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# Xiongnu Constituents of the High Mountains: Results of the Mongol-American Khovd Archaeology Project, 2008

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The greater Gobi-Altai region of western Mongolia lies adjacent to the illustrious northwest Chinese region of the Silk Roads. This area became a critical frontier for the steppe empire of the Xiongnu (3<sup>rd</sup> century BCE – 2<sup>nd</sup> century CE), whose presence is attested to by the Takhiltin-khotgor cemetery of mounded ramped tombs attributable to the imperial supra-elite (Miller et al. 2008; Navaan 1999). In the summer of 2008, the Mongol-American Khovd Archaeology Project further pursued a regional understanding of the Xiongnu phenomenon in frontier zones by focusing on excavations at the small burial ground

of Shombuuziin-belchir within the mountain passes of the Altai. This site lies along a route leading up from the monumental cemetery at Takhiltin-khotgor to the other side of Altai into the Dzhungar Basin at the northern edge of the Silk Roads [Fig. 1]. The cemetery, and the full excavation of all its features, will constitute the heart of excavations and survey for further seasons of fieldwork. The Khovd project aims to address a set of research questions that will explore patterns of subsistence and mobility in both local communities and the larger region in order to understand integration and interaction on several scales.

Fig. 1. Khovd map with excavation sites.



Fig. 2. View of Shombuuziin-belchir cemetery.



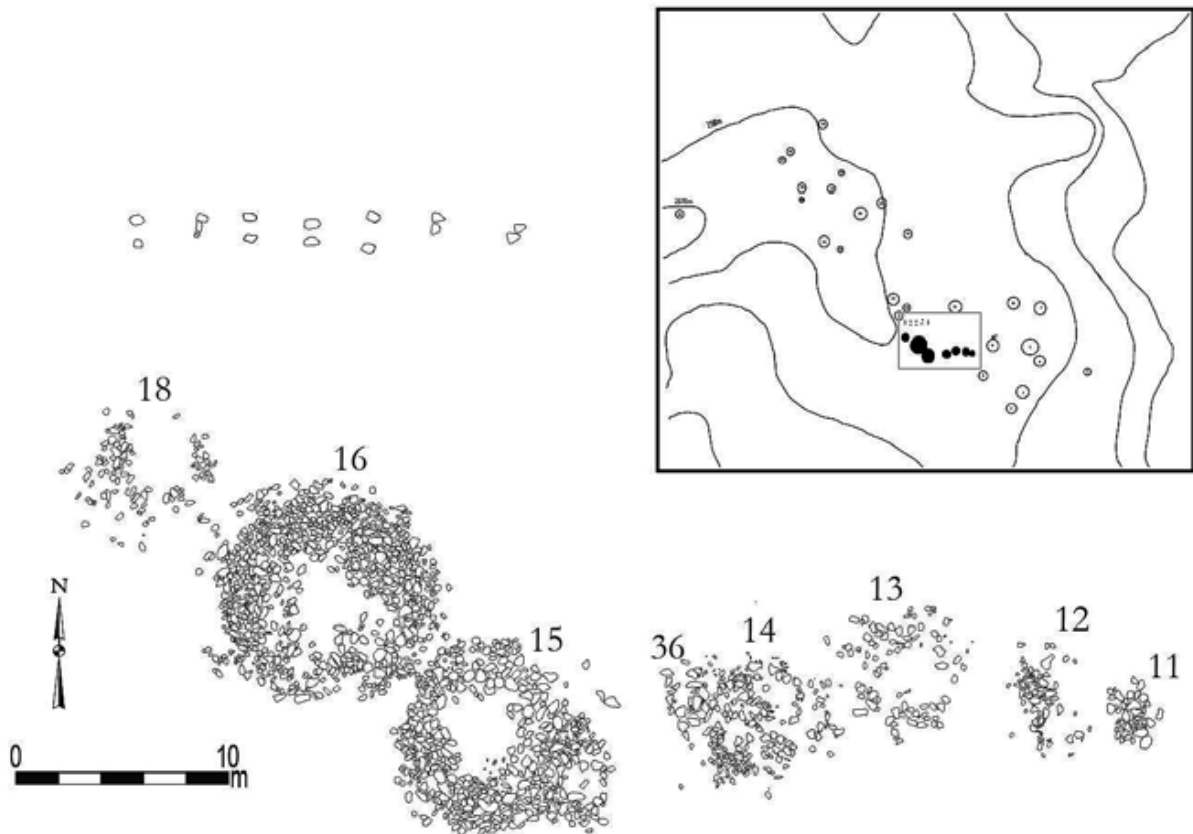


Fig. 3. Map of Shombuuziin-belchir cemetery (2008 excavations).

