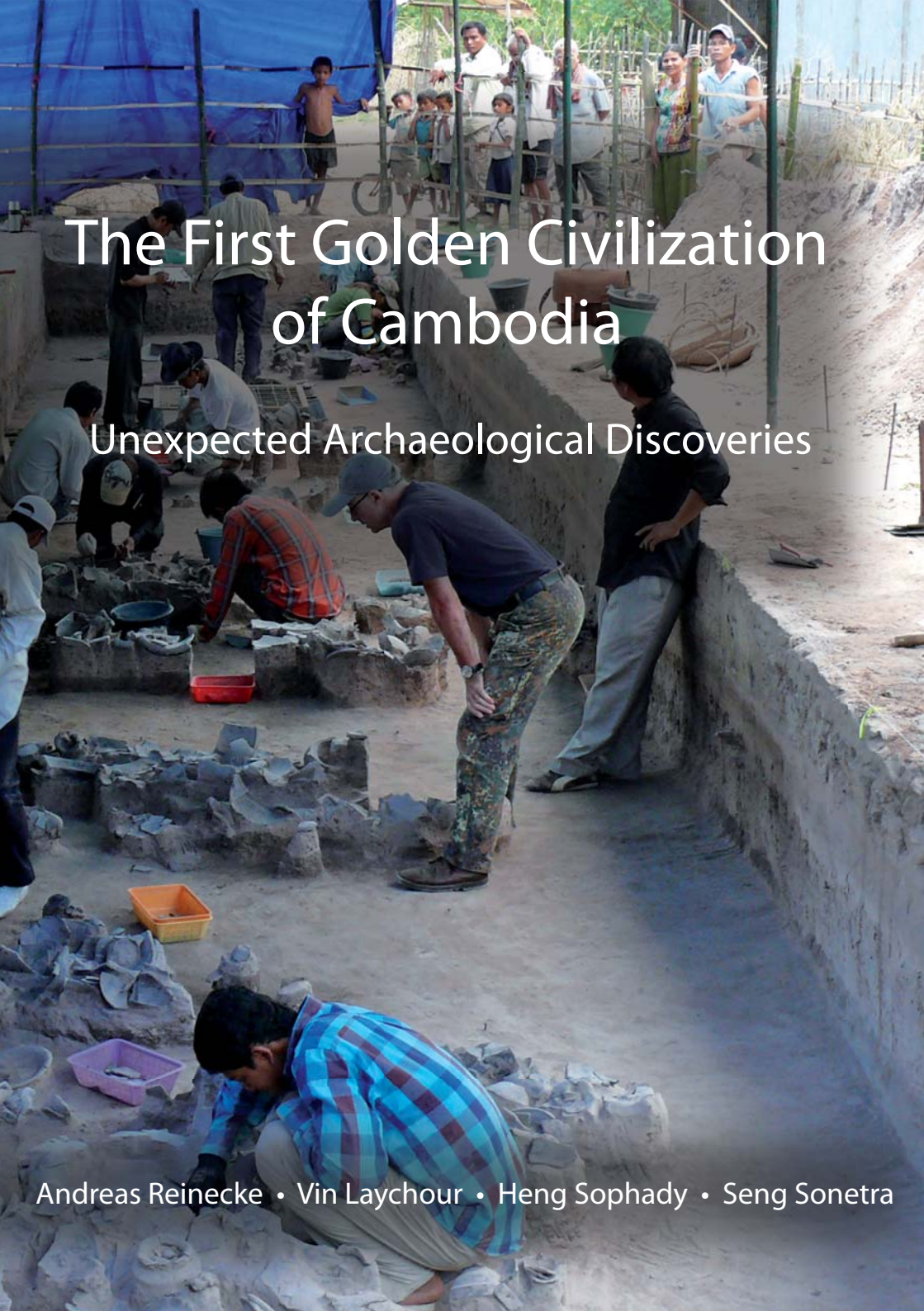

The First Golden Civilization of Cambodia

Unexpected Archaeological Discoveries

Andreas Reinecke • Vin Laychour • Heng Sophady • Seng Sonetra

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Cover: Excavation at Prohear in 2009.
Photo by Luyen Reinecke

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Contents

Foreword

Our knowledge of the prehistory of Cambodia is still limited, but during the last few years, renewed archaeological research has greatly enhanced our understanding of the prehistoric period, especially concerning the roots of the Funan civilization about 2000 years ago. These new discoveries have encouraged scholars to focus more attention on Cambodian prehistory and are also a sign for the further development of this field in the near future.

In 2008, the Memot Centre for Archaeology started a collaborative project with the German Archaeological Institute to conduct an excavation at Prohear in Prey Veng province. Their aim was to gather information from the undestroyed parts of the prehistoric cemetery that had been sadly looted by the local inhabitants since spring 2007.

The exhibition «The First Golden Civilization of Cambodia» shows some of the results from the first three years of this Cambodian-German cooperation, which was supported by the Ministry of Culture and Fine Arts and by the German Embassy. Moreover, this exhibition presents some of the finest prehistoric artifacts recently discovered in Cambodia for the interest of both local and international visitors.

On behalf of the Ministry of Culture and Fine Arts, I would like to express my appreciation and gratitude to Dr. Andreas Reinecke and to our national scholars for their initiative in establishing this important exhibition, as well as for the support in conservation and development of Cambodian National Heritage, following the policy of the Royal Government of Cambodia.

The work on this exhibition was only possible with financial support from outside our country. I would like to take this opportunity to thank the German Archaeological Institute and the German Embassy in Cambodia, as well as the private German donors, who helped to successfully create this exhibition.

Phnom Penh, 29th November, 2010

Chuch Phoeurn
Secretary of State,
Ministry of Culture and Fine Arts, Cambodia

Foreword

Adolf Bastian, the "father of German ethnology", first visited Cambodia at the end of 1863. By publishing in 1868 his description of the country, the people and the monuments of Angkor a German interest in Cambodia was awakened. It is amazing how many German voices can be heard every day among the visitors to the National Museum in Phnom Penh. It is therefore a great pleasure for me to announce that a German-Cambodian archaeological team has been given the opportunity to set up in a room of this historic museum an exhibition of recently discovered artifacts from "The First Golden Age of Cambodia".

During the last 15 years the German Embassy in Phnom Penh and the Cultural Preservation Program of the German Foreign Office have supported a number of projects for the rescue, the restoration, the conservation and the publication of the cultural heritage of Cambodia. The research projects at Village 10.8 and Prohear are emblematic of this endeavor. The unusual artifacts from both archaeological sites enable us to recognize that sophisticated societies existed in this region already over 2000 years ago.

Many antique objects are found by farmers ploughing their fields. Archaeologists estimate that approx. 90 percent of all newly discovered artifacts disappear again in the channels of illegal antiquity trade. Thus these artifacts are lost forever from the cultural history of Cambodia. This exhibition, therefore, should also serve to draw attention to this dramatic situation.

I hope that this German-Cambodian exhibition and the National Museum of Phnom Penh will receive many interested visitors and furthermore I wish the archaeology of Cambodia all success in the future.

Phnom Penh, 29th of November, 2010

Dr. Wolfgang Moser
Ambassador of the Federal Republic of Germany

Preface

In December 2009, the Ministry of Culture and Fine Arts of Cambodia, the Memot Centre for Archaeology, the German Embassy and the German Archaeological Institute, together with the National Museum of Cambodia, agreed on the installation of a new exhibition about the Early Metal Age of Cambodia (Fig. 1).

