The Silk Road

Volume 14

2016

ISSN 7152-7237 (print)
ISSN 7153-2060 (online)

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Cover(clockwise starting upper left): Ceramic figurine, Northern & Southern Dynasties period; Tomb figurine, Astana Cemetery, Tang Dynasty period, both in collection of National Museum of Korea (photos by Daniel Waugh); reconstruction of saddle from Pazyryk Barrow № 3 (photo by Elena Stepanova); nomad women of Central Zagros (photo by Ali Nourallāhi).

From the editor's desktop

The Future of *The Silk Road*

By the time readers will see this, it may seem a bit late for "New Year's resolutions." However, since I did make some this year, I feel I should share them. As an enthusiast wanting to learn more about the silk roads (and be able to work on some other academic projects), I have resolved to try to carve out more time to do just that. But in making that resolution, I have come up against a problem: editing *The Silk Road* takes far too much of my energy, and that energy diminishes now with advancing years. What is the poor editor to do? Hence my second resolution, which is of more direct consequence here. Details will be forthcoming with the next volume of this annual (the one for 2017), which is to be the last for which I will be responsible. Starting in 2018, *The Silk Road* will have a new editor. Moreover, after the 2017 volume, the journal will no longer exist in hard-copy print: it will then beome only an on-line publication. Print copy (which too many libraries nowadays are reluctant to catalog and store) is increasingly an unnecessary luxury, costly to produce properly and becoming almost prohibitively expensive to mail. We expect that the journal will also move to a new on-line home, a process that has been under negotiation for some time.

So, between now and 2018, contributions should continue to be sent to me at my regular e-mail address. I encourage authors working on a broad range of material to send me their work. Given the focus of the Silkroad Foundation on learning and teaching, the important thing to remember is that what we publish should have some appeal for a broad audience and not be aimed primarily at a small group of academic specialists. If the new editor wishes to establish different rules for submissions from those currently in place, he will communicate them next year. It is possible that the 2018 volume of the journal will appear with some delay, depending on exigencies of the transition. However, I will retain my interest in its success and have promised to help smooth that process.

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The complete online version of *The Silk Road*, Vol. 14 is at: <http://www.silkroadfoundation.org/newsletter/vol14/srjournal_v14.pdf>. Starting with Vol. 10, individual articles may also be downloaded as pdf files.

The journal actively invites submissions of articles. Please feel free to contact the editor with any questions or contributions. Information regarding contributions and how to format them may be found on the website at <http://www.silkroadfoundation.org/newsletter/vol8/SilkRoadinstructionsforauthors.pdf>. It is very important to follow these guidelines, especially in the matter of citations, when submitting articles for consideration.

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All physical mailings concerning the journal (this includes books for review) should be sent to the editor at his postal address: Daniel Waugh, Department of History, Box 353560, University of Washington, Seattle, WA 98195 USA. It is advisable to send him an e-mail as well, informing him of any postings to that address.

The Silkroad Foundation (14510 Big Basin Way # 269, Saratoga, CA 95070) is a registered non-profit educational organization.

The Silk Road is printed by E & T Printing, Inc. <www.etcolorprint.com>, 1941 Concourse Drive, San Jose, CA 95131.

Readers are strongly encouraged to view the online version of the journal, since so many of the illustrations are in color and can be best appreciated that way.

Reconstruction of a Scythian Saddle from Pazyryk Barrow № 3

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The reconstruction of a Scythian saddle was undertaken in the State Hermitage Museum in 2013. Previously the author of this article had measured saddles from the museum's Pazyryk Collection, studied how they were made, and prepared a project for their reconstruction. The project came to fruition with the making of a replica bridle and saddle from Pazyryk Barrow № 3 for the exhibition, "The World of the Nomads" in Vyborg. The goal was that the replica should use where feasible authentic materials and techniques to recreate a saddle that would be as close as possible to the original. This then not only would bring the exhibit to life but would enable testing the performance qualities of the saddle and resolving disputed questions concerning certain functional parts and elements of its decoration. Then one might compare the replica with depictions of ancient saddles made in various materials and dimensions in order to classify them.

Pazyryk saddles are a variant of soft saddles of the Scythian type which were widely used in the ancient world from the 7th century BCE through the 2nd century CE. Over that expanse of time they preserved their structural features and exterior appearance: the saddle pillows (panels) had wing-shaped projections on the sides and semicircular support elements front and back. The saddle chute (gullet) was located between the panels. There was no saddle tree and thus no pommel nor cantle. The most common and conservative (but not obligatory) elements of Scythian saddles were the saddle arches (support arches) of bone and wood, located on the sides of the support elements (four to a saddle) which served to strengthen and decorate them. Moreover, the remaining saddle fittings (buckles, components of the breast straps) gradually were perfected and changed all across the Great Steppe practically at the same moment, which shows the continuity between early Scythian and Hunno-Sarmatian times.

In the early Scythian period, saddles were the property only of the nomads and thus had decoration appropriate to them. Later, starting in the 5th–4th centuries BCE, saddles of the Scythian type spread far and wide beyond the boundaries of the steppe, as evidenced in numerous images from various regions, from Greece to China. In that period, the decoration of saddles acquires distinct regional characteristics.

Usually only the hard parts of the saddles themselves have survived—the characteristic accessories (the support arches, the girth fasteners, the spreaders for the breast straps) and the decorations made of bone, wood and metal. Whole saddles and their fragments with all the accessories have been preserved only in a few sites on the territory of the Altai and Xinjiang.[1]

Some time ago I proposed that Pazyryk saddles be considered the standard Scythian type, on account of the unique preservation of all their elements which provides a full understanding about the external appearance and construction of Scythian saddles (Stepanova 2004, p. 233).

The Pazyryk Collection of the State Hermitage contains more than 70 saddle sets from the elite barrows of the Shibe, Bashadar, Tuekta and Pazyryk cemeteries which reflect the evolution of saddles over some three centuries of the existence of the given culture.[2] Dendrochronological data show that the large barrows of the Pazyryk cemetery were erected one after the other over about 50 years, and Tuekta Barrow № 1 was erected 130 years prior to Pazyryk Barrow № 2 (Rudenko 1960; Marsadolov 1988, 2003). At present, the most probable time span of the existence of Pazyryk culture is deemed to be the 5th-3rd centuries BCE. Consequently, the large Pazyryk barrows were constructed approximately in the period of 300–250 BCE, the Tuekta Barrow № 1 in the second half of the 5th century BCE, and Bashadar Barrow № 2, in all probability, at the beginning of the 5th century BCE or at the turn of the 6th–5th centuries BCE (Alekseev et al. 2005, pp. 165-69; Stepanova 2006). Given these chronological boundaries, the Pazyryk saddles may be connected and interpreted with finds both from early Scythian and Hunno-Sarmatian times.

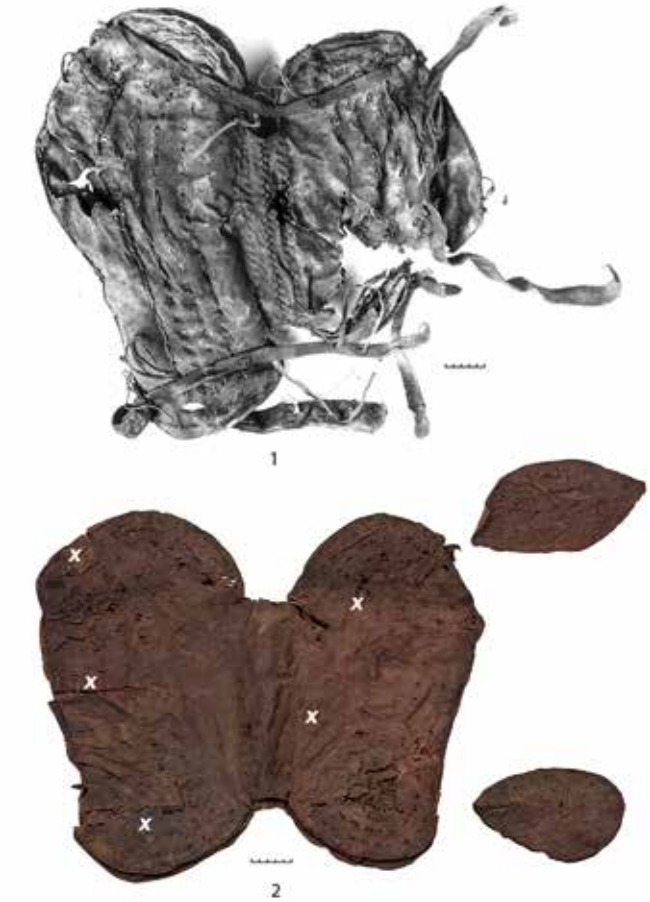
Sergei I. Rudenko (1953, 1960 and 1970) provides signifcant information about Pazyryk horse harness. Rudenko 1970 (esp. pp. 129 ff and passim [in English]) contains much on the saddles, with very helpful detailed drawings. But he does not describe in detail all the saddles. Current research has provided additional detail and some new interpretations which may differ from those of Rudenko.

Distinctive Features of the Pazyryk Saddles

Preservation

The unique preservation of objects made of organic materials in the Pazyryk sites was a result of the natural conditions in the Altai, the specific features of the burial rituals (the piling up of stones atop earthen mounds; the filling of deep pits with stones) and the size of the barrows. The size of the mound was critical for the formation of a protective layer of permafrost. Permafrost formed in ordinary graves only in regions with the most severe climatic conditions, for example on the Ukok plateau.

Fig. 1. Saddles from Tuekta Barrow № 1: 1) Saddle inv. № 2179/945 prior to restoration, the stuffing removed; 2) Saddle Inv. № 2179/948-1, pieces of the leather sheath of saddle panels – the top integument, the front and rear lens-shaped insets of the right panel (exterior sides). The Xes indicate places where repairs had been made.

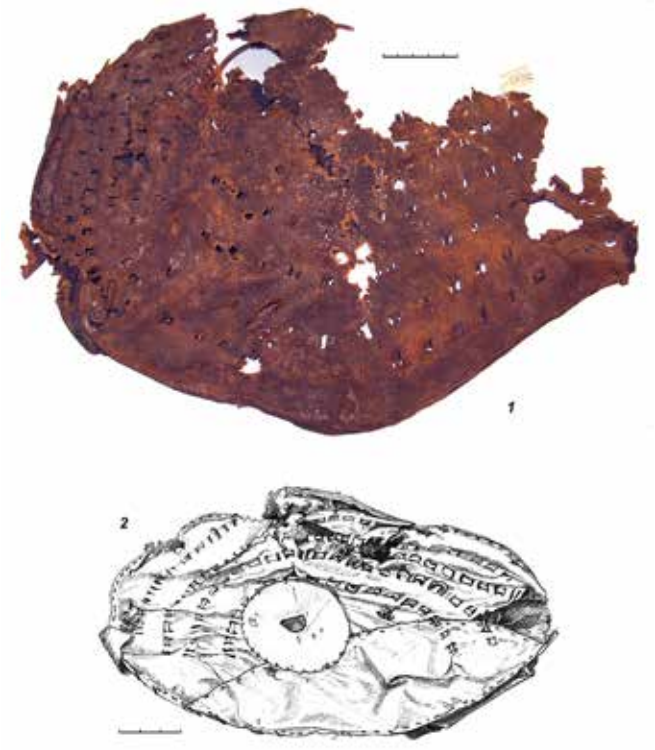


The preservation of saddles from the Pazyryk Collection of the State Hermitage varies. From the saddles of Pazyryk Barrows 4 and 6, we have only the complete set of the bone accessories. In the looted horse burial of the Shibe Barrow, only some separate, but very representative, bone and wooden components of the accessories and decoration have been preserved.

In Tuekta Barrows 1 and 2 leather has been well preserved — sheathes for the panels, the thongs used to quilt the panels tightly, fragments of straps and saddle-strings [Figs. 1–2]. Only small fragments remain from the sweat-cloths and felt elements of decoration (covers, lens-shaped medallions); the panel stuffing is missing. However, we can visualize the saddle as though from the inside: how the quilting was done, how the saddle straps and saddle-strings were attached. The surviving loops of the quilting make it possible to reconstruct the thickness of the stuffing. The seams created with sinew threads reveal how the parts of the case were fastened together.

In Bashadar Barrow 2 and Pazyryk Barrows 1 and 2, the leather of the panels has almost entirely rotted away, but all the elements of felt and cloth are well represented, among them the lens-shaped medallions and covers. In Pazyryk Barrows 1 and 2, the saddle straps have been preserved; in Bashadar

Fig. 2. Fragments of the leather sheathes of saddle panels from Tuekta Barrow № 1: 1) the front part of the saddle panel (inv. № 2179/952) with the slits which are aligned for quilting on the upper and lower integuments; 2) the rear lens-shaped piece (inv. № 2179/953) with the basting seam which has been preserved on the lower part.



Barrow 2 they are represented by small but revealing fragments. In Pazyryk Barrows 1 and 2, part of the stuffing was preserved. However, in the preparation for the exhibition of the saddles from Barrow № 1 in the 1950s, it was supplemented with modern materials and covered with cloth; the result was significant distortion of the shape of the saddle and its being rendered difficult to access for study. A new restoration is a matter of time.

In Pazyryk Barrow 3, leather and felt have been poorly preserved, but the quilted stuffing is well preserved, which means that the saddles have retained their shape. All the features of the quilting using cords of wool and horse hair are clearly visible [Fig. 3]. The saddle straps, felt and cloth medallions, covers and sweat-cloths are partially, but adequately, preserved.

The best preserved are saddles from Pazyryk Barrow 5, which have only minor deformation and losses [Figs. 4-5, next page]. Their panels have been quilted with cords made of horse hair, and the internal seams that confine the stuffed parts sewn with thongs.

In Tuekta Barrow 1 and Pazyryk Barrows 1 and 2 are wooden support arches; in Pazyryk Barrows 3 and 4 and at Shibe there are also ones of bone; in Pazyryk Barrow 5, ones of thick leather. In Bashadar Barrow 2 and in Pazyryk Barrows 3–6 are plates on the outside of the supports made of wood, bone and thick leather. Likewise, in Pazyryk Barrows 1–4, attached to the supports were decorative plates in the shape of a half horseshoe, made of leather with openwork appliqués of thin leather covered with gold foil.

Bone and bronze buckles and loops of two-part girth fasteners were found in Bashadar Barrow 2 and Tuekta Barrows 1 and 2; buckles of one-piece fasteners in Tuekta Barrow 2 and Pazyryk Barrows 2, 3 and 4; and bone plates on the loops for two-part fasteners in Pazyryk Barrows 3 and 6 (Stepanova 2006, Figs. 4-7, 9, 13).

Features of construction

All the saddles are full size, of quality construction, and many bear traces of long use. For example, in Tuekta Barrow 1, almost half of the saddles have obvious signs of wear—patches have been sewn over tears [Fig. 1:2].[3]

The outer coverings of the panels were made of comparatively thick (1.5–2 mm) but supple leather, probably from cattle hides. So far no special study of the leather has been done; the techniques of its preparation can be assessed only in a preliminary way, based on visual examination (Rudenko 1960, p. 217).

Fig. 3. Saddles from Pazyryk Barrow № 3: 1) girth buckle, inv. № 1685/280; 2) saddle, view from front, left front support missing, inv. № 1685/358; 3, 4) rear supports of saddle № 1685/358, view from side and rear; 5) front part of right panel, view from rear, saddle inv. № 1685/363; 7) front right support, view from front, saddle inv. № 1685/363; 6) front support of saddle № 1685/371; 8) rear part of right panel of saddle 1685/371, showing seams connecting pieces of the leather sheath; 9) trapezoidal-shaped pieces of the adjustable crupper-strap with shield-shaped plaques, inv. № 1685/244-245.

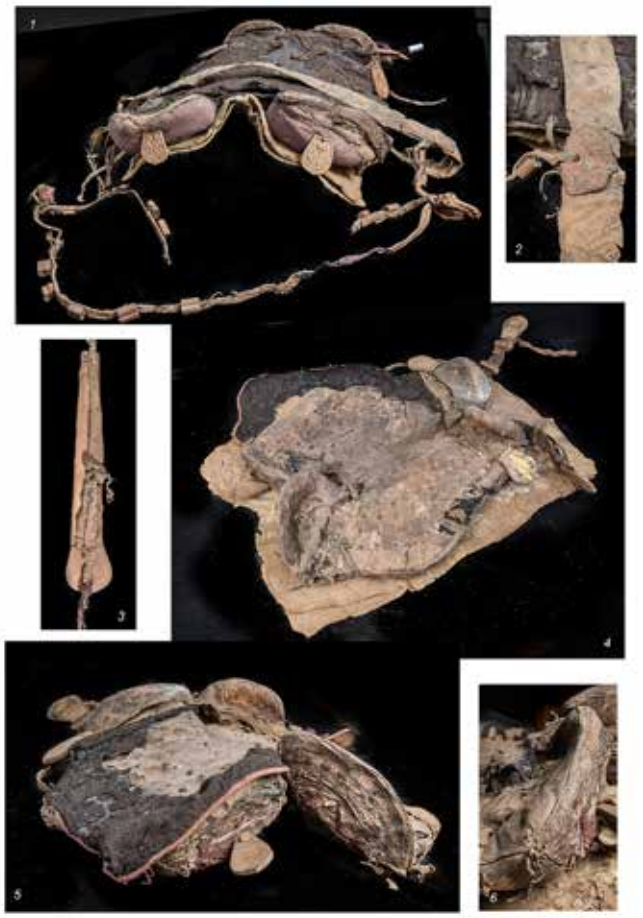


Fig. 4 (above). Saddles from Pazyryk Barrow № 5: 1) saddle, view from the front; 2) attachment of the breast-strap to the girth-strap; 3) adjustable crupper-strap with trapezoidal-shaped plate and shield-shaped plaque (view of the underside); 4) saddle, view from above; 5) saddle, view from front; 6) seams connecting the pieces of the leather sheath of saddle panels. 1, 2, 3 – saddle inv. № 1687/166-169; 4, 5, 6 – saddle inv. № 1687/107.

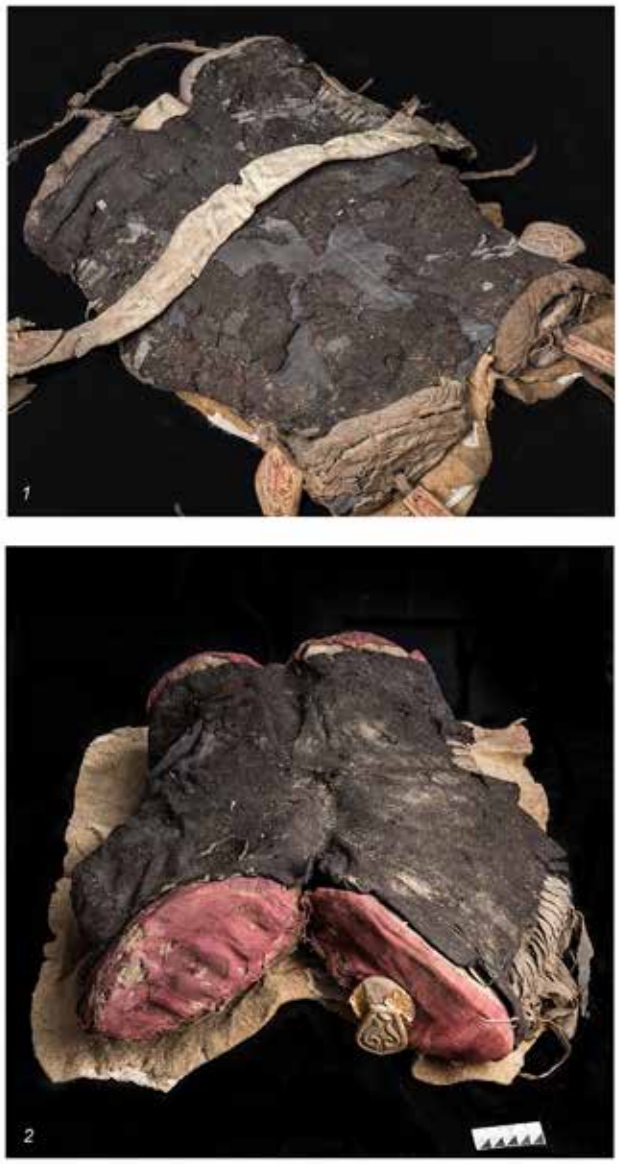


Fig. 5 (right). Saddles from Pazyryk Barrow № 5: 1) saddle inv. № 1687/166-169, view from above; 2) saddle inv. № 1687/120, view from front.

The patterns for the cases of the panels included two identical details of butterfly shape—the upper and lower integuments—and four lens-shaped insets, the front ones 1–3 cm wider and longer than the rear ones. The upper and lower integuments were laid out from a single template, as can be clearly seen in the materials of Tuekta Barrow 1; in some instances, even the slits under the quilting align, apparently having been made at the time when the cases were cut out [Figs. 1:2; 2:1]. The upper and lower integuments could be in one piece or consist of two (left and right) symmetrical pieces. In the latter instance, the un-filled parts of the left and right panels were sewn together with a thong at the join along the center of the saddle chute only after the cushions had been filled (one example from Pazyryk Barrow 5 is a variant sewn using a sinew thread). Saddles sewn together of two halves are the norm. Both variants are represented in Tuekta Barrow 1 [Fig. 1:1, 2] as well as in the later barrows. For example, in Pazyryk Barrow 5 all five saddles have upper and lower integuments with seams [Figs. 4, 5]. In Pazyryk Barrow 2 at least one saddle has single-piece integuments, one is sewn along the join through the center of the gullet, and on another the unstuffed parts of the panels were sewn along the center with a thong, but with stitching across the entire width of the saddle chute, not along the join (there are 4 layers of leather, not the normal two).[4]

A required element of the construction of the Pazyryk saddle was a cut-out at the withers along the entire width of the front part of the gullet, made at the time of the cutting out of the upper and lower integuments [Figs. 1, 4]. The cut-out made it possible to move the saddle forward and ensure that the rider be seated directly behind the horse's withers, the position best suited for riding without stirrups. A shallower cut

was also made at the rear part of the gullet between the corners of the supports.[5] It is interesting that the sweat-cloths and covers of felt did not have such a cut [Figs. 4, 5], since that soft and elastic material readily conformed to the contours of the horse's body.[6]

An important characteristic of Pazyryk saddles was the angle of the spread of the front supports vis-à-vis the axis of the saddle, approximately 55–60°, whereas the rear supports were perpendicular to the axis. The angle formed by the front supports and the axis of the saddle corresponded most closely to the position of the thigh of the rider, who sat in the saddle without stirrups. In contrast, on Roman saddles, the front and back conical support elements were both perpendicular to the axis of the saddle.[7]

The sheathes of the saddle panels were fastened together by a visible running stitch 2–3 mm from the edge of the piece using coarse sinew thread with very fine (1–2 mm long), strong and careful stitches [Figs. 1:1; 2:2; 4:6; 3:8]. The upper and lower integuments were sewn along the edge of the front and back cuts of the saddle chute in the same way. Using thongs or thick sinew threads in larger stitches (5–7 mm), one-to-two running-stitch seams were sewn lengthwise through the gullet in order to separate it from the stuffed parts of the panels.

The distinctive external appearance of the panels of Scythian saddles was obtained thanks to the firm filling quilted in a particular way. The filling in the majority of cases consisted of plucked deer hair (Rudenko 1953, pp. 161, 243).[8] In Pazyryk Barrow 2, the filling of the panels also included an admixture of wool from other animals, and two saddles were filled with grass. At sites in Xinjiang dating from the 3rd to 5th centuries, the fill of saddle panels with grass has been noted in examples of semi-hard saddles (Stepanova 2014, pp. 237-40). But, neither in their measurements nor in the quality of their manufacture are Pazyryk saddles with grass fill any different from those filled with wool. We note that remains of straw have been found also in the panel outer covering of the Roman saddle from Newstead (Driel-Murray et al. 2004, p. 10). Thick straw mats formed the underpinnings of archaic Greek and Bulgarian pack saddles which replaced saddle bars. There is ethnographic evidence that bags filled with grass were used when hard saddles were not available. One can suppose that grass filling could be and was used in the making of saddles in antiquity as the least expensive and most accessible filling even if in its qualities it was inferior to wool.

The presence in the saddle panels in Tuekta Barrow 1 and Pazyryk Barrow 5 of basting stitches [Fig. 2:2] allows one to establish the sequence of operations in the making of the panels. First, all pieces of the sheath were sewn together with small, precise stitches, with the exception of the seams which joined the lower half of the lens-shaped pieces to the lower integuments. Then, the thick stuffing was inserted through these unstitched openings to approximate the shape of the saddle, after which they were sewn shut along the edge in order to contain the elasticity of the filling. Then along the edges of the pieces that had thus been joined the final seams were made with a small running stitch. But since it was more complicated to stitch right along the edge of a filled panel, such seams were less even and precise.

The final shaping of the saddle was achieved by quilting its filled panels. The stitching of the saddles from the Tuekta Barrows 1 and 2 was done with narrow thongs and in those of the Pazyryk barrows using cords made of horse hair and wool. The thickness of the cords and density of the stitching varies among the saddles even from a single barrow. The densest stitching is found in Tuekta Barrows 1 and 2. The seats usually were quilted lengthwise with four seams in bunches which matched the bends of the "wings," and the distance between the seams is less than from the edge of the saddle or the saddle chute. Some saddles have five rows of quilting, in which case the distance between them is more uniform. The seams on the supports were arc-shaped, parallel to the edge of the support. Their number, usually ranging from 3 to 5, depended on the height of the support. The quilting on the supports was always denser (the distance between seams and the length of the stitches were less than on the seat). When the pattern was being cut, crosswise paired slits about 0.5 cm long were made along the line of the quilting on the leather sheaths at small intervals. The distance between the slits on the seats of the panels was 0.5–1 cm, and between each pair of cuts 1-3 cm; on the supports the distances were 0.5–1 cm and 0.5–1.5 cm [Figs. 1–5]. In Tuekta Barrow 1, the slits were made simultaneously on the upper and lower integuments and align when the two are placed together [Fig. 2:1]. In the quilting of the panels, the cords or thongs were fastened in various ways on the inside or exterior of the panel, and then a short stitch along the surface of the panel was made through the paired slits, the cord drawn out through the opposite (!) side of the panel, where it formed a short stitch before being brought back through to the first side. The quilting of the supports was done in an analogous way. The lower halves of the lens-shaped pieces and front and back semicircular protrusions of the lower panel which corresponded to them were not quilted. The quilting prevented the fill from being compressed and allowed all parts of the saddle to retain their shape well.

Requisite parts of Pazaryk saddles were felt sweat-

cloths, usually in the same shape and dimensions as the saddle panels but without the cut at the withers. These sweat-cloths were needed to absorb the horse's sweat and soften the pressure of the saddle on the animal's body. Sweat-cloths of the Pazyryk saddles usually were made of thin (2–3 mm), quality, undyed felt, generally white; occasionally they are two- or three-layered. They were attached to the saddle panels with thin thongs, unlike modern saddle cloths which are separate pieces of horse harness. In Pazyryk Barrow 5, the sweat-cloths are slightly larger in size — that is, they extend several centimeters beyond the edge of the saddle and have somewhat pointed ends.[9]

The decorative saddle-covers had the same shape as the sweat-cloths (without the cut at the withers) and confirmed precisely in their contours to the upper integument of the saddle panel. They were made most commonly of felt, but also in some cases of leather and fur. They could be made from a single felt integument, from several large pieces, or sewn out of smaller ones. They were piped with narrow strips of leather or felt around the edge. The decoration of the covers depended on the fashion at the specific time when they were made. They could be uniform in color or decorated in the technique of appliqués or layered designs made from small cutouts. Appliqués could be attached either by sewing or by gluing. Glued appliqués were definitely not functional and apparently were made specifically for burial (part of the covers from Pazyryk Barrows 1, 2, 3, and 5). Sometimes the covers had a figured edge— scallops that dangled from the sides of the saddle or several pendants. The material used to make the appliqués and shape the pendants included felt, leather, fur, fabric, gold and tin foil, horse hair and small wooden plaques. The covers could be placed over the saddle straps, in which case the latter, like the quilting of the panels, would not be visible. In such an arrangement, the covers were attached by thin thongs in several places along the outside of the supports and along the side seams and secured as well by the arches of the supports (or by the strips of leather or felt that substituted for them). In the late Pazyryk barrows felt covers with a leather fringe along the lower edge were common. In addition to their decorative function the leather fringes served to attach the cover firmly to the saddle. When such covers were used, the saddle straps usually were placed over them. Apparently the covers were not always used on a day-to-day basis — on many depictions of saddles of the Scythian type one can see both quilting and saddle straps (for example, on the plaques with resting horsemen from the Siberian collection of Peter I, etc.).