### Shombuuziin-belchir cemetery

The Xiongnu period cemetery at Shombuuziin-belchir lies within a niche of hills overlooking the mountain valley of the Tsenkher River [Fig. 2, facing page]. This upper extent of the Tsenkher River runs through the Mongolian Altai Mountains at 2380 m elevation and is lined with numerous stone mounds and other features from the preceding Bronze Age, as well as dotted with several ritual features of the medieval Türk period. Surveys of the burial grounds found surface markings for thirty-four graves, the majority of which appear as circular arrangements of stones about five meters in diameter [Fig. 3]. A few clusters of graves appear within the cemetery, and in 2008 the Khovd Project chose one such group to investigate as the start of the full excavations of the site.

We cleared the surface around the entire line of burial markings, though some collections of surface stones were difficult to discern, even after cleaning 20 cm down to the ancient sur-

face level. Cleaning the first 20 cm unveiled a collection of larger ring markings and smaller clusters of stones. This was the first indication that we were again dealing with a new category of burials that had been addressed in the discoveries in excavations of small satellite burials in the monumental cemetery at Takhiltin-khotgor in 2007 (Miller et al. 2008). The surface demarcations of some larger graves were clearly circular in their original state. However, for the smaller graves it often remain difficult to determine the shape and dimensions of their original surface markings. Some of the burial pits did not lie at the exact center of the small scatters of stones. One would therefore not want necessarily to categorize them as circular graves with a burial pit in the middle.

One must also consider the possibility that the scattered stones from looting have not only distorted the original shape of the surface demarcation, but obscured adjacent features. In one case, not until we began to excavate deeper below the ground surface did we discover an additional burial (N<sup>o</sup> 36) abutting the plot of another grave (N<sup>o</sup> 14). The preliminary excavations in 2008 have highlighted the potential for

discerning unnoticed or indistinct features beyond the results of surface surveys. For this reason it will become necessary to clean down to the original surface level throughout the burial grounds (cf. Konovalov 2008; Miniaev 1998). In total, eight stone-marked burials and two features related to burning were excavated. Two of the graves (№ 15 and № 16) resemble the standard type — circular stone marking above with northern oriented wooden coffin beneath — seen elsewhere in the regions of Mongolia and South Siberia attributed to the Xiongnu empire (Konovalov 1976; Torbat 2004). Several others, however, correspond to the stone cists beneath small clusters of stones seen at Takhiltin-khotgor. The variety of burial types as well as deceased age range present an ideal preliminary sample. The high quality of preservation for much of the wood, human bones, and other organic material adds to the potential for research on the remains found at this site.

### Wooden coffin burials

The circular demarcations of stones for burials № 15 and № 16 measured 660 cm and 730 cm, respectively, when first surveyed. After cleaning 20 cm down to the original surface and exposing more stones of the broad burial marker, the surface circles of these two burials measured approximately eight and ten meters in diameter. Both of these graves were heavily looted in antiquity, as almost all Xiongnu-period interments have been, but the remaining scant artifacts are enough to impart an idea of the previous burial assemblage. The burial pits and furnishings, however, are preserved to such an astounding degree that we may now begin to explore the intricacies of burial and coffin construction. Whereas many burials in other regions leave behind frayed remnants or organic stains of the wood furnishings, the interments at Shombuuziin-belchir have yielded whole portions of coffins and accompanying structures that could be lifted out for closer examination.

The wood-plank coffin in burial № 16 was placed 270 cm below the surface and surrounded by a stone arrangement 220 x 57 cm [Fig. 4]. The plank lid of the coffin was then covered with a series of transverse wooden beams supported

by a set of wooden supports along either side of the coffin that stood against the outer arrangement of stones. After careful cleaning, these cross beams were removed and examined further. Several of them had rectangular holes cut through the middle, but these holes did not correspond to any wooden inserts or other structural pieces of the grave furnishing. The coffin in burial № 15 was placed 230 cm below the surface with an equivalent packing of stones with wood supports, 280 x 110 cm, and array of cross beams laid overtop the plank lid and held up by the set of wooden supports alongside the coffin [Fig. 5, facing page]. The ends of the beams overtop both coffins resembled splintering breaks more than cleanly hewn pieces of equal length, and the additional presence of some beams with rectangular slots through the middle suggests that these were pieces from another construction that were re-used to cover the furnishing of the deceased.

The looting of both these coffins was extensive and left behind no bones for № 16 and only a handful of teeth and rib fragments in № 15. Nevertheless, the size of each coffin suggests