The focus of this exhibition is centred on the most interesting archaeological artifacts recently discovered at three burial sites in southeastern Cambodia of the period from 500 BC to 100 AD - Prohear, Village 10.8 and Bit Meas. Never before in mainland Southeast Asia has been excavated such rich gold and silver jewelry from burials of this period as that found at Prohear. Moreover, the drums, bowls and bracelets made of bronze and the weapons and implements made of iron grant us an entirely new insight into this innovative epoch with its prospering handicrafts and long-distance trade.

In addition, the astonishing number of reported but mostly looted bronze drums from Prohear and their funeral context, together with other burial artifacts, leads us to assume the hard fate of some individuals who were living during a period of political change and conflict. The Han Chinese expansion across the territories of the 'Southwestern Barbarians' from the end of the 2nd century BC to the 1st century AD, forced many tribes in areas of present-day northern Vietnam and southern China to lose their independence. How profoundly this may also have affected those people who lived at a seemingly safe distance from these events along the middle and lower Mekong River will be an exciting chapter of archaeological research in the future.

Every artifact provides archaeologists with detailed information concerning the unwritten story of the origin of the Funan kingdom at the beginning of the eventful early history of Cambodia. The looting of many hundreds of burials at Prohear and Bit Meas has therefore irrevocably deleted many parts of this story forever. The principal blame for this loss does not lie on the Cambodian villagers who are

Fig. 1A and 1B: Saving Cambodian heritage is a fascinating task for international co-operation. The German Embassy has supported this joint work for many years. In December 2009, the former director of the National Museum in Phnom Penh, Mr. Hab Touch, the former German Ambassador, H.E. Frank M. Mann, together with his wife and representatives of the Memot Centre of the Ministry of Culture and Fine Arts and the German Archaeological Institute agreed to prepare this exhibition of the most exceptional archaeological finds discovered during Cambodian-German field work over the last five years at the Early Iron Age sites of Prohear in Prey Veng province and Village 10.8 in Kampong Cham province.

digging the soil around their houses to take from the ground strange things whose real value and meaning they do not understand; selling them cheaply to local dealers to improve their living conditions. The prominent British archaeologist Colin Renfrew has expressed the true situation harshly but rightly: "Collectors are the real looters"; and part of this ruthless alliance promoting the looting are dealers, antique galleries and even some museums abroad whose specialists know very well that they are the last link in a chain of illegal transactions. The looting at Prohear and Bit Meas are only two examples of how quickly thousands of burials have been dug up across Cambodia without any documentation, with the loss of all information that prehistoric artifacts and their context can tell us about the people, the cultures and their historical background. Therefore, let us combine our joint forces to preserve Cambodia's past!

The design of this exhibition lay in the hands of the authors of this guidebook. Our thanks go to the German Embassy in Phnom Penh, in particular to the former Ambassador Frank M. Mann and the present Ambassador, Dr. Wolfgang Moser, and to the Federal Foreign

Office's "Cultural Preservation Program" for supporting the conservation and restoration of the valuable finds from all the sites still in progress, for providing the funding for this exhibition and enabling the printing of this brochure. We also wish to thank all supporters of this German-Cambodian project who have authorised or assisted in this cooperation between the Memot Centre and the German Archaeological Institute, especially the secretary of state H.E. Chuch Phoeurn, as representative of the Minister of Culture and Fine Arts of Cambodia, and all other Excellencies of this Ministry. We are also grateful to the National Museum, in particular to the former director Mr. Hab Touch and the present director Mrs. Oun Phalline, for providing the room, equipment and varied support in preparing this exhibition.

1. Prehistory in Cambodia

Archaeology in Cambodia is for the most part still associated with Angkor and its epoch, which was seemingly created by gods and constructed by giants. All times before appear as a deep, black hole with an almost unknown prehistory. The roots of this amazing Khmer era still lie under the broad shadow of the temples. Nevertheless, archaeology in Cambodia is on a rapid upward course, resulting in the emergence of astonishing artifacts from the darkness. The formerly blank spaces on the archaeological map between Thailand and Vietnam are starting to fill up quickly (Fig. 2).

At present, the Stone Age periods up to the 2nd millennium BC remain even more obscure in Cambodia than the later prehistoric era, including the Bronze and Iron Age. One reason for this is undoubtedly that sites with stone tools or early ceramics do not attract the same attention from local people as metal objects, which are easily discovered within burial groups by scrap collectors or antiques hunters equipped with metal detectors. In addition, metal artifacts are more lucrative to sell on the black market than the seemingly more simple stone tools or ceramic pots of earlier periods.

In view of the numerous Stone Age sites of different cultures found in Vietnam and Thailand, with dates of approximately 20,000 to 2000 BC, it must be assumed that many Stone Age sites in Cambodia still rest undiscovered in the ground. This assumption is also indicated by the chipped or ground stone tools kept in private collections or in provincial museums without any documented context (Fig. 3-4).

Excavations conducted in 1966-1968 at the Hoabinhian site of Laang Spean in a karst cave in Battambang province verify that forest and river resources in the surrounding countryside supplied enough resources for periodic occupation over many centuries during the 7th millennium BC. In this cave, cultural layers were also discovered from the 2nd half of the 6th millennium BC that included the most ancient ceramics yet found in Cambodia. In the same layers, short axes and discoids were found that are typical of Hoabinhian stone tools. Since

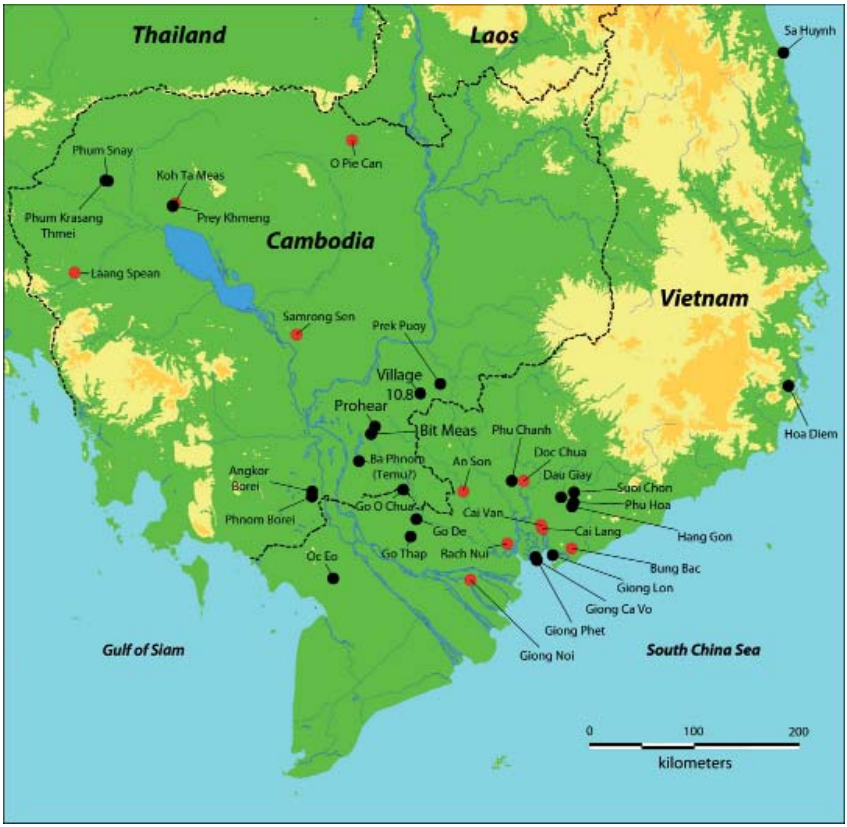

Fig.2: Location of important archaeological sites in Cambodia and southern Vietnam: Red point – Neolithic/Bronze Age (before 400 BC), black point – Iron Age (after 400 BC).

