Yeruul-Erdene 2004

Ch. Yeruul-Erdene. "Gol Modni Hunnu bulshni sudalgaani zarim ur dun." *Arheologiin Sudlal* (Ulaanbaatar) 22 (2004): 76-109.

Notes

1. A detailed description of a square tomb and its components is given in Miniaev and Sakharovskaia 2006, 2007.

2. A comparison of these bronze sticks with others found in Xiongnu royal tombs exhibits intriguing similarities, though their exact function is still under debate (André and Yeruul-Erdene 2004).

Carved stone erected after our excavations marking the completion of the reconstructed Tomb 64.

Excavation of a Xiongnu Satellite Burial

Jessieca Jones
Ludwig-Maximilians-Universität, Munich
Veronica Joseph
Boston University, USA

During the 2007 field season, the Hovd Archaeology Project excavated several burials at the Tahiltin-hotgor cemetery in Hovd aimag, Mongolia, at the foot of the Altai Mountains. A full report of the Tahiltin-hotgor excavation is included in this issue of *The Silk Road* (Miller et al. 2008).[1]

An earlier survey of the site in September 2006 indicted that there are 132 graves which make up the many complexes in this cemetery (Miller 2006). The number of satellite burials ranges from one to five per burial complex at Tahiltin-hotgor. The purpose of this report is to describe the excavation of one of these satellite burials and the artifacts found within it. Burial THL-25-2 is one of the three satellite burials associated with the unexcavated tomb complex THL-25 [Fig. 1]. The three satellite burials, of which THL-25-2 was the middle one, were oriented in a generally north-south line to the east of the large, square-ramped tomb mound. We have chosen to report on burial THL-25-2 because the skeletal remains were completely undisturbed and well preserved and thus the artifacts could be viewed in their original context.

Grave excavation

After the vegetation, consisting of scrubby desert bushes, surrounding the cluster of stones was removed, the loose sandy sediment surrounding the stones was cleared to define the extent of the feature. When the surface was completely visible, a rectangular grid was created around the stone cluster using string and iron pegs. This grid was tied to a reference datum point at the large square tomb (THL-25) in order to allow us to record the location of the burial features in

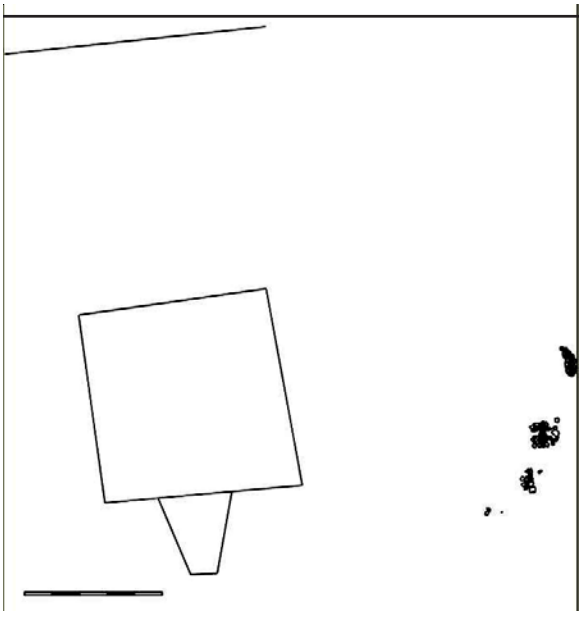

Fig. 1. Drawing of THL-25 grave complex. All images are copyright © 2008 Hovd Archaeology Project.

Fig. 3. The THL-25-2 grave excavated to the level of the skeleton, with the two large sub-surface stones still in place.

three-dimensional space with regard to the square tomb and the other two satellite burials in the complex. A sub-datum was created for THL-25-2 (known as sub-datum II) as a reference point for taking all measurements relating to this burial. Accuracy in recording the features is very important during excavation so that the context of the artifacts is understood and drawings of the burial can be recreated once fieldwork is completed. We took measurements and photographs at every level of the excavation.

Within our excavation unit, the sediment around the stones was removed down to their bases, which represented the ground surface at the time the feature was constructed. The artist of the team then drew the excavation unit using a meter-grid. In order to draw the cross-section of the burial shaft, a level north-south reference line running roughly through the middle of the stone mound was made with a string, and coordinates were taken with reference to sub-datum II from various parts of the stones. Once this level was recorded and photographed, we removed the stones and began excavating below the surface through the hard-packed earth. We were very careful at this stage so as not to damage any of the grave contents. The buckets of soil that we removed were dumped outside the excavation unit so as not to clutter the working area, but not too far away because it was used to refill the hole when the excavation was concluded.