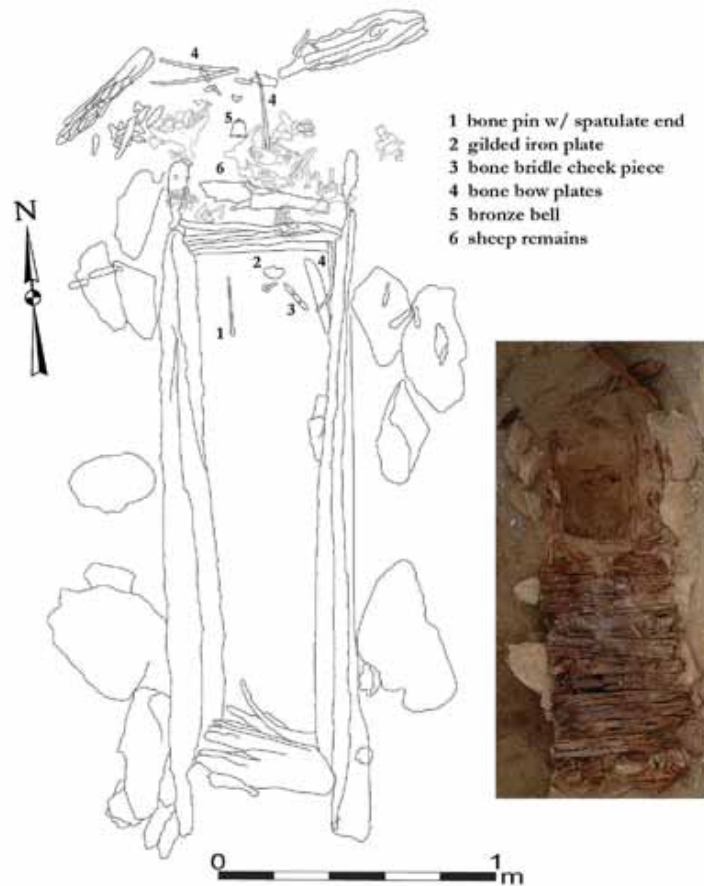


Fig. 4. SBR-16.



that the individuals were adults — coffin № 15 measured 187 x 60 cm, and coffin № 16 measured 180 x 52 — and the few remnants from grave № 15 confirm the maturity of that individual. The looters robbed the coffins of almost all the interred goods, but did not significantly damage the coffins in the process. Upon the completion of excavating grave № 15, we were able to remove carefully the southern two-thirds of the articulated coffin [Fig. 6]. A layer of faded red paint remained on the outside of the coffin walls, and white and black X-marks had been painted overtop this layer. Both coffins were constructed from large singular planks whose cross-sections reveal that they were cut from broad-trunked trees that are uncharacteristic of the Gobi-Altai area. In burial № 16 we found a handful of iron pieces that had been mounted

Fig. 5. SBR-15.

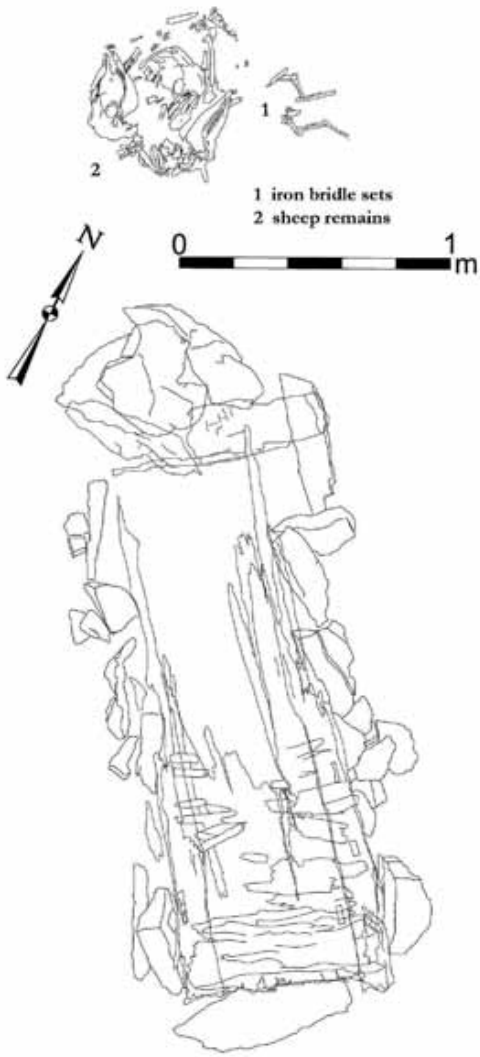


Fig. 6. SBR-15 painted wooden coffin.

onto the wooden coffin [Fig. 7] — square pieces in the shape of four-leafed (quatrefoil) designs like those seen on other more elaborate Xiongnu-period coffins. An integrated combination of the cross-lattice pattern and quatrefoil design was more standard for the occasionally decorated Xiongnu coffins (see tomb № 64 at Takhiltin-khotgor in Miller et al. 2008), but the presence of these singular elements in both cases remains noteworthy. The decorative elements, the form and construction of the coffins, and the overall structure and orientation of the graves undoubtedly ties



Fig. 7. SBR-16 iron quatrefoil decoration.

them to traditions seen in the territories further east of the Altai — the core of the Xiongnu polity.