2009, a Cambodian-French team has started to re-excavate this site close to the excavation area of the 1960's (Fig. 5).

All this does not mean that agriculture, especially rice cultivation, had already become a component of the economy, everyday life and nutrition. Unlike many other areas of the world where stone axes and pottery are often associated with Neolithic agricultural communities, in Southeast Asia such artifacts are not clear proof for the beginnings of a new economy dominated by food-production. To better understand the different steps of this development from food-collectors, hunters or fishers to rice cultivation and the domestication of

Fig. 3: With a hoe and metal detector salvagers make their way through Svay Rieng province. Sometimes scrap metal turns out to be prehistoric treasure.

animals in Cambodia, some new excavations on sites of the 3rd and 2nd millennium with remains of cultivated plants and bones of domesticated animals are necessary. Similar finds were uncovered during the last excavation at Samrong Sen and at the current investigated settlement and burial site of An Son, a village in Long An province less than 10 km to the east of the modern Cambodian-Vietnamese border. Excavations and material analyses are still in progress at An Son, but the excavator Peter Bellwood has informed us that numerous pottery using rice chaff as a temper and remains of domesticated pig and dog are seen as evidence of food production in this area, dating to the beginning of the 2nd millennium BC.

Evidence has also come from excavations in northeast Thailand, where most communities subsisted from hunting, fishing, and perhaps a kind of horticulture until the 2nd millennium BC. Only after

Fig. 4: Stone tools from Toul Prasat Kro Houm stored in the museum of Svay Rieng province. A single shouldered adze (right, length 9.5 cm) is the first to be found in this province.

Fig. 5: Cambodian-French excavation at the cave of Laang Spean in Battambang province in 2009.

this period did people in some areas start growing rice and keeping animals in noticeable quantity. Such evidence for strong agricultural communities is provided by rice chaff tempered ceramics with dates between 1500-1000 BC or the regular offering of pigs in burials that date from the same period.

The shell midden of Samrong Sen in the Kampong Leng district of Kampong Chhnang province is considered to be a typical site of the Late Stone Age – Early Bronze Age transition. The first artifacts from this site were discovered as early as 1876, and thereafter it has been excavated many times at different locations. A wide range of wonderful polished stone axes, bone points or harpoons and Late Stone Age ceramics was excavated in documented cultural layers together with inhumations (Fig. 6). In fact, some layers might date back into the 2nd millennium BC as suggested by numerous archaeological finds and radiocarbon dates. Most of the bronze objects such as bracelets, spearheads, axes or bells were not discovered within cultural layers

Fig. 6: A– Samrong Sen site in 2005. *B– Shouldered axes from Samrong Sen.*

during archaeological excavations, but were collected by villagers as single finds during lime exploitation. A sandstone casting mold, slag and crucibles are witnesses for local bronze working.

Besides Samrong Sen, we know of only a small number of sandstone molds from the 1st millennium BC found in the deep interior of Cambodia at O Pie Can in the Mlu Prei region of Preah Vihear province. So far, profitable copper or tin sources are not known in this region and the indications for local bronze casting within the borders

of present-day Cambodia are very few, not only during the early Metal Age but for all later periods too. This could be merely the result of the current state of research on this subject. However, it seems more likely that finished bronze products, rather than ingots, were imported from casting workshops situated near mineral deposits or trade routes. The most likely suppliers were bronze workshops in central or northern Thailand, which had direct access to copper. Foundries in northeastern Thailand near the Mun or Mekong Rivers, two important 'highways' of that period, may have acted both as producers and as intermediaries for customers in present-day Cambodia. This is suggested by the great quantity of molds and other workshop remains found in this region.

In addition, we also need to consider possible suppliers from the Dong Nai River area in southern Vietnam that is also known for having a strong bronze working tradition, as attested by the many casting sites with numerous molds and characteristic bronze artifacts dating to the first half of the last millennium BC. For example, at the Bronze Age site of Doc Chua in Binh Duong province, now located 70 km away from the seacoast, a rich collection of more than 70 fragments of sandstone molds has been excavated. The main problem concerning the southern bronze workshops is that bronze casting seems to have broken down in the southern Vietnamese region in around 400 BC, as a result of various factors. In most areas of modern Cambodia however, the process of bronze casting seems to have remained a 'guest profession' carried out by itinerant craftsmen up to the present day.

Around fifty circular earthworks with outer walls and inner ditches, located in the red soil uplands of Kampong Cham, Kratie provinces and in the neighboring Vietnamese province of Binh Phuoc, were in the past seen as Neolithic villages of a former Memotian culture. However, recent investigations suggest that some of these sites were re-occupied up to the Bronze Age - Early Iron Age transition (Fig. 7).

The development of settlements, trade, communication networks, and agriculture during the Bronze and Early Iron Age of the 1st millennium BC depended also on the formation of the Mekong Delta.

Fig. 7: Part of the circular outer wall of earthwork Krek 52/62.

A decreasing sea level combined with the large sediment discharge of the Mekong River resulted in a continuous growth of the delta, characterized by difficult environmental conditions such as dense mangrove vegetation, brackish water reaching far into the interior and recurrent flooding. The occupation of this growing delta region required the combined efforts of communities proficient in land cultivation and water management. In fact, archaeological fieldwork during the last few decades has revealed many new sites of the Funan period, but the earlier dated sites are mostly concentrated near the border between Cambodia and southern Vietnam. This suggests that occupation and cultivation of most parts of the present-day Mekong Delta did not occur before the 1st millennium AD.

In recent years, many unexpected discoveries from the previously unknown Bronze Age and Early Iron Age of circa 1000 BC to 500 AD have been brought to light. Most of the surprises have come from burials, and the most precious finds have been selected for this exhibition at the National Museum.

2. Recently discovered sites of the Early Metal Age

During the last decade, about ten burial sites of the Bronze and Early Iron Age (dating from 1000 BC to 500 AD) have been discovered in Cambodia and southern Vietnam. They show that funeral practices did not substantially change during the 1st millennium BC but were quite similar across the whole region (Fig. 8). From the earliest known burials at Koh Ta Meas (dating from about 1000 BC) to the latest graves at Phum Snay (dating from 100 BC to AD 500), inhumation remained the common funeral custom for adults. The dead were placed on their back, with their arms alongside the body, and wrapped with their clothes, jewelry and implements in a fiber mat. The corpse was then buried in a pit, surrounded by a number of pottery vessels. Small children were often interred in jars. Cremation is mentioned alongside other funeral practices in Chinese records of Funan from the 1st millennium AD, but hitherto it is only rarely attested at a few sites such as Go Thap, Oc Eo or Vat Komnou. These funeral practices present a

