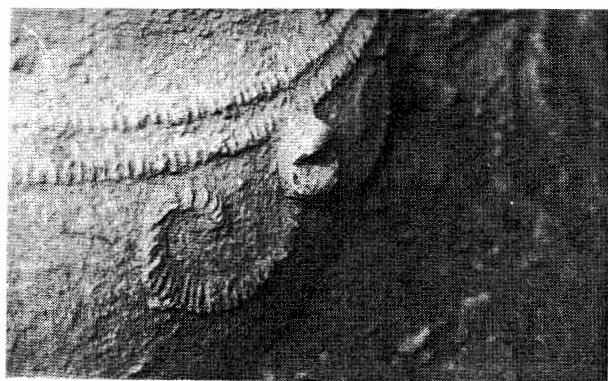


Figure 3. Appliqué decoration with "screw head" and stripes intact on the body of J23.

occupation layers. All the excavated potsherds were collected and have been sorted into categories of colour and decoration. Rim pieces have been sorted by shape into different categories.

Conclusions on correspondences between Lao Pako and contemporary sites in northeast Thailand are not easily drawn, but one can see clear similarities between the pottery found at Lao Pako and at contemporary sites such as Ban Na Di and Ban Chiang Hian. Almost all the types of rims encountered at Lao Pako are also found in level 3 at Ban Na Di (Higham and Kijngam 1984:275ff.) as well as in layers 4 to 6 at Ban Chiang Hian (Higham and Kijngam 1984:608ff.). These sites also have similar decorations to those on the pottery at Lao Pako: painted with red colour, cord-marked, and appliqué (Higham and Kijngam 1984:212, 316ff., 616). The appliqué however does not have such an intricate pattern as at Lao Pako, whose screw-head decoration (Figure 3) does not occur at either of the other two sites. At Non Nok Tha, Ban Na Di, Ban Chiang Hian and Ban Chiang, human burials are almost always connected with burial jars. The bodies were inhumed in a supine position and jars as well as metal, stone implements and other artefacts were placed under, around and on top of the bodies. Sometimes infants were buried inside jars (White 1982:28-33; Higham 1996:191-204). The jars buried in connection with the human burials at these sites are in general not placed on top of or inside each other in such an organized way as the jars at Lao Pako are. Owing to the mild acidity of the soil, pH 5.5-6.0, it appears that all unburned bone material has disappeared at Lao Pako, from humans as well as other animals.

Another possible function of the buried jars at Lao Pako could be as storage vessels, involving storage either of the jars themselves, or of water or food. The last alternative cannot be supported, however, according to results from microfossil analyses; only one possible seed was found, and even it could be from a fungus as commonly found on plant roots. Perhaps, during the time of settlement the jars could have been used as cooking vessels. In that case the jars must have been buried just before the site was abandoned. The absence of seeds, roots and nuts in the macrofossil analysis would contradict such an interpretation, as would the absence of soot on the basal parts of the jars. Finally, the phytoliths of one Lao Pako jar (excavated by Thongsa Sayavongkhamdy) have been recorded to be very similar to the phytoliths from the surrounding sediments (Bowdery 1999), suggesting a lack of vegetable material in the jar at the time of its burial.

Given these analytical results, a possible explanation for the clusters of jars at the site is that they had been cached just for their own sake. The careful internal arrangement of each cluster bears witness to the importance of the jars themselves. It might be that the explanation of this phenomenon cannot be expressed in terms which seem functional or rational to us today. The significance

of the jars at Lao Pako indicates instead that they should be seen as carriers of a symbolism that constituted an essential element of the total structure of the site.

The decorations on the jars could have either an aesthetic or a utilitarian function. The intricate appliqué as well as the painted patterns represent the aesthetic function, while the cord marking represents the utilitarian. Cord marking is a result of the manufacturing techniques and its utilitarian function lies in the rough surface with a better grip that makes the jar easier to lift and carry. Decoration, shape, size and temper are all variables in the classification of the jars. The classification does not however consider chronology, since the timespan of the pottery tradition at Lao Pako does not seem to have been very extensive. Concerning manufacturing processes, fabric and tempering, the resemblance between the sites mentioned above and Lao Pako are considerable. Even if the function of the jars differed across the different sites, conclusions about possible contacts can still be drawn.

METALLURGY

Clear evidence for metal-working activities was found at Lao Pako (in this report, the terms metallurgy and metal working are used exclusively for working iron). In the northeast corner of the largest square there was an area with darker, greasy soil. In this area large amounts of slag and tuyères were found. Scattered iron artefacts were also found around this area. All finds indicate iron-working activities. Two artefacts of copper or a copper alloy were also found, but no signs of copper melting or casting were recovered. Three pieces of sandstone were found and these could possibly be broken casting moulds, but the shape of the carvings rather indicates other kinds of usage.