The few artifacts remaining in these two graves also resemble burial assemblages of elite graves throughout Central Mongolia and Transbaikalia. Fragments of iron belt pieces were found in most of the graves, but only the portions in graves № 15 and № 16 had thin gold foil attached to the outer surface. A standard waist clasp from grave № 15 was found intact with three abut-

Fig. 8. SBR-15 gilded iron belt clasp.



ting strips of gold foil covering the convex surface [Fig. 8]. A scatter of tiny fragments from the surface of a painted red and black lac-



Fig. 9 (above). SBR-15 lacquer fragments.  
 Fig. 10 (below). SBR-16 bone chopsticks.

quer vessel were also found in grave N<sup>o</sup> 15 [Fig. 9], and a pair of bone chopsticks was tossed to the north of the coffin in grave N<sup>o</sup> 16 [Fig. 10]. Many of the elite circular graves elsewhere have yielded the remains of small Chinese red-and-black lacquer vessels as well as pairs of bone chopsticks.<sup>1</sup> These bone implements differ from the bone pin found in the collection of scattered goods [Fig. 11], though the differences between long bone pieces are often difficult to determine based on the shape or placement of the burial of the bone items.<sup>2</sup> In most of the burials excavated thus far, including the smaller stone cist interments, were fragments of thin, tightly woven fabric, composed of lustrous, fine fibres, most likely silk. The remnants of such cloth could indicate at least the import of Chinese manufactured material, if not Chinese manufactured garments. Since only small fragments were found, it is impossible to determine the form or style of textile artifacts. Only one small piece of fabric, found overtop the infant in burial N<sup>o</sup> 36, was intact.

Aside from the remnants of prestige goods

Fig. 11. SBR-16 bone pin with spatulate end.



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and decorative additions to the burial furnishings, these two graves contained numerous iron portions of bridle equipment, especially snaffle bits. Grave N<sup>o</sup> 15 contained at least two bridle sets [Fig. 5 artifact 1], and N<sup>o</sup> 16 yielded a carved bone cheek piece from a horse bridle [Fig. 12]. Finds similar to the small bronze bell in grave N<sup>o</sup> 16 [Fig. 13] have been seen in other Xiongnu graves, though such ornamental bells are usually made of iron (cf. Miller et al. 2006). This manner of gear clearly indicates horse-riding, and, in Xiongnu graves, is often accompanied by weapons of archery. Burial N<sup>o</sup> 16 yielded long thin plates of carved and polished bone that served to strengthen the middle and endpoints of bows [Fig. 14, facing page]. As the overwhelming majority of Xiongnu graves found thus far are spoiled from looting, so are the bow pieces disarticulated and our understanding of bows at that time equally fragmentary.



Fig. 12 (above). SBR-16 bone cheek piece.

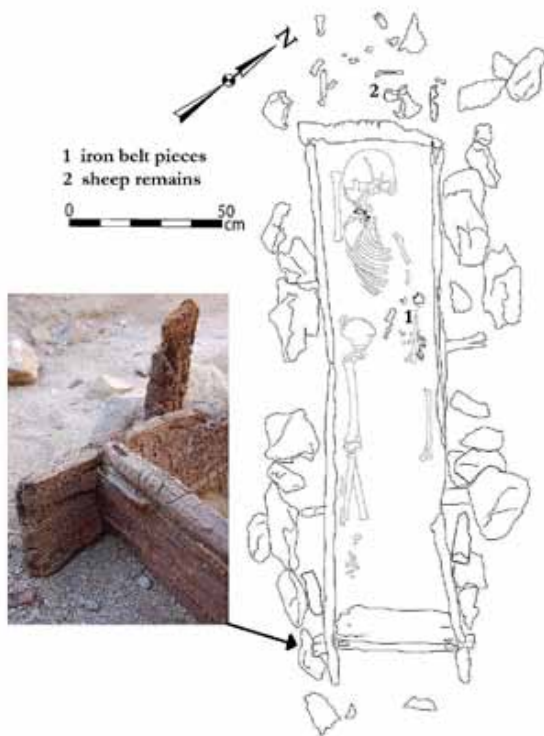
Fig. 13 (below). SBR-16 bronze bell (with stone clapper).



Fig. 14. Bone bow plates: (a) SBR-16 pair of end plates (b) SBR-13 mid plate (c) SBR-13 end plate with middle reinforcement.

The least disturbed section of burials № 15 and № 16 were the niches to the north of the coffins, wherein were placed an assortment of remains from small herd animals, either sheep or goats. In both cases the portions of livestock offered to the deceased included the skull, cervical vertebrae, ribs, phalanges, sacrum, and tail of at least four sheep/goat in № 15 and six in № 16. The portions selected, consisting mostly of extremities, are typical of animal offerings in Xiongnu graves.

Fig. 15. SBR-14.