At a depth of approximately half a meter (33-56 cm), we uncovered a second layer of stones oriented in the same north-south direction. The coordinates of this layer were recorded and the features photographed. The smaller stones were removed and we continued excavating with trowels toward the bases of the two large stones [Fig. 2]. As soon as we reached the bases of the stones, we created a pedestal roughly the size of the entire grave shaft so that we had enough room within the excavation unit to continue working down toward the skeleton. The soil matrix within the grave shaft was looser than the surrounding, undisturbed ground. We were able to identify the extent of the grave by the change in soil consistency and the presence of very hard, white veins of clay in the undisturbed areas.

Human remains

There was no indication that the individual had been buried in a wooden coffin or stone cyst. Similarly, no wooden coffins or stone cysts were found in the other two satellite burials associated with the THL-25 tomb complex. As we excavated beneath the stones, we could see bits of bones sticking out, which indicated that the skeletal remains were directly underneath this layer of stones. After we had carefully trowelled and brushed away the soil, we came across three small loose human bones. From then on, every trowel movement and brush stroke was painstakingly executed in order to make sure human remains and artifacts were exposed in their original position. The sediment around the three bones was carefully brushed away and their positions documented in situ and photographed. Before any of the bones or artifacts was removed, each item was assigned a number and then a clear plastic zip-lock bag was labeled with the assigned number. In this case, the first three bones were given the numbers THL-25-2.1, THL-25-2.2 and THL-25-2.3 ("THL-25" is the number assigned to the main tomb; "-2" is the number of the satellite burial, and ".1" is the number of the item coming out of the burial). A log book was kept as the items were taken out, numbered, and bagged. The record in the log book had to be meticulous because the information had to be entered into a computer database back in our field lab. It was important to assign one person to record-keeping so that confusion or discrepancies could be clarified later. After the three small bones were removed and recorded, we continued working down toward the rest of the skeleton and artifacts. These bones appeared to have been disturbed by rodent activity, as indicated by small rodent skeletal remains found at this depth. As we finally exposed the rest of the skeleton and artifacts, it became clear that this

grave had not been looted. We noted that the skeleton was well preserved and nearly intact. Preliminary analysis indicated that the remains belonged to a male.

In order to be able to make drawings of the exposed skeleton as well as the cross-section of the grave, coordinates were taken from various parts of the skeleton along the same north-south string line we created earlier. Day glow plastic cocktail sticks were laid in the burial pit at strategic points of the skeleton along this north-south line, keeping the northern point consistent for all later measurements; their coordinates were recorded; and photos were taken directly above the excavated area. Later in the laboratory, these photos were used in conjunction with the Illustrator© program to make accurate scale drawings of the skeleton and cross-sections of the burial pit. The consistent northern point of all such photograph-based drawings was used to overlay the consecutive images in Illustrator© so that their stratigraphic relationship could be properly understood.

After the exposed remains were documented and photographed in situ as above, artifacts that were above the skeleton were taken out, given a number and bagged so that the full extent of the burial position and condition of the skeleton could be noted. The individual in this tomb was buried in a supine position with legs extended [Fig. 3]. His body was oriented to the north and his left arm was bent across his chest. The skull was oriented facing east and had been slightly deformed by the weight of a large stone placed on top of it. The skeleton was buried about a meter below the ancient surface. All of these observations were again recorded and additional photographs made before the remains were removed, superficially cleaned with brushes, labeled and bagged, and taken to the ger (yurt) that housed the laboratory equipment. In the laboratory, the bones went through another cleaning process before being securely packed for transportation to Ulaanbaatar. No perimortem trauma to the skeleton was observed, which most likely rules out a violent death. Further analysis by Christine Lee revealed that the interred individual was an adult male between 30-35 years of age and 159-167 cm tall. (Miller et al. forthcoming).

Fig. 3. In-situ skeletal remains.

Artifacts

This burial contained more artifacts than any of the other satellite graves we excavated. After all the skeletal remains had been removed from the grave, the same process of taking coordinates of the artifacts was repeated and another photo with the day-glow plastic cocktail sticks was taken. Correct photo-documentation of all the artifacts in situ is essential for post-excavation research.

Due to the climatic conditions in this area no organic material such as textiles, wood, or leather were preserved at this shallow depth. However there was some evidence of organic residues around the skeleton. We recovered several artifacts made of bone and metal. The bone artifacts were relatively well-preserved but all the iron artifacts were badly corroded. The bone artifacts included a plate perforated at both ends [Fig. 4, facing page], approximately 16 cm

long , found near the left side of the individual, within the bend of the left arm. The bone plate is slightly curved with a small hole on one end and a "T"-shaped piece of metal inserted through the other hole at the opposite end. This plate may have been part of a bow, of which the rest was not preserved, or the handle of an instrument. Similar bone and deer-horn artifacts have been found at the site of Burhan-tolgoi in Egiin gol Valley, Bulgan aimag (Torbat et al. 2003). Near the left side of the pelvis, we also found a small, slightly flat object made of bone that was rounded on both ends and perforated through the middle [Fig. 5]. On one side, an "X" was incised into the surface, and the opposite side was untouched. This may have been a toggle used for fastening clothing.