Fig. 6. Fringes: 1) cover with fringe from Pazyryk Barrow No. 2 (inv. № 1684/139); 2) fragment of fringe, saddle from Pazyryk Barrow № 5 (inv № 1687/120); 3) fragment of fringe, saddle from Pazyryk Barrow № 3 (inv. № 1685/414); 4) replica of saddle from Pazyryk Barrow № 3, cover with fringe.

The Pazyryk saddles had two main means of attaching the fringe [Fig. 6:1-3; Color Pl. I]. In Pazyryk Barrows 1 and 2 narrow straps of the fringe were attached first to the cord that had been pulled through the small slits in the upper integument of the panels. Then fringe straps were threaded through the panels near their edge. Hanging ends of the narrow straps formed the fringe. This method permitted the relatively easy removal of the cover from the saddle. The other method, observed in Barrows 3 and 5 did not involve the use of the cord, and narrow straps were threaded through the panels. Also, a few more stitches were made over the covers on the inside of the supports, picking up the upper integument and the stuffing.

The decorative lens-shaped medallions which covered the exterior of the supports were made of felt, red cloth or thin leather. In their shape and size they coincided precisely with the lens-shaped pieces of the saddle panel sheathes (textile medallions usually had a slight margin for folding). The decorative medallions were attached with stitching through the edge directly to the seams along the perimeter of these pieces. The felt medallions could be decorated with felt appliqués sewn on them. On top of the decorative medallions at the points of attachment to the rear supports of the crupper-strap and to the front supports of the shield-shaped pendant plaques were placed escutcheons (with holes), usually round, rarely square or quadripetaled, of thick leather, bone or wood which covered the opening for the fastener. Atop the fabric medallions in similar fashion could be placed facings in the form of half horse-shoes made of wood, bone or leather with cut-outs, or lens-shaped ones of the same materials. On the lens-shaped facings which covered the exterior of the supports almost entirely, round escutcheons with holes were imitated in relief. Thus, when there were sweat-cloths and all the decorative pieces (covers, medallions), the sheathes of the saddle panels were enclosed on all sides.

Another obligatory feature of Pazyryk saddles was the transverse straps of thick leather 2–4 cm wide located on the inner side of the supports. They served to strengthen the construction of the saddle and the fastening to it of additional elements — saddle-strings, crupper-straps, straps for tying of the front supports (with a shield-shaped pendant). These leather pieces, threaded through slits in the strap and body of the saddle panel, simultaneously attached the transverse straps to the saddle. Decorative elements could be attached to the ends of the transverse straps — leather, wooden or bone pendant-plaques, bunches of cords or straps with pendants. The straps themselves in burial sets sometimes were decorated with appliqués of thin leather and gold foil [Figs. 1, 4, 5].

The saddle was secured to the horse by what might be termed a "double" girth band. The girths (which went under the horse's belly) and girth straps (which went over the saddle) were made of thick, well tanned leather. A wide strap, placed across the saddle panels in the area of its "wings" served as the girth strap and was attached to the panels with thin straps in two places near the edge [Figs. 1, 4, 5]. The width of these straps was 3.5–7 cm, the width of the girths 5–7 cm. The ends of the girth straps, visible from under the covers, and also the ends of the girths might be encased in thin leather. The pointing of the ends of the girths and girth straps, necessary so they could be threaded into the the openings of the buckles and loops, was achieved by slicing the strap at an angle only from one side. The same technique was employed to form a pointed end on all the other straps. That is, it was not the practice to use two cuts to form a symmetrical point.

Every Pazyryk saddle had only one girth and one buckle, attached on the left side. The buckle of a two-part fastening was located close to the left end on the girth, and the loop on the end of the left girth strap. The buckle of a one-part fastener was located on the left end of the girth strap (Stepanova 2006, Fig. 12). So far the question about a fastener on the right is not entirely clear. On early Scythian saddles in the standard selection of bronze accoutrements was a left two-part fastener, which included a loop and buckle, and a right fastener of a stud or button type. Such fasteners were not to be found on even the early Pazyryk saddles. Unfortunately, the seat straps for the most part have been separated from the saddles, torn off and lost. In the later barrows, a ritual of damaging the harness was practiced: the girths as a rule are missing, and the end of the girth-straps often have been cut off. Apparently there were several different ways to attach the girth to the saddle on the right. Two saddles from Pazyryk Barrow 1 have knotted fasteners: into the openings on the right girth-straps have been threaded straps with cylindrical button-knots on the ends. Also practiced was a variant where the end of the girth was threaded into a leather loop on the right end of the girth-strap and tied (this variant is to be found too on a saddle from Subashi).[10] Finally, one cannot exclude a variant using a one-piece girth.

The breast-bands and crupper-straps (those which went under the tail) could be made of flat or conical (tubular) strips [Fig. 4]. Flat breast straps are found in Bashadar Barrow 2, Tuekta Barrows 1 and 2 and Pazyryk Barrows 1–5; tubular ones in Pazyryk Barrow 5. Typical for Scythian saddles are breast bands with wither-straps. The ends of the transverse breast band were fastened to the girth-straps in the same way as

contemporary breast straps of similar construction. On the early Scythian saddles, judging from their accessories, tubular straps were more common, wither-straps might be fastened to conical bronze tubes, and breast straps drawn through openings on the girth-straps and attached by means of special fastener-plaques (Shul'ga 2008, Figs. 58, 59). On Pazyryk saddles the ends of the breast band were threaded through openings on the girth-strap and tied or fastened by straps which attached the plaques closest to the girth-strap (for example, on the saddle from Pazyryk Barrow 5; Rudenko 1953, Fig. 104; 1970, Fig. 69). Possibly the latter variant was used only in burial sets. All of the well-preserved breast bands which are not attached to saddles have pointed tips intended for threading into openings on the girth-strap and tying there. The wither-straps, as on the early Scythian saddles, were tied or fastened using round or hoof-shaped fastenings. The decoration of Pazyryk breast straps always coincided with the decoration of the bridles which formed part of the set with the saddle. However, the plaques on the breast straps could be somewhat larger than those on the bridle.

There are no crupper-sraps in Bashadar Barrow 2. Fragments of them are preserved in Tuekta Barrows 1 and 2 and also the openings on the rear supports and escutcheons with holes which covered them [Figs. 1:1; 2:2]. The presence of openings on the fragments of the crupper-straps from Tuekta No. 1 suggests that the length of the cruppers could be adjusted. In Pazyryk Barrows 1 and 2 the crupper-straps were not adjustable and made of flat straps covered with thin leather, fastened to the rear supports. In the later Barrows 3, 4 and 5, the cruppers were adjustable in length; fastened to the rear supports are tapezoidal-shaped pieces through whose slits the ends of the crupper-straps themselves were threaded and tied [Figs. 4:3, 4; 3:9; 7:5].

The size of the saddles varies. As today, in early times the parameters of a saddle were determined by the dimensions of horse and rider and also by the preferences of the latter. The length of Pazyryk saddles varies from 50–65 cm. However, it is interesting that the absolute largest size of the support elements and their distribution is to be found in the early barrows and the smallest in the later ones. For example, the height of the front supports as determined by measurement of the lens-shaped pieces in Bashadar Barrow 2 and Tuekta Barrow 1 is 10–20 cm; in Pazyryk № № 1 and 2, 10–15 cm; and in Pazyryk № № 3–5, 10–13 cm.

Comparisons of the saddles from early and later barrows of the Pazyryk culture demonstrate that they differ primarily in their decoration and accessories, which changed, yet at the same time retained some continuity. The construction of the saddle panels themselves (the patterns, features of the filling and quilting, sequence of manufacture), the selection and fastening of the saddle straps, the shape of the sweat-cloths and covers all remained unchanged over the entire period of Pazyryk culture. Thus all of the saddles we possess are identical in construction, and their characteristics fail to support the conclusion of Sergei I. Rudenko that there were two types of Pazyryk saddles (Rudenko 1953, pp. 161-65, 344; 1970, pp. 129-34).[11]

One can delineate from the distinctive features of the accessories and decoration of the sets of horse harness three chronological groups: early (tending toward early Scythian times), late (with analogies to Hunno-Sarmatian times) and intermediate (Stepanova 2006).

Fig. 7. Decorative elements of saddle set from Pazyryk Barrow № 3: 1) shield-shaped pendant plaques from the transverse straps inv. № 1685/231-234 (1685/233 is on a fragment of the strap); 2) trapezoidal-shaped piece of an adjustable crupper-strap with a shield-shaped wooden plaque and plaque from the matching piece (inv. № 1685/235-236); 3) pendant plaque for the front support (inv. № 1685/237); 4) plates of gold foil on a leather appliqué (decoration of saddle support) and on leather round escutcheon with hole (inv. № 1685/417); 5-6) wooden rosettes and leather ring, covered with Chinese lacquer – decorations of the breast-strap (inv. № 1685/64, 65); 7) semicircular plates on the girth-strap (inv. № 1685/204, 220).

Distinctive features of the saddles from Pazyryk Barrow № 3

In choosing a saddle to reconstruct, we were guided by two principles: authenticity and simplicity in manufacture. The best preserved were the saddles from Pazyryk Barrows 5 and 3 which belong to the late chronological group and consequently are very close in size, even minor details of construction, and in decoration.

In Barrow 5, the ends of all the girth straps had been cut off and no buckles remained, but there was one girth. In Barrow 3, the ends of the girth straps also had been cut off, but one buckle remained [Fig. 3:1]. Two analogous buckles were in Barrows 2 and 4. Taken together, the materials from Barrows 2, 3, 4 and 5 served as the basis for the graphic reconstruction of the fastening of the buckles of one-piece fasteners on Pazyryk saddles (Stepanova 2006, Figs. 11; 12:4).[12]

The typical late Pazyryk decoration of saddles included shield shaped pendants on the transverse straps, crupper-straps and front supports, plates on the supports and girth straps, and also plaques in the places where the straps of the breast band came together. In Barrow 3, some of the sets had very simple decoration. Moreover, in Barrow 5, all the saddles were quilted using cords of horse hair while in Barrow 3, only two were of horse-hair, the others using wool cords of varying thickness and degree of twisting.

Hence, after some uncertainty, the decision was made to base the reconstruction on saddles from Pazyryk Barrow 3. Saddles from other barrows, principally from Pazyryk Barrow 5, were drawn on for details of some parts.

Nine of the ten saddles placed in the horse pit of Barrow 3 are typical Pazyryk ones [Fig. 3]; the other possibly a "Chinese" import (Stepanova 2012, Fig. 1:2; pp. 449-51). The length of the panels of that one is about 57 cm, the maximum width 16.5 cm without the saddle chute; the height of the supports is about 6 cm. It is stuffed with reindeer hair, quilted using thin woolen cords (the stitching is in a checkerboard pattern, the panels having four lengthwise seams and the supports two). In its proportions and structural features it is similar to the saddles on the terracotta Qin horses and on the saddle from Subashi: the flat panels with only slightly articulated wings, the even and widely-spaced quilting, the low supports with oval plates covered in Chinese lacquer,[13] the presence of additional openings for pendants on the rear supports, in addition to the openings for fastening the crupper-strap. The rear pendants are typical for northern Chinese saddles; they were not used in the Pazyryk ones. The "Chinese" saddle from Barrow 3 was redesigned in accord with Pazyryk norms: the extra pendants were removed and the openings from them, covered by leather round escutcheons with holes with gold foil, were smoothed over (masked) with additional rings glued on the exterior of the supports.

The remaining nine saddles are characterized by a high degree of uniformity in all their parts. The original length of the saddle panels is 55–60 cm; the maximum width of the filled part ("wings") is 19–23 cm, and at the narrow part, the width is 16–19 cm. The front supports on eight of the saddles are 10–11 cm high and 20–21 cm wide; the rear ones 8–9 cm high and 17–18 cm wide. The reindeer-wool filling in them is well preserved but highly compressed. The saddles are ripped apart and deformed. Only one saddle, which has almost completely lost its leather but which preserves nearly the original volume and resilience of the filling, has a somewhat more pronounced height of the siupports (13 and 10 cm respectively), thickness of the supports and the panels themselves, at the same time that the horizontal measurements (the length of the panels and supports) are similar to those of the other saddles [Fig. 3:5–7]. For comparison, in Pazyryk Barrow 5, the length of the saddles is 50–60 cm, the height of the front supports 10–13 cm and the rear ones 8–11 cm.

The seats are quilted in the lengthwise direction; all saddles have four seams in bunches and replicate the external contours of the panel with its wing-shaped projections, i.e., have a marked bend in the area of the wing. The supports have been stitched crosswise as arches. Since the supports are of medium height, they each have three rows of quilting. The saddle chute (the unstuffed part of the saddle between the panels) has not been preserved on any of the saddles in Barrow 3, but its width is easy to reconstruct from the measurements of the central part of the saddle spacers which all of the saddles have. The spacers are original features of Pazyryk saddles and are documented only in the late barrows, in Pazyryk Barrows 3 and 5 and at Shibe. The spacers, two to a saddle, are small boards about 0.5 cm thick, with projecting tongues on the narrow ends. They are located under the front and back transverse straps; some have a pair of openings for fastening them to the straps. The tongues extended into the stuffing of the panels along the sides of the saddle chute.[14] The front spacer was usually somewhat longer than the back one. The spacers indicate that the seat on eight of the saddles in Barrow 3 had a width of of 9–7 cm and two 7–5 cm.

Some of the saddles retained the transverse straps and fragments of the girth straps and girths of thick leather. The width of the transverse straps was ca. 3.5 cm, that of the girth straps (girths) 5–7 cm. Three of the saddles retained parts of the cruppers — the

trapezoidal parts and fragments of the straps [Figs. 3:9; 7:5].

Part of a breast band made with a flat strap 1.5 cm wide was preserved, its transverse and wither straps sewn with sinew threads. Such breast bands were well represented in the Tuekta and Pazyryk barrows, which meant that it was not difficult to reconstruct the breast band from Pazyryk Barrow 3. The decoration on the breast band was the same as on the bridles: large plaques were attached with narrow thongs at the point of intersection of the straps, small plaques were distributed between them, or, alternatively, there was no decoration at all. The decorations of the breast bands on nine the saddles were made of wood, and on the last one — of bone. Under the wooden plaques which had been covered with gold foil on two of the saddles were round and three-petaled leather plates covered in Chinese lacquer (Novikova et al. 2013, pp. 115-16, Figs 1, 3, 4).

Three of the saddles had sets of bone accessories including shield-shaped plaque pendants, flat round escutcheons with holes, and plates on the supports and girth straps. Two of the saddles, without ornamented details, also had bone arches of the supports, the third set with carved decoration did not have arches. All the parts of the carved bone set were covered with Chinese lacquer in the hollows of the ornament. Under the plates on the supports were placed lens-shaped medallions of red fabric. The rest of saddle sets had wooden shield-shaped plaque pendants (including the "Chinese" saddle) and round escutcheons with holes of the thick leather. The "Chinese" saddle had decorative medallions of patent leather (Novikova et al. 2013, pp. 117, 120, 122, Fig. 1:9), one other saddle had saddle medallions of thin leather, painted in red, with leather appliqués covered with gold foil. On the rest of the saddles over the medallions of red fabric or felt were attached the plates in the form of half-hooves (with paired elk heads) and leather with appliqués. All saddles without arches on the edges of the supports were decorated with leather bands sewn on them and covered with gold foil, and the saddle with wooden plates was also decorated with wooden protomes of tigers, alternating in their decoration between red paint or a covering in gold and tin foil.

The covers of eight saddles were single-layered, of thin, finely processed felt, seven of them originally red, one yellow, and all with leather fringe of narrow straps. Two of the saddle covers of coarser felt, originally of a dark red (?) color, were sewn with sinew thread in a fine running stitch (in parallel lines and in lines forming squares). These covers had no fringe. The cover with quilted squares was the thickest (three-layered) and belonged to the "Chinese" saddle (with the thinnest panels), and the cover with the parallel lines was for the saddle with carved bone decoration.

One should note that part of the elements of decoration of the saddles in Barrow 3 was made specifically for burial: two identical sets of wooden plates for the girth straps lacked openings for attaching the breast straps and three had identical sets of shield-shaped pendants.

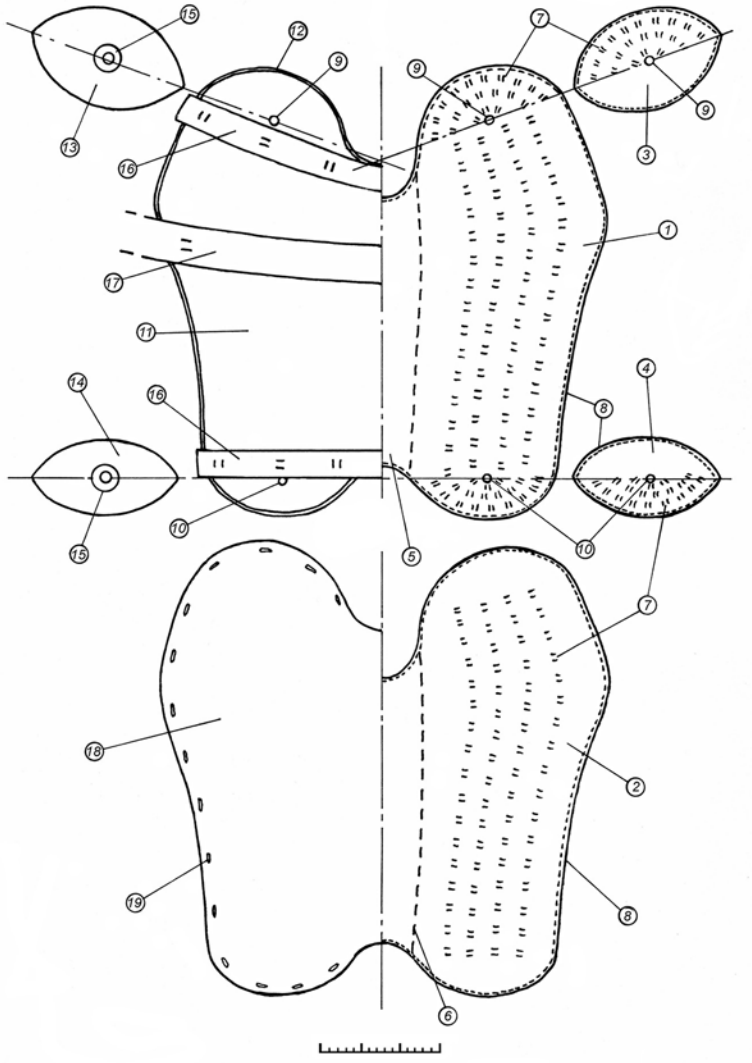


Fig. 8. Pattern of the sheathes of saddle panels, cover and sweat-cloth: 1) upper integument of the panel; 2) lower integument of the panel; 3) front lens-shaped inset; 4) rear lens-shaped inset; 5) saddle chute; 6) seam enclosing the saddle chute; 7) slits for the quilting; 8) seams connecting pieces of the panel sheath; 9) opening for thong with pendant attached to the support; 10) opening for the crupper-strap; 11) cover; 12) piping of the cover; 13) front decorative medallion; 14) rear decorative medallion; 15) round escutcheons with holes; 16) transverse saddle straps; 17) girth-strap; 18) sweat-cloth; 19) attachment of the sweat-cloth with thongs.

In determining the composition of saddle sets, we relied on Sergei I. Rudenko's evidence. However, in studying the saddles, we managed to obtain additional information, in particular so as to clarify the design of the leather and felt appliqués.

The reconstruction of the saddle set from Pazyryk Barrow № 3

We selected the set with the plainest decoration for our reconstruction. We prepared patterns and drawings of all parts of the selected set and carefully analyzed its techniques of manufacture. The saddle panels were made by the harness-maker Sergei Ryzhkov. The bone buckle, and wooden and leather elements of decoration were made by the restorers of the State Hermitage's Department of Scientific Restoration and Conservation, Andrei V. Kashcheev, Elena A. Chekhova and Marina V. Michri following the drawings by the author.

The sheathes for the panels of the Pazyryk saddles had been cut out of rather thick (1.5–2 mm) but flexible leather. After examining the surviving sheathes prior to the making of the replica, Sergei Ryzhkov concluded that probably the panel sheathes had been made of cattle hide. Since we did not set as one of our tasks the replication of Pazyryk leather-working technology but rather only the recreation of the external appearance and functional qualities of the saddle, for the panel sheathes we used a prepared cattle leather of appropriate quality. Instead of twisted sinew threads, we used kapron fiber ones of equivalent thickness, but all seams on the sheathes and the felt pieces were made following precisely Pazyryk methods.

In creating the pattern [Fig. 8] we used the median measurements from 9 saddles (taking into account the volume parameters of the least compressed of the saddles). The length of the replica saddle in its final form is 57–58 cm., the height of the front supports about 13 cm, their length 20 cm, and for the rear supports about 10 and 18 cm respectively. The width of the central (unquilted) part of the saddle (saddle chute) is 7–9 cm. The width of the stuffed parts of the panels at the wing is about 23 cm and in the narrow part 18 cm. (in its finished form). The maximum transverse width of the saddle is ca. 55 cm. The thickness of the seat is 5–6 cm, the thickness along the edge of the supports ca. 2 cm and at the base of the supports 4–5 cm.

Fig. 9. (left). Reconstructed saddle from Pazyryk Barrow № 3 (view from side and above, without the cover).

Fig. 10 (below). Reconstructed saddle from Pazyryk Barrow № 3 (view from rear and front, without the cover).

The measurements of the pattern were corrected using what was learned from the making of the first (unsuccessful) model. By experiment it became clear that to cut slits in already filled panels was difficult; and to attempt to sew without first making the slits and by simply pricking the leather sheathes resulted in tears in the sheathes and an imperfect external appearance. The quilting of the panel for our second, successful attempt was done through slits already in place [Figs. 9, 10; Color Pl. I].

As Sergei Ryzhkov had determined, even today reindeer wool is considered the best material for stuffing saddle panels and is used in making expensive saddles. However, since we were unable to obtain plucked reindeer wool in sufficient quantites, we substituted sheep's wool, which is used for stuffing today.[15]

The wool cords for quilting were twisted by hand from undyed sheep wool. Some 17 cords were used on the saddle.

The decorative medallions were cut from thin red felt and attached with finely stitched seams through the edge along the perimeter of the lens-shaped pieces of the sheathes. The saddle-cover also was cut from red, somewhat thicker felt and piped along the edge with felt. The front and rear edge of the saddle cover were laid over the side supports, extending slightly over the decorative medallions and then sewn to them.

The fringe was made of thin leather, cut with strips about 1 cm wide. In making the replica we used the technique for attaching the fringe that was documented in Pazyryk Barrows 3 and 5 [Fig. 6:2]. However, since it was very difficult to remove the cover from the saddle when it was fastened in that way, and we wanted to have several variants for the presentation of the saddle, only a few narrow thongs were threaded through the thickness of the panels and the rest inserted only onto the inside of the cover. But even using such a less substantial means of attaching it, the cover was sufficiently firmly secured to the saddle [Fig. 6:4].

Since there was no evidence of the presence of right-side fasteners in Barrow 3, we cut out of thick bull hide a complete saddle girth (surcingle) and fastened it over the cover to the saddle panels in two places using narrow thongs. Somewhat below the edges of the saddle panels, oval openings were cut in it for the attachment of the breast strap. A bone buckle, a precise copy of the buckle from Barrow 3 [Fig. 3:1], was attached on the left, pointed end. The other end of the girth also was pointed by a single, diagonal cut, and on it were made openings for the buckle pin. The transverse straps were cut from the same leather [Figs. 6:4, 9].

Each panel of Pazyryk saddles had two saddle-strings both front and back. Several variants for attaching these have been noted. For the replica we used the variant from Barrow 3 (Inv. No. 1685/216) — the thongs were threaded through a transverse strap, then the lower part of the saddle panel and back through each other [Figs. 9, 10].

Breast straps and crupper-strap were cut out of well tanned raw hide leather.

The trapezoidal-shaped parts of the crupper-strap were decorated on the exterior with red felt—the pieces of felt were attached along the edge and sewn in the longitudinal direction with short stitches which caught the upper layer of leather. On the broad ends of the pieces were cut rounded openings ca. 1 cm in diameter, through which were threaded the main narrow strap of the crupper [Figs. 9, 11]

The sweat-cloth was cut from white, undyed felt and attached in several places along the edge of the panels.

The saddle set which we chose had a number of decorative elements of wood and leather [Fig. 7]. The original rozette plaques, the shield-shaped plaques and semicircular plates on the girth strap were carved from cedar. The projecting parts of the carving were covered with gold foil and in the hollows were painted with red paint (cinnabar was used as the pigment). In addition, on the shield-shaped plaques there were hollows without any gilding and paint. Judging from Pazyryk tradition, one can certainly posit that these parts were covered in tin foil. Gold, tin and red paint were basic materials which the Pazyryks used in decorating wooden plaques, but the tin foil is the least well preserved of these. The large shield-shaped plaques were attached with thin thongs to the transverse straps and trapezoidal-shaped parts of the crupper. The small ones were suspended on narrow straps of thick leather ca. 1 cm wide which were used to quilt the supports and which attached the front transverse strap to the panels.

The rosette plaques at the intersection of the straps of the breast band were covered in gold foil, and under them were suspended small circles of thick leather covered with Chinese lacquer that had a red upper layer. The rosette plaques had a single attachment opening each on the outside. In this opening, which was somewhat wider at the top was wedged the knot of a thin strap, which was threaded through a leather ring, covered with lacquer, [Fig. 7:5-6] sewn to the straps of the breast band, and tied.

For decorating the supports, half-horse-shoe crescents were cut from leather colored red, and on them were glued appliqués of thin leather covered with gold foil. The round escutcheons with holes

of thick leather which covered the openings on the supports for fastening the crupper-strap and shield-shaped plaques, and the leather strips which were attached along the sides of the supports over the covers (sewn at several places) were covered with gold foil. The wooden and leather parts of the decoration were made to the measurements of the originals and in an analogous way were put in place and fastened on the copy of the saddle [Figs. 6:4, 9-10]. Brass was used to imitate the gold and tin foil.

Fig. 11. Scythian saddle on a horse: 1) replica saddle and bridle from Pazyryk Barrow № 3 on a mannequin (display in exhibition "Nomads of Eurasia" in Vyborg); 2) the replica saddle on a horse, the bridle a modern one.

Two spacers were cut as well for the saddle but not fastened to it. We decided first to test the saddle without spacers (the universal variant of the Scythian saddle), and then for comparison insert them.