The metallurgical tradition first occurred in this part of Southeast Asia around 1500 BC (Higham 1996). Most probably it was developed in small-scale villages rather than in more complex settlements. There is no evidence for stratified social organization as cause or consequence of the development of metal technology. As expressed by Joyce White (1982:48-49) in writing on Ban Chiang: "Metals do not create cultural development, people do". The metallurgical tradition at Lao Pako does not seem to date particularly early. It does however clearly form part of the same tradition as recorded in northeast Thailand.

Most Asians, early Europeans and Africans used a similar technology in their early metallurgy. This technique is known as the direct process and implies forging rather than casting. The direct process includes smelting the ore in a simple furnace using bellows and tuyères to enhance the temperature and then squeezing the last impurities (slag) out of the metal by forging. In the early stages of smelting and forging iron into tools, the direct process involved only small groups of people. The increased demand for metal products probably led to the emergence of specialized iron smelting communities. There are exam-

ples of such specialized iron smelting sites in central Thailand (Suchitta 1992:115).

The evidence of metallurgy at Lao Pako might represent the whole process, in which a small group of people worked in all three areas of mining, smelting and forging. However, the direct evidence could also be interpreted as relating to the second stage in the smelting-forging process, and the metal may have been imported from iron smelting communities and then forged at Lao Pako. It is impossible to draw any conclusions about mining activities near the site, because information on the local bedrock is lacking. Still, ferriferous laterite in the area could have been used as ore. Laterite is abundant in the small streams a few hundred metres from the site and should have been quite accessible. This might suggest that the first step in the metallurgical process, collecting the ore, was carried out by the Lao Pako community.

When the ore was made available, either by bringing it from the surroundings or by importing it from farther away, the next step would have been smelting the ore. That was most probably performed at the site. There are several finds of tuyères that could have been used for this purpose, though they could also have been used exclusively in forging. During forging, the remaining slag is squeezed out from the metal. At that stage the expelled slag might splash and stick on the stones in the form of dross. Dross was found on a few small pebbles and pebble tools spread around the suspected metal working area. The quite extensive amount of larger lumps of slag could have derived from either from the melting or the forging process.

The products of forging, iron artefacts, were spread mainly around the metal working sector of the excavated area. According to their orientation and simple form they seem to have been tools. There are no indications of other uses such as symbols of wealth or status.

The area consisting of very greasy soil is quite sharply demarcated along its southwest border, and therefore seems to represent the southwestern sector of the metal working area. This metal working area is not clearly defined in the other directions, owing to the limited extension of the squares chosen for excavation. Therefore it was impossible to investigate the whole extent of metal working activity. Not until we have documented the entirety of the metal working area, could we decide whether the whole metallurgical process had been carried out at the site, or just the last stages.

Among the metal artefacts there are also two copper artefacts that had most probably been made elsewhere. Both of them have unknown functions, except that the small vessel contains a burnt (charred) substance. The small vessel is also in many respects similar to the much larger Dong Son drums, as shown by its basal disc with a star-shaped pattern and concentric circles, as well as the small ears on its body. Hopefully, cleaning and conserva-

tion will reveal more details. (An AMS C14 date for this item is given in Sayavongkhamdy and Bellwood, this volume: eds.)

TEXTILE MANUFACTURING

Most probably some kind of textile manufacturing had been carried out at the site. The evidence consists of spindle whorls, "stamp" rollers and cord-marked pottery.

The spindle whorl is an implement in textile manufacture. The specimens found at Lao Pako are made of clay. Most of them are biconical and a few are rounded to an annular shape (Figure 4). The holes that lead through them measure 3-6 mm in diameter. The openings often have no sharp edges but are rounded, either having been made that way or as a result of usage. Most of them are undecorated, but some have an incised pattern of concentric circles or whorls. Their colour varies from grey to black and many have a degraded surface. The maximum diameter ranges between 24 and 40 mm and the height between 13 and 35 mm. The ratio of the diameter to the height ranges between a little more than 1:1 up to 2:1. This variation does not relate to any other known variable such as stratigraphic context, but rather appears to be haphazard.