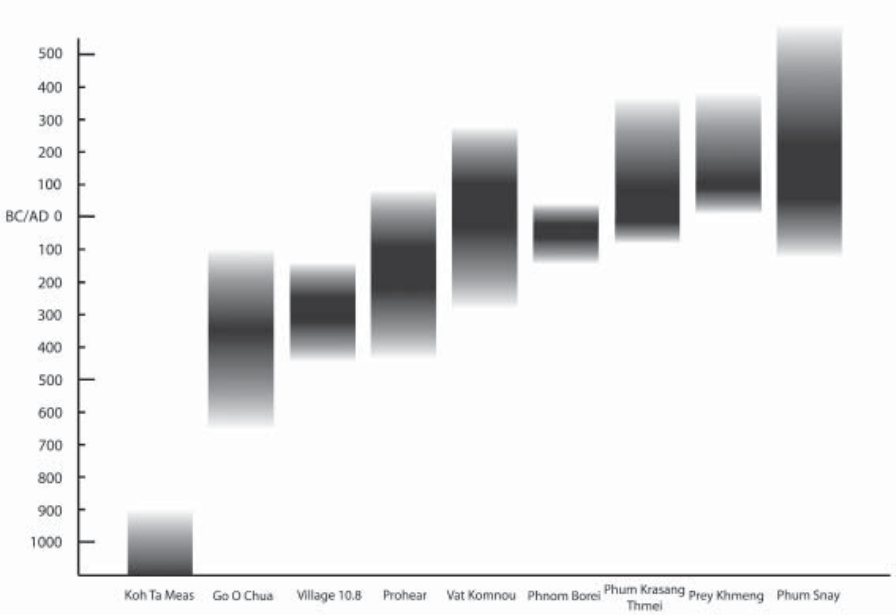

Fig. 8: Chronological overview of recently discovered burial sites of the Pre-Funan and Funan cultures.

clear contrast to the jar burial sites of the neighboring Sa-Huynh culture (400 BC-100 AD) of central Vietnam, which are distributed between the Hue area in the north down to the bay of Vung Tau in the south. In this region, almost all the dead were buried in large burial jars while inhumations were rare.

A good impression of the Early Bronze Age in Cambodia was provided by the French-Cambodian excavation at the burial site of Koh Ta Meas, near Angkor Wat in Siem Reap province, between 2004 and 2005. Twenty-seven complete graves dating to the centuries around 1000 BC were discovered. The burials were furnished with pottery and offerings made of bone, ivory, turtle shell and bronze. A grave with many offerings was equipped with thirteen bronze bracelets and a spindle whorl, but also with a fragment of a sandstone adze. Hitherto, Koh Ta Meas is not only one of the very few Early Bronze Age cemeteries excavated in Cambodia, but also the earliest archaeological site ever found in the region of Angkor. Some of the burial features and offerings were exhibited in 2009 to 2010 at the National Museum in Phnom Penh.

The period from 400 BC is an especially exciting time because in only a few centuries new handicrafts came into existence and the material culture changed more quickly and radically than ever before. From about the 4th century BC, iron objects were added to the bronze offerings in burials. During the 3rd century BC, the first glass and garnet jewelry was distributed. Finally, during the 1st century BC, jewelry made of gold, silver, carnelian, agate and rock crystal became increasingly more common. Some rich burials of the 1st century BC also have offerings of imported bronze goods such as Heger-I bronze drums. This increase in wealth and sophistication can be shown clearly with the help of the newly discovered finds from Village 10.8, Prohear and Bit Meas.

Village 10.8

The burial site of Village 10.8 is situated about 60 km northeast of Prohear, in Pognea Krek district near Memot in Kampong Cham province. The cemetery was discovered by chance during laterite mining conducted by the Krek Rubber Plantation, and became known to archaeologists in 2001. The Memot Centre for Archaeology, with an advisor from Germany, began the excavations that continued over seven campaigns from 2002 to 2008 (Fig. 9). 56 burials with offerings, including 11 jar burials of children, were discovered; belonging to the period between the 4th and 1st century BC.

Due to the acidity of the laterite soil, the skeletons were not preserved in the graves, but the position of offerings and burial structures suggest that most of the inhumations were oriented with the head lying to the southeast. Only a few small fragments of human bone were found inside some of the iron and bronze bangles. It is probable that the dead were buried in a wooden coffin made from a hollowed tree trunk and that the body was wrapped in textiles. Although no wood has been preserved, the arrangement of the pottery appears to match the shape of a coffin; while traces of fabric can still be seen on some of the iron tools after restoration. As at Prohear, a lot of iron slag was found, but in contrast only two spindle whorls were collected from a disturbed layer.

Gold and silver objects have not yet been found at Village 10.8. It seems that the 'tidal wave' of glass or semi-precious stone beads had not yet arrived in Southeast Asia. Even so, about 175 glass beads and 6 earrings made from blue, green or brown glass and 56 beads manufactured from agate, carnelian or garnet were found in 10 of the burials. The most interesting finds from Village 10.8 are the many varieties of implements, weapons and bracelets made of iron or bronze.

A unique bronze disc (diam. 15.1 cm) was dicovered in jar burial 41 from Village 10.8 (Fig. 10). It is similar to an imported bronze disc from Prohear that was found on the face of a child in one of the burials. The purpose of this disc is still under discussion. It could be a

Fig. 9: Excavation at Village 10.8 in 2008.

mirror, but the conical knob in the center does not have a hole that would normally be used to suspend the mirror by looping a cord through it. Perhaps it belongs to a group of very shallow omphalos bowls that were widely distributed across South and Southeast Asia from the 4th century BC, or it may be an ornamental disc. What is certain is that this is a clear piece of evidence for long distance trade during the last half of the 1st millennium BC. Furthermore, some fragments of a small bronze drum were found on the surface during the survey in 2001 also support this conclusion.

Besides the Early Iron Age burials and offerings, a small number of stone tools including shouldered adzes were found in disturbed layers together with ceramics, but not in the context of the burials. This suggests that the area had also been used or occupied at an earlier period, perhaps during the 2nd millennium BC.

Fig. 10: Shallow bronze bowl or decorative disc with central cone from Village 10.8, diam. 15.1 cm.

Bit Meas

The cemetery of Bit Meas in the Svay Antor district of Prey Veng province was found in a rice field near the village, but was completely looted at the beginning of 2006 (Fig. 11). The villagers told us that many gold objects had been found among the burial offerings. John Vink, a Belgian photojournalist who visited Bit Meas in April 2006, reported on the looting activities at this site: "Having found some antique artifacts in his rice field, its owner sold the right to dig to neighbors for 2.50$ per two square meters. Soon, for over a week, nearly 3000 people were uprooting the area, some of them having found gold, others beads …"

In May 2006, some staff members from the Faculty of Archaeology of the Royal University of Fine Arts and the Memot Centre in Phnom Penh visited the site and saved some of the valuable artifacts. Test excavations covering a total of 28 square meters were opened at four different locations near the edge of the cemetery, which was littered with looting holes. Mr. Sok Puthivuth from Phnom Penh financed this rescue campaign, and thanks to his support the Cambodian archaeologists were able to obtain various objects from the villagers and to take photographs of some of the items including earrings and a gold finger ring, as well as beads made from agate, carnelian and garnet. Unfortunately, no more graves came to light during the excavation and only some scattered ceramic vessels were found that had been left in the ground by the looters (Fig. 12).

The obliterated burial site of Bit Meas in Prey Veng province was worse off than Prohear. Unfortunately, we have no fragments or pictures of the bronze drums found at this site. The villagers of Bit Meas did not even know what a bronze drum was: During the digging in 2006 they called them "bronze pots", in Khmer "chhnang kvan". One year later, when the looting at Prohear began, participating 'specialists' from Bit Meas introduced this term to Prohear and the bronze drums were again labeled "chhnang kvan". Therefore, we can safely assume that the big "bronze pots" from Bit Meas were in reality bronze drums.

Fig.11: The Iron Age burial site of Bit Meas (about 150 BC-AD 100): Looters in action, May 2006. The whole area is marked by sinkholes like a lunar landscape.

Fig.12: Objects saved by recovering them from the looters at Bit Meas:

A – Gold finger ring with a star-like decoration, diam. 2.15 cm.

B – Two gold earrings, diam. 1.7 cm.