Around the same area, a small bone shaft that we had partly exposed earlier was found to be embedded in a chunk of highly corroded metal, just below the left pelvis near the femur. Our conservator, Judy Logan, devised a method to dislodge the bone artifact from the corroded metal with minimal damage to the artifacts. After studying the situation, it was decided that a block-lift method would be the best option to achieve this. The artifact cluster was cleaned, then two layers of cheesecloth were carefully placed on top of it. The cheesecloth was wetted so that it would conform to the surface of the object. Paraffin wax pellets were softened in a hot-water bath and the semi-melted wax was slathered onto the cheesecloth on all sides, like icing a cake [Fig. 6]. The cheesecloth acted as a barrier between the artifact and the rigid wax support and prevented the melted wax from sticking to the artifact. After the wax had set, an archaeological spatula was sliced under the dirt supporting the wax-encased artifact to separate it from the ground. It was then flipped onto a piece of cardboard so that the artifact was lying on its wax-case. It was conveyed back to the laboratory for further treatment.

Fig. 6. Applying the wax over the cheesecloth in preparation for the block-lift.

Fig. 4. (below) Bone plate, before cleaning, with inset (in different scale) showing end view with iron insert.

Fig. 5. (right) Bone toggle.

On each side of the pelvis we also found a pair of sheep or goat astragali (ankle bones). They were smoothed in some areas, but otherwise undecorated. Near the right side of the pelvis, sitting on top of a chunk of corroded metal was a larger astragalus, which could be from a bovine or horse. Animal ankle bones were found in some of the other burials excavated at Tahiltin-hotgor as well as in many other Xiongnu sites throughout Mongolia and southern Siberia (see Davydova 1995, 1996; Dorjsuren 1961; Miller et al. 2006). In modern Mongolia, ankle bones are still used as gaming pieces. The burial contained many other fragments of corroded iron, but most of them were too damaged to be identified

in the field. However, several of the corroded iron artifacts were intact enough so that they could possibly be identified in the future using x-ray and other techniques.

Located on the inside of each ankle of the deceased was a piece of iron, which may have been part of a footwear buckle. Several other fragments found around and under the pelvis may have been part of a metal belt or fasteners for clothing. A corroded metal ring was found near the right hand. This could be a ring used by archers to protect the fingers when drawing the bowstring.

Back in the laboratory, dirt from the underside of the block-lifted artifact cluster was carefully cleaned in order to expose the bone-shaft, while leaving the fragile corroded metal in the cheesecloth-wax case. Fragments of wood were detected at one end of the corroded metal, which suggests that it could have been be a knife or other metal instrument with a wooden handle. Only further cleaning and other tests can reveal its form and confirm what the object is. Meanwhile, the bone artifact revealed itself as a pipe-shaped object – a long, faceted piece of bone with a small scoop carved into one end [Fig. 7, facing page]. The shaft of the artifact was not hollow which rules out the possibility of its being an implement used for smoking. There were no visible burn marks or residue inside the bowl of the object. A similar artifact was found at the Burhan-tolgoi cemetery in Egiin gol valley, north Mongolia (Torbat et al. 2003), and two similar objects have also been found in Sudzinsk in Il'movaia pad' (Rudenko 1969).

Discussion

The purpose of these satellite burials is still being debated. THL-25 is a typical Xiongnu elite burial with three satellite burials. The artifacts buried in this satellite grave are consistent with Xiongnu satellite burials of this size in other cemeteries, even though the burial structure of the satellite graves at Tahilt is different (Miller et al. 2006; Miller et al. forthcoming).

The presence of traditional clothing accessories such as a metal belt around the waist, footwear with buckles, and astragali is common in Xiongnu burials. The most unusual object in this grave is the bone pipe-shaped object. It is interesting to note that such objects have been found in the core Xiongnu areas as well as in the westernmost part of the Xiongnu Empire. This may point to some degree of cultural homogeneity among the different tribes which constituted the nomadic empire. The types of materials used to produce these artifacts (bone, metal, etc.) are also similar to Xiongnu material culture from other burials.

When we reviewed the human remains and artifacts together, we wished to hypothesize this was a warrior not significantly past the prime of his life. However, the evidence about possible weaponry was at best slender. He was probably dressed in organic materials (most probably wool or felt) as indicated by organic residues all around his remains. His garment was fastened with a bone toggle and in Xiongnu fashion he wore a belt made of linked metal plaques. He probably wore felt or leather boots decorated with metal buckles and carried his accessories, such as a knife, the pipe-shaped object, and astragali in a pouch of some sort on his left side just below his pelvis. The bone-plate might have been part of his bow, and he appears to have had an iron-bladed knife. It is not certain whether a corroded metal fragment found near the left femur is an arrowhead. Connections between the material and human remains found in the grave and the past lifestyle and practices of the ancient Xiongnu can be drawn through the context that intact burials and archaeological excavation provide. In this and the other satellite burials at Tahilt, unlike at Gol Mod 2, we did not find numerous iron arrowheads.