Testing of the replica saddle

The saddle replica was tested on saddle horses to evaluate its functional qualities. Of course we wanted to assess the virtues and inadequacies of the saddle during exercises with bow, spear, javelin and blades. However, problems arose not with the riders but with finding horses of short stature trained for such activities. The saddles and all the measurements of the saddle straps correspond to the parameters of the archaeoloical saddles that were designed for horses of 135–145 cm. in height. The reconstructed harness stretched only with difficulty on a manneqin with a height at the withers of 155 cm,. Hence it was necessary to limit the first stage of testing simply to riding at different gaits (walk, trot, gallop) in the riding hall. The saddle was tested twice, on different horses, by the equestrian Evgenii M. Lenchik and equestrian reenactor Sergei V. Rakhmilevich. They rode once with the cover and crupper-strap and a second time without the cover and crupper-strap [Figs. 11:2; 12–13].

Doubts had been expressed by archaeologist colleagues and horsemen present during the experiments regarding the rather low position of the crupper-strap, as shown, for example, on the belt plaques from the Siberian collection, on the Ordos plaques showing the cavalry battles or on the plaque with two horsemen from Murzi sum (Hentai aimaq, Mongolia). It turned out that the position was corrrect, as the crupper-strap did not slip either on a trot or a gallop and thus presented no discomfort for the horse [Figs. 11:2, 12].

We were not permitted to use the crupper-strap with one of the horses, since it was young and only recently broken. Nonetheless, the saddle performed beautifully, even when, spooked by a dog, the horse reared up with its rider.

Fig. 12. Testing of the saddle (with the cover and crupper-strap).

Fig. 13. Testing of the saddle (the cover and crupper-strap removed).

The general opinion was positive: the saddle was comfortable for rider and horse, "adapted" to them; riding without stirrups on it was easier than with a hard saddle and was much more comfortable than with no saddle at all. The horses were calm and displayed no dissatisfaction with the unaccustomed harness. The decorative elements did not interfere with the rider, even the plaques on the girth-strap, and did not suffer any damage during the experiments.

However, the testing confirmed that the plaques on the surcingle-strap without slits were non-functional. To regulate the length of the breast strap with such plaques was practically impossible. That is, as Rudenko had suggested, these plaques were for funeral decoration.

The experiments showed the vital necessity of fastening the sweat cloth to the saddle, on account of its shape, small measurements and thickness. The unfastened sweat cloth could not be properly positioned even on the mannequin. A properly secured sweat cloth following Pazyryk tradition did not shift and substantially speeded up saddling the horse.

The bone girth buckle functioned very well, with one qualification: on account of the significant width of the girth strap but with a comparatively small opening of the buckle, it was necessary to adjust specially the length of the girth for any specific horse — not only the cutting out of the opening for the pin of the buckle but also the sharpening of the end of the girth strap itself. When the harness had been adjusted, only half a minute was required to saddle the horse.

The testing of the saddle will continue, including with the addition of the spreaders.

The replica of the saddle and bridle from Pazyryk Barrow 3 were used as visual materials in the design of the temporary exhibition "The World of the Nomads" in Vyborg (November 2013-April 2014) [Fig. 11:1]. In the future it is planned to exhibit them both permanently and in other temporary exhibitions.

Comparisons and conclusion

It is very interesting to compare replicas of Pazyryk saddles from various barrows. In 2013 was published a reconstruction of a saddle from Berel Cemetery Barrow 11 (Eastern Kazakhstan) (Akhmetzhan and Akhmetzhanova 2013). Berel Barrow 11 is close in

date to Pazyryk Barrows 1 and 2. The horse harness from these sites is quite similar and typical for the second (intermediate) chronological group. The preservation and parameters of the saddles are similar to those in Pazyryk Barrows 1 and 2. The height of the front supports is 13 cm as in our replica. In creating the pattern, the authors of the reconstruction used descriptions and drawings by Sergei I. Rudenko, but in re-creating the exterior appearance of the panels for some reason they referred instead to northern Chinese saddles with flat panels and low supports. The quilting was done superficially; on the front supports there was only one row of stitches, as on the saddle from Subashi (the decorative medallions were not copied; the parameters of the stitching not explained), the rear supports were not even mounted (in the original they were pushed back and flattened into one plane with the seat). Considerable attention was devoted to reproducing the decoration, especially the decorative cover with sewn-on appliqués showing a predation scene. This was the most reliable element of the reconstruction.

The recreation of the remaining elements of the decoration evokes a number of objections. The textile decorative medallions (unlike the felt ones) were not piped with cords. In all probability, the remains of twisted cords in the upper part of the medallions belong to the cover, the edges of which were folded onto the edges of the supports and somewhat onto their front face. Arches were fastened on top. Round escutcheons with holes and leather appliqués, which were covered with gold foil, were never piped with cords. There are no examples in the Hermitage collection, and the materials of the given saddle from Barrow 11 provide no basis for such suppositions. The most significant objection concerns the wish to supplement the saddle with shield-shaped pendant plaques, which are characteristic only for the late chronological group of horse harness of the Pazyryk culture. There are none in Berel Barrow 11, nor should there be. The assertion that they were but that they disappeared without trace, at the same time that wooden parts of the bridles and breast straps were satisfactorily preserved in their entirety, is improbable.

The experimental example of a saddle of Scythian type opens additional possibilities for interpreting a number of visual sources from Scythian and Hunno-Sarmatian times.

For instance, many hypotheses have been put forth about Bosphoran saddles shown on funeral reliefs of the 1st and 2nd centuries, frescoes, and terracottas (Stepanova 2004, pp. 239-45). They have been presented as a special type of hard saddle, Roman "horn" or Parthian saddles. However, saddles of the Scythian type correspond by far best in all their parameters to the Bosphoran saddles on these depictions, which include ones in high relief [Fig. 14]. Their decoration, of course, was different from that on the Pazyryk saddles. But all the structural features are the same: the wings, the semicurcular supports (the rear ones perpendicular to the axis the saddle, the front ones with open angles), the sweat-cloths and covers

Fig. 14. Depiction of soft saddles of the Scythian type on Bosphoran reliefs: 1) the stele of Cleon, son of Cleon; 2) the stele of Daphno, son of Psicharion; 3) the stele of Julius Patius, son of Demetrius; 4-6) replica of the Scythian saddle from Pazyryk Barrow № 3. (№№ 1-2 – after: Davydova 1990: Kat. 46, 48; № 3 – after: Desiatchikov 1972, Fig. 4).

similar in shape to the panels. Covers can be posited on all the reliefs, since nowhere are quilting or saddle straps visible. On some reliefs can be seen arches or decorative strips along the edge of the supports. On the paintings in the Stasov sarcophagus, the covers are in color with appliqués. A bunch of saddle-strings in the rear of the saddle is a characteristic feature of Bosphoran saddles; on some reliefs they served for tying on round, flat flasks (as in Pazyryk Barrow 1) or quivers. The front saddle-strings of a standing or walking horse align with the rider's leg and thus do not stand out [Fig. 12:1]; so they are not shown on reliefs with horsemen. The front saddle-strings may be shown on saddles where there is no rider (for example, on the horses on the grave of Fallon, son of Pof [Vainshtein 1991, Fig. 96:4]).

Saddles analogous to the Bosphoran ones probably are shown on some Rhine stelae of the 1st and 2nd centuries. (Moreover, on other reliefs from that region we see what are unquestionably Roman saddles that have a different pattern and consequent external appearance and configuration.) A saddle of Scythian type is shown as well on a late (Eastern) Han bronze horse from the Rietberg museum in Zurich (Inv.-Nr. RCH 13A). Thus, although saddle bows appear at the beginning of the Common Era, Scythian type saddles continued to be used at least until the 2nd century CE.

In sum, I would emphasize that reconstructions are an important part of cognitive activity, the materializing embodiment of our knowledge about objects which at one time were both practical and beautiful but now have for all intents and purposes been lost. There is as well another function of reconstructions—the communicative one, the transmission of acquired knowledge. For no kind of written description is a substitute for the visual impression of an object.

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Notes

1. Saddle from Subashi-1, grave M 10 (Shul'ga 2010, Fig. 70:2); saddle from Shanpula-1, horse pit 2 (Keller and Schorta 2001, Fig. 38).

2. Shibe—excavation by M. P. Griaznoi 1927; Pazyryk Barrow 1, excavation by M. P. Griaznoi 1929; Pazyryk Barrows 2–8, excavations by S. I. Rudenko 1947–49; Bashadar Nos. 1, 2, excavations of S. I. Rudenko 1950; Tuekta Nos. 1, 2, excavations by S. I. Rudenko 1954.

3. In Tuekta Barrow 1 were no fewer than 18 saddles on 8 horses, a very rare occurrence, since usually the harness sets are the same in number or fewer than the buried horses. One has the impression that all the old saddles used on a daily basis had been placed in the grave.

4. The leather of the saddle chute is lost on the remaining saddles in Pazyryk Barrow 2.

5. I managed to examine the saddle from Subashi in the Museum of the Xinjiang Institute of Cultural Heritage and Archaeology in Urumqi. Its panels were sewn down the center of the saddle chute, it had a cut at the withers, and a patch was sewn to the right panel. In the area of the front suppors the leather was partly missing. In its restoration, the missing parts were added and the corners of the supports sewn together! Thus, in some publications the lens-shaped parts look to be connected, for example in Liu Yonghua (2002, Fig. 154). Furthermore, behind the sewn-up section there remained a "mysterious" hole cut out across the whole width of the saddle chute. However, on the schematic drawing from the materials of the excavations of the cemetery of Subashi, the front cut at the withers and the rear cut on the saddle chute are nonetheless visible (Shul'ga 2010, Fig. 70:2).

6. The sweat-cloths which cover the withers of the horse, for example, are shown as well on the horses of the terracotta army of Qin Shi Huang 秦始皇, while the saddles themselves are positioned just behind the withers.

7. See, for example, the panel sheathes of Roman saddles from Valkenburg, Vechten (Netherlands), Castleford, Carlisle and Vindolanda (England), Newstead (Scotland) (Connolly and van Driel-Murray 1991, Fig. 4:7, pl. VI; van Driel-Murray et al. 2004, Fig. 4: 6) and their depictions on the reliefs of the mausoleum of the Julii at Saint-Rémy, on the arch in Orange, on the relief from Mantua, on the columns of Trajan and Marcus Aurelius or on reliefs with scenes of the

wars of Trajan with the Dacians on the Arch of Constantine in Rome, etc.).

8. This conclusion has been confirmed in a recent study (Kulikov et al., in press).

9. The sweat-cloths of Scythian-type saddles were almost invisible; so most depictions do not show them. Only on the most detailed images can we see them barely peeking out beyond the edge of the saddle panels (for example on the Chertomlyk silver amphora). Some slightly enlarged sweat-cloths are visible on paired belt plaques with resting horsemen and boar hunting from the Siberian collection of Peter I, on the Ordos plaque-fastenings with battling riders. Much larger, almost rectangular objects with slightly pointed ends are shown on the horses of the terracotta army of Qin Shi Huang. Sweat-cloths, which extend prominently beyond the edges of saddles are shown on ceramic statuettes from the Former Han period. But enlarged sweat-cloths must then be protected from bad weather. A leather sweat-cloth cover or cheprack, whose shape and size are very close to those of the sweat-cloths from Pazyryk Barrow 5, is known from Noyon uul Barrow 6. It is the earliest prototype of sweat-cloth covers for cavalry saddles and of leather chepraks of the nomads. It is possible that in later Pazyryk barrows we see the start of a tendency to enlarge the dimensions of the sweat-cloths and transform them into independent objects of horse harness not attached to the saddle.

10. On Tuva saddles the right ends of the girths to this day are tied to strap fasteners (with a knot analogous to the Pazyryk one), attached to the saddle frames in the form of loops and acting as girth straps (Darzha 2003, Fig. 40: 3a,b).

11. The thesis about two kinds of Pazyryk saddles has been very popular in the specialized literature. However, Sergei I. Rudenko stresses that "saddles of the Pazyryk barrows belong to one and the same type of Scythian saddle, which had been developed in detail and apparently was widespread." When speaking of "types of Pazyryk saddles," he cited in the first instance difference in decoration and accessories of the saddles of Pazyryk Barrows 1–2 and 3–6, at the same time as "measurements, shape and technique of workmanship of saddle panels in these latter barrows were the same as in the former two" (Rudenko 1953, pp. 161, 164). The remark about the height of the supports is based on a misunderstanding. Rudenko specifies the height of the supports ("arches") for the later saddles (height ca. 10, width ca. 20 cm), but does not indicate the size of the early ones! In Barrows 1 and 2, the saddles are less well preserved, the supports have disintegrated; i.e., the conclusion about their low height was made, apparently, purely on the basis of a visual impression. The measurements of the lens-shaped parts of the panel sheathes, of the decorative medallions and arches of the supports in Barrows 1 and 2 shows that some of those saddles had the same height of the supports as in the later saddles, but some were higher.

12. In the Pazyryk cemetery for 50 saddle horses were found only 3 (!) buckles for single-part fasteners, one each in Barrows 2, 3 and 4. The given phenomenon can be explained by the desctruction of horse harness as one of the characteristics of the burial ritual in the middle and later stages of Pazyryk culture (Stepanova 2006, Fig. 9, pp. 141-44).

13. In 2012–2013 a multi-disciplinary study of all the lacquer from the Pazyryk Collection was carried out in the Department of Scientific-Technical Expertise of the State Hermitage (Novikova et al 2013).

14. In Pazyryk Barrow 3, one spacer was preserved, attached to the saddle strap; two saddles had one spacer each in the saddle panels; in Pazyryk Barrow 5, the spacers were preserved in two saddles. The remaining spacers are preserved separately; pairs of them differ in individual external features.

15. Peter Connolly also used sheep's wool for stuffing in reconstructions of Roman saddles, while he admitted the possibility of straw or deer-wool filling (Driel-Murray et al, 2004, p. 10).

— *Translated by Daniel C. Waugh*

An Image of Nighttime Music and Dance in Tang Chang'an: Notes on the Lighting Devices in the Medicine Buddha Transformation Tableau in Mogao Cave 220, Dunhuang

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Preface

Dunhuang murals provide us with a history of images, and as visual documents, the Dunhuang Caves have become primary sources for the study of medieval history. Although the painting of the Seven Medicine Buddhas in Cave 220 at the Mogao Grottoes depicts a Buddhist Pure Land, it is also deeply connected to scenes of daily life in Tang society. The three large lighting devices included in this mural are actually representations of a lantern festival that frequently took place in the Tang capital of Chang'an. I argue that although these combinations of music, dance and extravagant lighting devices were portrayed in a Buddhist Pure Land, they more specifically reflect spectacles of lantern festivals that were enjoyed by the emperor and his subjects at court, or privately in the homes of urban elites during various nighttime banquets. Such Dunhuang murals, as critical visual documents that survived through time, help us reconstruct the social context of daily life in the two capitals of the Tang Empire, Chang'an and Luoyang. This is also an important method for the studying of Dunhuang visual materials.

Mural paintings at Dunhuang contain incredibly rich imagery of music and dance, and one could say that it is a treasured resource for the study of performance in medieval China. With such a unique repository of visual materials, we are able to trace the long history and complex development of dance and music in the medieval period. In the course of the century-long development of "Dunhuang Studies" on an international scale, the study of Dunhuang dance and music has steadily progressed, thanks to contributions by generations of scholars, such as Jao Tsung-I, Xi Zhenguan, Chen Yingshi, Ye Dong, Niu Longfei, Zheng Ruzhong, Zhuang Zhuang, and Wang Kefen. They have constructed the general contours of this field, and have also thoroughly identified the iconography of important images.[1] However, compared to other fields, the study of Dunhuang music and art lacks a more comprehensive and deeper research agenda. The mural paintings are treated as documents of historical phenomena, and interpretations are usually limited to evidential scholarship that is interested in the identification, typology, gestures, origins and development of isolated instruments or dance types, or the ensemble of orchestras or organization of dance troupes. Few studies address the rich contexts of such imagery, such as their historical background, their relationship to social customs and contemporary fashions, or how they reflect cultural and artistic exchange (Qiu 2006). Furthermore, there are even fewer iconographic studies that investigate how such imagery developed into its own distinct genre separate from Buddhist icons, preaching scenes, and *bianxiang* 變相 (transformation tableaux), or how they acquired symbolic meaning in their social and artistic contexts (Panofsky 1955/1996). These aforementioned issues suggest new directions that we should actively pursue in the future study of Dunhuang music and dance imagery (Wu 2003).

As a representative example of Dunhuang music and dance imagery, the two large transformation tableaux on the northern and southern walls of Cave 220 at the Mogao grottoes have always attracted much scholarly attention. Most agree that the images depict the "Whirling Dance of the Hu"(*huxuanwu* 胡旋舞), which was immensely popular during the Sui (581–618) and Tang (618–907) dynasties.[2] Elsewhere, I have already discussed the social context, artistic background, and artistic trends that these paintings reflect and their specific relationship with lantern festivals in the prosperous capital of Chang'an during the Tang (Ning 2004; Sha 2013).[3] Based on my previous stud-

ies, through close analysis, I have come to a new understanding of these paintings by combining insights from the research fields of music studies, dance studies, and Chang'an (and Luoyang) studies. Although I am not a specialist on music or dance, I hope to use the images of Cave 220 to bring to light a picture of the experiences of urban life in Tang Chang'an.

Methodology

In the research of Dunhuang mural paintings, iconographic studies are crucial, but it is much more important and meaningful to be able to trace and interpret the broader history of such images. Such studies must not be limited to the use of canonical textual sources to decipher images themselves, nor should they be confined to the study of religious contexts. Furthermore, in line with the critique recently put forward by the Taiwanese scholar Yen Chuan-ying (Yen 1998), such studies should not be a mere tracing of the history of images — as with rigid archaeological typologies of form and style.

I propose, instead, to study the historical context of images, and approach Dunhuang mural paintings through the lens of their social and material contexts, bringing them into a more concrete historical framework. By employing contemporaneous sources on social life we may put these mural paintings back into their original context (Ge 2012[4]). This will allow us to adopt a creative sociological and historical approach to the transformation tableaux of music and dance in Cave 220 and to the visual culture of Dunhuang more broadly.

This paper focuses on the interpretation of the lighting devices within the music and dance scenes in the tableau of the Seven Medicine Buddhas on the north wall of the main chamber of Cave 220 [Fig. 1; Color Pl. II]. Between the two sections of dancing, three large lamps are being lit [Fig. 2]. They consist of two types of devices: in the middle is a rectangular nine-story lamp frame (a "lantern tower" *denglou* 燈樓) [Fig. 3], and on each side a four-story lamp tree (or "lantern wheel" *denglun* 燈輪) [Fig. 4a,b,c]. These two types of lighting devices are in fact, the luxurious lantern structures used during the Lantern Festival (*shangyuan jie* 上元節) (the fifteenth day of the first month) by the imperial family in the capital Chang'an for their nighttime festivities. The famous prime minister and poet Zhang Yue 張說 (667-731) once described such an extravaganza in a poem "Stomping Song Texts Orally Composed Before His Majesty on the Night of the Fifteenth 十五日夜禦前口号踏歌詞二首":

Fig. 1. Tableau of the Seven Medicine Buddhas, main chamber, north wall, Mogao Cave 220, Early Tang (mid-7th century). Dunhuang. Courtesy of the Dunhuang Academy.

Fig. 2 (above). Music and dance scenes from the Tableau of the Seven Medicine Buddhas, main chamber, north wall, Mogao Cave 220. Replica painted by Shi Weixiang. Courtesy of the Dunhuang Academy.

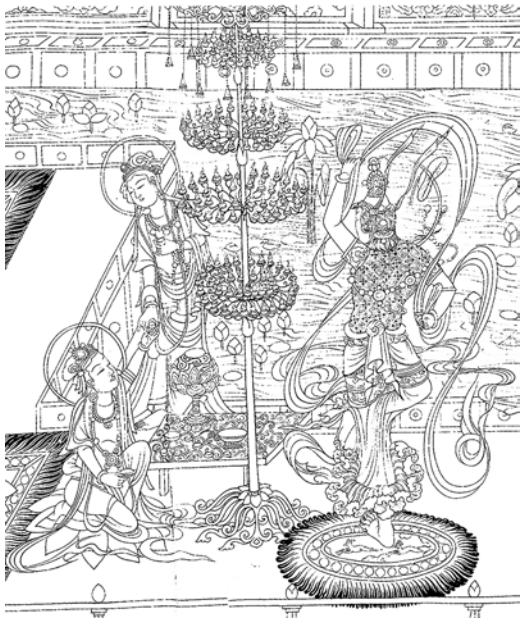
Fig. 3 (right). Lantern tower, Tableau of the Seven Medicine Buddhas, main chamber, north wall, Mogao Cave 220. Courtesy of the Dunhuang Academy.

Before the Blossom and Calyx Tower new rain and dew,
In the city of Chang'an, the people enjoy peace.
Dragon mouths hold "fire trees," a thousand lanterns flame;
Cocks tread on lotus blossoms, a myriad years of spring.
At the Imperial Palace on the 15th, we so enjoy the Spring Terrace
That coming rains and moving winds do not envy us.
Western region lantern wheels, a thousand shadows converge;
The Eastern Flower Golden Portal opens ten thousand times.

花萼樓前雨露新，長安城裏太平人。
龍銜火樹千重焰，雞踏蓮花萬歲春。
帝宮三五戲春臺，行雨流風莫妬來。
西域燈輪千影合，東華金闕萬重開。

[Cao and Peng 1960, p. 982; Engl. tr., Hartman 1995, pp. 14-15]

Fig. 4 a,b.c. (below). Lantern wheels, Tableau of the Seven Medicine Buddhas, main chamber, north wall, Cave 220. Replica (Fig. 4b) painted by He Zhizhao and Wan Gengyu, 1960. Courtesy of the Dunhuang Academy.



The poem describes the spectacle of "stomping songs" (*tage* 踏歌) during the lantern festival held in the city of Chang'an on the fifteenth day of the first month. The poem mentions two types of lighting devices: one is the "lantern wheel" from the Western Regions, and the other is the "golden *que* tower" from China. It is clear from the poem that the former is round, and the latter is rectangular. These are exactly the two different types of lanterns that can be found in the mural painting of Cave 220.

Fig. 5. A typical music and dance scene in a Dunhuang tableau, from the Medicine Buddha tableau of the south wall of Mogao Cave 112, Mid-Tang, Late 8th – mid-9th century. Courtesy of the Dunhuang Academy.

In any case, the appearance of such luxurious lighting devices in the Early Tang Pure Land tableaux of Dunhuang caves is remarkable, and provides us with a different perspective on contemporary history. The lantern festivals held in the two Tang capitals of Chang'an and Luoyang during the fifteenth night of the first month were indeed glorious and magnificent.[5] It became a recreational entertainment that was favored not only by the imperial family, officials and nobles, but also by common urban dwellers. Crowds of city-dwellers enthusiastically flocked to such festivities. These spectacles became major public events in urban life of Chang'an and Luoyang. A passage in the "Miscellaneous Records of Emperor Ming 明皇雜錄" describes such an occasion:

> The emperor was at the Eastern Capital (Luoyang), and it was the night of the full moon of the first month. He moved to the Palace of Ascending Yang, and displayed many decorated lanterns, and installed court lighting devices. Candles and torches were placed from the inner keep to the palace halls, and they followed each other without end. There was a craftsman named Mao Shun, who was skilled in creating temporary structures decorated with colorful fabrics. [He] made thirty multistory pavilions, whose height reached one hundred and fifty *chi*. Pearls, jade, gold and silver were suspended upon them, and when a breeze arrived, they tinkled and made resonating sounds. [Mao Shun] made the lanterns in the form of leaping dragons, phoenixes, tigers and leopards. They seemed like they were not made by human effort.
>
> 上在東都，遇正月望夜，移仗上陽宮，大陳影燈，設庭燎，自禁中至於殿庭，皆設蠟炬，連屬不絕。時有匠毛順，巧思結創繒彩，為樓三十間，高一百五十尺，懸珠玉金銀，微風一至，鏘然成韻。乃以燈為龍鳳虎豹騰躍之狀，似非人力。
>
> [Zheng and Tian 1994, p. 55]

This type of large tower-like lantern with movable compartments that could change shape was immensely popular in the Tang period, and can be related to the lantern tower depicted in Cave 220. We can also assume that the mural possibly depicts the early phases or the general contours of the large lantern towers that were made in Luoyong by craftsmen such as Mao Shun. Our analysis of the three lighting devices in Cave 220's large dancing and music scenes — the lantern wheels and lantern tower — can help us reconstruct the lively lantern festival activities and more broadly the history of nighttime dance in Tang Chang'an.

The Historical Context of the Music and Dance Scene in the Medicine Buddha Tableau of Cave 220

For those familiar with Dunhuang mural paintings, it is commonly known that music and dance scenes appear in almost every single cave at Dunhuang. Images such as those in Cave 220, which include dance scenes and an accompanying orchestra, are integral components for all kinds of large tableau paintings, except for the tableaux of the *Flower Garland Sutra*, the Thousand Buddhas, the *Vimalakirti Sutra*, the *Uṣṇiṣa Vijaya Dharaṇi Sutra*, and Tibetan Buddhist mandalas. Their numbers are abundant, and their features are similar, usually occupying the space directly below the preaching scene of the main icon. It is common for there to be one or two people dancing, and there are conventionally two rows of musicians of varying numbers beside the dancers, forming a full music and dance scene [Fig. 5]. The time frame of these images

Fig. 6. Music and dance in the Tableau of the Western Pure Land, main chamber, south wall, Mogao Cave 220, Early Tang (mid-7th century). Courtesy of the Dunhuang Academy.

ranges from the early Tang to the Uighur and Tangut periods, but the main composition is similar to that of the music and dance scene in the *Amitayurdhyana Sutra* tableau on the south wall of Cave 220 [Fig. 6]. A thorough investigation of all this material reveals that, despite the large number of music and dance scenes at Dunhuang, the Medicine Buddha tableau on the north wall of Cave 220 contains the only one that includes lighting devices. Therefore, from this perspective, we come to realize that the appearance of such large and elaborate lighting devices — in the form of a foreign lantern wheel and a Chinese lantern tower — is a unique case in tableau painting, and it must have been a result of particular historical circumstances.

Although the images of music and dance in Cave 220 appear within Buddhist grottoes at Dunhuang, we must also take into consideration Dunhuang's strategic position within the geo-politics of the Silk Road. These images were intimately connected to transportation and commerce during the early phases of the Tang Empire, as well as the rich and elaborate temple wall paintings in the two capitals of Chang'an and Luoyang. More specifically, we may take a closer look at the critical historical moment when, during the fourteenth year of the Zhen'guan era (640 CE), Emperor Taizong (598–649) dispatched the army of Hou Junji (?–643) to conquer the Kingdom of Gaochang (present-day Turfan region) (Sima Quang 1956, pp. 6267-6269). The construction of Cave 220 was finished during the sixteenth year of the Zhen'guan period (642 CE) by the Zhai family, which had deep ties with foreign culture in Central Asia, but was also enthusiastic about obtaining a new Chinese identity (Chen 2008; Luo and Rong 2014; Ning 2004, esp. pp. 59-61). The Zhai family's deep interest in Chang'an culture helps explain the entirely new imagery found in Cave 220 (He 1986, p. 201; Duan 2007), and suggests that the origins of the new style of tableau paintings and the employment of new *fenben* 粉本 (a Chinese term that denotes sketches and stencils used in painter workshops) in Cave 220 can be traced to the traditions in Chang'an (Sha 2013; Ma Hualong 1996). Furthermore, if we consider other important imagery in Cave 220, such as the "Zhen'guan New Style" of the Vimalakirti tableau proposed by Wang Zhongxu (2012), then it will also support our claim that such innovative painting styles and *fenben* in Cave 220 come from the capital.

Considering Lighting Devices: The Uniqueness of the Music and Dance Image in the Medicine Buddha Tableau in Cave 220

The following section explores the relationship between the music and dance imagery in Cave 220 and everyday life in Tang Chang'an. As previously mentioned, a major issue to address is the reason why lighting devices were depicted in the music and dance scenes in a transformation tableau.