Prohear

Prohear is a village about 8 kilometers to the north of Bit Meas in the same district of Prey Veng province. In May 2007, archaeology students from Phnom Penh observed the looting of prehistoric burials at Prohear and announced this to the Memot Centre, who made a failed attempt to stop the illegal digging. From March 2007 until the beginning of 2008, the cemetery in the center of Prohear was almost completely destroyed. During this time, it is estimated that many dozens of bronze drums, hundreds of ornaments made from gold and silver, and thousands of stone beads were sold without any documentation (Fig. 13).

The archaeological excavation could only start in February 2008 on the village road; the last remaining section of this important site that had not yet been destroyed. We can estimate the former dimensions of the Iron Age cemetery located in the center of the village

Fig.13: Excavation on the main road through Prohear in April 2008: In the foreground are the holes of the looted burials. In the background on the left is one of the recently built houses funded by the selling of archaeological artifacts.

by examining the distribution of looters' pits that cover 125 x 150 meters, or almost 20,000 square meters. The excavation area on the village road cut through the center of the cemetery. During the first two archaeological campaigns in the spring of 2008 and 2009, four excavation units were set out on the road spanning 45 meters in length and 2-3 meters in width (Fig. 14). Hitherto, the whole excavated area covers more than 115 square meters with 52 burials detected, although many were only partly preserved or already destroyed by recent or earlier digging. We can imagine that at least 1000 burials were looted. Despite the comparatively small area of the rescue excavations, about 500 burial offerings came to light, as well 2700 beads and many thousands of potsherds.

By examining the funeral rites, orientation, burial offerings, depth and radiocarbon dates we can separate all 52 uncovered graves, including 47 inhumations and 5 jar burials of children, into two main mortuary periods (I and II): The burials of mortuary period I fall be-

Fig.14: Excavation unit at Prohear in February 2009.

tween 500 BC and the second half of the 2nd century BC. They comprise four inhumations primarily unified by their orientation to either east or west. It is most likely that all five jar burials (Fig. 15) may also belong to this mortuary phase. Furthermore, none of the inhumations or jar burials of period I contained gold or silver offerings, and on the whole they were not richly equipped. All the other 43 graves belonging to period II (dating from about the second half of the 2nd century BC to 100 AD) are unified by the same orientation of the head to the south, or slightly to the south-southwest. It appears that the orientation of the burials at Prohear changed during the second half of the 2nd century BC (Fig. 16). Furthermore, we have some typical grave goods for phase II such as bronze drums (Fig. 17), buffalo bracelets (Fig. 18), or fine orange-ware ceramics (Fig. 19) similar to those found at Angkor Borei in Takeo province. Moreover, all the burials with imported bronzes such as a bowl or bell, with rich gold and silver offerings, or with many beads made from stone or glass are also ascribed to mortuary phase II.

At Prohear, as at most other Bronze-Iron Age burial sites in Cambodia and southern Vietnam, the dead were normally buried lying on their back in a grave pit. In many graves the skeletal remains were

Fig.15: The mortuary vessel from jar burial 29 (diam. 27 cm) with a cover made from the upper part of a high pedestal bowl (mouth diam. 20 cm). Inside the jar were some garnet beads and iron fragments.

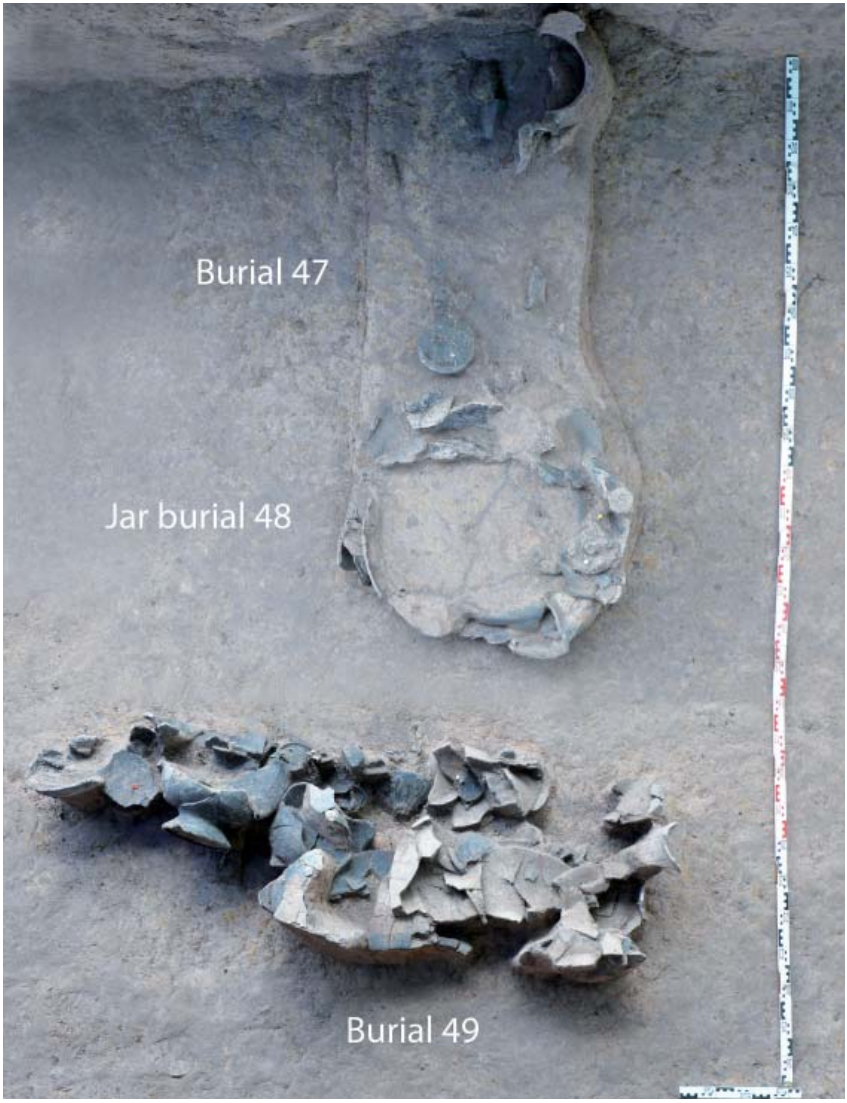

Fig.16: These three graves may be of three children buried side by side: Jar burial 48, burial 47 of a 9-year-old boy with his head to the south, and burial 49 of a 6-year-old child with the head oriented to the west; March 2009.

not preserved, but the orientation of the head could still be determined by the position of earrings, bracelets or other ornaments in the burial. A very specific burial custom of rich individuals at Prohear was to be buried with their head in a bronze drum, as we discovered in burial 4. Villagers told us, that they had observed this strange mortuary custom several times. Until now, this funerary custom was only known from the burial site of Kele in the southern Chinese province of Guizhou; about 1,740 km to the north of Prohear, and from some looted sites in Thanh Hoa province, northern Vietnam.