As well as the spindle whorls, two items classified as rollers were found in the occupation levels (Figure 5). Similar artefacts have been found at both Ban Chiang (White 1982) and Ban Na Di (Higham and Kijngam 1984). Those from Ban Na Di are labelled "clay seals" and show patterns of parallel lines and zigzags (Higham & Kijngam 1984:148ff.). The specimens from Lao Pako are made of clay and are coloured dark or black. They are

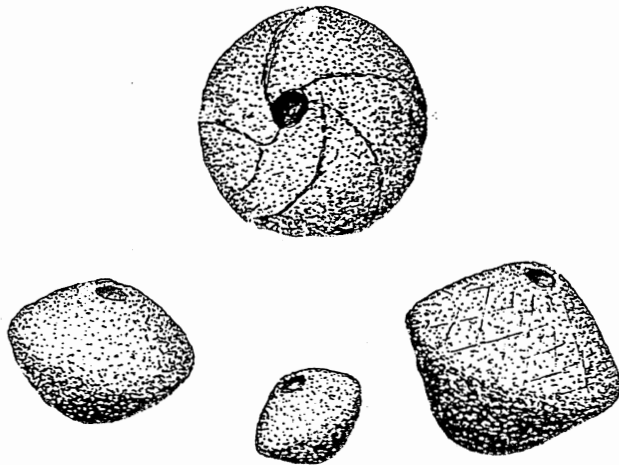


Figure 4. Spindle whorls in different shapes and different sizes, decorated and undecorated.

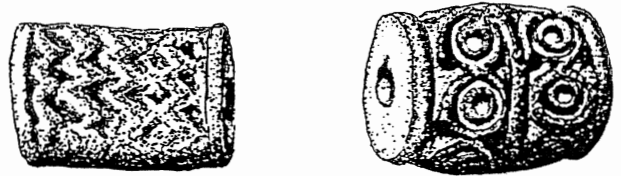


Figure 5. Two stamp rollers, zigzag patterned (f44) and circle patterned (f48).

cylindrical with holes bored in each end, and have bas-relief patterns that appear to have been carved. Unlike the "clay seals" from Ban Na Di the Lao Pako rollers do not have their holes bored all the way through. Rather, only about five millimetres has been bored in from each end. This limits the number of possible functions; for example, they could not have been used as beads.

The pattern on one of the two rollers consists of four zigzag lines that run around the roller. It is 26 mm long and 18 mm in diameter. The pattern on the other is more delicate and the artefact is in better condition. It is also somewhat bigger. It has two rows of concentric circles with a dividing line in between. The circles are made with the small circle inside the larger circle, which is in turn linked to the next concentric circle.

The exact function of spindle whorls in this area is not really known, but their presence indicates the craft of weaving (Glover 1990:175). In European contexts the same kind of artefact has been used when spinning thread. The thread is whirled on a narrowing stick, which is put into the hole of the spindle whorl which in turn has the function of a weight. The thread is then twisted by the spinning of the spindle whorl.

After cloth has been woven, the next step in the textile manufacturing procedure would be its patterning or the elucidation of already existing patterns. The cylindrical stamp rollers most probably had such a function, namely, printing the cloth with colour. Stamp rollers with almost identical carved patterns have also been found at the Ban Na Di and Ban Chiang sites in northeast Thailand. In line with the fact that the carved patterns on the rollers can be found on neither the jars nor the potsherds, the rollers could not have been used to apply decoration to the pottery. The most frequent decoration on the potsherds is cord marking. This pattern in itself is a further indication of the presence of textiles at the site. The paddle, with which the wall is smoothed and decorated, could be wrapped with cloth as well as wound with cord.

STONE TOOLS

One third of all finds registered at Lao Pako were placed under the heading "stone artefacts". On closer examination not all of the 85 specimens are clearly artefacts. Some are in fact ordinary pebbles or pebble fragments that could

occur naturally in the soil. Most of the pebble tools and other stone artefacts have been only marginally manipulated. Often a pebble of suitable size has been used as a pounding stone, or a sharp flake has been used as a scraper. A few specimens have been roughly shaped by flaking, but we do not find at Lao Pako any counterpart for the masterly shaped tools and implements of the Neolithic and early Bronze Age. The acquisition of stone tools seems instead to have been limited to the use of already existing pebbles, the occasional shaping of a pounding stone by flaking, or the retouching of a flake to make a scraper. Only two recovered axes are examples of more highly skilled stone working.

Pebbles occur abundantly today along the river banks immediately at the site. If we assume the scene to have been the same at around AD 400, the frequent use of pebbles is not surprising. The recorded pattern of distribution implies that the principal area for discard of the stone implements is in the lower occupation level, mainly around the metal working area.

The most common shape is labelled "pebble". These pebbles, ground and smoothed by water, have a characteristic shape. Some were found in their original state while others had been manipulated through being flaked, polished, or used as pounding stones. Those specimens that show evidence of purposeful shaping are placed in the "worked" category. The "fragment" group contains fragments of what had been complete artefacts. The related "flake" and "flaked" categories respectively correspond to the flakes that have been removed from a pebble, and the remaining part of the pebble after flaking. The flakes were often used as scrapers and the flaked pebbles could have been used for pounding. Finally, there are six cases of carved specimens, of which five are made of sandstone. They had probably been used as whetstones, but another possible explanation is that they had been used as bronze-casting moulds.