At Dunhuang, only Medicine Buddha tableaux contain images of lamps. This phenomenon is based on the text of the sutra itself. There are in total five translations of the Medicine Buddha Sutra: 1) *The Consecration Sutra Spoken by the Buddha that Rescues from Sin and Enables Salvation from Birth and Death* 佛說灌頂拔除過罪生死得度經 (one scroll) translated by the Kuchean Monk Śrīmitra 帛尸梨蜜多羅 during the Eastern Jin (265–420 CE); 2) *The Sutra of The Medicine Master Lapis Lazuli Light* 佛說藥師琉璃光經 (one scroll) translated by Huijian 慧簡 during the Song of the Southern Dynasties (420–479 CE); 3) *Sutra of the Vows of the Medicine Buddha* 佛說藥師如來本願經 (one scroll), translated by Dharmagupta 達摩笈多 (d. 619 CE) in the Sui Dynasty (581–618 CE); 4) *Sutra of the Vows of the Medicine Buddha of Lapis Lazuli Crystal Radiance* 藥師琉璃光如來本願功德經 (one scroll), translated by Xuanzang玄奘 (601–664 CE); 5) Sutra of the Vows of the Medicine

Buddha of Lapis Lazuli Crystal Radiance and Seven Past Buddha 藥師琉璃光七佛本願功德經 (two scrolls), translated by Yijing 義淨 (635–713 CE) (Luo 1989). All of the above texts mention various activities that would reduce the danger of ill fate and disaster, such as "reading the *Medicine Buddha Sutra* or reciting his name," "burning lights of seven stories," "suspending five-colored longevity banners," "liberate all types of living beings," "feeding monks," etc. Therefore, the act of lighting lanterns could be considered one of the major activities of accumulating merit that was promoted by the *Medicine Buddha Sutra*. And because of this, we understand why lantern wheels were depicted in the tableau paintings.

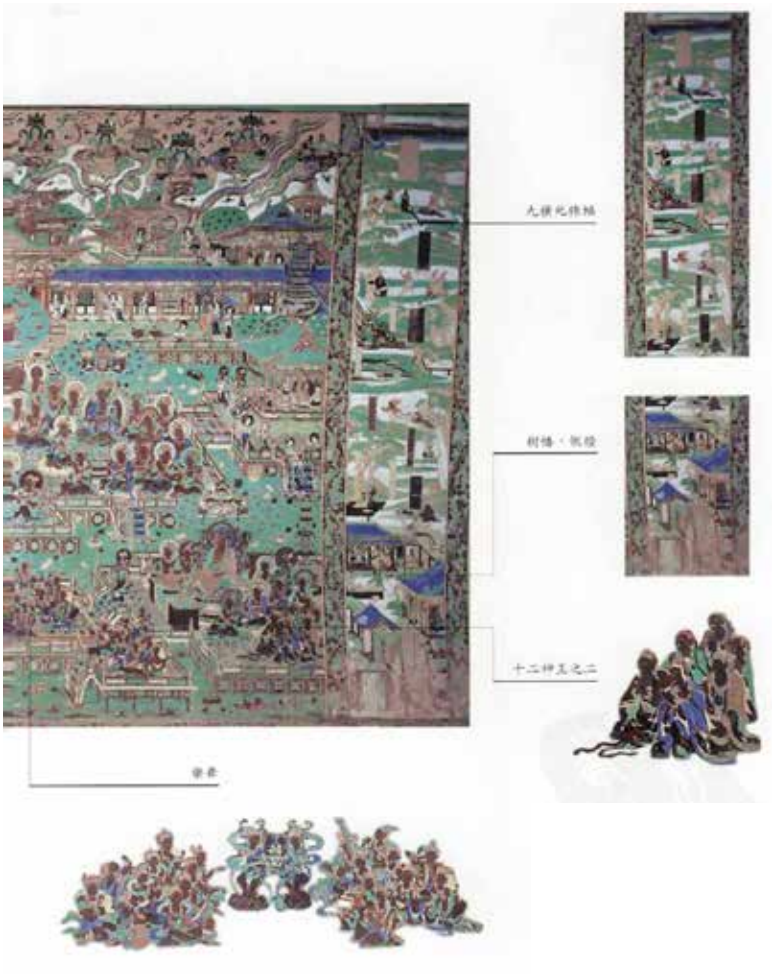
Many scholars have written about the Medicine Buddha tableau in Cave 220, such as Matsumoto Eiichi (1937), Luo Huaqing (1989), Shi Pingting (1998), Li Yumin (1989), Wang Huimin (n.d., 2000), and Ning Qiang (2004, esp. pp. 20-22). They believe the tableau was specifically based on Dharmagupta's translation of the *Sutra of the Vows of the Medicine Buddha* in 615 CE. This version contains vivid descriptions of the lighting of lamps to eradicate disaster and pray for blessings:

> The Bodhisattva Salvation replied: "Virtuous Ananda! In order to help the patient recover, you should adhere to the Eight Precepts for seven days and seven nights, make offerings of food, drink and other necessities to a [group of] monks and nuns in accordance with your means, pay homage and respectfully make offerings to the World-Honored Medicine Buddha six times a day and recite this sutra forty-nine times. You should light forty-nine lamps, make seven images of the Medicine Buddha and place seven lamps, each as large as a cartwheel, before each image, letting them burn continuously for forty-nine days and nights. You should also make multi-colored banners, forty-nine hand-lengths long.
>
> 救脫菩薩言：大德阿難！若有患人欲脫重病，當為此人七日七夜受八分齋，當以飲食，及種種眾具，隨力所辦，供養比丘僧，晝夜六時，禮拜供養彼世尊藥師琉璃光如來，四十九遍讀誦此經，然四十九燈，應造七軀彼如來像，一一像前各置七燈，一一燈量大如車輪，或復乃至四十九日光明不絕，當造五色綵幡長四十九尺。
>
> [*T*14n0449_p0404a03(02) - 10(02) 《大正藏》第14册，第404页; tr. based on *Sutra* 2001, pp. 40-51]

This section is frequently cited by scholars as the textual source for the large lantern tower and two lantern wheels in the tableau of Cave 220. However, with closer scrutiny, we realize that, although the images might symbolically represent the text, the placement of the lamps is still very different from the description above. According to the sutra, the burning of lamps is mostly to venerate the "World-Honored Medicine Buddha," namely the seven Buddha figures mentioned in the text, but in the cave painting, the lighting devices are placed within the music and dance scenes instead. The intentional combination of the devotional lighting devices and dance scenes shows that the painter was very careful with the lighting effect of the dance environment. By transplanting devotional lamps into the music and dance scenes in the Eastern Pure Land of the Medicine Buddha, the painting actively reflects upon the realities of daily life. As Luo Huaqing (1989) has correctly pointed out: "The luminous lamps, vibrant dance scenes and luxurious settings depicted in the Medicine Buddha tableau in Cave 220, effectively create the blissful atmosphere of the Pure Land of the Medicine Buddha. The tableau is of high quality: it not only provides us a glimpse of contemporary society, but is also a result of the popularity of the cult of the Medicine Buddha."

Scenes of lighting lanterns could already be found in Medicine Buddha tableaux from the Sui dynasty. For example, at Dunhuang in Cave 417 and Cave 433, there are also large lantern wheels depicted in the paintings, and the latter cave contains two large ones [Fig. 7]. This shows that by the Sui dynasty, lantern wheels had already become an integral part of the Medicine Buddha tableaux. However, music and dance scenes were never included in Sui dynasty caves. The lanterns were usually depicted on the two sides of the main icon, which is closer to the description in the sutra, showing how they were lit as devotional objects

Fig. 7. A Medicine Buddha tableau that includes lantern wheels, Mogao Cave 433, Sui Dynasty. Courtesy of the Dunhuang Academy.



for the Medicine Buddha for good luck and warding off disaster. By the Tang and Five Dynasties periods, the lanterns were complemented with images of the Twelve Yaksa Generals, Nine Forms of Ultimate Death, Twelve Great Vows, suspending banners, liberating living beings, and the feeding of monks, which consisted the main iconography of the Medicine Buddha tableau (Dunhuang yanjiuyuan 2001-2002, [Vol. 6], p. 128; Shi 1998). Music and dance scenes appear in such tableau paintings throughout the Early Tang to the Guiyijun Period (848–1036). However, the lantern scenes are usually found separate from the music and dance scenes, and were usually placed adjacent to passages of feeding monks and liberating animals. In tableau compositions that include two long strips of images on both sides, the lanterns are usually depicted under the passages for the Nine Forms of Ultimate Death, as in the High Tang Cave 148 [Fig. 8]. They also appear in the screen sections of tableaux that are organized as painted screens, such as the Middle Tang Cave 231 and the Late Tang Cave 12 [Fig, 9]. In other cases, the lanterns are included on the bottom section of the composition, e.g., in the Five Dynasties Cave 146 [Fig. 10]. They are also depicted in the preparatory drawings of the Medicine Buddha tableau P.2868v from Cave 17 [Fig.

Fig. 8 (above). The composition of the Nine Deaths and lantern scenes in the Medicine Buddha tableau in Mogao Cave 148, High Tang, 8th century, Dunhuang. After: Dunhuang yanjiuyuan 2001-2002, [Vol. 6], p. 191, Pl. 155.

Fig. 9 (left). Lantern scene in painted screens under the Medicine Buddha tableau, Mogao Cave 12, Late Tang. Courtesy of the Dunhuang Academy.

Fig. 10 (below). Lantern scene in the Medicine Buddha tableau of Mogao Cave 146, Five Dynasties. Courtesy of the Dunhuang Academy.

Fig. 11. Monochrome drawing of the Medicine Buddha tableau, MS P.2868v from Mogao Cave 17 (now in the Bibliothèque Nationale de France).

11] (Sha 2007, pp. 53-66), where the placement of the lanterns is as in the other examples, not in the music and dance scenes. This more comprehensive picture of Medicine Buddha tableaux at Dunhuang emphasizes the uniqueness of the depiction in Cave 220 where the lanterns are an integral part of the music and dance scenes.

As the large Medicine Buddha tableau in Cave 220 is known to be the earliest of its kind, we can argue that this is the first instance in which music and dance scenes are included in Medicine Buddha tableaux. In the Sui dynasty, such tableaux did not contain any images of music and dance, and by the Tang the Medicine Buddha tableau adapted a "Western Pure Land" style of presentation. As Wang Huimin pointed out, "It is because of the contemporary interpretations of the Medicine Buddha Sutra, that the world of the Medicine Buddha was conceived as an ideal Buddhist Pure Land. At Dunhuang, the realm of the Medicine Buddha was depicted as a Buddhist Pure Land, and this reflects the beliefs of religion and society"(Dunhuang yanjiuyuan 2001-2002, [Vol. 6], p. 148). The understanding of the realm of the Medicine Buddha as a Pure Land can be traced in religious texts related to the cult. In the *Sutra of the Vows of the Medicine Buddha of Lapis Lazuli Crystal Radiance* 佛说药师如来本愿经:

> This Buddha-land is utterly pure. There are no forms of women and it is distant from all temptations and evil. There are neither Evil Paths nor cries of suffering. The ground is made of lapis lazuli. The cities, walls, doors and windows, halls and beams, brackets and surrounding draperies and ornaments are all made of the Seven Treasures. The adornments of the Realm of Lapis Lazuli are like that of the Land of Bliss.
>
> 彼佛國土一向清淨，無女人形，離諸欲惡，亦無一切惡道苦聲，琉璃為地，城闕、垣墻、門窓、堂閣柱樑、斗拱、周匝羅網，皆七寶成，如極樂國，淨琉璃界莊嚴如是。
>
> [*T*14n0449_p0402a20(05) - 23(00)《大正藏》第14册，第402页]

The descriptions of the realm of the Medicine Buddha in the *Medicine Buddha Sutra* are very similar to those of the Western Pure Land of the Amitabha Buddha. In the *Amitabha Sutra* 佛说阿弥陀经, Kumārajīva's (344-413) translation reads:

> [In] the Land of Utmost Bliss there are seven- jeweled ponds filled with water possessing the eight excellent qualities. The beds of the ponds are covered solely with gold sand, and from the four sides of each bed rise stairs of gold, silver, beryl, and crystal. Above these stand pavilions adorned with gold, silver, beryl, crystal, sapphire, rosy pearls, and cornelian. In the ponds are lotuses as large as chariot wheels—the blue ones radiating a blue light, the yellow a yellow light, the red a red light, and the white a white light. They are marvelous and beautiful, fragrant and pure. Śāriputra, the Land of Utmost Bliss is filled with such splendid adornments.
>
> 極樂國土有七寶池，八功德水充滿其中，池底純以金沙布地。四邊階道，金、銀、琉璃、頗梨合成。上有樓閣，亦以金、銀、琉璃、頗梨、車璩、赤珠、馬瑙而嚴飾之。池中蓮花，大如車輪，青色青光，黃色黃光，赤色赤光，白色白光，微妙香潔。舍利弗，極樂國土成就如是功德莊嚴！
>
> [*T*12n0366_001 [0346c16]《大正藏》第12册，第346页; in English, *Pure Land*, 2003, p. 91]

Music and dance are fundamental activities enjoyed by all human civilizations, reflecting the spiritual pursuits of the people, and evolving throughout history. In many cases, music and dance are intimately related to the interest of the ruling class in different time periods. As Yang Jianhong argues (1997, pp. 461-62), "In China, every feudal dynasty was invested in music and dance. They believed that it was deeply related to the rise and fall of states or good governance. At the founding of each dynasty, rituals and music were created accordingly. Ritual was the binding force of etiquette and conduct in the class based feudal system in China. The investment in music and dance can be seen as methods for inner cultivation and also the regulation of aesthetic taste and social customs of the people. Ritual and music complement each other." The "Records on Ritual" in the *New Book of the Tang* 新唐書 • 禮樂誌 specifically provide the definition of music and dance:

> [Music and Ritual] is to be used at the ancestor temple and at court, in order to connect the happiness of humans

Fig. 12. Music and dance scene in the Western Paradise tableau, Yulin Cave 25. Courtesy of the Dunhuang Academy.

> [In] that Buddha land heavenly music is played continually. The ground is made of gold. Six times during the day and night māndārava flowers rain down from the sky.
>
> 彼佛國土，常作天樂，黃金為地，晝夜六時天雨曼陀羅華.
>
> [*T*12n0366_001 0347a07《大正藏》第12册，第347页; in English, *Pure Land*, 2003, p. 91]

Apparently, the *Medicine Buddha Sutra* borrowed the imagery of music and dance from Western Pure Land paintings to show that the lapis lazuli realm of the Medicine Buddha was also a similar "Land of Bliss".

> and gods. The sound of metal and stone, and the form of song and dance, each come from their ability to subdue disorder, but the root of them come from local customs.
>
> 至其所以用於郊廟、朝廷，以接人神之歡，其金石之響，歌舞之容，則各因其功業治亂之所起，而本其風俗之所由。
>
> [Ouyang and Song 1975, p. 460]

Therefore, music and dance became indicators of an ideal world in the imagination of the people.

Buddhist sutras also used music and dance as means of signifying a Buddhist Pure Land, as in the *Amitabha Sutra*:

Fig. 13a (right),b (below). Music and dance scenes in the Western Pure Land tableaux, Mogao Caves 321 and 341, Early Tang, 7th century. Courtesy of the Dunhuang Academy.

However, in the copious Western Paradise imagery at Dunhuang, lanterns are rarely included in music and dance scenes [Figs. 12, 13a,b].

A "Pure Land" (Chn: *jintu* 淨土, Skt: Sukhavati), or "Land of Utmost Bliss (*jile shijie* 極樂世界)," in Buddhist belief denotes an ideal realm without suffering, in contrast to the "impure lands (*huitu* 秽土)" where sentient beings dwell. In a Buddhist cosmos, time and space are limitless. Buddha lands or worlds are also limitless, and within each Buddha Land there is a Buddha that preaches to his subjects. The "Land of Bliss" is one of these limitless realms. As mentioned above in the *Amitabha Sutra*, this land contains of endless merits and

adornment, and countless Savaka and bodhisattvas. Its lecture halls, temples, palaces, towers, jeweled trees and ponds are all made of the Seven Treasures, miraculous and pure. Food and drinks of a hundred flavors arrive at will, and tens of thousands kinds of music are played, all expounding the dharma. Citizens of such a realm are imbued with great wisdom: their appearances are elegant and solemn. Enjoying all types of music, they experience no pain or suffering, and are able to follow the "true way" of Buddhism. As described in the *Sutra of the Vows of the Medicine Buddha*, the Eastern Lapis Lazuli Realm of the Medicine Buddha is also an ideal world desired by many followers of Buddhism. In this realm, the ground is made of lapis lazuli and the body of the Medicine Buddha also glows like the same substance — thus being called the "World of Lapis Lazuli". According to the sutras, this world is similar to the "Land of Bliss" in the west, and contains endless wonders. There is no differentiation between the sexes, nor is there any of the Five Desires. The ground is made of lapis lazuli, and divided into pathways by threads of gold. Cities and palaces are all made of the Seven Treasures. As long as one upholds and recites the *Medicine Buddha Sutra*, chants the name of the Medicine Buddha, and cultivates kindness to others, one will be reborn in the Lapis Lazuli World. And since the Pure Land of the Medicine Buddha was understood as a utopian world, which is eternal, and beyond time and space, without day and night, then rarely are lanterns depicted as actual lighting devices that provide visibility in darkness. They should be seen as devotional objects for the worshipping of the Buddha, and were offered for good fortune and warding off evil.

However, the large lantern wheel and lantern towers are clearly depicted as lighting devices for music and dance activities that occurred during the night. Therefore, as the *fenben* of the paintings in Cave 220 are from Chang'an, the lanterns in the music and dance scenes must reflect actual nighttime music and dance in the capital. By including such elaborate and wondrous imagery of actual festivals from Chang'an into scenes that depict the Pure Land of the Medicine Buddha, the painters and patrons of the cave were evoking their memories of such events.

Notes on Lanterns: Nighttime Dance and Music in the Tang Dynasty

From the arrangement of the unique depiction in Cave 220 of the three large lighting devices, we can infer that it represents a nighttime dance. Previous scholars have already connected these scenes with the lantern festivals that were popular in Chang'an. For example, the *Forgotten Matters of the Kaiyuan and Tianbao Era* 開元天寶遺事, records the Lady of Han's lavish lantern trees in her private residences, which were as tall as eighty *chi*, and were lit on the night of the lantern festival. The lantern tree had a hundred branches, and could be seen from a hundred *li* away (Wang Renyu 2006, p. 55). The *Draft Notes from the Court and the Country* 朝野僉載 also records an event that took place in the second year of the Xiantian period (713 CE). On the night of the fifteenth day of the first month, during the lantern festival, a large lantern tree was erected outside the Gate of Peace and Prosperity, which was twenty *zhang* high, and carried fifty-thousand lamps (Zhang Wu 1979, p. 69). These are all scenes from historical texts that have impressed modern readers. The depictions in Cave 220 enable us to visualize what is described in such texts.

Night banquets that combine descriptions of lamps with those of music and dance are relatively abundant in historical records and archaeological findings. One poem by the Tang poet Liu Yanshi劉言史 (?–812) describes a phenomenon similar to what we see in the "Hu Whirling Dance" scenes in Cave 220:

Night Viewing of the Hu Leaping Dance at the Palace Assistant Secretary Mr. Wang's Residence
王中丞宅夜觀舞胡騰

People rarely see a barbarian of the Shi State;
Dancing in front of the banquet, [his movement] is as swift as a bird.
The woven barbarian hat is of a pointed top;
The barbarian jacket, made of refined cotton, has two narrow sleeves.
His hand drops the wine cup;
He looks into the west, suddenly thinks of the distanced road to his hometown.
He jumps like a rolling wheel and his precious belt sounds;
His feet move vivaciously and his boots are soft.
Audiences in all four directions sit in silence with goggling eyes;
A bamboo flute and a *pipa* with a tilted head,
He jumps energetically on the new carpet of snowy and crimson fur;
He whisks light flowers under red candles.
When the banquet nearly ends, the dance stops, and the music become silent;
On the west of the hibiscus I see a waning moon.

石國胡兒人見少，蹲舞尊前急如鳥。
織成蕃帽虛頂尖，細氈胡衫雙袖小。
手中拋下蒲萄盞，西顧忽思鄉路遠。
跳身轉轂賓帶鳴，弄脚繽紛錦靴軟。
四座無言皆瞪目，橫笛琵琶偏頭促。
亂騰新毯雪朱毛，傍拂輕花下紅燭。
酒闌舞罷絲管絕，木槿花西見殘月。

[Cao and Peng 1960, p. 5324]

What is described in this poem is a *huteng* dance or "Hu Leaping Dance 胡騰舞" performed by Central Asian foreigners from the state of Shi 石國 during the night, hence the references to imagery of "red can-

dles" and the "waning moon." He writes that "audiences in all four directions sit in silence with goggling eyes," and "When the banquet nearly ends, the dance stops, and the music becomes silent." Indeed the poem describes not a regular dance event, but a lavish night banquet that took place in the private residences of Palace Assistant Secretary Mr. Wang, which included exotic entertainments such as the "Hu Leaping Dance." The poet Liu Yanshi was among the guests that night, and recounts a typical private night banquet during the Tang dynasty. The poem includes basic elements that are similar to those depicted in Cave 220: dances, musicians and red candles. The Buddhas in the Pure Land scenes of Cave 220 have been substituted for the audiences of drinking scenes. The famous Southern Tang (937–975) painting *The Night Revels of Han Xizai* by Gu Hongzhong (active 10th century) provides some idea of a night banquet that took place in the private residences of elites during the Five Dynasties (907–979) [Fig. 14] (for details see Li 1979; Wu 2009; Zhang 2014). In the lush setting of Han Xizai's mansion, there are hosts, guests, servants, music, dance and wine. Only one candle is shown in the painting, and it economically indicates that the banquet happened at night.

The combination of music, dance and lighting devices is frequently mentioned in descriptions of private night banquets during the Tang. In his poem "Banquet of Palace Attendant Mr. Tian 田侍中宴席," Wang Jian 王建 writes:

Incense burns inside silk curtains, warm and hazy;
Torch lights the courtyard, candles [shine] all over the banquet.
[The performers] get their dancing clothes ready, showing their jade wrists;
They move their fans [when they sing], the golden frames [of the fans] are exposed.
Beauties sit aside, they play traditional flutes;
Colorful phoenixes obliquely fly over the five strings.

香熏羅幕暖成煙，火照中庭燭滿筵。
整頓舞衣呈玉腕，動搖歌扇露金鈿。
青蛾側座調雙管，彩鳳斜飛入五弦。

[Cao and Peng 1960, p. 3415]

The party held at Palace Attendant Mr. Tian's home was extremely lively and there were several candles and lamps placed amongst the guests.

Cen Shen's 岑參 (705–770) poem, "Flute Songs at the Residence of General Pei 裴將軍宅蘆管歌," describes a banquet at General Pei's home:

The mansion in Chang'an is of the General of Liaodong;
A beauty plays flute when the distinguished guests are received.
In the midnight, at the main hall, the guests have not yet returned;
Only [the sound of] flute accompanies their drinking.
All guests enjoy listening [the flute] endlessly;
Pearl curtain hangs high, and a row of red candles is lit.
The general, gets drunk, dances and does not want to stop;
He asks the beauty to play another tune.

遼東將軍長安宅，美人蘆管會佳客。
夜半高堂客未回，祇將蘆管送君杯。
諸客愛之聽未足，高捲珠簾列紅燭。

[Ibid., p. 2058]

Red candles were arranged in several rows during this gathering, and created a warm and charming atmosphere at the general's mansion.

Many foreign Hu dances are also recorded as nighttime activities with lighting effects. In his poem "The Leaping Hu 胡腾儿," Li Duan 李端 (743–782) writes:

The dancer of *Huteng* is a boy from Liangzhou;
His body is [as pale] as jade, and his nose is [as sharp] as an awl.
Wearing a white-color light robe, the front and back [of the robe] is rolled up;
Wearing a purple-color long belt, one end [of the belt] is hanging.
He kneels in front of the tent and speaks in his home accent;
He tidies up the front of his robe, stirs his sleeves, and dances for you.
The old governor of the Tang Protectorate of the Pacified West stops his tear and watches [the dance];
A poet from the capital transcribes the tune and passes it [to others].
He lifts his eyebrows, moves his eyes, and steps on the flowery carpet;
He sweats heavily and his pearl hat inclines aside.
He [seems to be] drunk, teetering towards the east and then the west;
His boots are softly [wandering] in front of the lamps.
He walks in a circle or treads fast, all conforming to the beat;
He puts his hands reversely on his waist, like a semicircular moon.
Suddenly, the zither plays to an end;
Tooting, bugle starts to sound on the city walls.

Fig. 14. Night Banquet of Han Xizai, attributed to Gu Hongzhong, Five Dynasties. Palace Museum, Beijing <http://www.sbkk8.cn/renwensheke/wudairenwuhuashangxi/326695.html>.

The boy of *Huteng*, The boy of *Huteng*,
Do you know that the road to your hometown has been cut off?

胡騰身是涼州兒，肌膚如玉鼻如錐。
桐布輕衫前後卷，葡萄長帶一邊垂。
帳前跪作本音語，拾襟攪袖為君舞。
安西舊牧收淚看，洛下詞人抄曲興。
揚眉動目踏花氈，紅汗交流珠帽偏。
醉卻東傾又西倒，雙靴柔弱滿燈前。
環行急蹴皆因節，反手叉腰如卻月。
絲桐忽奏一曲終，嗚嗚畫角城頭髮。
胡騰兒，胡騰兒，胡鄉路斷知不知?

[Ibid., p. 3238]

The line "His boots are softly [wandering] in front of the lamp" undeniably refers to a "Hu Leaping Dance" taking place at night. The poem is ambiguous about the actual location of the event, which provides the reader with a sense of imagination, but there is still dance, music, lighting, and an audience, which is similar to that displayed in the mural in Cave 220.

Whether a "Hu Leaping Dance" or a "Hu Whirling Dance," they are all seen as exotic performances by people from Central Asia. The popularity under the Tang of these dances, the Zhezhi Dance, and the water splashing festivities have been thoroughly studied by previous scholars, and are not the central concerns of this present discussion. Rather, we would emphasize that in Tang society, it was believed that the best performances happened during the night under artificial lighting. This is perhaps similar to how modern people choose to enjoy performances during the night where the atmosphere of such performances is enhanced under dramatic lighting effects.

The requirement of lighting for Central Asian Hu dances can be further understood through various archeological finds in Sogdian tombs. In the Sui dynasty tomb of Yu Hong 虞弘 in Taiyuan, Shanxi province, banquet scenes of the tomb owner are depicted on the stone outer coffin. In the section showing a "Hu Leaping Dance"is a small lamp [Fig. 15] (Shanxisheng et al. 2001, 2005). Another tomb, at Shimaping, Tianshui, Gansu province, which also contains a stone funerary couch, contained a group of five musician figurines, all in the form of Hu foreigners from the west, each of them holding a different instrument [Fig. 16]. The same tomb also contained a lamp stand and a chicken-head pitcher (Tianshui 1982). In the Northern Zhou (557–581) tomb of An Jia 安伽 in Xi'an (Shaanxi 2003), the excavated stone screens depict lamps in the music and dance scene which Shen Ruiwen has identified as a night banquet [Fig. 17; Color Pl. III] (Shen 2001, pp. 518-19). Most of these tombs of foreigners who settled

Fig. 16. Five seated musicians from the Western Regions, Stone Couch Tomb, Shimaping, Tianshui, Gansu Province (collection of the Museum of the City of Tianshui). Courtesy of the Museum of the City of Tianshui.

Fig. 15. Banquet scene of the tomb owner on the relief carvings of screen panels of the stone outer coffin of the Tomb of Yu Hong, Taiyuan, Sui dynasty (now in the collection of the Archaeological Institute of Shanxi Province). After: Shanxisheng et al. 2005, Pls. 145-46.