In several ways, burial № 14 [Fig. 15] resembled № 15 and № 16 and other standard circular Xiongnu graves. A wooden coffin with remnants of faded red paint on the outside was placed at the bottom of a pit beneath the center of a round arrangement of stones. The coffin was set 170 cm deep and surrounded by stones that lined the burial pit. Just to the head of the coffin was placed a collection of sheep/goat remains. This burial was shallower and the coffin much smaller — 146 x 35 cm — than the previous two, the likely explanation for the size differential in burial furnishing being that it contained the remains of a four- to six-year-old child. The few bones that remained indicate a stretched position of the body within the coffin, a custom typical of Xiongnu interments. The wood construction of this coffin appeared to imitate the style and form of the others, though it employed smaller pieces of wood interlocked to form the walls rather than broad singular planks for each side. It also differed greatly from № 15, № 16 and all the other burials excavated in 2008, in that the burial furnishing, and thus the deceased, was oriented more toward an east-west axis than a north-south axis. The burial did contain several dozen beads scattered across the floor of the looted coffin, including stone, amber, alabaster, and glass [Fig. 16B,D,E,G,I]. Beads, as ornaments of the head, neck, and waist, are prevalent in Xiongnu burials of all manner.

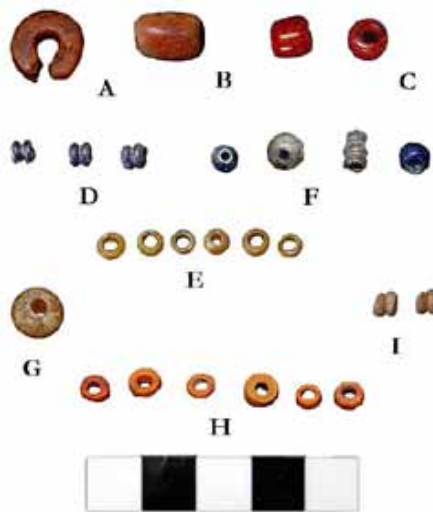


Fig.16. Beads: (a) SBR-12 amber (b) SBR-14 amber (c) SBR-36 amber (d) SBR-14 glass (e) SBR-14 glass (f) SBR-18 glass (g) SBR-14 alabaster (h) SBR-18 ceramic (i) SBR-14 glass.

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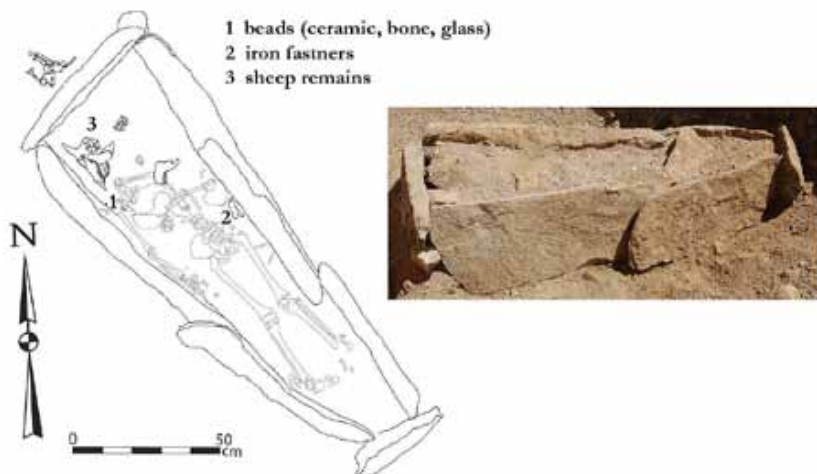


Fig. 17. SBR-18.

### Stone cist burials

Both children and adults were also buried within stone furnishings. A child between the ages of seven and ten was interred in a stone cist 140 cm below the surface of the stones of burial № 18 [Fig. 17]. This burial had been looted as well, the stones on the surface in disarray and the stone lid of the cist thrown open. Ninety percent complete, the body of this child exhibited a stretched supine position, oriented east of north within a tight stone containment. The head and some ribs and vertebrae of a single sheep/goat were found within the head area, along with the disturbed upper portion of the body, a large bone bead and a collection of small ceramic and glass beads [Fig. 16F,H]. A clump of organic material with significant iron portions found underneath the pelvis was block lifted and analyzed in the lab. Further cleaning showed it to be the remains of a large iron belt piece with a carved bone fastener [Fig. 18].



Fig. 18 (above). SBR-18 iron belt piece with carved bone fastener.

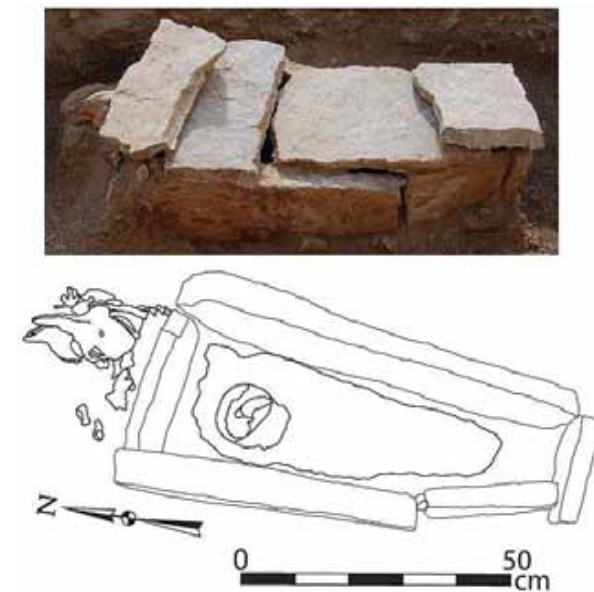


Fig. 19 (right). SBR-36.