The most common function of the stone artefacts is scraping. Many have a worn edge demonstrating the suspected function and some have a sharply retouched edge. Quartz, sandstone and other species of rock have been used for scrapers. The axe is not nearly as frequent. Only two small axes were found. These two small axes clearly represent a more delicate kind of stone working than that which characterizes the other pebble tools. Their size and texture (both being made of rather "soft" material) suggest that they may not have functioned as tools. A few pieces of sandstone are labelled whetstones, which are used for sharpening of tools and suchlike. Some bear marks from usage and one piece has the characteristic whetstone shape. There are also some rather small, round pebbles that could very well have been used as anvils in the paddle-and-anvil production of the jars.

The well-developed stone tool technology of the Neolithic and early Bronze Age could not be traced among the

finds of pebble tools at Lao Pako. Here the applications seem to be limited, mainly to pounding and scraping tasks. In addition there are some finds that indicate other functions, such as whetstones. During the period of settlement, river pebbles were most probably as abundant near the site as they are today. The large quantity of raw material recovered, and the observation that the pebble tools seem to have been reused by shaping, flaking or retouching, indicate a frequent use of pebbles and pebble tools at the site. The distribution pattern of the stone artefacts in the three squares implies that the main area of discard is in the vicinity of the metal working area. Stone artefacts were most probably used during the forging stage of the metal working process.

DISCUSSION AND CONCLUSIONS

The distribution of cultural material over the excavated area indicates a division of the site into different activity areas. The finds associated with textile manufacturing seem to relate to an area other than the metal working sector. Further, the observed subsidiary patterns generally confirm the notion that the metal working activities were concentrated in the northeast corner of the largest square. This area of greasy soil also contains most of the evidence for metal working such as slag and tuyères. No iron artefacts were found in this particular area, but they are spread outside it along its western side. Since no charcoal was found in this zone, the furnace itself was probably located just outside the excavated square, and was surrounded on all sides by the greasy soil that characterizes the metal working area. The pebble tools seem to have been used in metallurgical activities (among other tasks) since most of them were found in connection with this area.

The distribution of the complete jars produces an oval shape. It is impossible to say at present whether this oval area was the centre of the whole jar burying tradition at the site, or if it was just one of several similar rounded zones. It is possible that we here have the centre of the site with jars buried across an oval area, maybe corresponding to the inhumations of the people who once occupied the site, but whose bones are forever dissolved in the acidic sandy soil. This is however not the only possible explanation of the jars and their well-organized distribution. Only with further excavations at Lao Pako would we stand a chance to come closer to a more substantial explanation.

To sum up the results: the conclusion is that the Lao Pako site had been occupied either once or successively on more occasions over a quite short period of time (a few centuries). The homogeneity of the remains shows that the inhabitants belonged to the same cultural group. The concept of a group is always hard to define since it is dynamic and it has to be opposed to another group to be distinguished. One can nonetheless say that the people of Lao Pako belonged to the same large cultural group as did the inhabitants of sites such as Ban Na Di, Ban Chiang and

Ban Chiang Hian. This cultural group is to be seen in distinction to other groups, for example, those of South China. This is shown by the similarities in pottery tradition and textile manufacture between Lao Pako and the northeast Thailand sites, in contrast with the totally different metallurgical tradition of China. One must also be aware of the consideration that Lao Pako also belonged to a smaller group within the larger social network. A local group asserts its own distinctive character, in this case possibly by the creation of an intricate variant of the appliqué decoration on the jars.

The conclusions drawn so far should not be isolated from what it is hoped will eventuate in the future of archaeology in Laos and particularly at Lao Pako. Further archaeological research and education in Laos will enhance the awareness and knowledge of the nation's heritage, and accord it the value it deserves as an important factor in today's society and as a future resource. Future archaeology in Laos will also help to fill in the blank parts of the world map of archaeology and contribute to a better knowledge of the prehistory of the world. Laos has long been, and still is in many respects a blank area on the map of archaeology.

Lately, extensive international projects in Thailand have contributed to the knowledge of the pre- and proto-history of Mainland Southeast Asia and many interesting questions have been raised. However, these kinds of international projects are far from unproblematic. It is easy to bring, to the new area, not only archaeological expertise, but also a bias produced by the knowledge of prehistory in a totally different cultural setting. This may result in building abstract models of social organization and gender based on a limited amount of facts from the area itself, filled out with presumptions based on totally different cultural contexts (Bayard 1992). The only way to establish a more solid ground for such models is to extend the basic knowledge of prehistory in the area by the continuation of national or international archaeological projects. In the case of Southeast Asia this concerns not only Thailand but indeed also Laos, and other surrounding countries that were not divided by present national borders in prehistoric times.

Thus the conclusion of this project is that there is an urgent need for more archaeological projects at Lao Pako and other sites in Laos to form a basic knowledge of the prehistory of the area and to arouse an interest in the cultural heritage of the country.

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