Fig. 17. Music and dance, stone screen on funeral couch, Tomb of An Jia, Northern Zhou (collection of the Shaanxi History Museum). Courtesy of the Shaanxi Archaeology Institute.

in China which depict night banquets involving Hu dancing also include images of lighting devices, suggesting that there is a close connection between these two elements.

As the poetry quoted above and other textual sources suggest, under the Tang, banquets were commonly held at court and in the private quarters of high officials and aristocrats. Musicians and dancers played an important role in the daily life of the elite (Kishibe 1973; Fu 1991; Xiu and Jian 1993; Zeng 2004). The textual evidence is reinforced by images of music and dance found in murals of Tang tombs (Li 2005; Cheng 2012). Su Sixu's 蘇思勗 tomb contains images of the "Hu Leaping Dance" [Fig. 18] (Shaanxi 1960; Li 1994; for an image, Su Bai, *Zhongguo meishu* 1989, Pl. 130). The newly discovered tomb of Han Xiu 韓休, the prime minister during the reign of Emperor Xuanzong (685–762, r. 712–756), includes a large scene of a man and woman performing foreign and Chinese dances with accompanying musicians [Fig. 19; Color Pl. III] (Cheng 2015). While these two examples depict realistically and in considerable detail dance scenes, they do not specify the occasion for the performance. This sense of ambiguity raises questions for further study.

However, the "Palace Concert 宮樂圖," presumably a Song Dynasty (960–1297) copy of a Tang painting now

Fig. 18. Music and dance, mural painting, Tomb of Su Sixu, Tang dynasty (collection of the Shaanxi History Museum). Courtesy of the Shaanxi History Museum.

Fig. 19. Music and dance, mural painting, Tomb of Han Xiu, Tang dynasty (collection of the Shaanxi History Museum). Courtesy of the Shaanxi History Museum.

in the National Palace Museum in Taipei, clearly depicts a Tang dynasty court music scene, as suggested by the costumes of the ladies, the table utensils, and the pet dogs [Fig. 20] (Shen 2002, p. 350; Li 2005, p. 301). In their poetry, the emperors theselves invoked the pleasures of such events. In his poem, "Preface to the Banquet for Bestowing Wine in the Xingqing Palace in Middle Spring 春中興慶宮酺宴並序," Emperor Xuanzong writes, "To sing a sound and one drinks a cup of wine; To dance a tune and one gets drunk" (歌一声而酒一杯，舞一曲而人一醉) (Cao and Peng 1960, p. 38). Another example is in Emperor Taizong's poem,

Fig. 20. Anonymous, A Palace Concert, Song dynasty, National Palace Museum, Taipei <http://www.woaihuahua.com/guohua/renwu/234.html>.

"Banquet of Ministers at the Xuanwu Gate during Spring 春日玄武門宴群臣":

The beautiful springtime initiates a fine festival;
The warm air stirs a fine year.
I stop my carriage besides the Hualin Garden;
I hold a great banquet at the Bailiang Palace.
At the purple hall, it is full of decorated jade-ornaments;
On the red stairs, and robes and ribbons are allied.
People from nine eastern foreign areas are gathered at the lavished feast;
Fine kinds of northern barbarians attend the magnificent banquet.
To entertain the guests, "Heavy Dew" is sung;
To spread out the music, a heavenly tune is played.
In a clear cup, nice wine floats;
An elegant tune resonates on red strings.
Alas, I rule ten thousand counties;
I am still afraid of pacifying eight directions.
I shall be maintaining uprightness and the firmness, never to be self-opinionated, and vigorously seek for the virtuous.

韶光開令序，淑氣動芳年。駐輦華林側，高宴柏梁前。
紫庭文珮滿，丹墀袞紱連。九夷簉瑤席，五狄列瓊筵。
娛賓歌湛露，廣樂奏鈞天。清尊浮綠醑，雅曲韻朱弦。
粵余君萬國，還慚撫八埏。庶幾保貞固，虛己厲求賢。

[Ibid., p. 6]

What is involved here is not simply amusement for the imperial family, but a great state banquet created to instantiate the high status of Emperor Taizong as the "Son of Heaven." "People from nine eastern foreign areas are gathered at the lavished feast; Fine kinds of northern barbarians attend the magnificent banquet." Subjects of several ethnicities, or "foreign

Fig. 21. Marriage scene, Maitreya tableau, Mogao Cave 445, High Tang. Replica painting by Li Qiqiong. Courtesy of the Dunhuang Academy.

generals (*fanjiang* 番將)" were serving under Emperor Taizong during this time, such as Turkic Shi Dana 史大奈, Ashina Simo 阿史那思摩 (?– 655), Ashina She'er 阿史那社爾 (609–655), the Khotanese Yuchi Jingde 尉迟敬德 (585–658), and the Sogdians An Xinggui 安興貴 (active 6th–7th century) and An Yuanshou 安元壽 (607–683) (Zhang 1986). The early Tang notion of representing "Ten Thousand Countries Coming to Court" during such ceremonies remained highly popular (Zhou 2009). The exotic performances that had started to gain currency since the Northern Dynasties, such as the "Hu Leaping Dance" and "Hu Whirling Dance" now were incorporated into the courtly entertainments, were performed usually into the night and thus would have required complex lighting devices to ensure visibility. Although the Emperor's poem does not provide details of the lighting, the Cave 220 mural, completed in the sixteenth year of the Zhen'guan era (642 CE) on the basis of a *fenben* from Chang'an, allows us to visualize the scene and another of the imperial banquets evoked by poet Wang Jian 王建 (767–830) in his "Palace Poem 宮詞":

A banquet is held in the inner palace in early autumn, it is the second watch;
In front of the palace hall, lamps light as in bright daytime.
A eunuch delivers the imperial command, his voice widely spreads;
Doors of all institutions open, [people] are walking everywhere.

內宴初秋入二更，殿前燈火一天明。
中宮傳旨音聲散，諸院門開觸處行。

[Cao and Peng 1960, p. 3443]

The lighting in front of the hall was as supposedly as bright as daylight, and so this must have been a highly extravagant lighting device.

The passion for music and dance was not limited to the elites: common people of the Tang also enjoyed such performances, a fact attested to by evidence found in Dunhuang murals. For example, Tang dynasty Maitreya-related tableaux usually included music and dance and are reflections of daily life. In the High Tang Cave 445, the wedding scene in the Maitreya tableau also includes extensive banquet imagery [Fig. 21]. Among the guests are some dressed in foreign clothing with large folding collars. The musicians are dressed in foreign clothing from the western regions, and there may also be intimations of Hu dancing. According to tradition, Tang weddings were supposed to take place at sunset. The *Old Book of Tang* 舊唐書, Scroll 45, "Records on Clothing 輿服志," states, "The wedding ceremony of nobles and commoners must all prepare for the Six Rituals of Marriage, to uphold the ancestor shrines and attend to the in-laws. [The ceremony] must be scheduled during the time of sunset (*hun*), and [the couple] should visit the parents the next morning." This means that the ritual harks back to the actual meaning of the Chinese term for a wedding "*hun* 婚," which also indicates "*hun* 昏" — the time when the sun sets.[6] Although no lamps are shown in the painting (because the passage represents a scene in Maitreya's Pure Land), we can still assume that the banquet is taking place during the night. In other Mid- to Late Tang examples (Cave 360 [Fig. 22];

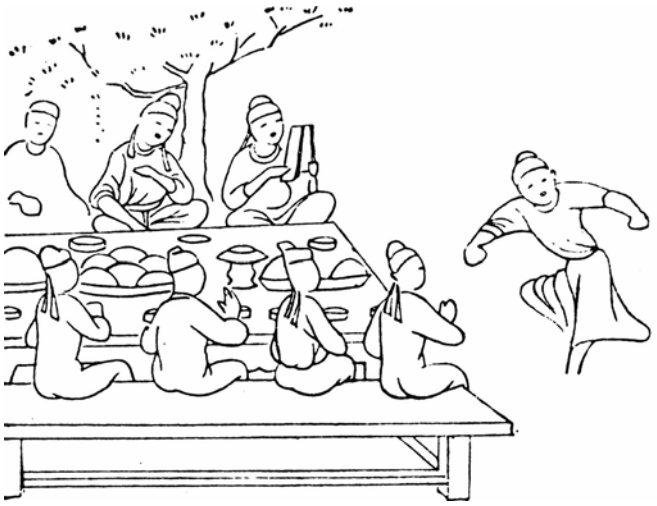


Fig. 22. Banquet scene, Vimalakirti tableau, Mogao Cave 360, Mid-Tang. Replica painting by Wu Manying. Courtesy of the Dunhuang Academy.

Fig. 23. Banquet scene, Vimalakirti tableau, Mogao Cave 9, Late Tang. Courtesy of the Dunhuang Academy.

Cave 9 [Fig. 23]), Vimalakirti tableaux frequently depict him entering various wine houses to preach the dharma, the occasion represented as a banquet. Even though the context for such banquets is religious sutra texts, the scenes borrow from daily life. These paintings do not show lamps and thus do not reveal whether the events took place during the day or at night.

That commoners might witness the elaborate lantern ceremonies being staged in the capital can be seen from various texts, e.g., the "Biography of Emperor Ruizong 睿宗本纪 (662–617, r. 710–712)" in the *Old Book of the Tang* 舊唐書:

> During the night of the lantern festival, the emperor directed the viewing of the lanterns at the Gate of Peace and Prosperity. He caused the palace girls to come out and had them link sleeves and stomp songs. He also allowed the hundred officials to watch, and this continued for one night…. At the beginning, there was a monk named Potuo that was invited to open the gates at night and light up hundreds and thousands of lamps, which went on for three days and three nights. The Emperor watched the lamps and enjoyed merrymaking at the Gate of Prolonged Happiness (*Yanxi-men*) for three days and three nights.
>
> 上元日夜，上皇禦安福門觀燈，出內人連袂踏歌，從百僚觀之，一夜方罷……初，有僧婆陀請夜開門然燈百千炬，三日三夜。皇帝禦延喜門觀燈縱樂，凡三日夜。
>
> [Liu Xu 1975, p. 161; English tr. based on Hartman 1995, p. 16]

The monk Potuo 婆陀 from the Western Regions hosted the lamp lighting ceremony. This device might have been a foreign lantern wheel, which could hold up to hundreds and thousands of torches, that would burn for up to three days and three nights. It was a wondrous sight, and the emperor attended the spectacle.

A passage in "Draft Notes from the Court and the Country 朝野僉載" records:

> [The Emperor] Ruizong on the evenings of the fifteenth and sixteenth of the first month of the second year of Xiantian [14, 15 February 713] had constructed a lantern wheel, two hundred feet (*zhang*) high outside the Gate of Peace and Prosperity in the capital. It was covered with brocade and twill, decorated with gold and jade, and burned 50,000 lamps clustered together on it so that it seemed like a flowering tree. There were a thousand palace ladies, each clothed in a dress with a train of silk and twill embroidered with shining pearls, made up with halcyon and fragrant rouge. A single flower headdress or a single mantel cost 10,000 cash. To outfit one singing girl cost 300,000 cash. One also selected over one thousand of the most beautiful young girls of Chang'an and Wannian sub-prefectures. Their garments, hair clasps, and coiffures all matched. They then performed stomping songs for three days and nights underneath the lantern wheel. Never before had there been such a high point of merriment.
>
> 睿宗先天二年正月十五、十六夜，於京師安福門外作燈輪，高二十丈，衣以錦綺，飾以金玉，燃五萬盞燈，簇之如花樹。宮女千數，衣羅綺，曳錦繡，耀珠翠，施香粉。一花冠、一巾被皆萬錢，裝束一妓女皆至三百貫。妙簡長安、萬年少女千余人，衣服、花釵、媚子亦稱是，於燈輪下踏歌三日夜，歡樂之極，未始有之。
>
> [Zhang Wu 1979, p. 69; Eng. tr., Hartman 1995, p. 15]

The lantern wheel mentioned above must have been very similar to that in the mural of Cave 220, which shows that such devices were already popular in the capital.

Indeed, the lantern festival in Chang'an, which included lantern ceremonies, music, dance, and *baixi*百戏variety shows, became a major public entertainment event during the Tang, enjoyed not only by the royal families and elites, but also by common city dwellers. The festival became a locus for the collective memory of Chang'an as a cosmopolitan metropolis, and was frequently mentioned in historical texts such as the "Old Book of the Tang, Section One on Music 舊唐書・音樂一":

> On the first night of the full moon of the year, the emperor would be at the Pavilion of Diligent Exertion (*qinzhenglou*) to enjoy seeing the lanterns. The nobles and ministers saw them from a viewing pavilion. At midnight, motley music played by the Music Bureau of Ministry of Ceremonies came to an end, and then palace ladies were sent to the front of the pavilion. They were tied to stilts to see further, and they danced and sang to entertain the emperor. They looked as if they were tightrope walking with bamboo poles, and it was strange and marvelous beyond comparison.
>
> 每初年望夜，又禦勤政樓，觀燈作樂，貴臣戚裏，借看樓觀望。夜闌，太常樂府懸散樂畢，即遣宮女於樓前縛架出眺，歌舞以娛之。若繩戲竿木，詭異巧妙，固無其比。
>
> [Liu Xu 1975, p. 1052]

Similarly, we find in the "New Anecdotes of the Tang Dynasty大唐新語":

> During the Shenlong period, extravagant lanterns festivals were held on the night of the full moon of the first month in the capital. Security of the capital was relaxed, and people were specially allowed to promenade during the night. Nobles, their relatives and craftsmen and merchants under them all came out during the night. Carts and horses bustled, and there were too many people to see. Princes and masters rode on horses for fun, and competed with each other. Men of letters all wrote poetry to record such happenings. The number of writers reached to the amount of several hundred. The best ones of among them were the Vice Director of the Legislative Bureau of Government Su Weidao, Ministerial Vice Director of the Ministry of Personnel Guo Lizhan, and Palace Censor of the Palace Bureau Cui Ye.
>
> 神龍之際，京城正月望日，盛飾燈影之會，金吾弛禁，特許夜行。貴族戚屬及下隸工賈，無不夜遊。車馬喧闐，人不得顧。王、主之家，馬上作樂，以相競誇。文士皆賦詩一章，以記其事，作者數百人，唯中書侍郎蘇味道、吏部員外郎郭利貞、殿中侍禦史崔液為絕唱。
>
> [Liu Su 1984, pp. 127-28]

This event was most vividly captured by a set of poems written by Cui Ye (active 8th century), "Six Poems on the Night of the Lantern Festival 上元夜六首," which describe the lantern festival in detail:

> The jade water-clock with a silver pot, there is no need for urging us;
> The iron bar and the golden lock are opened until next morning.
> Who can sit in idle while seeing a bright moon?
> People from wherever will come once they hear that the lanterns [are in display].
> The holy lamps, the Buddha's fire, are displayed in a hundred wheels;
> The carved figures, the painted images,adorned with a hundred treasures.
> If from the shadows one hears the golden mouth speak,
> It seems the radiance of the jade hair was spread across the sky.
> The spring scenery of this year is better than earlier years;
> The view of this night is especially lovely.
> In front of the Vermilion Bird Pavilion, there is a new full-moon;
> On the Phoenix Platform, precious lanterns are lit.
> A golden bridle and a silver saddle, one controls a fine horse;
> [A pair of] jade wheels and pearl curtains, one drives a black ox [cart].
> Running and running, they disappear at the corner of the eastern city;
> Suddenly, they return to the southern road.
> The ambition of those princes from noble households is prideful;
> Even those who are not acquaintances, they invite each other.
> They especially enjoy those [dancing girls with] long sleeves which are soft in the wind;
> They even more appreciated those who silently play new tunes.
> When the stars move and the Milky Way turns, the moonlight is fading;
> Dew has been dropped and mist has been blowing away, lamps became few.
> People still love those places for singing and dancing on the side of the road;
> They hesitate, look at each other, and cannot return home.
>
> 玉漏銀壺且莫催，鐵關金鎖徹明開。
> 誰家見月能閒坐，何處聞燈不看來。
> 神燈佛火百輪張，刻像圖形七寶裝。
> 影裡如聞金口說，空中似散玉毫光。
> 今年春色勝常年，此夜風光最可憐。
> 鴛鵲樓前新月滿，鳳凰台上寶燈燃。
> 金勒銀鞍控紫騮，玉輪珠幰駕青牛。
> 驂驔始散東城曲，倏忽還來南陌頭。
> 公子王孫意氣驕，不論相識也相邀。
> 最憐長袖風前弱，更賞新弦暗裡調。
> 星移漢轉月將微，露灑煙飄燈漸稀。
> 猶惜路傍歌舞處，躊躇相顧不能歸。
>
> [Cao and Peng 1960, pp. 667-68; partial Engl. tr., Hartman, p. 16]

Cui Ye speaks of the "hundreds of wheels of divine lights and Buddhist flames", an elaborate scene that must have been similar to the lantern wheel in Cave 220. As for the "precious lamps" on the "Phoenix Terrace," although we do not know their exact form, the poet compares them with a crescent moon, which suggests they had a novel shape, suspended high up and emitting a bright light. During lantern festivals in the Shenlong period (705–707), lighting spectacles could be found everywhere in Chang'an from the "eastern quarters" to the "southern alleys." Dance and music were everywhere, and it became a favorite topic for

men of letters in Chang'an. The night was dark, and lanterns were dimmed, but people remained on the streets, unwilling to return home. This is truly a scene of peace and prosperity, which is not unlike a Buddhist Pure Land vividly illustrated in the large dance and music scenes in Cave 220 with its three large lighting devices.

Conclusion

Dunhaung is located on the western tip of the Hexi corridor and is an important oasis on the Silk Road. It was a place where Chinese and foreign cultures mingled. Under the influence of the Tang Empire, trade on the Silk Road was lively and prosperous, and many monks travelled along thesetrade routes. As Chen Yinque (1890–1969) wrote (1976, p. 189), "During the period of the Tang, China and foreigners came into more contact with each other, and it was a period of glory." The political power of the Tang Empire enabled its culture to be far-reaching. The Taiwanese scholar Lin Guanqun once proposed (2011, pp. 713-17) that the cosmopolitan culture during the Tang dynasty took form as a type of "cultural Sinosphere," which came into being during the Zhen'guan years under the reign of the Emperor Taizong. Against this backdrop, we should not limit our study of Early Tang murals of Dunhuang to that of stylistic traditions and *fenben* transmission. The prosperity of Chang'an, Luoyang and the Central Plains of China under the new regime of the Tang, introduced to Dunhuang new trends and mentalities. The new paintings during the Early Tang symbolize this new art form. Therefore, the *fenben* of new images generated from temples in Chang'an and Luoyang, such as Western Pure Land tableaux, Medicine Buddha tableaux, and Vimalakirti tableau paintings traveled on the Silk Road with merchants, monks and mercenaries and arrived at Dunhuang, a nexus of cross-cultural exchange. The Zhai family, which had a rich background with foreign ancestry, was the first to take up these new images, and their family shrine of Cave 220, became a cornerstone of Dunhuang art in this new era.

In this paper, I have taken a closer look at the three large lighting devices in the Medicine Buddha tableau in Cave 220, and traced how they relate to scenes and descriptions of nighttime revels that were popular in Chang'an during the Tang dynasty. I argue that although the combination of music, dance, and extravagant lighting devices took place in an image of a Buddhist Pure Land, it more specifically reflects spectacles of lantern festivals that were enjoyed by the emperor and his subjects at court, or privately in the homes of urban elites during various nighttime banquets. These occasions of great prosperity and happiness come close to the ideal state of living in Buddhist realms.

As a key site on the Hexi corridor, Dunhuang was also flourishing during this time, and scenes from cave murals could also be found in the Hexi region. Liangzhou was also a thriving center of Hexi politics, economics and culture. A passage in the *Comprehensive Mirror in Aid of Governance* 資治通鑒 states:

> During that time (753 C.E.), the Central Kingdom was thriving and strong. The distance from the Gate of Far-reaching Peace to the western end of Tang territory covered twelve thousand *li*. Villages were in view of each other, while mulberry trees and hemp covered the fields. Of all the richest under heaven there was none other than the Longyou region (Hexi Corridor). Every time the Han sent in envoys to report, they often rode on white camels that could advance five hundred *li* in a day.
>
> 是时(唐天宝十二年)中国盛强，自安远门西尽唐境凡万二千里，闾阎相望，桑麻翳野，天下称富庶者无如陇右。翰每遣使入奏，常乘白橐驼，日驰五百里。
>
> [Sima Guang 1956, p. 6919]

Liangzhou was so wealthy that even Emperor Xuanzong desired to visit it, as we learn from the *Miscellaneous Records of Emperor Minghuang* 明皇雜錄:

> During the full moon night of the first month of the year, the emperor and Ye Fashan visited Liangzhou. Candles and lanterns were lit for tens of *li*, and when they returned after a while, the song and dance downstairs still continued. The Emperor Minghuang used the magic of Ye Fashan to set out from the Palace of Ascending Yang and visit Liangzhou to see the lanterns during the lantern festival. He put an iron *ruyi* scepter in his wine [at Liangzhou], and then dispatched an envoy [from Chang'an] to retrieve it. This is not a lie.
>
> 正月望夜，上與葉法善遊西涼州，燭燈十數裏，俄傾還，而樓下之歌舞未終。明皇用葉法善術，上元夜，自上陽宮往西涼州觀燈，以鐵如意質酒而還，遣使取之，不誣。
>
> [Zheng and Tian 1994, pp. 55, 59]

Although the details of this tale initially appear to be rather outlandish, we can still catch a glimpse of the large lantern festival that took place in Liangzhou. The lantern gathering continued for "more than ten *li*," its scale and quality a source of wonder among contemporaries, perhaps rivaling the splendors of Chang'an.[7] Furthermore, as Liangzhou was an important settlement for foreigners on the Silk Road (Rong 2001), and many Sogdian families of the An clan became culturally influential in the area (Wu 1990, 1997), "Hu Whirling Dances" and "Hu Leaping Dances" must have also been popular locally, and assumed a place during the lantern festivals. Such festivities were frequently held along the Hexi Corridor, and the scenes depicted in Cave 220 may have also been inspired by local practices. In any case, the capital of Chang'an was undeniably the epicenter of such lantern spectacles.

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NOTES

1. For more on this topic, see: Jao 2009; "Yinyue wudao-bufen音乐舞蹈部分 [Section on Music and Dance]", in *Dunhuangxu dacidian* 1998; Zhuang 1984; Niu 1991; Dunhuang yanjiuyuan 2001-2002, Vols. 6, 15-17; Zheng 2002.

2. For a survey of the different views on the dance scenes in Cave 220, see Hu and Wang 2011.

3. An important book which I had not been able to consult prior to completing the present study is Ning Qiang's monograph on Cave 220 (Ning 2004). In it, as will be noted below, he takes up a number of the issues of concern to me here, including the relationship between the music and dance scenes and the culture of Tang Chang'an, which I examine in greater depth. In a major point of disagreement with my interpretation of the tableau of the Medicine Buddha as a paradise scene (the view of a majority of scholars), he emphasizes (p. 20) that it depicts primarily a Healing Ritual.

4. Here, citing Cai Hongsheng 蔡鸿生, a specialist on Tang history and cultural history at Zhongshan University.

5. In addition to Sha 2013, see Ning 2004, esp. pp. 122-32.

6. "士庶亲迎之仪，备诸六礼，所以承宗庙，事舅姑，当须昏以为期，诘朝谒见." (Li 1998, p. 260).

7. Wang Qi 王棨, "Yuan zongxìng xi liang fu deng fu元宗幸西凉府观灯赋 [A poem about *yuanzong* watch the Lantern Festival in Xiliang mansion], in: Dong Gao n.d., Vol. 769.

[*Ed. note*: This article is a revised translation of the author's "Yi fu zhengui de Tang Chang'an yejian yuewu tu--yi Mogaoku yaoshi jing bian le yuewu tu zhong deng wei zhongxin de jiedu" 一幅珍贵的唐长安夜间乐舞图 – 以莫高窟第220窟药师经变乐乐舞图中灯为中心的解读 (A Valuable Picture of an Evening Music and Dancing Scene in Chang'an — An Interpretation Focusing on the Lamps in the Music and Dancing Scene of the Bhaisajyaguru Sutra Illustration in Mogao Cave 220). *Dunhuang yanjiu* 敦煌研究 [Dunhuang Research] 2015/5: 34-44.]

— *Translated by Anne Ning Feng* 馮安寧

The Results of the Excavation of the Yihe-Nur Cemetery in Zhengxiangbai Banner (2012-2014)

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The Yihe-Nur Cemetery, excavated in 2012-2014, is important as the northernmost Northern Wei Dynasty (北魏) cemetery so far discovered in China, with artefacts indicating connections with peoples of the steppe and more broadly along the Eurasian "silk roads." Significant analogies to the newly excavated material are to be found in tombs excavated in the suburbs of Datong (Pingcheng), the Northern Wei capital before it was moved to Luoyang in 493 CE.

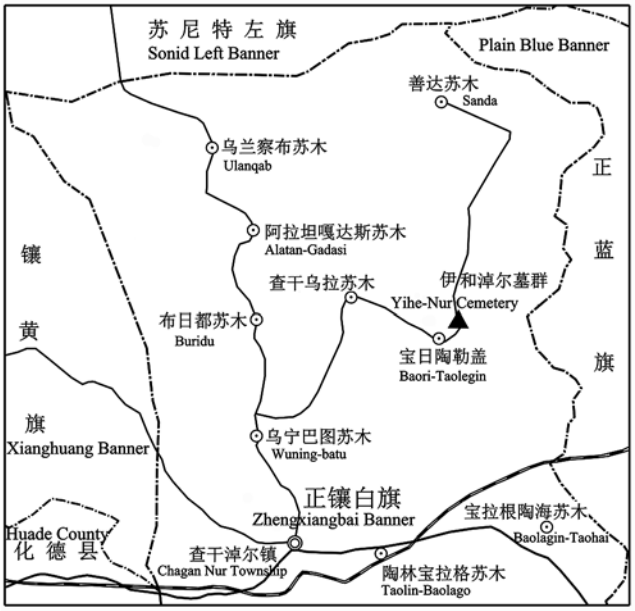

Fig. 1a,b. Maps indicating location of Yihe-Nur Cemetery.

The Inner Mongolia Autonomous Region is located on the northern frontier of the People's Republic of China (PRC). It is adjacent to Mongolia and the Russian Federation in the North, and comprises an area of 118.300 km². The Yihe-Nur Cemetery (伊和淖尔墓地) is located in the Yihenoer Sumu [Fig. 1a,b] (伊和淖尔苏木), Zhengxiangbai Banner (正镶白旗), Xilin Gol League (锡林郭勒盟), of the Inner Mongolia Autonomous Region, and some 5 km northeast of Baori-Taolegin Gacha (陶勒盖嘎查), 1 km northwest of the Hadaqigen Lake (哈达其根淖尔湖), and 4.5 km northeast of Yihenoer Lake (伊和淖尔湖). This region is situated at the southern edge of the Hunshandake Desert [Fig. 2] (浑善达克沙地), which has a typical steppe geomorphological environment. The cemetery is surrounded by low hills that form a little mountain valley from the east to the west. The northeast part of the valley is covered by yellow sand dunes, at an elevation of ca. 1265 m. The middle of the valley lies on a slope, which is high in the west and low in the east. The Yihe-Nur Cemetery was found in the western part at an altitude between 1251-1253 m.