Though three of the other four burials were disturbed (perhaps by rodents), all of them remained unlooted. This is a rare occurrence for Xiongnu-period interments and as fortunate for our investigations as the high quality of preservation of most of the materials at this site. The smaller, less endowed interments were conceivably less of a target for grave robbers, and this perhaps explains the difference in degrees of looting. The stones overtop burial № 36 were intermixed and easily confused with the surface stones

related to burial № 14. About one meter below these stones, we found a tight oval-shaped cluster of small stones a meter-and-a-half long. Directly beneath these assorted rocks we found a stone cist, measuring 100 x 45 cm, with the stone slabs of the lid still in place [Fig. 19]. Just to the north of the cist were the skull, cervical vertebrae, ribs, hooves, sacrum, and tail bones of a single sheep/goat. The collection of animal bones remained in a bundle up against the north wall of the cist, and the neck vertebrae, which also had some skin on the bones, were still articulated with the head. Although the surface stones of this burial were disturbed, it was clear that the grave pit itself had not been penetrated. The small stone container had not been filled with dirt, and the infant inside remained intact — still swaddled in a set of fur and stitched



Fig. 20. SBR-36 infant in leather swaddling.

leather garments and a small square of fabric, probably silk, placed over the face. Because of the fragile nature of the desiccated corpse and the organic coverings — and since the inside of the cist had not been filled in with dirt — we block lifted the entire interior of the grave and brought it back to the laboratory for further cleaning and careful analysis [Fig. 20]. All the materials — including the silk face mask, an amber bead [Fig. 16C], the bones of the infant (between ½ to a full year old), and the leather stitched pieces [Fig. 21] were catalogued and packed for storage in the National Museum of Mongolia, where they await further study.

The surface stones overtop burial N<sup>o</sup> 11 were not scattered and were clustered

Fig. 21. SBR-36 fragment of leather swaddling.

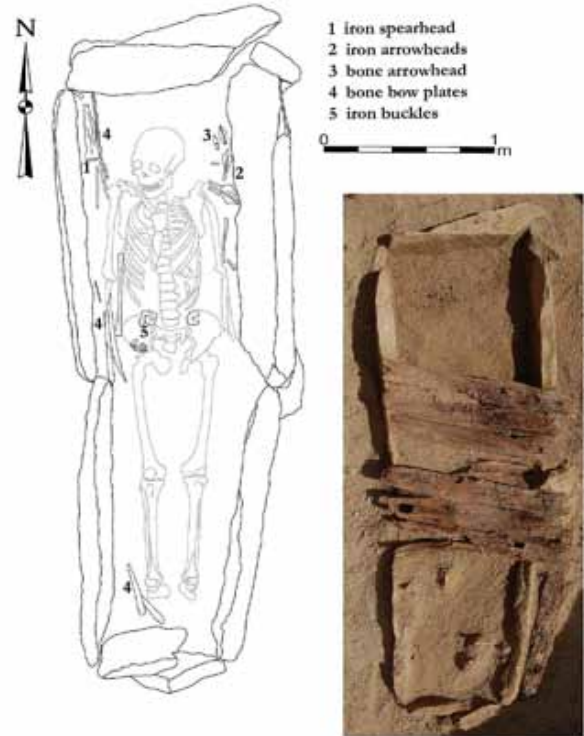


Fig. 22. SBR-13.

in a relatively small pile. Beneath these stones we found a similarly small stone cist of slightly smaller dimensions (85 x 40 cm) and shallower (75 cm below surface) than burial N<sup>o</sup> 36. The stones that covered the small cist were still in place, but when opened the containment yielded only three human bone fragments. From these scant remains and the size of the burial furnishing we were able to establish that the deceased had been a baby, though a refined age range is difficult to determine.