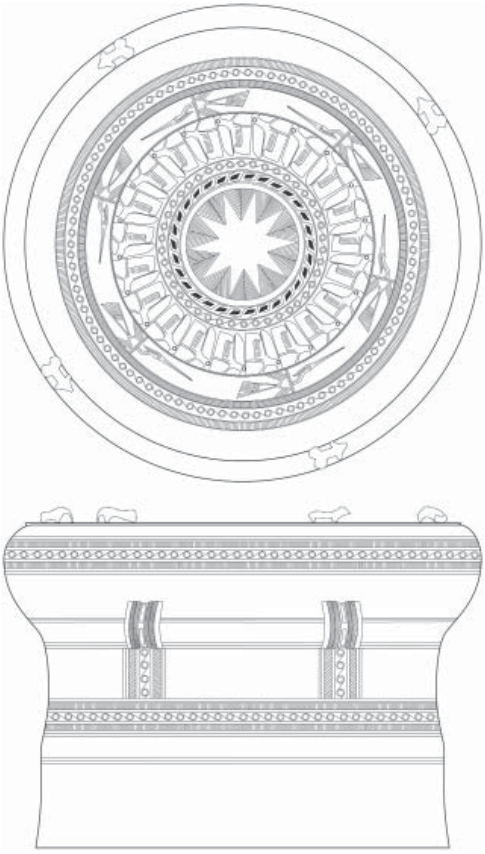

Fig.17: Bronze drum discovered in burial 4; height 30.5 cm, diam. 45.0 cm.

Fig.18: Bronze bracelet from burial 4, length 13.2 cm.

Fig.19: Vessels from various burials at Prohear. In the centre, the orange-red colored pot from burial 4.

In the burial of another richly equipped woman, the skull was covered by a bronze bowl (Fig. 20). A similar feature is documented at Phum Snay in northwestern Cambodia. Also exceptional is the grave of a 9-years-old child, whose face was covered by a bronze disc.

At Prohear, both genders have specific offerings. For example, men are often identified by phallic-shaped stone pestles placed between the legs (Fig. 21). Moreover, in the above-mentioned burial of a 9-year-old child, a bronze bell was also found between the upper thighs – most probably as a symbol for a boy. Many of the women were equipped with up to 6 spindle whorls, which were used as weights on a wooden spindle shaft. The total number of about 60 spindle whorls discovered is evidence for local spinning and textile production at Prohear (Fig. 22).

Two surprising results of the bio-anthropological analysis of the skeletal remains that survived in 32 burials should be mentioned here. From about 20 individuals, teeth were recovered and investigated. The teeth of six people show a very rare genetic variant, a so called 'foramina molaris', which is a small pit in the molar's exterior. This is an indication that there could be a genetic relationship between these individuals.

Moreover, the teeth of 19 individuals have so far been used for strontium vs. oxygen isotopic analyses to detect 'non-local individuals'. This archaeometric method relies upon the variation of strontium isotope ratios in rocks of different ages and compositions. Soils are gradually formed from these rocks, and freshwater in contact with these sediments shows the same strontium isotope ratio as the plants growing in the soil. These plants are then eaten as food, thus bringing the isotopic fingerprint into the human body. Oxygen isotope values change at different altitudes. In general, the higher the altitude the lower the isotopic value in the drinking water and in the tooth enamel of an individual using this water source. Tooth enamel does not grow or change its isotopic composition after the formation of permanent adult teeth. If an individual has a value that is different from the isotopic composition of the local soil, they are therefore considered to be of non-local origin.

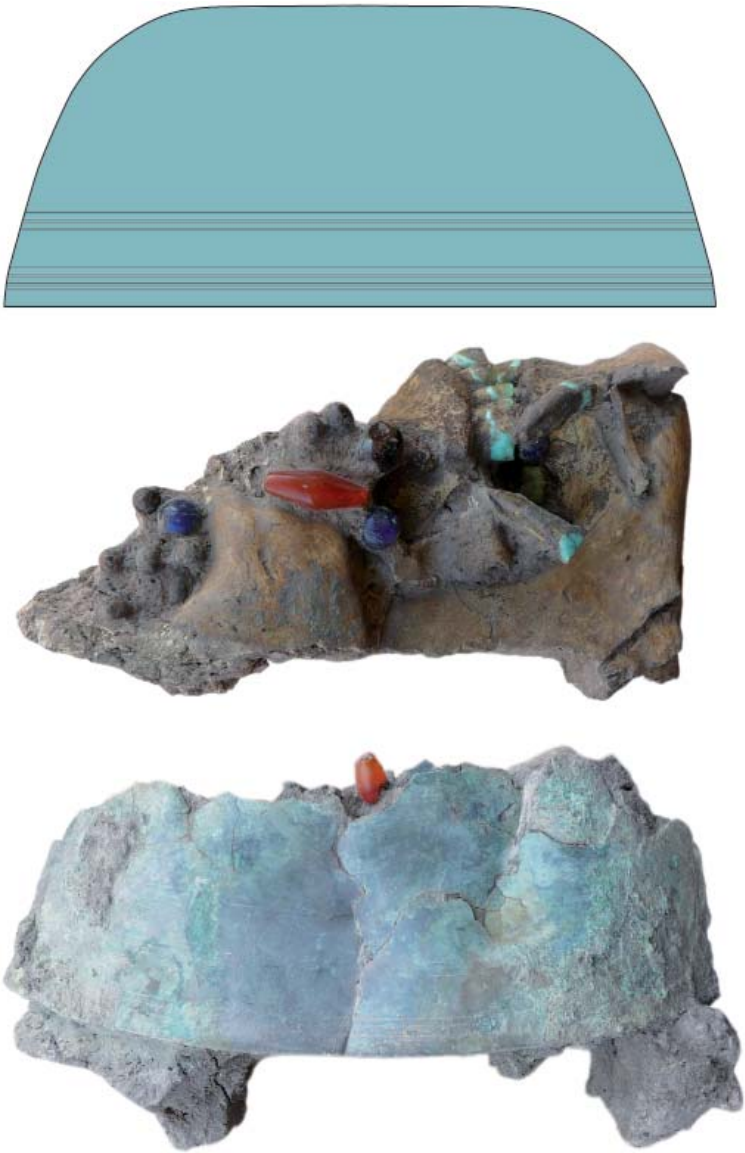

Fig.20: The skull, probably of a woman, in burial 33 was covered by a bronze bowl of Han style, diam. 16.5 cm. On the face were beads made from blue glass, garnet and carnelian.

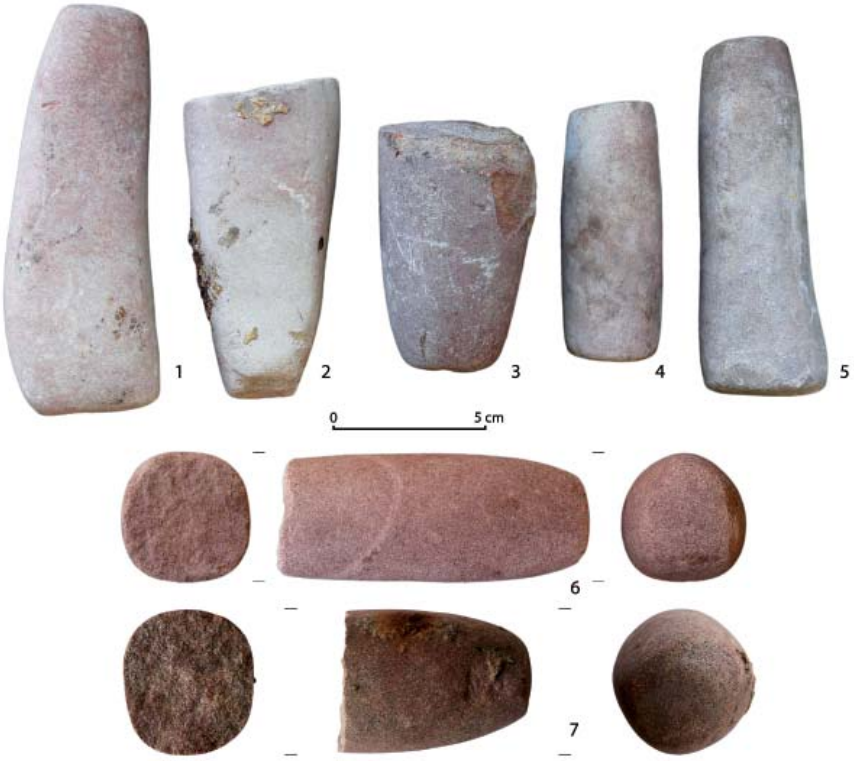

Fig.21: Stone pestles with traces of use were found in many looted (1-5) and excavated burials (6-7) and were placed between the thighs of men (right, length 11.9 cm).