Due to the cemetery's remote location it has been looted repeatedly. In the middle of June 2010, the Public Security Bureau of Zhengxiangbai Banner tracked down a case concerning the Yihe-Nur Cemetery, and recovered a set of valuable relics of the Northern Wei Dynasty that had been taken

Fig. 2. Satellite photograph showing natural environment of the region. Base image: Google maps.

from Tomb M1. In May 2012, the cemetery was looted again, after which the local staffs of the heritage conservation institute salvaged the destroyed Tomb M2. In October 2013, a group of diggers had opened another tomb (M3). but fortunately were prevented from looting it when reported by local herders. Preserved intact, this the tomb was cleaned by the staffs of the Heritage Management Station, Xilin Gol League (锡林郭勒盟文物管理站). Among the burials in the cemetery, these three tombs (Nos. M1, M2, and M3) are the best preserved and have the highest classification, since they contained a rich array of goods. In light of the distinctiveness and importance of the tombs, the Institute of Cultural Relics and Archaeology decided to investigate and excavate the cemetery. From August to December 2014, an archaeological team assembled by the Institute of Cultural Relics and Archaeology, the Heritage Management Station of Xilin Gol League, and the Heritage Management Station of Zhengxiangbai Banner, explored parts of the cemetery and excavated three new tombs: Nos. M4, M5, and M6. Tombs M1, M2, M3, M5 and M6 date to the Northern Wei period; Tomb M4 tomb belongs to the Liao Dynasty era [Figs. 3, 4].

The construction of the Northern Wei tombs

The five Northern Wei tombs were concentrated in one location. M1, M2, and M3 (oriented respectively 34°, 35°, and 8°) were situated along the northeast-southwest side of the cemetery, the tomb passages positioned on the north of the chambers. M5 and M6 were also situated on the northeast-southwest side, oriented 213° and 235°, with the tomb passages to the south of the chambers. All these five tombs include a catacomb and a tomb passage (dromos), the latter having a rectangular plan and sloping downward towards the tomb chamber.

Tomb M1. The tomb passage (10.5 m long, 1.9 m wide and 8.6 m deep) was filled with yellow soil and red clay. The chamber (measuring 3.5 x 2.5 m, and 3.1m high) is vaulted, which means that the ceiling is arched and circular while the ground plan is rectangular. The wooden coffin that was placed in the center of the chamber contained a disturbed skeleton, and was decorated on the outside with a gilt bronze ornament with a ring (in the form of a door handle, *pu shou* 铺首), gilt bronze bosses, and iron rings. Outside the coffin were a pot, a silver bowl with a a floral design and human figures, a three-footed bronze basin and an iron lamp. In addition, the Public Security Bureau recovered 111 artifacts, including pots, lacquerwares, glass bowls, a gold headband, a gold chin-strap (下颌托), gold ear-rings, gold chains, gold bells, a silver double-eared cup, and turquoise and carnelian beads, etc.

Tomb M2 is situated in the western side of the cemetery, 16 m east of Tomb M1. The dromos is rectangular, measuring 15 x 2 m, its entrance 0.9 m

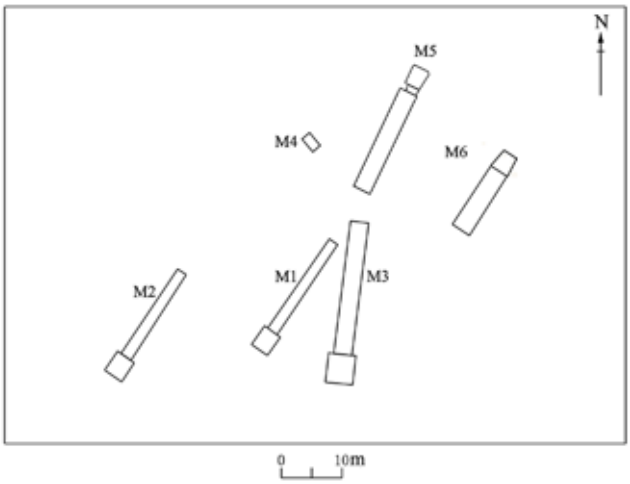

Fig. 3. Plan of the Yihe-Nur Cemetery.

Fig. 4. Tombs M4, M5 and M6.

Figs. 5, 6, 7. The tomb chamber of M3, the occupant of the coffin, and a detail of his head.

deep, and slopes steeply down to 9 m. The dromos was filled completely with a mixture of yellow soil and red clay. The rectangular chamber is 3.1 m along its north-south axis, 2.5 m along the east-west axis, and has a levelled floor. The roof of the chamber had collapsed, destroyed by looters, but four vertical walls 2.8 m high with a smooth surface remain. There was one coffin placed in the chamber's center, oriented 35° NE. The skeleton had been scattered, and the end of the coffin destroyed. Due to the looting, few grave goods were found. These include a pottery lamp found at the western side of the coffin's front, one pot found at the front on the eastern side, and 2 jugs found next to the coffin's end.

Tomb M3 [Figs. 5-7] is composed of a dromos, a corridor (甬道) and a chamber. The dromos is 23 m long, 4 m wide, and 9.6 m deep. The side walls are stepped, with a 0.45 m wide shelf running along their length. The vaulted corridor, 1.1 m long and 1.5 m high, has vertical walls. The rectangular chamber measures 3.5 x 2.9 m, and is 2.26 m high. In the center of the chamber was a wooden coffin, outside of whose four corners were uncovered a pottery pot, sacrificed animal bones, an iron lamp and bronze curtain hooks (帐钩). The tomb occupant is wrapped in yellow silk, and wears a gold headband, a gold necklace, a gold *Diexie* belt (金蹀躞带, a waist belt with attachment fixtures), gold finger rings, and leather boots. Inside the coffin was well preserved pottery, lacquerwares, a bow, a knife, a leather caftan, and some other remains.

Fig. 8. Tomb M5.

Tomb M5 [Fig. 8] is composed of a dromos, corridor and a chamber. The dromos is 16.7 x 2.45-3.0 m and descends to a depth of 8.7 m. The vaulted corridor has vertical walls and measures 1.5 (L) x 2 (W) x 1.5 m (H). Some human bones and remains were found inside the looter's hole at the entrance of the corridor. Pottery pots and jars, gold finger rings, beads, bronze bosses, iron nails, leather products, planks of the wooden coffin, horse bones, cattle bones and sheep bones, etc. were also found. The rectangular chamber, which had collapsed, measures 3.7 x 3.3 x 2 m. Traces of coffin panels were found in the soil piled in the center of the chamber. The coffin, oriented northeast, had been emptied by looters. In the southwest corner of the chamber were a pottery pot and sheep bones; in the northwest corner were a damaged lacquer piece, sheep bones and horse bones; and in the northeast corner, iron hooks and one sheep skeleton. Moreover, a well-preserved human skeleton was uncovered 2.15 m deep in the filling soil of the dromos, near the entrance. The body lay in a stretched supine position, oriented northeast, with a slightly inclined head. The entire body was wrapped in felt, and buried with bronze earrings and an open-work bronze appliqué mount with three small bells.

Tomb M6 is composed of a dromos and a chamber. The dromos is 2.6 m wide at the opening, narrowing to 1.3 m, is 12 m long, and 6.2 m deep. Its side walls each have a 0.6 m wide shelf. The vaulted tomb chamber had already collapsed, and was blocked by planks placed vertically in the entrance. The chamber is rectangular with vertical walls and measures 3.3 (L) x 2 (W) x 1.6 (H) m. The wooden coffin in the chamber's center was oriented NE. It contained a single occupant, buried in a stretched position with a northeastern orientation. This person was wearing gold earrings, a gold necklace, a Diexie belt, and gold finger rings. Northeast of the skull were a lacquer bowl and container. From the waist down were objects made of pottery, a bone vessel, a wooden vessel, leather products, beads etc. [Figs. 9-10].

Artifacts from the Northern Wei tombs

*Wooden Coffin***.** Every tomb contained a wooden trapezoidal coffin, high and wide at the head and low and narrow at the foot. The top and ends of the coffin are slightly inclined outward. The surface is painted with black lacquer, and covered with thin light-colored silk (绢). The lid, side, head, foot and bottom

Figs. 9, 10. Tomb M6 with detail inside coffin.

are all made of linked panels, with Y (~Ya [亚])-shaped notches along the edges where hourglass-shaped plugs were inserted to join the boards.

The coffin of Tomb M2 is 2.65 m long, at the head it is 1.4 (W) x 1.27 (H) m, and at the foot, 0.7 x 0.7 m. The lid has a thickness between 0.09-0.13 m. Inside the coffin is a shelf: human remains were placed on top of it, and funerary objects underneath. The surface of the coffin is decorated with 14 gilt-bronze ornaments with round "handles" (铺首), 52 gilt-bronze bosses and 6 iron rings distributed as follows: one side panel has 5 of the ornaments, under which are 2 iron rings surrounded by 15 bosses; the front panel has 3 ornaments surrounded by 7 bosses; the back panel has one ornament and one ring, but all the bosses have fallen out.

Tomb M3 contained a well-preserved coffin, 2.7 m long with a head panel 1.2 x 1.4 m and foot panel 0.55 x 0.55 m. The lid is between 0.08-0.12 m thick. The coffin has gilt-bronze bosses and gilt-bronze ornaments on its surface, and the head and foot panels are painted [Fig. 11]. On the head panel is a painting of a house with a red pillar and blue roof. In the center of the house is seated the occupant surrounded by his many white-faced attendants, who are standing or sitting and wearing round hoods. The exaggerated face and body proportions of the main occupant distinguish him sharply from the attendants [Fig. 12; Color Pl. IV].

The ornaments with ring "handles" are all gilt bronze, in the shape of a beast's face holding a loop in its mouth that is cast as a separate piece. The beast's face is ferocious, with erect ears pointing upwards, bulging eyes, a high pointed triangular nose and wicked-looking fangs or tusks protruding on each side of the mouth. The face is framed with curls, and the outline of the face is made more natural by some lines that give it a more artistic sense. The loop hangs under the nose of the beast from a semi-circular hook. Both the ears and tusks have small round holes through which iron nails attached the ornament to the coffin. In addition to these features, on the ornament found in Tomb M1, located between the ears, is the figure of a giant who squats on the tails of two addorsed *loongs* (Chinese abstract dragons, 龙), holding them tightly by the heads, which are turned toward him [Fig. 13; Color Pl. IV]. This is an image well attested in other cultures of the "tamer of animals," although in China it probably represents Huan Long Shi, the dragon tamer.[1] This ornamental bronze measures 16.5 x 16 cm, with a loop 12 cm in

Fig. 11. Wooden coffin of M3

Fig. 12. Painting on the head panel of the wooden coffin of M3

Fig. 13 (left). The gilt bronze ring handles from Tomb M1.
Fig. 14 (below). A gilt bronze ring handle from Tomb M2.

diameter and 1.6 cm wide. The bronze ornament from Tomb M2 is different: between the ears are two horns that curl inward, and between the horns is what might be interpreted as a tree trunk with curving branches at the top, on which stand two confronted birds (their heads turned away from each other) with long tails [Fig. 14]. The distance between the tips of the beast's fangs is 13.1 cm, its face is 10.7 cm wide, and its nose 3.1 cm high. The loop has a 10 cm diameter and is 1.4 cm wide. The bosses on the coffin have round, umbrella-shaped heads 5.3 cm in diameter that are 0.5 cm high and 0.1-0.2 cm thick, with a cylindrical nail down through the middle to attach them to the wood [Figs. 11].

Ceramic. The number of ceramics discovered is different in every tomb: M3 has the largest amount, a total of 12 pieces; M6 has only one piece. There are three types: pots, jars, and lamps. The jar found in M3 has an everted mouth, a long neck, and a small flat base. Its rim diameter is 19 cm, base diameter 13.1 cm and height 42.3 cm [Fig. 15]. The pot from M3 has a plate-shaped rim, a flared neck, rounded shoulders, a bulging body, and flat bottom. Its rim diameter is 8.1 cm, base diameter 5.1 cm and height 13.1 cm [Fig. 16]. The lamp from M2 [Fig. 17] has a round bowl-shaped dish set on a horn-shaped base decorated with 4 openwork holes equidistant from each other. The lamp has a 12 cm rim diameter, a 11.2 cm base diameter, and is 15.1 cm high. On the lamp are still some traces of soot.

Glazed ceramic. Tomb M1 contained five brown-glazed ceramic pots and four jars. All of the jars have an everted rim, a flared neck, rounded shoulders, a bulging body and a flat base. One jar has a 6.1 cm rim diameter, a 4.4 cm diameter at the bottom, and

Fig. 15. Jar from Tomb M3, outside the coffin.
Fig. 16. Pot from Tomb M3, inside the coffin.
Fig. 17. Lamp from Tomb M2

Fig. 18. Glazed ceramic jar from Tomb M1.

Fig. 19. Glazed ceramic pot from Tomb M1.

is 10.1 cm high [Fig. 18]. The pots have a flared neck, rounded shoulders and a flat bottom. One pot has a 6.4 cm rim diameter, a 3.2 cm diameter at the bottom, and a height of 10.2 cm [Fig. 19].

Gold chin strap. In Tomb M1 archaeologists have unearthed a remarkable gold chin strap [Fig. 20; Color Pl. V], whose parts include a round headband (23 cm in diameter), two V-shaped cheek-girdles and a spoon-shaped jaw-guard. The function of this chin-strap, which is 14.3 cm long and 7 cm wide, was to keep the face stable. The headband is decorated with square "plaques" framed with a linked-pearl pattern (联珠纹). In the center of each plaque the raised pearl dots form a flower pattern. The cheek-girdles have analogous decorations that are diamond-shaped. The rim of the jaw-guard is inscribed with a honeysuckle pattern, and the central part has two coiled flying *loongs* surrounded by beasts with wings. There are several small holes on the ends of the cheek-girdles and jaw-guard, which might have been used to link the two parts together.

Gold earrings. In Tombs M1 and M6 archaeologists uncovered two pairs of gold earrings [Fig. 21], made in a very similar style. The ones from M1 are 5.6 cm long. The upper part consists of a large ring (which would have passed through the piercing in the ear), below which are two smaller rings for attaching the pendants. Connecting the large ring and one of the smaller ones is a beaded attachment with a half-

Fig. 20 (left). Gold chin strap from Tomb M1.

Fig. 21 (above). Gold earrings from Tomb M1.

Fig. 22. Gold necklace from Tomb M3.

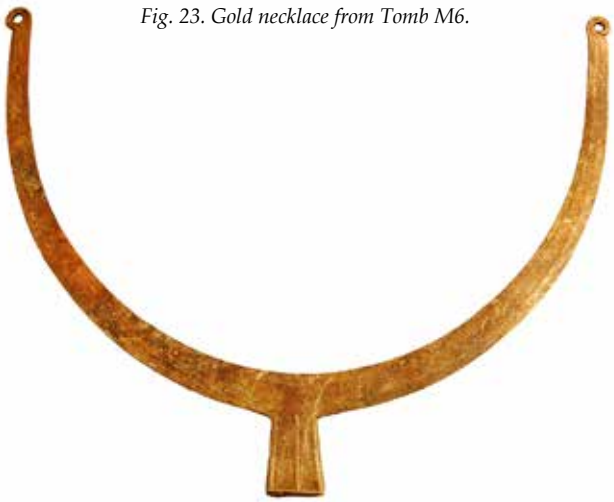

Fig. 23. Gold necklace from Tomb M6.

moon shaped inlay of colored glsss. The lower part of each earring has two pendants, attached to the small rings and ending in umbrella-shaped honeysuckles. These pieces originally might have been inlaid with gems, but are all missing now.

Gold pectoral necklaces were found in Tombs M3 and M6. The one from M3 [Fig. 22] is U-shaped, ca. 28.5 cm long and 23 cm wide. It has some holes in its rim, which might have been used to attach it to clothes. The necklace is inscribed with a honeysuckle (忍冬) pattern and inlaid with 3 gems: a blue one in the center and two green ones on the sides. The middle part of the necklace comes to a triangular point; at which is attached a crescent-shaped piece in the center of which is a tear-drop-shaped green gem. Suspended from this is a flower. Presumably the one flower now extant was flanked by two more, where only the attachment rings have been preserved. The necklace from Tomb M6 [Fig. 23] is 22 cm long and 17.5 cm wide. Each end has a single hole, and the trapezoid-shaped middle part that extends downward has raised vertical lines on the edge and in the center.

Gold-decorated Diexie belt (金蹀躞带). Tombs M3 and M6 each contained a gold-decorated Diexie belt [Fig. 24a,b; Color Pl. VI]. The preserved parts (buckles, plaques and "rivets")

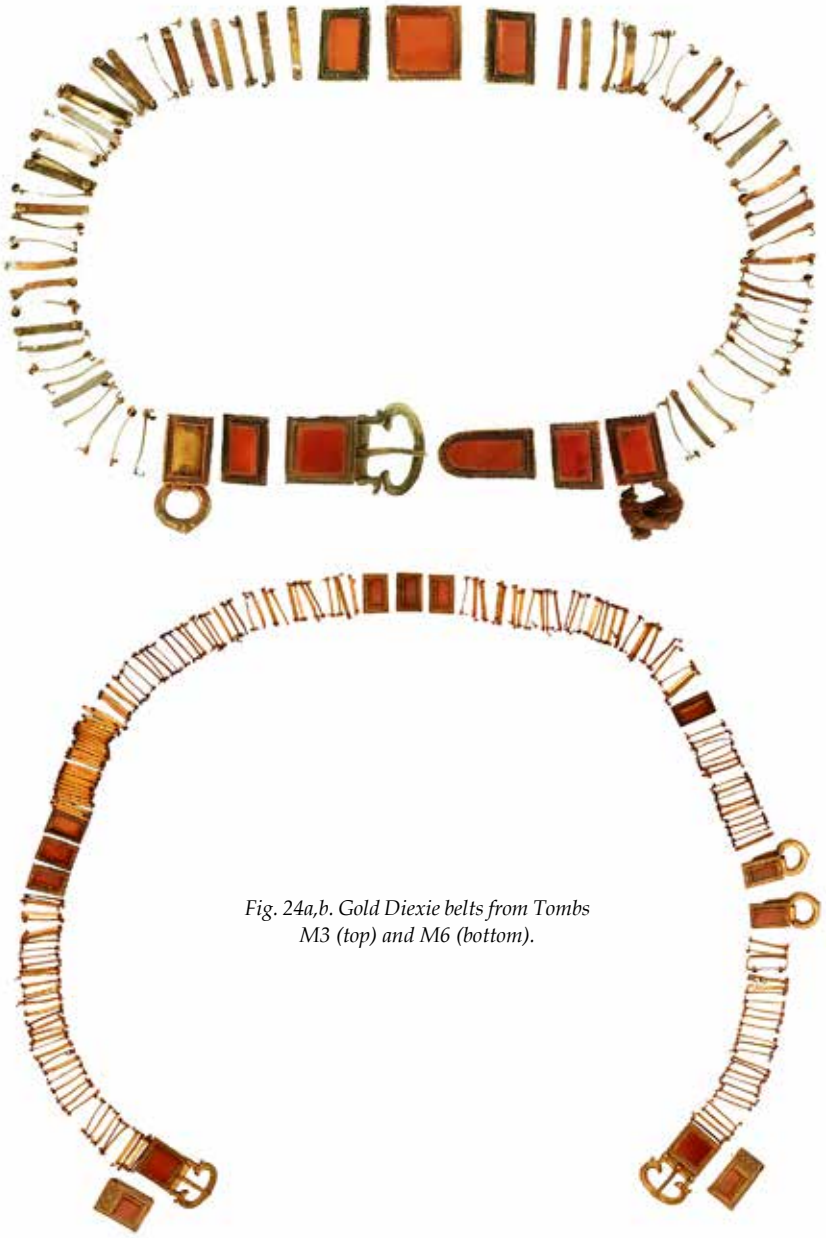

Fig. 24a,b. Gold Diexie belts from Tombs M3 (top) and M6 (bottom).

would have been fastened to a leather strap. The belt from M3 has a single buckle; that from from M6 two buckles, each inlaid with red agate. Presumably for the latter there would have been two pierced straps (either part of the belt or attached separately to the garment), which then could be fastened through the buckles. The belt from M3 has inlaid plaques at the back and flanking the buckle and tongue in the front. The belt from M6 has 11 plaques, also inlaid with red agate and separated into four groups by an array of golden "rivets". On each belt, two of the plaques have peach-shaped rings hanging from them which were used for hooking personal belongings. On the plaques and buckles, the inlays are framed by gold granulation (beading). The plaques and buckles were attached to the belt strap by rivets. In the sections between the plaques and buckles, the "rivets," each a bar (3.4 cm long) with attachment pins on the ends, would create a kind of "net" of gold over the surface of the strap. The total length of the belts is uncertain. The introduction of such belts into China is probably a result of interaction with steppe peoples of the north; belts with movable tongues are not known in China before the 3rd and 4th centuries CE.[2]

Gold bells. Tomb M1 contained 6 gold bells [Fig. 25], each 1.8 cm long and 0.9 cm wide. The bells flare toward the bottom and have arched lower rims. At the top of each is a small ring. The decoration forming four groups of patterns has been created by raised gold lines all framed with granulation of fine gold beads.

Fig. 25. Gold bells from Tomb M1.

Fig. 26. Gold ornaments from Tomb M1.

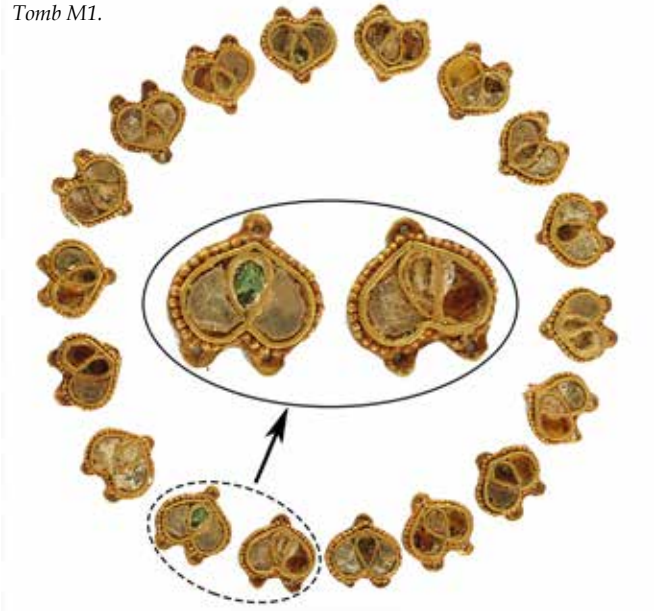

Fig. 27. Gold finger rings from Tomb M6.

Gold ornaments. Tomb M1 contained a large set of small gold bracteates which might have belonged to a necklace. The ones depicted here in Fig. 26 are heart-shaped, 2.5 cm long and 0.3 cm. thick, and framed with granulation that forms a linked-pearls pattern (联珠纹). The face of each bracteate is inlaid with white and green stones, the compartments separated by raised gold lines. Three holes in each bracteate would have made it possible to link them or attach them by sewing to a garment.

Gold rings. Several gold rings were found in Tombs M5 and M6. The occupant of M6 was wearing 10 rings on his or her fingers, five rings on each hand [Fig. 27]. The rings have diameters of 1.7-2.3 cm, are between 0.2-0.3 cm wide and 0.1 cm thick. They are made from thin strips of gold rolled into a cylinder and then flattened. The ends have round holes, which could have been used to thread wires and adjust the size.

Gilt-silver eared cup. The silver eared cup found in Tomb M1 [Fig. 28] is 13 cm long, 9.8 cm wide, and 2.5 cm deep. Oval in shape, it has arc-shaped ears or handles on each side, and a flat bottom. The surface of the ears has gilded honeysuckle patterns.

Fig. 28. Gilt-silver eared cup from Tomb M1.

Gilt-silver bowl [Figs. 29, 30; Color Pl. VI]**.** One of the most striking artefacts of all those excavated in the cemetery, this bowl, found in Tomb M1, is 14 cm in diameter and stands 4 cm high. The inside is smooth and has no decoration. The outside is framed by a pearl-like band, and most of the surface covered by acanthus leaves in low relief set off against a gilded background. Four projecting "bosses" depict characters from Greek mythology: Zeus, Hera, Aphrodite and Athena.

Three-footed bronze basin. Found in Tomb M1, this circular basin [Fig. 31, next page] was decorated with 8 animals. stalking or perhaps feeding with lowered heads, two of which are now lost. The rim of the basin is decorated with a thin pearl- or rope-like band along the edge, below which is an "arcade" formed from a band of square niches. The tripod feet on which the basin rests are shaped like horses' hooves.

Dragon-headed bronze "curtain hooks" (帐钩) [Fig. 32]. Probably finials, these were found in Tomb M3. They are 14.4 cm long, made from bronze, hook-shaped, and have a *loong* (dragon)-shaped head. The mouth of the *loong* is open with a protruding tongue, and its body curves around to a circular bulge before ending in a hollow cylinder into which a handle or pole would have been inserted.[3]

Figs. 29, 30. Gilt silver bowl from Tomb M1.

Iron lamp [Fig. 33]. Found in Tomb M1, it has a 17.2 cm rim diameter and is 17 cm high. The lamp has a square base, on the four corners of which squat men who support the bowl of the lamp on their heads and steady it with their raised hands.

Glass bowl. This blue glass bowl [Fig. 34] found in Tomb M1 has a 9.5 cm rim diameter, is 4 cm high and has a round foot. Some small bubbles are visible in the transparent glass.

Lacquered elephant-shaped Zun vessel (尊) [Fig. 35]**.** Found in Tomb M3, it has a wooden body carved as an elephant which is painted with lacquer of a deep

(top to bottom, left) Fig. 31. Three-footed bronze basin from Tomb M1.
Fig. 32. Bronze "curtain hooks" with Loong heads from Tomb M3.
Fig. 33. Iron lamp from Tomb M1.
(above) Fig. 34. Glass bowl from Tomb M1.
Fig. 35. Lacquered elephant-shaped Zun (尊) vessel from Tomb M3.

brown color. It is 21.5 cm long, 10 cm wide, and 18 cm high. The elephant has a stocky body and drooping ears; its trunk has broken off. The body is hollow inside, which means that liquids poured in the round vessel mouth at the top could flow out from the trunk of the elephant.

Lacquer tableware. Found in Tomb M3, this set of tableware [Fig. 36] included: a plate (with a 40.5 cm rim diameter) painted with black lacquer; 2 ear cups, painted red inside with black lacquer ears; a round bowl, painted with red lacquer both inside and outside, but with black lacquer on the base; 2 small, black lacquer cups (盏); and a red lacquer spoon.

Leather caftan {Fig. 37]. Found in Tomb M3, this caftan is 1.2 m long and 1.36 m wide. It is sewn from leather; and has a lapel folded to the right, short and narrow sleeves, and slightly widens toward the bottom. This

(left) Fig. 36. Lacquer tableware from Tomb M3.

Fig. 37. Leather caftan from Tomb M3.

(above) Fig. 38. Felt boots from Tomb M3.

type of clothing was used by nomads as for protection during the winter.

Felt boots. These felt boots [Fig. 38], found in Tomb M3, are high with a pointed tip. They are 26.5 cm long and 19.5 cm high. On their surface are dense and exquisitely embroidered patterns.

The tomb and objects from the Liao period

Tomb M4 [Fig. 39] was the only one of the six dating to the Liao era. A pit tomb, it is located on the north slope of the cemetery. Its orientation is 335° to the north. It has a square entrance, 3 m long, about 1.5-1.6 m wide and larger at the top than at the bottom of the pit. The pit is about 2.7 m long, 1.18 m wide, and 2.26 m deep. The occupant was laid out in a stretched position towards the northwest in the middle of the pit, the body found in a badly decayed coffin, 2 m long, 0.7

Fig. 39. Tomb M4.

m wide, and 0.3-0.4 m high. The skeleton is in poor condition, having almost completely disintegrated. Surrounding the body and inside the coffin was a large number of felt wool remnants. Left of the skull were two pots, and a shell was found on the right side. An iron knife was found outside the right arm.