It is interesting to note that no coffin or stone cyst was found among the three satellite burials in the THL-25 complex. The reasons could be due to variations in local tradition, given that the Tahiltin-hotgor cemetery is in the westernmost part of Mongolia, or environmental constraints such as the shortage of wood, or the status of the deceased. The exact dating of this satellite burial, THL-25-2, awaits further clarification but we can say confidently that it shares similar burial traditions of other Xiongnu graves.

Acknowledgements

The authors would like to thank Bryan Miller and Judy Logan for their comments and suggestions on earlier drafts of this article, the Silkroad Foundation, the National Museum of Mongolian History and the University of Pennsylvania.

About the authors

Veronica A. Joseph received her B.S. in Anthropology from Michigan State University and is

currently a Ph.D. student in the Archaeology Department at Boston University. Her research interests include the Qin and Han empires in China and their interactions along the Chinese frontier with nomadic groups of Mongolia and Northeast Asia. She may be contacted at: <vjoseph@bu.edu>.

Jessieca Leo-Jones graduated from the University of Canterbury, Christchurch, New Zealand with a B. Sc. in Chemistry and Economics and obtained her M.A. in Sinology from the Ludwig Maximilian University (LMU), Munich, Germany. Presently, she is working on her Ph.D. at the Faculty for Asian Studies at LMU. Her interests include Chinese Art and Archaeology, sex and sexuality in the History of Chinese Medicine, and Xiongnu culture in relationship to Central Asia. She may be contacted at: <jade.ys@ostasien.fak12.uni-muenchen.de>.

References

Davydova 1995

A. V. Davydova. *Ivolginskii arkheologicheskii kompleks. T. 1. Ivolginskoe gorodishche* (The Ivolga Archaeological Complex. Vol. 1: The Ivolga Fortress). Arkheologicheskie pamiatniki siunnu, Vyp. 1. St. Petersburg: Peterburgskoe vostokovedenie, 1995.

Davydova 1996

A. V. Davydova. *Ivolginskii arkheologicheskii kompleks. T. 2. Ivolginskii mogil'nik* (The Ivolga Archaeological Complex. Vol. 2. The Ivolga Cemetery). Arkheologicheskie pamiatniki siunnu, Vyp. 2. St. Petersburg: AziatIKA, 1996.

Miller 2006

Bryan Miller. "Khovd Archaeology: Archival Research and Field Survey Expedition," accessed at: <http://www.mongoliacenter.org/fellowship/reports/Bryan.Miller.pdf>.

Miller et al. 2008

Bryan K. Miller, Jamsranjav Bayarsaikhan, Tseveendorj Egiimaa, and Christine Lee. "Xiongnu Elite Tomb Complexes in the Mongolian Altai: Results of the Mongol-American Hovd Archaeology Project, 2007". *The Silk Road* 5/2 (2008) (see above).

Miller et al. 2006

Bryan K. Miller, Francis Allard, Dimaajav Erdenebaatar and Christine Lee. "A Xiongnu Tomb Complex: Excavations at Gol Mod 2 Cemetery (2002-05)." *Mongolian Journal of Anthropology, Archaeology and Ethnology* 2/2 (2006): 1-21.

Miller et al. forthcoming

Bryan K. Miller, Jamranjav Bayarsaihan, Tseveendorj Egimaa, Prokopy B. Konovalov, Judy Logan and Christine Lee. "Elite Xiongnu Burials at the Periphery: tomb Complexes at Tahiltin-hotgor, Mongolian Altai" (forthcoming).

Navaan 1999

D. Navaan. *Khunnugiin uv soyol: arkheologiin sudalgaany material.* Ulaanbaatar, 1999.

Rudenko 1969

Sergei I. Rudenko. *Die Kultur der Hsiung-nu und die Hügelgräber von Noin Ula*, tr. Helmut Pollems. Bonn: Habelt, 1969.

Torbat et al. 2003

Ts. Torbat, Ch. Amartuvshin, and U. Erdenbad. *Egiin Golyn sav nutag dah arheologiin dursgaluud.* Ulaanbaarar: Mongolian State Pedagogical University, 2003.

Note

1. Additional information about Tahiltin-hotgor cemetery can be found on-line at the Silkroad Foundation website: <www.silkroadfoundation.org/excavation/takhiltcemetary.html>.

Fig. 7. Bone "pipe-bowl."