The surface stones over burial N<sup>o</sup> 13 appeared disturbed, but the stone lid of the cist was intact, as was the body of the deceased within [Fig. 22]. A small number of foot bones were strewn through the interior of the stone cist, and the arrows exhibited some movement as well. However, this was not the result of looting; so we may consider the burial assemblage to be more or less complete. The stones overtop



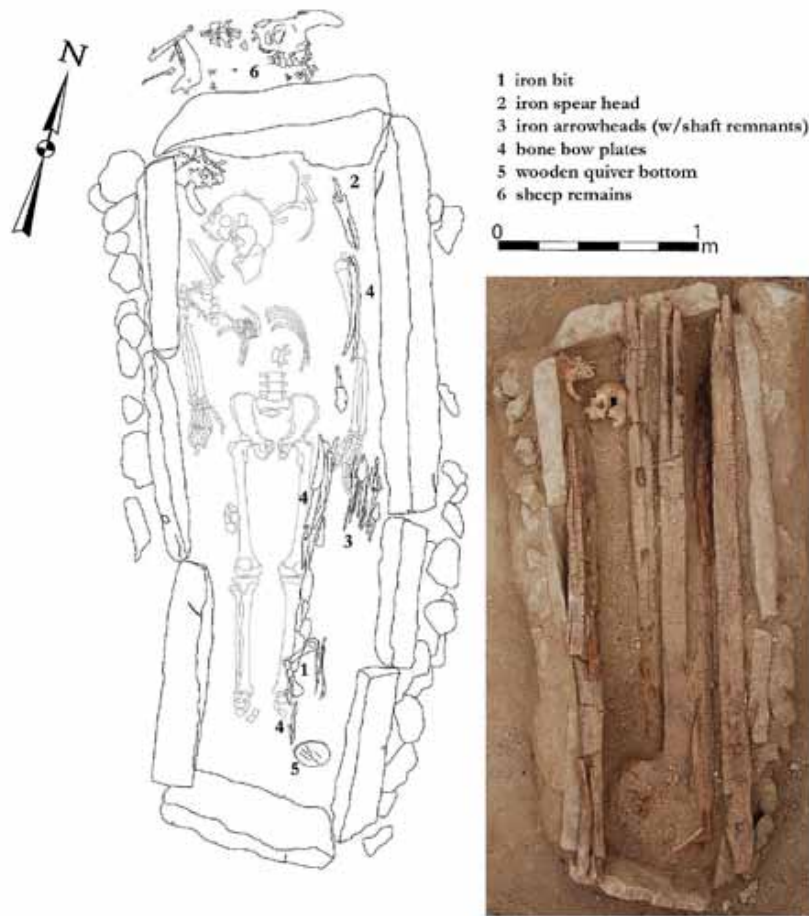


Fig. 23. SBR-12.

burial № 12 were placed in an oval-shaped cluster similar to burial № 11, and the stone lid overtop the cist beneath was in place, like the cist in burial № 13. The bones of the deceased in burial № 12 were shifted more, but again we believe that this was not the result of looting [Fig. 23]. These two graves thus present us with unlooted interments, skeletons over 90% complete, and, more importantly the proper provenances and full contexts of many artifacts, assemblages, and burial features that have previously been more difficult fully to understand.

Both burials were similar in size. The stone cist in № 12 was 270 x 76 cm, placed 134 cm deep, and the cist in № 13 was 290 x 83 cm, placed 140 cm deep. The orientations of the cists was east of north, and the bodies were both placed in a stretched supine position. While this position is by far the most common among all Xiongnu burials, it is also not the only manner of interment yet discovered. Several of the deceased within stone cists, or without any furnishing, excavated at Takhilt-

in-khotgor in 2007 were placed in a supine position with their legs bent (Miller et al. 2008). Both individuals were adults, though of greatly different age. The deceased in burial № 12 was a young adult between the ages of 15 and 18, most likely a male.<sup>3</sup> Burial № 13 held an older male adult between the ages of 35 to 45. Despite the difference in age, there appears very little difference in burial style, form, and artifact assemblages. Both contain iron horse bits and buckles as well as weaponry related to archery — seemingly standard equipment in many of the Xiongnu graves. The sheep/goat remains to the north of the cist in burial № 12, the bone pin in burial № 13 [Fig. 24], and the amber bead in burial № 12 [Fig. 16A] are also typical artifacts, whether in small stone cists or large complex wooden interments.

Taking advantage of the unspoiled conditions of the burial structures in № 12 and № 13, we may return to the issue of

the wooden cross-beams first addressed for burials № 15 and № 16. The grave furnishings for those larger burials consisted of double containments: a wooden coffin with single plank walls, surrounded by a wall of piled stones and intermittent wood supports that held up two long wooden beams and a series of short, broken cross-beams. These wood cross-beams may have acted as the lid complement to the surrounding wall of stones to form an outer containment. As mentioned above, the rectangular holes cut through the middle of some of the beams, holes which did not correlate with any other wooden fitting in the burial, and the splintered broken ends of the beams imply that these were pieces from a previous structure that had been broken apart and reused in the building of the burial furnishing. The situation and form of similar



Fig. 24. SBR-13 bone pin.

12 and № 13 further illuminate the possible functions and original contexts of such beams.