In total, five out of 19 teeth analysed have a clearly different value of strontium vs. oxygen isotope ratio and must be seen as non-local individuals. Surprisingly, three in this group also have the 'foramina molaris', and all three were children aged between 5-9 years old. This means that these three children must have arrived at Prohear only a few years before they died. This is only one example of how the fate of individuals who lived more than 2000 years ago can be revealed by modern bio-anthropological methods.

Let us now take a look at the most common and some of the most interesting burial offerings, starting with the ceramics. Alto-

Fig.22: A collection of spindle whorls from both burials and settlement contexts.

gether, at least 260 pots were discovered in 52 burials. The pottery from mortuary phase II at Prohear is very similar to the ceramics from Go O Chua and other sites in southern Cambodia and southern Vietnam (Vat Komnou/Angkor Borei, Giong Lon etc.). At Prohear, the rich graves with bronze drums were also equipped with a fine orange-ware vessel of a type that has never been found at Go O Chua but occurs at Angkor Borei with a date after 200 BC (Fig. 19).

As a whole, we discovered or documented a total number of 96 gold or silver objects (Fig. 23). More than half of all the ornaments are small spirals or slit rings. The remaining gold-silver artifacts consist of larger earrings, finger rings, bracelets and gold foil tubes. The heaviest gold object is a ribbed earring weighing 16 grams. From the same

period we know of similar earrings from Bit Meas and from the two Vietnamese sites of Lai Nghi in central Vietnam and Giong Lon near Vung Tau, but these are a little bit smaller (Fig. 12).

The largest ornaments in gold and silver from Prohear are two bracelets. The gold bracelet was found in the richest grave of an old woman (burial 4), lying beside the bronze drum and inside a bronze 'buffalo bracelet'. A massive silver bracelet was among the offerings of a man who was also equipped with the only sword found at Prohear (Fig. 24).

Based on the results from 50 samples of the gold-silver objects analyzed so far, we can say that two-thirds of all ornaments contain more silver than gold. Three small rings are made of gilded silver and could have come from the same workshop. Two of these have the same composition and were found in burials 3 and 4. This example indicates that with the help of metal analyses we may be able to recognize some of the relationships between the dead; that they perhaps lived at the same time, or used the same source for their ornaments.

Considering their composition, the samples can be divided into seven groups. For example, the first group shows a palladium-platinum ratio that would fit well with a natural electrum from a placer. Moreover, two different groups of palladium-platinum ratios in the samples indicate that the gold or electrum came from at least two different regions. In summary, we can say that the objects from Prohear were made from a natural electrum, from silver and gold, but also from intentional alloys. It is also possible that older metal artifacts may have been reused.

In addition to the gold and silver ornaments, the sheer number of bronze drums makes Prohear unique in Southeast Asia. The discovery of such a high number of looted but reported drums at Prohear, so far away from their region of origin in southern China and northern Vietnam, is astonishing. At a minimum, we can estimate that many dozen bronze drums were found at this burial site, which were then sold and have now been lost to scientific evaluation. Besides the drum from burial 4 (Fig. 17), we only have pictures of a second that the villagers extracted.

Fig.23: Gold and silver jewelry from Prohear: Objects discovered in different burials.

Fig.24: Silver bracelet (diam. 6.2 x 5.5 cm) before restoration and partly coated with a black patina from burial 40, probably of a man, who was the only person among all 52 excavated burials to be equipped with a short sword.

Other remarkable bronze objects include the 'buffalo bracelets' that are still a rare find in Southeast Asia (Fig. 18). Identical bracelets have also been found 340 km northwest of Prohear at the burial site of Phum Snay. Another special find is a bronze bell for which we do not yet have any parallel in Southeast Asia. If we knew the parallels and origin of these two types of bronze artifact and of a very special

gold finger ring with a picture of a horseman (Fig. 25), then we would be much better able to explain the cultural background of Prohear's Iron Age population.

At present, the cemetery at Prohear is one of the richest Early Iron Age sites in Southeast Asia. Through the increase in field research that has taken place over the last 15 years, we now have information on about ten recently-discovered Bronze/Iron Age burial sites of the Pre-Funan culture in this Cambodian-southern Vietnamese region. Their interpretation gives us a good insight into the development of the burial tradition and into different waves of cultural influence or long-distance relations.

For instance, despite the great distance between Prohear and the Kele site of the Yelang culture in the southern Chinese province of Guizhou, both areas appear to have been connected with one another during the 1st century BC. Kele is situated in an area with rich gold, silver, and electrum resources. It also belongs to the northern distribution network for bronze drums. At present, Kele and two other cemeteries in Thanh Hoa province are the only sites besides Prohear that have the same unusual burial custom of placing the head in a bronze drum. Moreover, we can recognize some similarities in the other bronze artifacts. In contrast, we have to notice cultural characteristics at Prohear that have a long local tradition, such as the pottery types or other elements of burial practice.

Fig.25: Image of a horseman on a gold finger ring from burial 18.

The burial site of Prohear will be added to every archaeological map between South Asia and the Red River Delta. It provides a new insight into long distance interaction in Southeast Asia during the last centuries BC; no other prehistoric site in mainland Southeast Asia has yielded so many gold and silver objects. Even though Prohear is located inland, far away from the seashore and some distance from the Mekong River, Prohear's population were considerably richer than that of most trade ports beside the maritime silk route. In fact, of all the archaeological sites that have been discovered along the neighboring Vietnamese coastline, only Oc Eo is 'richer' in this way than Prohear. You may well ask: "Why was Prohear so rich?" and "Who were the people who found their final resting place at the Iron Age cemeteries of Prohear and Bit Meas?"

Perhaps both cemeteries belong to a larger group of burial sites that contain the graves of both locals and elite persons from Guizhou, Yunnan, Guangxi and Giao Chi who fled from the growing danger of Han Chinese expansion from the end of the 2nd century BC up to 43 AD. This is the period between the date when the Yelang tribes lost their independence on the one hand, and the death of the Trung sisters (the leaders of the Nanyue people in the Red River Delta of present-day northern Vietnam) on the other. This time span fits exactly with mortuary period II at Prohear!

If we return, after half a century, to a theory of the French scholar George Coedès, then we would have to locate the capital of the early Funan kingdom near the mountain of Ba Phnom in Prey Veng province, only 35 kilometers to the southwest of Prohear. With this thesis as a backdrop, the rich offerings and the large number of bronze drums from Bit Meas and Prohear begin to make sense, because bronze drums are not 'normal trade ware', but rather 'symbols of power' or 'the regalia of local chiefs'.

3. The conservation and restoration of artifacts

Restoration is like a second excavation as artifacts that were unrecognizable amongst the smashed pottery or because of a thick coating of rust become visible. Only well-preserved bronze objects or the offerings made of precious metal, stone, or glass show their true features after only a first cleaning during excavation. Most other finds need restoration by skilled specialists using elaborate equipment. Artifacts that are not carefully restored in this way make scientific interpretation and analysis almost impossible.