The two pots have similar shapes: an everted rim, long neck, and flat base. On the neck are some vertical lines, created by polishing of the surface. The lower body has vertical comb-dot decoration made with shallow cuts into the fabric. The taller of the two pots [Fig. 40] measures 8.1 cm rim diameter, 7 cm base diameter, and is 18.7 cm high.

Fig. 40. The pot from Tomb M4.

The dates of the tombs

Tombs M1, M2, M3, M5, M6 in the Yihe-Nur Cemetery show a lot of similarities with the tomb structure and artifacts found in the Datong Northern Wei Cemetery (大同南郊北魏墓地). For a comparison of the pottery found in each, see Table 1.

Based on the periodization of the Datong Northern Wei Cemetery as described in its excavation report (Shanxisheng 1992), the date of Tomb M1 in the Yihe-Nur Cemetery should be later than 493 CE, which is the date that the capital was moved to Luoyang. Tomb M2 antedates the beginning of the Taihe period (太和, 477-499 CE) and the move of the capital to Luoyang. Tombs M3 and M6 belong, respectively, to the period in which the Taiwu Emperor (太武帝, 424-452 CE) unified the reaches of the Yellow River and to the Taihe period. Tomb M5 belongs to the beginning of the Pingcheng period (398-493 CE). The more recent redating of the chronology of the Datong Northern Wei Cemetery by Wei Zheng

Table 1: Pottery comparison between the Yihe-Nur and Datong Northern Wei Cemeteries

Tomb No.	Yihe-Nur	Datong	Yihe-Nur	Datong	Yihe-Nur	Datong
M1	M1:3	M134:4	M1:5	M10:3	M1:8	M10:1
M2	M2:1	M99:2	M2:2	M99:9		
M3	M3:4	M3:4	M3:8	M3:5	M3:10	M3:2
M5	M5K1:32	M228:1	M5:1	M228:2		
M6	M6:1	M214:17				

韦正 (2011) suggests that Tombs M1, M2, and M6 of the Yihe-Nur Cemetery belong to the second half of the 5th century CE; M3 should be no later than the 430s, and M5 dated ca. the 430s.

This research and the results of ^{14}C dating (presented in Table 2) confirm that Tombs M1, M2, M3, M5, and M6 of the Yihe-Nur Cemetery date to the Northern Wei period and M4 to the Liao Dynasty. The results of the ^{14}C dating suggest that the skeleton found in the dromos of M5 might be a sacrificial death. The pots found in M4 and decorated with comb-dot pattern are typical relics of the Liao period and belong to its beginning years.

The gender and age of the tomb owners

The seriously damaged skeleton from Tomb M1 has female characteristics, but we were unable to determine the age of this person. The skeleton found in M2 was male, aged between 25-30. In M4 was a female, aged around 25. Remains of two people were found in M5: a male, aged around 40, had been placed in the chamber; a female, aged around 30, was in the dromos. The remains in M6 were a male, aged between 25-30. Based on observations of the morphologies of the human skulls, we have determined that they all belong to the North Asiatic Mongoloid type, and that they were all rather young when they died. There were no traces of injuries caused by blunt weapons. Further analysis is needed to determine the cause of death. Since the body found in M3 was covered in silk which we have not yet removed, we still lack data about this skeleton.

Ethnic groups and cultures

The Yihe-Nur cemetery is located in the region of the Six Frontier Towns (六镇) and the Great Wall of the Northern Wei Dynasty. At present it is the only cemetery dating to the Northern Wei that has been found in the steppes this far north in China. The tombs are concentrated in one area in an orderly array and evidence a high standard of construction and furnishing. It seems obvious that this was an aristocratic family cemetery from the Northern Wei period. The tomb structures, coffins, pottery and lacquerware patterns all show distinctive characteristics of the Xianbei (鲜卑) culture. However, the manufacturing techniques and design of the metalwork show some elements belonging to the peoples living in the Eurasian steppes. As Shing Müller has argued (2003), chin-straps of the design found here probably first appear in China as part of the mortuary traditions of non-Chinese under the Northern Wei (other examples are known from the Datong Northern Wei Cemetery). There are even some rare relics, such as the gilt silver bowl with Hellenistic motifs, which seem to be imports from Central and Western Asia. Stylistically similar bowls have been excavated from Northern Wei tombs near Datong; it has been suggested that they show either Parthian or Hephthalite influences (see Shanxisheng 1992, pp. 8-9; Pl. 2; Dien 2007, pp. 279-80; Watt et al. 2004, pp. 154-55). There are a good many analogous metal vessels found in Northern Wei tombs which probably came from the eastern Iranian world of Central Asia.[4] Clothing such as the leather and fur caftan, felt boots and belts would have been worn by steppe peoples. Such abundant evidence suggests that the peoples of the Yihe-Nur Cemetery had cultural traditions connected with those of Northern Steppe peoples and presumably had trade connections via the Silk Road through the northern steppes.[5]

Table 2. Results of ^{14}C dating at Bejing University (AMS) for samples from the Yihe-Nur cemetery.

Lab Number	Tomb Number	Sample	^{14}C (BP)	Calibration of ^{14}C dates (BC)	
				1σ(68.2%)	2σ(95.4%)
BA142037	M4	Human Ribs	1160±25	780CE (3.4%) 790CE 810CE (49.9%) 900CE 920CE (14.9) 950CE	770CE (95.4%) 970CE
BA142038	M5 Chamber	Sheep Ribs	1700±30	260CE (12.9%) 280CE 320CE (55.3%) 400CE	250CE (95.4%) 420CE
BA142039	M5 Dromos	Human bone	1695±30	260CE (9.5%) 280CE 330CE (58.7%) 400CE	250CE (95.4%) 420CE
BA142040	M6	Human bone	1595±25	420CE (21.5%) 460CE 480CE (46.7%) 540CE	410CE (95.4%) 540CE
BA150028	M1	Human bone	1530±20	460CE (11.7%) 490CE 530CE (46.7%) 580CE	430CE (28.7%) 490CE 500CE (66.7%) 600CE
BA150029	M2	Human bone	1515±20	530CE (68.2%) 585CE	440CE (8.7%) 490CE 530CE (86.7%) 610CE

The peoples living in the region of the Six Frontier Towns were very diverse. The Gaoche (高车) people were the largest population controlled by the Xianbei aristocracy. Under the Northern Wei Dynasty a policy that differentiated among the nomad groups was implemented to control those who had surrendered: "Under the Taizu (太祖) Emperor [in 399 CE], the tribes were scattered. Only the Gaoche were relegated to the status of a subtribe, as their character was rough, and they did not like to be sent away." In the second year (429 CE) of the Shenjia Period (神嘉), Emperor Taiwu (太武皇帝) sent An Yuan (whose position was Left Pushe [左仆射]) to subdue the Gaoche people at Sinipo (巳尼陂). It is recorded that "when the tribes of Gaoche saw the army of the Northern Wei, hundreds of thousands of them surrendered, millions of cattle were seized, and they immigrated and settled South of the Gobi desert, in the 'thousand miles' zone" (Description of Gaoche 魏书·高车传, in *Wei Shu* 1974). Against this historical background, it can be argued that the Yihe-Nur Cemetery was likely owned by the tribal chief of the Gaoche and his family members. Alternatively, because a portion of the grave goods reveal some cultural elements of Central and Western Asia, it cannot be excluded that the people who owned the Yihe-Nur Cemetery might have immigrated from these areas. Therefore, these steppe relics not only demonstrate the cultural complexity along the northern frontiers of China, but also provide us with some very important archaeological data about the travel routes and cultural features of the Steppe Silk Road.

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Notes

1. See the commentary by Annette Juliano in Juliano and Lerner 2001, pp. 82-84, where the figure of the "dragon-tamer" on the example illustrated there, excavated from a different Northern Wei period tomb, may in fact be an image of the Infant Buddha with wings resembling those of a Daoist immortal. As Juliano puts it (p. 84), this imagery "would give the *pushou* extraordinary power to protect the deceased in the tomb on the journey to immortality" and

"reflect the adaptation of Buddhist and foreign elements into a traditional Chinese context."

2. For a discussion of the belts of the northern steppe peoples and illustration of the ways in which they were fastened, see Sun 1994, although he does not illustrate an example such as what we have here with two buckles that have movable tongues. See also Juliano and Lerner 2001, pp. 112, 267.

3. For an analogous pair and reference to several other such finds, see Juliano and Lerner 2001, p. 96.

4. Marshak 2004 provides an excellent overview, in which, for comparison with the bowl here, note especially Figs. 34 and 35. He also wrote the descriptive entries later in Watt et al. 2004, pp. 148=55.

5. After reviewing the abundant artifactual evidence of an interest in foreign wares, Dien (2007) puts the matter this way (p. 284): "…[I]t is a mistake to think of the Silk Road as connecting two very different societies. North China was ruled by the Xianbei and related nomadic groups who may well have shared elements of their culture with the peoples of Transoxiana. Certainly there were ample opportunities to know those people from the west firsthand…"

Editor's note: A brief report on the excavation of Tomb M2 in the cemetery has already been published as: 内蒙古自治区文物考古研究所，锡林勒盟文物保护管理站，正镶白旗文物管理所 [Inner Mongolia Cultural Relics and Archaeology Research Institute, Xilin Gol League Heritage Conservation Station, Zhengxiangbaiqi Heritage Management]. "Zhengxiangbaiqi Yihe-Nur Cemetery M2 fajue jianbao 正镶白旗伊和淖尔墓群M2发掘简报" [Brief report on the excavation of Yihe-Nur Cemetery M2]. *Caoyuan wenwu* 草原文物 [Steppe Cultural Relics] 2016/1: 46-50.

Art and Religious Beliefs of Kangju: Evidence from an Anthropomorphic Image Found in the Ugam Valley (Southern Kazakhstan)

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This article analyzes a unique anthropomorphic image on a ceramic vessel used as a container for liquids, which was found at the 1st–4th-century CE site of Ushbastobe in the valley of the Ugam River, Southern Kazakhstan. A multi-disciplinary approach explores various semantic interpretations of the image, the key one of which is that it represents *farn-xwarnah* (Xᵛarənah), a domestic deity connected with kinship and clan and associated with good fortune, health, abundance, protection from evil forces, etc. Its iconographic sources are related to the representative art and religious beliefs of the ancient ethnic groups of Eurasia of the late Iron Age but also have features specific to the sedentary agricultural population of the local mountain region. On the ethno-cultural level, as *farn-xwarnah*, this image is connected with the Kangju state and as well with the circle of Iranian language tribes of the Scytho-Sako-Sarmatian world, where this cult was widespread in antiquity.

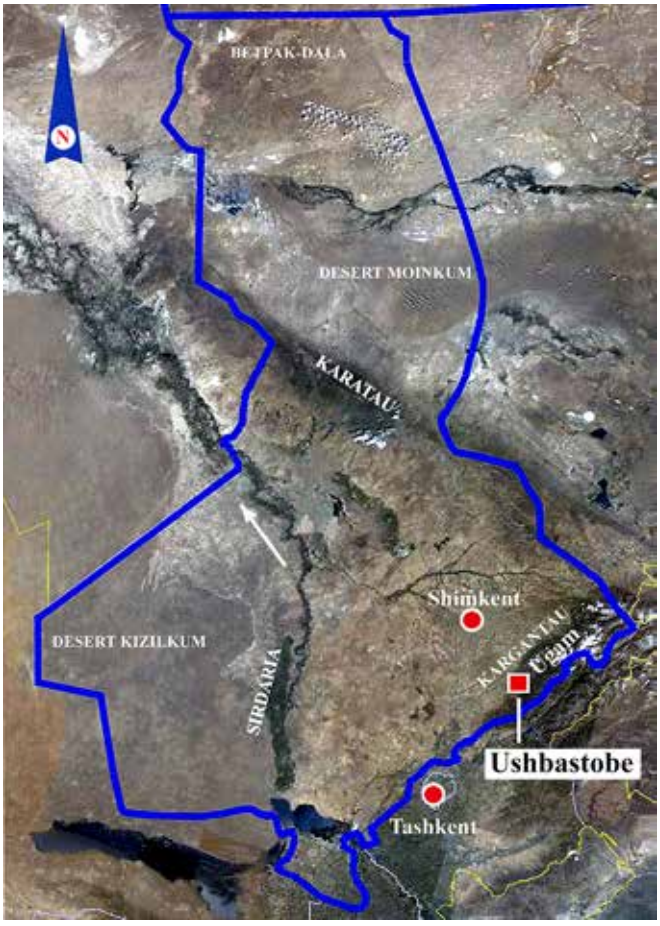

Fig. 1. Satellite image showing the South Kazakhstan oblast' *and the location of Ushbastobe.*

The micro-region and the site of Ushbastobe

The Ugam region, located in the far southeastern part of South Kazakhstan *oblast'*, includes middle and high mountain relief of the Karzhantau and Ugam Ranges (up to 2000 and 3195 m in altitude respectively) and the middle reaches of the Ugam River valley, where loess terraces above the flood plain and a level landscape cover a territory of more than 50 km² [Fig. 1]. Bordering this area on the north and south are the canyons of the Ugam River, which thus contribute to its self-contained nature [Fig. 2:1,2]. Administratively, the Ugam area is on the territory of the Kazygurt district in South Kazakhstan *oblast'*, where the Sairam-Ugam national nature reserve is located.

The uniqueness and variety of the ecology in the Ugam valley—the availability of practically unlimited water resources both of the Ugam River and numerous mountain streams and springs, the presence of productive loess terraces, and the self-contained micro-region's stable mountain climate—favored the exploitation of this territory by humans beginning in deep antiquity. Archaeological evidence of human settlement in different eras includes that from the Kangju state of the 1st–4th centuries.

Fig. 2. Landscapes of the Ugam River Valley: 1) View from Kyrykkyz Pass; 2) The Ugam River in the northeastern part of the valley.

The site of Ushbastobe is located 55 km southeast of the city of Shymkent on the left terrace at an altitude of 1237 m above the flood plain of the Ugam River, with GPS coordinates of 41º41'55.04" N, 70º02'03.95" E. It is a tripartite settlement with a developed system of fortification, in which the decisive role is played by the natural factors of the site's location (the steepness of the slopes) (Podushkin 2000, pp. 28-31). The citadel of Ushbastobe (whose name translates from Kazakh as "three-headed mound") occupies three levels on a hill of irregular rectangular shape. The main (central) hill (No. 2) at the base measures 20 x 45 x 22 x 45 m; the upper platform (No. 1), 15 x 30 x 30 x 15 m; the lower platform (No. 3) at its base, 25 x 20 x 15 x 20 m, and located 5.5-7 m above the flood plain. The site is almost perfectly oriented along a NE to SW axis. It has powerful natural defenses, since there are precipitous slopes on all sides and only from the southeast is connected by a narrow neck with the terrace of the flood plain [Fig. 3:1,2].

The results of excavations at Ushbastobe

In 2015, the expedition of the Central State Museum of the Republic of Kazakhstan carried out studies on the upper Platform No.1 of the citadel of Ushbastobe, the excavation of more than 20 m^2 on the level of the first construction horizon uncovering a mass of ceramic material and other artefacts (tools, decorations, ritual objects of stone, bone and metal) dated to

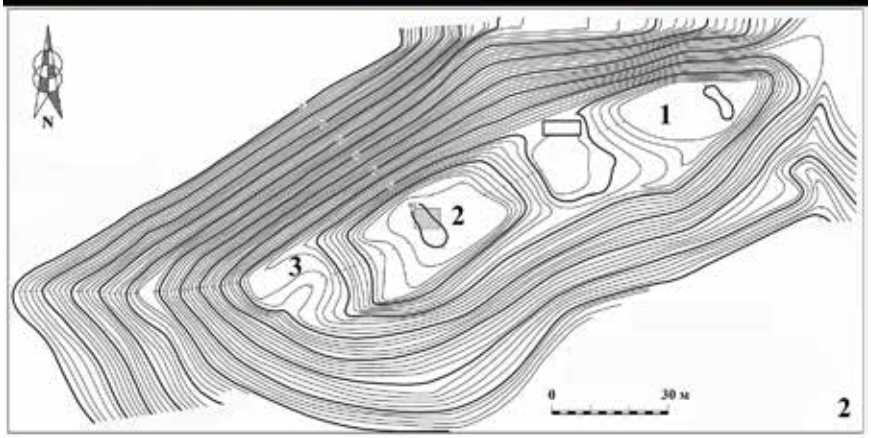

Fig. 3:1. The Ushbastobe citadel, exterior view from the northeast.
Fig. 3:2 Topographic map of the site.

Fig. 4:1. Ushabastobe, northern part of 2014 excavation.
Fig. 4:2. Excavation of 2015, view from west.

the Kangju period (1st-4th centuries CE) [Fig. 4:1,2].

There were shards of more than 60 vessels for various domestic and ritual purposes, among them large and medium-sized cooking pots, kettles and mugs, large and small *khum* vessels (capacious jars for storing and carrying water), and table ware including large jars and vases and several kinds of cups. Other ceramic wares included frypans, spindle whorls, stands for dishes, scoops and more—all told more than 1000 ceramic artifacts.

Some of the cooking kettles are footed, others have flat bottoms; there are flat-bottomed cylindrical jars with two horizontal petal-like handles on the shoulder of the vessel [Fig. 5:1-4]. These vessels are for the most part undecorated, but some are coated with a dark brown glaze and have applied cone-shaped projections on the shoulders or arc-shaped "moustache-like" plain and striated tubes imitating either a vine or a snake. Analogous

Fig. 5 (continuation on next page). Ushbastobe ceramics: 1-4) cooking pots; 5-7) domestic ware; 8-13) table ware; 14) scoop; 15-16) miniature vessels; 17) spindle whorl; 18) ritual stand for a vessel.

tubes forming a spiral composition of "moustache-like" elements are to be found where the the petal-like handles are attached and also between them. The small *khum* vessels and jars are all pear-shaped, with weakly articulated necks, hand-thrown or formed on a slowly turning stand. These and the other ceramics for domestic use may be decorated with a light brown or gray glaze used to depict so-called oval "eyes" with a dark border or masks, with a band of dark slip around the mouth, or with protruding appliqués [Fig. 5:5-7, 14—a scoop, 17—a spindle-whorl]. The tableware (jars, pots and cups) is both wheel-turned and thrown by hand, made of quality clay and high fired. Decorative effects include: coating with black, reddish-brown, and purplish slips of various shades; designs in red glaze on the neck and body along the outside of the vessel; concentric wide lines on the nouth; scrolls, which create a focused composition; glaze spots; polishing in the slip; projecting conical appliqués on the shoulder; and concentric lines with vertical notches (incisions) drawn on the raw clay [Fig. 5:8-13]. The ritual ceramics consist of miniature cup-like footed vessels and stands [Fig. 5:15-16,18].

In addition to the ceramics, the excavation uncovered tools and ornaments, including sickles with a bone handle and iron blade [Fig. 6:1,2]; stone grinders [Fig. 6:3,4]; a cosmetic implement (*sur'matash*) for applying

*Fig. 6. Ushbastobe tools, objects and decorations from stone, bone and iron: 1) bone handle from a sickle; 2) tip of an iron sickle; 3-4) fragments of stone grinders; 5) bone cosmetic implement (*sur'matash*); 6) iron needle; 7) astragali game pieces; 8) pendant of mountain crystal, mounted in silver.*

Fig. 7. Part of the excavation at Ushbastobe in 2015, showing the fragments of the vessel with the anthropomorphic image.

mascara [Fig. 6:5]; an iron needle [Fig. 6:6]; bone game pieces of sheep knuckle-bones (astragali) [Fig. 6:7]; and a bangle made of mountain crystal mounted in silver [Fig. 6:8].

The vessel with the anthropomorphic image

The vessel with the anthropomorphic image was found in these same strata. It had been shattered in antiquity into many pieces and scattered over a large area of the ancient surface among the debris of a large mass of other dishes. Hence, the image—drawn on the wall of the vessel in the central, widest part of its body—has been preserved on more than ten large and medium-sized ceramic fragments [Fig. 7]. Probably tableware or a water jar, the vessel is quite massive and could have held a considerable amount of liquid (more than 10 liters). It measures 46.2 cm high, 32 cm. maximum diameter of the body, 11.7 cm diameter of the mouth, with a neck 9.5 cm high, and diameter of the base 23.3 cm. The vessel is pear-shaped, with a short neck; it has a petal-shaped vertical handle, whose upper end was attached to the neck just below the mouth and the lower to the shoulder [Fig. 8:1]. The vessel was formed on a slowly revolving stand (on the bottom can be seen concentric furrows inscribed with the finger). The body is a sandy-textured high-quality clay almost free of inclusions and hard fired. It is somewhat misshapen, slightly asymmetrical. On the upper part of the handle there appears to have been a zoomorphic appliqué which was broken off in antiquity. The entire surface of the vessel was coated with a yellowish- light brown slip and also glazed spots ("eyes") of a darker brown color. The under side of the bottom was touched up with a comb while the clay was still wet.

The image

The human-like image was inscribed on the side of the vessel by drawing on the wet clay using a relatively sharp object with a smooth, rounded tip (a bone stylus or polished wooden stick). The lines are 0.45 to 0.3 cm wide, sharply delineated; they cut into the surface of the jar to a depth of up to 0.15 cm, which means that the image and even fine details are easily visible [Fig. 8:2].

The measurements of the image are impressive: its height (from the crown of the "hair" in the shape of an upper "ribbon" to the lower tip of the "leg") is 21.5 cm; the maximum width (from the tips of the "fingers" of the left hand to the outer right extremity of the torso) is 14.8 cm.

The image is that of a standing human figure with the contours of the main parts of the body clearly articulated: the head, the shoulders of the torso, hands, waist and lower part of the body with with an indication of a "leg". The head (and "leg") are shown in profile to the left, and the rest of the body, apparently that of a clothed male, is outlined by two triangles in a direct frontal pose [Fig. 8:3].

Preliminary traceological analysis suggests that the image was inscribed in several stages: first the head was sketched with several lines (and its details: an eye with its pupil, eyebrows, "hair", a nose, a "beard"), then the neck on which is

Fig. 8. The anthropomorphic image: 1) the vessel with the image after restoration; 2) the image outline as inscribed on the vessel; 3) the image with the body filled in.

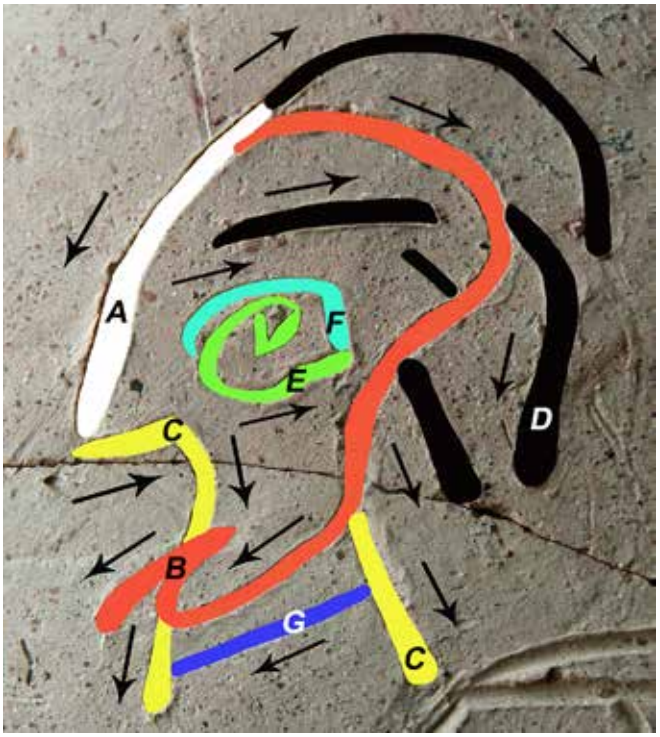

Fig. 9. Traceological scheme of the head and neck of the figure (letter designations identify colors for those viewing picture in gray scale): 1) white (A), red (B) and yellow (C) – lines forming the contours of the head, neck and "beard"; 2) black (D) – eyebrows and "hair"; 3) green (E) and turquoise (F) – eye and pupil; 4) blue (G) – lines suggesting certain details on the neck (accessories?); 5) arrows indicating the direction of the movement of the stylus.

some kind of an accessory (a torque?) [Fig. 9]. Next was drawn the rest of the entire figure. The head appears to be separated from the body and slightly shifted to the left from the shoulders of the torso (no lines connect them) [Fig. 8:2-3]. Some 12 lines form the head, "beard", "hair/ribbons", eye with pupil, "eyebrows", neck and accessory; two lines outline the triangular cut of the clothes; another 7 lines shape the right shoulder, right hand and end of the sleeve of the garment, while 10 lines form the left shoulder, hand and end of the sleeve of the garment. Four lines complete the torso and general silhouette of the figure. In all, a total of 35 lines. The least fully articulated elements are the "chin" (one line, the continuation of the contour of the head) and "leg" (also one line, the continuation of the contour of the lower part of the body). While the image is not overloaded with graphic detailing, apparently the ancient artist was well acquainted with his subject and the relevant iconographic traditions and had full command of the techniques to enable him to inscribe the figure quickly with a confident hand in more than 30 strokes on the rapidly drying clay of a vessel that had just been shaped.

In spite of the somewhat schematic treatment, there can be little doubt that we have here a complete anthropomorphic image with male characteristics. We note the double triangle contours of the figure with a slender waist and powerful torso, the stylized head and neck, the long arms, and the tunic-like garment in which the individual is shrouded. The garment would seem to be a fastened, long waisted and closely fitted caftan, with a triangular cut on the breast but no collar, and sleeves without cuffs. The long line at the bottom of the garment (a fold?) suggests that it had a generous cut. This is a frightening individual with unnaturally large "arms" extended forward and wide-spread long "fingers" moving toward an object or trying to make contact with someone: the body is markedly inclined forward, and the lower hem of the garment appears to be fluttering. At the same time, the dynamism, expressiveness and lightness of the figure is evocative of its flying or wafting in the air over the earth. The figure exudes a certain stylized archaism, which prevents its being understood as a completed image, but also suggests a mass of possibly contradictory cultural-historical and ethnographic interpretations.

Interpretations

As is well known, archaism, primitiveness or hightly schematic graphic execution, which by their very nature exclude any convincing conclusion regarding the semantics, artistic and functional content of one or another image, are fertile ground for all kinds of fantasy. While we will attempt to avoid such idle speculation, there are details in the image from Ushbastobe which raise doubts as to whether it is definitely that of a human being.

Consider first the depiction of the head. While on the whole it is similar to a human head, it is slightly stretched and deformed in the sincipital part horizontally and lacks such important elements as ears, lips, mouth or a prominent chin. There is but a hatched line imitating, it seems, a wedge-shaped "beard". The round eye, very large in comparison with the profile of the face, looks flat. That is, there is no indication of the eye-socket, something which is hardly in keeping with commonly accepted variants of the graphic depiction of human eyes. Also of note is what passes for very sharp beak-shaped "nose" with a slight bump, formed by two lines that are not connected. It is something of a stretch to interpet three lines, descending from the head, as hair; they resemble rather ribbons or large feathers. Yet there is no indication of any kind of head covering,

A second observation is connected with the depiction of the hands, or more precisely the fingers on the hands, in that palms as such are missing. The human-like figure directly thrusts out from under the sleeves of its garment fan-like, wide-spread fingers of huge

Fig. 10. Depictions of heads, bodies and full length figures of anthropomorphs in profile on artifacts: 1) a table jug, Kaigarach dwelling (after: Brykina 1982, p. 127, Fig. 65); 2) Subarshakid coin (after Abdullaev 2010, p. 41, Fig. 10); 3) Coin from Er-Kurgan (after Rtveladze 2002, pp. 75-76, Fig. on p. 75); 4) fragment of painting from the Varakhsha palace (after Pugachenkova and Rempel' 1960, p. 75, Fig. 79); 5) armed cataphract (a footsoldier) on a gold plaque from the Geremesov Barrow (after Alekseev 2012, p. 170); 6) bone plaque from the Kuiu-Mazar cemetery, Barrow 19 (after Stawiski 1979, p. 70); 7) lower part of a horn plaque from the Ak-Tam cemetery (after Gorbunova 1960, pp. 93-94, Fig. 22); 8) astragalus from the Kalan-Mir citadel (after D'iakonov 1953, p. 286, Fig. 21).

size even for what is a rather large figure overall. Furthermore, if on the right "hand" five "fingers" are delineated by five lines (which corresponds to human physiognomy), on the left "hand" things are different: it has six "fingers" drawn using seven lines.