The lids of stone cists № 12 and № 13 were both in place over the stone side walls of the deceased's containment, and these capping stones were broad enough to be placed squarely over the cist and supported on either side by the stone walls. Wooden beams had been placed overtop the stone cists, but not in a number or manner that would suggest their function as supporting the lid stones above them or serving as an additional lid. Only seven beams were placed across the middle of the cist in № 13, and five beams were set lengthwise overtop the deceased in № 12, most of which did not span the full length of the cist. It would seem then, that these beams represent a practice that relates to something other than mere structural reinforcement of the grave furnishings. The piece most indicative of the previous contexts of these wooden additions is the two-meter-long beam along the eastern side of the cist in burial № 12. The southern end of this beam bears a striking resemblance to the end of a yoke-beam situated at the front of a wooden cart or other vehicle [Fig. 25]. Similar finds of cross-beams with cut holes have been discovered at the site of Tevsh uul in the northern Gobi (Tseveendorj 1989). These beams also greatly resemble pieces of wooden vehicles found overtop the burial chambers in large elite tombs at Takhiltin-khotgor (Navaan 1999) and may relate to the equivalent practice of vehicle interment in other square mounded tombs

found within central Mongolia and South Siberia (Miniaev and Sakharovskaia 2006, 2007; Mission 2003; Rudenko 1969).

The archery equipment in burials № 12 and № 13 constitutes two of the most complete assemblages to date. Each of these sets includes an entire bow, a handful of arrows, and is accompanied by an iron spearhead. The arrows in burial № 13 represent an array of tip styles. There is one socketed bone arrow head. The iron arrowheads are significantly larger and heavier, are mounted to arrow shafts via a metal tang,



*Fig. 25. SBR-12 wooden beams with slotted holes and 'yoke' end.*

and include two styles of three-winged heads. The thin bone plates associated with the bow remained in situ, with several canoe-shaped and hour-glass-shaped plates [Fig. 14B] at the middle and a pair of notched plates at either end of where the wooden structure of the bow had been. These plates are more complex, fitting two pieces overtop each other to form the equivalent of what could be a single bow plate, as in the pieces from burial № 16 [Fig. 14C]. Burial № 12 also contains bone bow plates, and about two-thirds of the bow's thin wood between and beneath the plates remained intact. Additionally, the arrows — at least a dozen in total — were not shifted from their original position. They lay at the left hand of the deceased, and, while the wooden shafts were mostly gone, sizes of the arrows were approximated by measuring from the iron heads with their tangs to the wooden bottom of the quiver that remained by the deceased's left foot. These artifacts present the opportunity critically to reassess our understandings of bow construction and assemblages of arrowheads included in the graves. In depth analyses of the archery equipment found in this handful of burials in 2008 will be published in a subsequent article.

An interesting note pertaining to habitual anatomical movements may also be mentioned. The bow of burial № 12 was placed over the left arm and the bow of № 13 was placed over the right arm. Musculo-skeletal marker scores of robusticity and cortical defects of the upper limbs and clavicles were higher on the sides where the bows were placed. A more comprehensive osteological study of individuals from other assemblages interred with bows may allow for more conclusive observations to be made regarding bilateral asymmetry and handedness in combination with habitual archery activities.<sup>4</sup>

### Further research

The first season of excavations at Shombuu-ziin-blechir revealed high degrees of preservation, both in the quality of organic materials and in the relatively low frequency of looting. The relative completeness of skeletal material and the high quality of bone preservation allows for sufficient demographic considerations as well as the taking of valuable bone samples. The analysis of such samples will help to address questions of subsistence and mobility. Preliminary observations have already altered our understanding of artifacts, the assemblage-

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es in which they are found, and the subtleties of burial structure related to function and cultural practice. The similarities of the larger burials to Xiongnu graves in central Mongolia and southern Siberia links this site closely with the mortuary traditions of those areas and the steppe polity whose core region lay within those territories. The relatively close monumental cemetery at Takhiltin-khotgor further ties it with the steppe regions to the east. Evidence of Chinese-style artifacts also suggests connections to greater regions and larger networks, and it is the nature of all these relationships, inter-regional and intra-regional, that we will investigate through continued excavations.

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Further information about the Khovd Archaeology Project may be found at <<http://silkroadfoundation.org/archaeology/khovd/>>

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### Notes

1. Extensive excavations at Burkhan-tolgoi in northern Mongolia (Torbat et al. 2003) and a handful of sites south of Lake Baikal (Konovalov 1976) exemplify the significant presence of such Chinese-style

goods in circular graves of the Xiongnu.

2. Reports of the fully excavated site of Burkhan-tolgoi (Torbat et al. 2003) present a problem in differentiating between such bone items, collectively called *savkh*, especially when their form is not so different as with the bone items found at Shombuuziin-belchir. In such cases as Burkhan-tolgoi, the placement of the bone artifacts in the burials may greatly assist the determination of their function in the interments and in the lives of the deceased.

3. The sex of juveniles is virtually impossible to determine, and that of young adults, while often a confident assessment, is not without question. In this case we must state that the sex of the young adult in burial № 12 is most probably male. All ageing and sexing criteria utilized are available in Bass (1995).

4. Analysis of musculoskeletal stress markers for adult individuals is based on criteria set out in Hawkey and Merbs (1995).