In 2006, the metal restoration laboratory of the Memot Centre for Archaeology was established in the compound of the Ministry of Culture and Fine Arts in Phnom Penh with the support of the German Academic Exchange Services, the Heinrich Böll Foundation, the Römisch-Germanisches Zentralmuseum in Mainz, the Conservation Office of Freiburg, and private donors from Germany. Thanks to funding by the German Embassy in Phnom Penh and the Federal Foreign Office's "Cultural Preservation Program", the restoration of the recently discovered finds from Prohear, as well as some of the artifacts from Village 10.8, is currently in progress.

On average, each of the more than one hundred discovered burials from Village 10.8 and Prohear contained between five and twenty broken pottery vessels (the diameters vary from around 8 cm to more than 50 cm) and many fragments of other ceramics. During the excavations at both sites, several thousand fragments from hundreds of restorable vessels were recorded. So far, about 250 vessels have been reconstructed and the missing parts filled in with gypsum (Fig. 26).

The metal conservation includes approximately 100 iron offerings, 35 bronze objects, and the cleaning of 96 gold or silver pieces of jewelry. Generally, the conservation work of all metal artifacts starts with the documentation of their original uncleaned state (weight, measurements, photographs etc.). The pieces are then carefully examined under a microscope to detect organic remains, traces of use or production, and other surface features.

The treatment of iron objects is most laborious but can produce some terrific surprises, because many of the iron offerings from Prohear are hidden under a thick coating of rust. This coating is so thick that the excavators could barely distinguish an iron tool from a bangle. In other words, much valuable information about these important items would be lost forever without careful restoration. The restored bronze and iron objects are safely stored in an airtight container with soft bedding and a bag of silica gel to prevent further corrosion caused by the hot air and high humidity outside. The restored items have to be checked regularly to identify any signs of new corrosion.

Fig.26: Ceramic restoration in the laboratory of the Memot Centre in Phnom Penh.

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The exciting prehistory of Cambodia will be even richer in finds, facts and historical details the stronger we protect archaeological sites against looting in the future. The "Law on the Protection of Cultural Heritage" of Cambodia, enacted in 1996 by His Majesty the King's Father Norodom Sihanouk, contains all the regulations to protect archaeological objects, no matter whether they are found on public or privately owned land. Please help to stop the looting and whenever you see looting activity please inform the provincial cultural heritage authorities or report it directly to the Ministry of Culture and Fine Arts.

Archaeologists will do their best to save the hidden secrets of the exciting prehistory of this country. The excavations at Village 10.8 and Prohear will continue during the coming years, and it is certain that we can expect more precious artifacts and new details from Cambodia's Early Metal Age.

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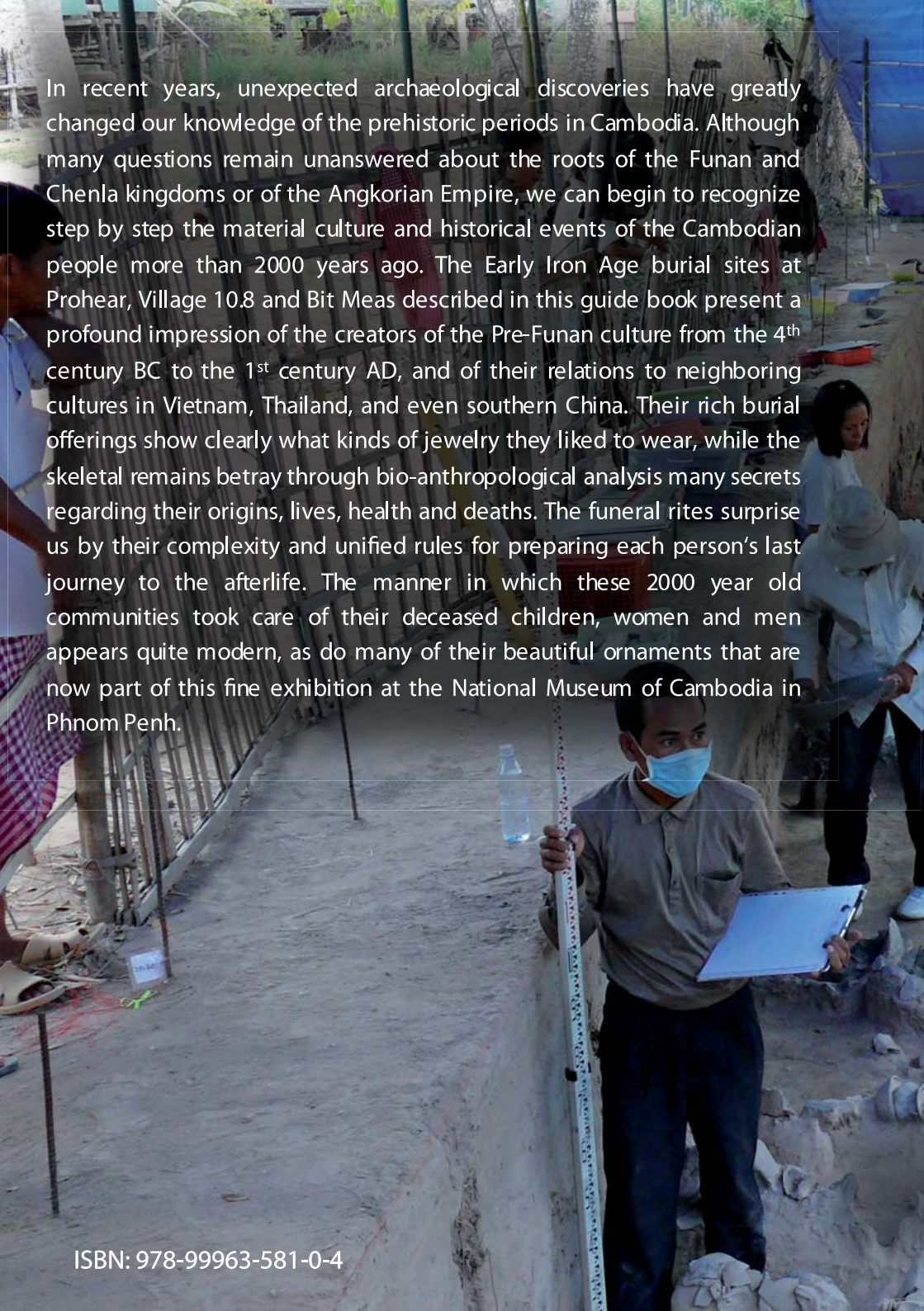

In recent years, unexpected archaeological discoveries have greatly changed our knowledge of the prehistoric periods in Cambodia. Although many questions remain unanswered about the roots of the Funan and Chenla kingdoms or of the Angkorian Empire, we can begin to recognize step by step the material culture and historical events of the Cambodian people more than 2000 years ago. The Early Iron Age burial sites at Prohear, Village 10.8 and Bit Meas described in this guide book present a profound impression of the creators of the Pre-Funan culture from the 4th century BC to the 1st century AD, and of their relations to neighboring cultures in Vietnam, Thailand, and even southern China. Their rich burial offerings show clearly what kinds of jewelry they liked to wear, while the skeletal remains betray through bio-anthropological analysis many secrets regarding their origins, lives, health and deaths. The funeral rites surprise us by their complexity and unified rules for preparing each person's last journey to the afterlife. The manner in which these 2000 year old communities took care of their deceased children, women and men appears quite modern, as do many of their beautiful ornaments that are now part of this fine exhibition at the National Museum of Cambodia in Phnom Penh.

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