Such details then pose an entirely reasonable question: is this image a human one in the full sense of that word? Or did the ancient artist depict some other kind of human-like being? A reasonable hypothesis is that he is representing a syncretic, polymorphic (or zoo-anthropomorphic) personage, very similar to a "bird-human" or a person in a bird mask (a cock or pheasant). In favor of such an interpretation is the head, which has beaklike profile, as suggested especially by the "nose", and bird-like round eye. The "eyebrows" suggest folds of skin common to species of fowl; the "beard" coming out of the neck could be a cock's wattles. There are a long birdlike neck and feathered "neckpiece" below the head (a characteristic detail for a cock-pheasant), which graphically one can fully equate to a bird's comb (or crest). It would be only a bit of a stretch then to see the gigantic, widely splayed "fingers" as the feathers at the tips of a bird's wings.

Finally, the dynamism of the entire figure, akin to that of a bird taking flight, argues in favor of interpreting the Ushbastobe image as a zoo-anthropomorphic one with birdlike elements.

Possible analogies

While there are no direct analogies to the Ushbastobe image across all of Central Asia and Kazakhstan, there are at least some parallels worth noting.

The technique of depicting the contours of the head in left-facing profile by drawing with a sharp object on wet clay can also be found on a vessel with a cylindrical neck from the site of Kairagach, SW Ferghana, 1st half of the 1st millennium CE [Fig. 10:1] (Brykina 1982, p. 126, Figs. 64, 65). However, even though there is a certain congruity in the deformed stretching of the length of the sincipital part of the head, the Ushbastobe and Kairagach images otherwise differ markedly from each other. Other examples of left-facing profiles are to be found primarily in numismatic materials and which depict ribbon-like "hair". For example, we see analogous "hair" on figures depicted on the coins of Parthian rulers of the first centuries CE [Fig. 10:2] (Abdullaev 2010, p. 41, Fig. 10.2). An image close to the indicated profile with analogous slightly loosened "hair" is on a coin from Kesh of the 3rd-6th centuries [Fig. 10:3] (Rtveladze 2002, pp. 75-76, Fig. on p. 75). Lastly, a similar subject (the profile of a head from the left, with ribbonlike "hair") is on a painting fragment from the Varakhsha palace of the 7th century illustrating a horseman shooting from a bow [Fig. 10:4] (Pugachenkova and Rempel' 1960, p. 75, Fig. 79).

The next set of analogies, also rather distant, is with depictions suggesting the silhouette of a figure by two intersecting triangles and also ones which display the triangular cut of the garment on the breast. For example, note the Scythian armored footsoldier confronting a cavalryman on a gold plate from the 4th-century BCE Geremesov barrow on the northern Black Sea littoral [Fig. 10:5] (Alekseev 2012, p..170; Gorelik 1971, p. 238, Fig. 4). The soldier and the Ushbastobe figure have frontally posed torsos, outlined by two triangles at the same time that the heads are depicted

Fig. 11. Silhouettes depicting clothing of armed men: 1–3) bone belt plaques from the Orlat Cemetery (after Pugachenkova 1987, pp. 57-58); 4–5) deer horn finial from the Kalaly-Gir citadel (after Il'iasov 2013, pp. 96-100, Fig. 1.1); 6. detail of a pectoral from the Kobiakov Barrow (after Zasetskaia 2011, p. 178, Fig. 89a); 7–9) Silver mug from Kosika (after Dvornichenko and Fedorov-Davydov 1994, pp. 148-50, Fig. 5).

in profile. Both display a kind of forward movement with the hands extended, in the case of the Geremesov figure for defense against the spearman. What I would suggest is the leather or cloth lining of the armor has the triangular cut on the breast, as does the garment of the Ushbastobe anthropomorph. Even if, as Gorelik posits, the Geremesov image shows a metal breast-plate here, it still would appear to have a traingular cut. A nearly analogous decorative gold armorplate, mounted on a lining of an open, short, leather caftan, one that has a real triangular cut on the breast formed by the folding of the right side over the left, has been documented for the Sakas of Semirech'e in the Issyk kurgan of the 5th-4th centurie BCE (Akishev 1978: pp. 47-49; fig. 3.1).

There are other somewhat distant parallels in carvings on ivory and horn, the most pertinent being:

• some cataphracts depicted on the Orlat belt plaques: the silhouette of the figures, the position of the left hand [Fig. 11:1-3] (Pugachenkova 1987: pp. 57-58);

• an anthropomorphic depiction on a bone plaque from the Kuiu-Mazar cemetery, Kurgan No. 19: the silhouette of the figure; the triangular cut in the clothing on the breast [Fig. 10:6] (Obel'chenko 1956, p. 223, Fig. 20);

• a depiction on the lower part of a horn plaque from the Ak-Tam cemetery: the double trangular contour of the figure [Fig. 10:7] (Gorbunova 1960, pp. 93-94, Fig. 22);

• depictions of mounted and seated male figures on horn "end-caps" from the Kalaly-Gyr 2 site: the contours of the figures, clothes with the triangular cut on the breast [Fig. 11:4-5] (Il'iasov 2013, pp. 96-100, Fig. 1.1);

• two anthropomorphic "birdlike" figures on an astragalus from the Kalan-Mir (Kobadian) site, one of which is either in a cataphract or in plumage [Fig. 10:8] (Guguev 1992, pp. 120-21, Fig. 8; Zasetskaia 2011, p. 178, Ill. 89a).

• Among a somewhat different set of images, note the seated man wearing a garment with a triangular cut on the breast depicted on a torque from the Kobiakovo barrow [Fig. 11:6]. S. A. Yatsenko (2011, pp. 56-57) classifies the dress of the man as a shirt "with a deep triangular cut," characteristic "for Sarmatians of any period."

• And note depictions of soldiers in a battle scene on a silver vessel from a burial near the village of Kosika: the general silhouette of the figures and the triangular cut of the clothing on the breast [Fig. 11: 7-9] (Dvornichenko and Fedorov-Davydov 1994, pp. 148-50, Fig. 5).

• Somewhat more distant analogies might be seen in depictions of elite Bactrian horsemen hunting, on a bone plaque from Takht-i Sangin of the 3rd century

CE: the general contours of the figures, the triangular cut of the clothing (Litvinskii 2002, pp. 181-82, Fig. 34, p. 201).

All of the above-cited analogies to a greater or lesser degree are connected with the artistic, cultural and ideological traditions of Eurasian Iranian-language peoples and groups such as Scythians, Sakas, Sarmatians and Kangju of the period of the last centuries BCE to first centuries CE. Hence one should seek a semantic interpretation for our anthropomorphic image in this milieu and in particular in the Kangju state, whose political and administrative center was located at that time on the territory of southern Kazakhstan (the middle Syr Darya and the Arys' River basins).

Archaeological studies of recent years that have examined numerous monuments of the Arys' culture, ones which reflect the main traditions of the material culture of Kangju, have determined that this state was polyethnic and included in its most flourishing period (from the 2nd century BCE to the 2nd century CE) late Saka, Sarmatian, Xiongnu and its own Kangju ethnic elements (Podushkin 2000, pp. 147-61; 2010, pp. 207-17; 2015, pp. 501-14). Convincing evidence regarding the Iranian-language population of Kangju is in the unique Kultobe writing on ceramic brick-plaques found in southern Kazakhstan, which scholars classify as linear and alphabetic (with the inclusion of ideograms), created on the basis of Aramaic and marking one of the dialects (Sogdian/Kangju) of the ancient eastern Iranian language (Sims-Williams 2009; Podushkin 2013, pp. 93-94).

Semantic interpretations

The absence of direct analogies to the Ushbastobe image complicates any effort to arrive at its semantic interpretation. For example, all of the cited indirect and remote parallels are connected with the militarized elite images showing foot soldiers and cavalrymen (or hunting bowmen) who have either protective armor (a cataphract), a single weapon (bow, dagger) or a complete set of weaponry. There are no weapons connected the image discussed here. The Ushbastobe image in no way can be included among the basic anthropomorphic images of Iranian-language Sarmatia of the 2nd–1st centuries BCE, a large part of which involves horsemen and armed individuals (Yatsenko 2000, pp. 255-62, Figs. 2, 3).

While of Sarmatian cut without any accessories (if one excludes the band below the neck that possibly represents a torque) its caftan gives the impression of ordinary clothing and can in no way be understood as royal or elite. Everything suggests that the ancient artist who created the given image emphasized its other components, connected with traditions of the population in the religious sphere and mythological concepts in specific pagan rituals.

The theme of syncretic, "birdlike" anthropomorphs is extremely broad and leads back through the millennia to civilizations of antiquity (to the gods of Babylon, Assyria, Egypt, and the Hittite state) so widely dispersed across the ancient Near East, Anatolia and Central Asia as to render it unlikely direct connections can be established for the Ushabstobe image (see, e.g., Sarianidi 1989, pp. 18-19, Figs. 1-3; Samashev et al. 2005, p. 89). If one adopts a regional approach, very approximate analogies can be found in the Bronze-age petroglyphs of Kazakhstan depicting people in "birdlike" and horned masks (Samashev et al. 2004, p. 105, Fig. 161; pp. 132-33, Figs. 106, 145; p. 137, Figs. 159, 167). Closest of all to our "birdlike" being are the "strange elongated birdlike faces" of female figures (goddesses) on the Bronze Sarmatian mirror from the Mechetsai cemetery of the 6th–5th centuries BCE on the Ilek River (Smirnov 1968, p. 119, Fig. 2).

Notwithstanding the difficulties presented by the lack of direct analogies, I would propose that the Ushbastobe image personifies a syncretic divinity of autochtonous origin from the pantheon of gods related to Zoroastrianism that were venerated among ancient Iranian tribes. It is most probable that what we have here is the *farn-xwarnah* (X^{v}arənah), known to have embodied many different characteristics, and worshipped among all the Iranian-language peoples of Eurasia, including Sarmatia and the Kangju state.

We note at the outset that X^{v}arənah, according to the Avesta, is connected in the closest fashion with "water, flowing water, rivers" (Litvinskii 1968, p. 50), "with reservoirs and water flows" and possibly originally was an attribute of the divinity Apam Napat, "Son of Water", whose role was that of a protector. In Bakhman-Iashte 2.1 is the indication that *farn* is the all-knowing wisdom in the form of water which Zoroaster drinks (Litvinskii 1968, p. 110; Shenkar' 2013, p. 428). Thus we can appreciate the significance of the fact that the Ushbastobe image was inscribed on a vessel intended for storage, use and transport of water as the most important factor in human life. The fan-like "fingers" of the creature can be understood to be rivulets, streams of water, which issue forth from the hands, emphasizing abundance of that water resource, its accessibility and the possibility of unending use of it [Fig. 8:2-3]. Apart from the Ugam River itself in the region of Ushabastobe, the findspot for our image, there are dozens of large and small streams and hundreds of springs, which personify the abundance of water sources and in a way guarantee that the population will flourish and enjoy a fortunate life (one of the hypostases of *farn*).

In the iconography of the ancient Iranians (in Kushan Bactria and Sogd), Xᵛarənah can appear both in human guise and as an anthropomorphic image, the most ancient of which is the divinity Pharro, depicted on coins of two Kushan rulers, Kanishka and Huvishka (Shenkar' 2013, pp. 434-37, Fig. 1). However, with its everyday dress, the Ushbastobe figure can in no way be suggestive of royal status. Of greater interest are the instances where Xᵛarənah is in the form of a bird (Shenkar' 2013, p. 438). Among Iranian-language peoples the bird is the symbol of the sky and sun; certain birds (the cock) play the role of protectors against "all impurity, evil, chaos" (Akishev 1984, pp. 40-42). We note as well that only birds "are referred to in Zoroastrian literature as the incarnation of Xᵛarənah"; moreover, they sometimes are decorated with "fluttering royal ribbons, and often are depicted on Sasanian seals," specifically as raptors (Shenkar' 2013, p. 433). In our variant, the ribbonlike "hair" descending from the head of the Ushbastobe "bird-person" would be difficult to associate with royal ribbons, even if there is a superficial similarity.

The Ushbastobe anthropomorph is hardly a benevolent being. On the contrary, the huge eyes with vertical pupils, the widely spread and unnaturally long "fingers" which suggest flashes of fire exploding out of the hands, the figure itself, rushing forward, all create the impression of threatening action intended to ward off or scare away someone. Indeed, a similar semantic meaning is attached to the *farn-xwarnah*: often it appears in the role of the defender of the clan, the blood, the family, man, and even the magical protector of the contents of the vessel from "evil forces" (Litvinskii 1968, pp. 110-11).

Zoo-anthropomorphic parallels in the ceramics of the Arys' culture

Furthermore, the interpretation of the Ushbastobe image with the same semantic content as the divinity *farn-xwarnah* definitely intersects with materials of a zoo-anthropomorphic character found on the ceramics of the Arys' culture in southern Kazakhstan of the 4th century BCE to 4th century CE which embodies the traditions of the Kangju state. Among the most important hypostases of *farn-xwarnah* among the Sakas, Sarmatians and Kangju, with almost a complete array of corresponding semantic content, are such popular images as the mountain sheep (markhor), the noble stag (and roe deer), the dog (or wolf) and the snake. Almost all of these incarnations of *farn-xwarnah* are to be found on ceramics of the Arys' culture in incised, relief-sculpted, and appliqué variants. Such an emphasis on zoo-anthropomorphic imagery is one of the specific characteristics of that culture (Podushkin 2000, p. 96). Thus, the well-articulated contours of the noble stag (maral) are to be seen on a seal imprinted, it seems, by means of a stone stamp on the neck of a *khum* vessel found at the Tulebaitobe site [Fig. 12:3]. On the handle of the same vessel is a wonderfully articulated snake, an image that is remarkably realistic both in the pose of the body and in the depiction of the head [Fig. 12:2]. Among the images of wild animals are a depiction of

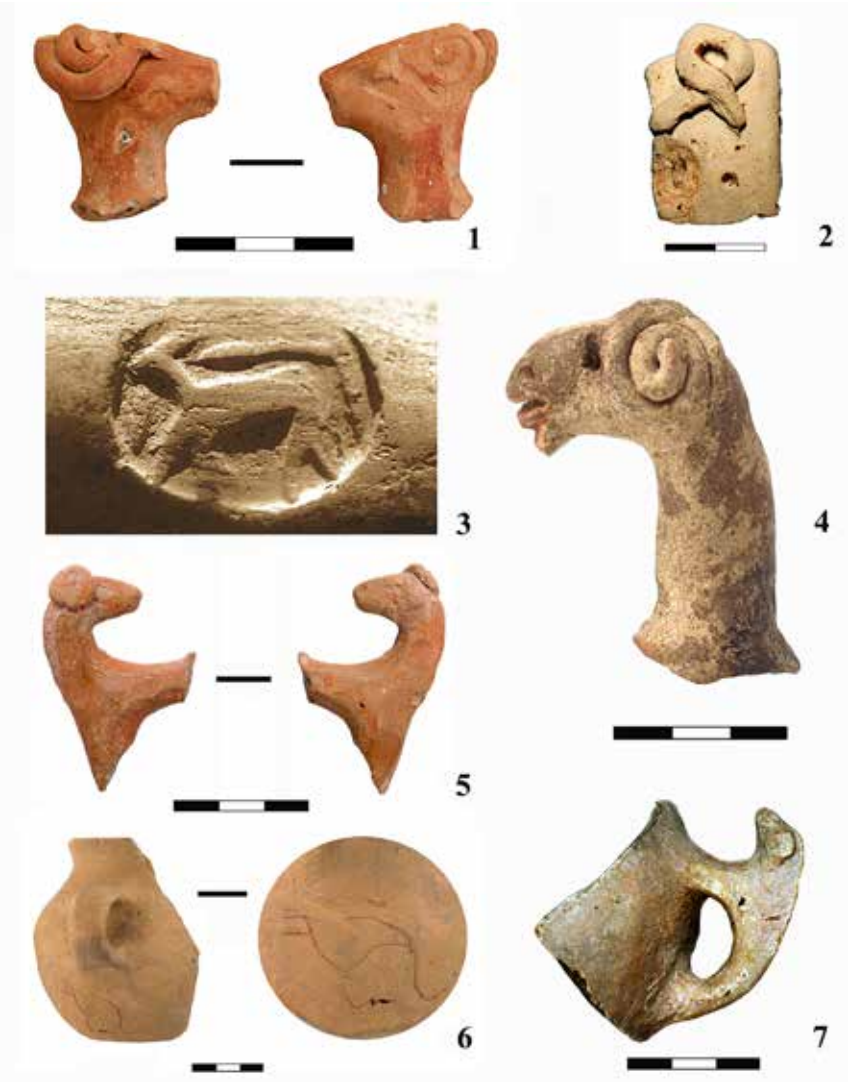

Fig. 12. Zoomorphic imagery in the ceramics of the Arys' culture of southern Kazakhstan: 1-2) from the Ushbastobe citadel; 3) from the Tulebaitobe citadel; 4) from the Karaultobe settlement; 5) from the Karatobe citadel; 6-7) from the Altyntobe settlement;.

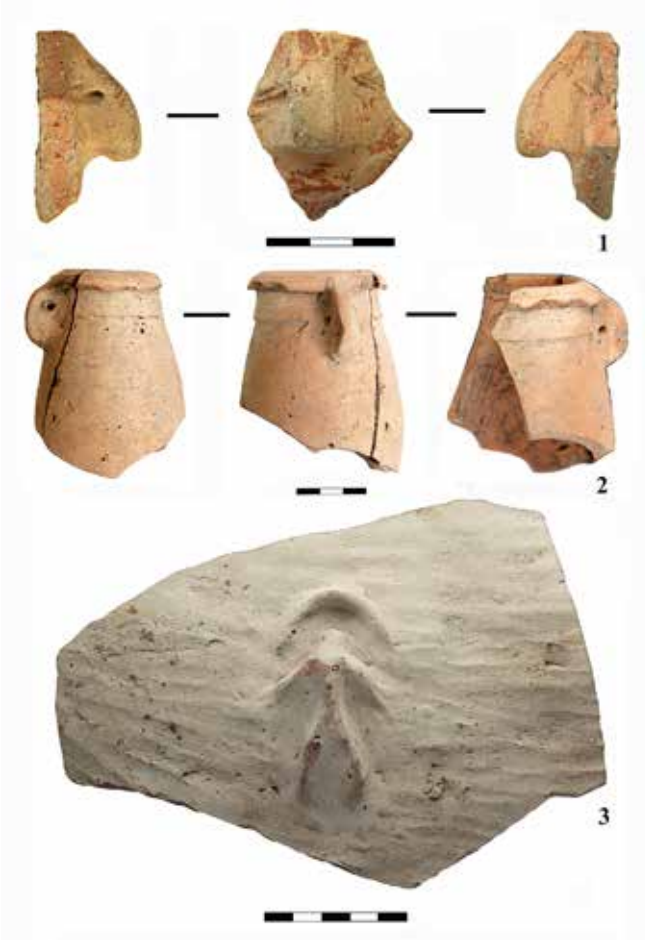

Fig. 13. Anthropomorphic relief images on ceramics of the Arys' culture of southern Kazakhstan: 1) from Ushbastobe; 2) from the Kul'tobe citadel; 3) from the Altyntobe settlement.

a mountain roe deer "in flight", inscribed in outline on wet clay, and what resenbles a dog or wolf on the handle of a cup [Fig. 12:6-7].

But above all, the *farn-xwarnah* on ceramics of the Arys' culture is to be connected with the image of the mountain-sheep (argali: *Ovis ammon* or *Ovis orientalis*), found not only in realistic three-dimensional artefacts but also numerous partial derivatives such as a stylized snout, curling horns and their imitations (the conical appliques on the upper part of the handles of vessels). Especially noteworthy are the beautifully conceived and strikingly realistic execution of the neck and head of markhor on the handle of a vessel from Karultobe [Fig. 12:4] and the upper part of a handle with the spiral horn of a sheep from Ushbastobe [Fig. 12:1]. A three-dimensional image of a horse in a markhor mask with the characteristic curved and spiral horns, found at Karatobe is unusual in its execution and function [Fig. 12:5].

Finally, among the ceramics of the Arys' culture are parallels to the Ushbastobe image which may be indirectly related to the divinity *farn-xwarnah*. For example, there is yet another anthropomorphic artefact found at Ushbastobe in 2013, drawn on the body of a large vessel resembling a jug for storing and transporting water or an ossuary, covered with cherry-red slip and polished. Depicted on it in relief and with lines that had been inscribed in the wet clay is a person, apparently either sleeping or dead: with a precisely and artistically executed, stylized, large and slightly downward bending nose, and well-articulated eyes and mouth [Fig. 13:1]. In the iconographic sense—especially in the profile—and more importantly, in the technique of inscribing the lines and depicting the eye by means of an impressed opening, this second Ushbastobe image recalls the expressive depiction of a human face drawn on raw clay on the side of a jug found at the Kairagach house complex in southwestern Ferghana dated to the first half of the 1st millennium CE (Brykina 1982, p. 126, Figs. 64, 65). An anthropomorphic image found at Kul'tobe was executed in approximately the same punched-relief technique [Fig. 13:2]. No less interesting is a relief-drawn human figure with a half-numbus over the head, the image seeming to "fly off" upwards as depicted on the side of a *khum* vessel found at Altyntobe [Fig. 13:3]. The nimbus (or person with a nimbus over the head) in part is connected with the so-called "royal" *farn* ("divine nimbus of rulers"), an attribute of highly placed individuals and rulers of states of ancient Central Asia (Litvinskii 1968, p. 51).

We note that the tradition of depicting human figures, or their faces in relief and inscribed variants on the walls of ceramic vessels was common in the Zhetyasar/Arys' culture of the first centuries CE (Levina and Chizhova 1995, p. 187, Fig. 2; Podushkin 2000, p. 42 and figure). There are anthropomorphic images of the face and part of the figure of a person executed in relief appiqué and covered with red slip that have been found in the cultural layers of the Zhetyasar site of the 3rd century CE (Levina 1996, p. 247, Fig. 170:2-3).

Conclusion

The unique anthropomorphic image on the vessel from Ushbastobe undoubtedly should be regarded as one of the meaningful examples of plastic arts embodying the personification of a human-like divinity, *farn/xaranah*. To date it is the only one that has been found across the entire region of Central Asia and Kazakhstan. In its semantic content and ritual functions, it is closely connected with the artistic and religious traditions and the ideological understandings of ancient Iranian-language populations of the Sako-Sarmatian world and the Kangju state. This expressive, unusual and to a certain

degree contradictory image undoubtedly embodies some specific local characteristics of Zoroastraian religious ideas, even as it must be understood in the framework of more widespread beliefs common to nomadic and sedentary agricultural Iranian-language peoples of Eurasia. As a work of plastic arts, the Ushbastobe image undoubtedly will occupy an important place among Avestan/Zoroastrian icons and stimulate new scholarly analysis. This especially, given the fact that, paradoxically, for all we have so far been able to establish about the image, its real meaning and function, as intended by the artist some two thousand years ago, is still very much a mystery.

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-- translated by Daniel C. Waugh

Observations on the Rock Reliefs at Taq-i Bustan: A Late Sasanian Monument along the "Silk Road"

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The unique Sasanian rock reliefs at Taq-i Bustan are in two grottoes and an adjoining panel on the face of the cliff. The larger of the two grottoes has the richest and most complex array of images, which have long attracted attention. The reliefs were studied in detail by Japanese teams during the 1960s and 1970s of the last century. However, no real archaeological excavations have ever been carried out (Fukai et al.1984a). Unfortunately, recent restorations have completely changed the aspect of Taq-i Bustan as it appeared until few years ago: not only were a pool and a canal created directly in front of the site [Fig. 1], but also all the figurative column capitals that had been collected there were moved to some office in Kermanshah [Fig. 2]. The dramatic decision seems to be justified by the new director of the site in order to safeguard the integrity of the reliefs, especially those in the larger grotto.

On the bank of the newly created pool on the side by the grotto, this writer noticed in June 2015 a carved block with some relief on it [Fig. 3]. My first impression was that this previously unnoticed carved stone had fallen from the external part of the large grotto where two winged victories are represented in low relief. In particular, the inferior part of the winged victory (or Nike) on the left had completely broken away. However, some other origin is possible, connected with the fact that additions have been made to the site at least since the Qajar period (1785-1925) [Fig. 4, next page]. As was suggested by Dr. Siamak Khadivi (former director at Taq-i Bustan),[1] the ancient pavement in front of the larger grotto that was completely removed could have presented some

Fig. 1 (left). Taq-i Bustan since the recent "renovation." Photo courtesy of Bruno Overlaet.

Fig. 2 (below left). Carved capital formerly on display at Taq-i Bustan. Photo 2010 courtesy of Daniel C. Waugh.

Fig. 3 (below). The winged victories over the arch of the large grotto (photo courtesy of Daniel C. Waugh); inset: carved block at Taq-i Bustan (photo: Matteo Compareti).

Fig. 4. A Qajar relief added on left wall of the large grotto at Taq-i Bustan.

Photos 2010 courtesy of Daniel C. Waugh.

other interesting remains. Unfortunately they are now completely lost.

Recent publications on Taq-i Bustan point to a late Sasanian chronology for the site, although the distinguished scholar of pre-Islamic Persian art and archaeology, Pierfrancesco Callieri, has re-proposed the period of Peroz I (459-484) as the time of its creation.[2] The main obstacle to proposing any reliable chronology for Taq-i Bustan is the identification of the king depicted on the back wall of the larger grotto wearing a crown that has no clear parallel in Sasanian numismatics [Figs. 5a,b,c; 6]. Attempting to identify that crown has kept scholars of Iranian studies very busy since the beginning of the last century. Before advancing my proposal for a late chronology of the site of Taq-i Bustan, I would like to focus on a specific portion of the panel of the deer hunt.

This panel is located inside the larger grotto on the right-hand side [Fig. 7]. Like the boar hunt panel on the opposite side, it is square, but unlike the boar hunt panel, it is unfinished. This is probably the main reason why it did not draw the attention of scholars who published studies on Taq-i Bustan.[3] The many unfinished parts include details such as the decorations on the garments that are definitely more numerous

Fig. 5a,b,c. The large grotto with details of the investiture scene and the head and crown of the central figure.

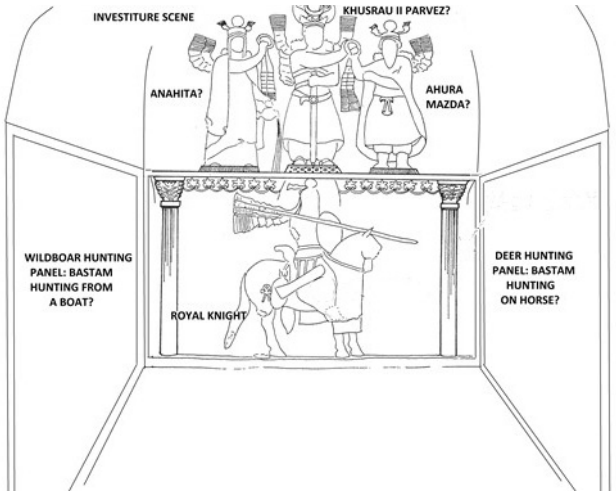
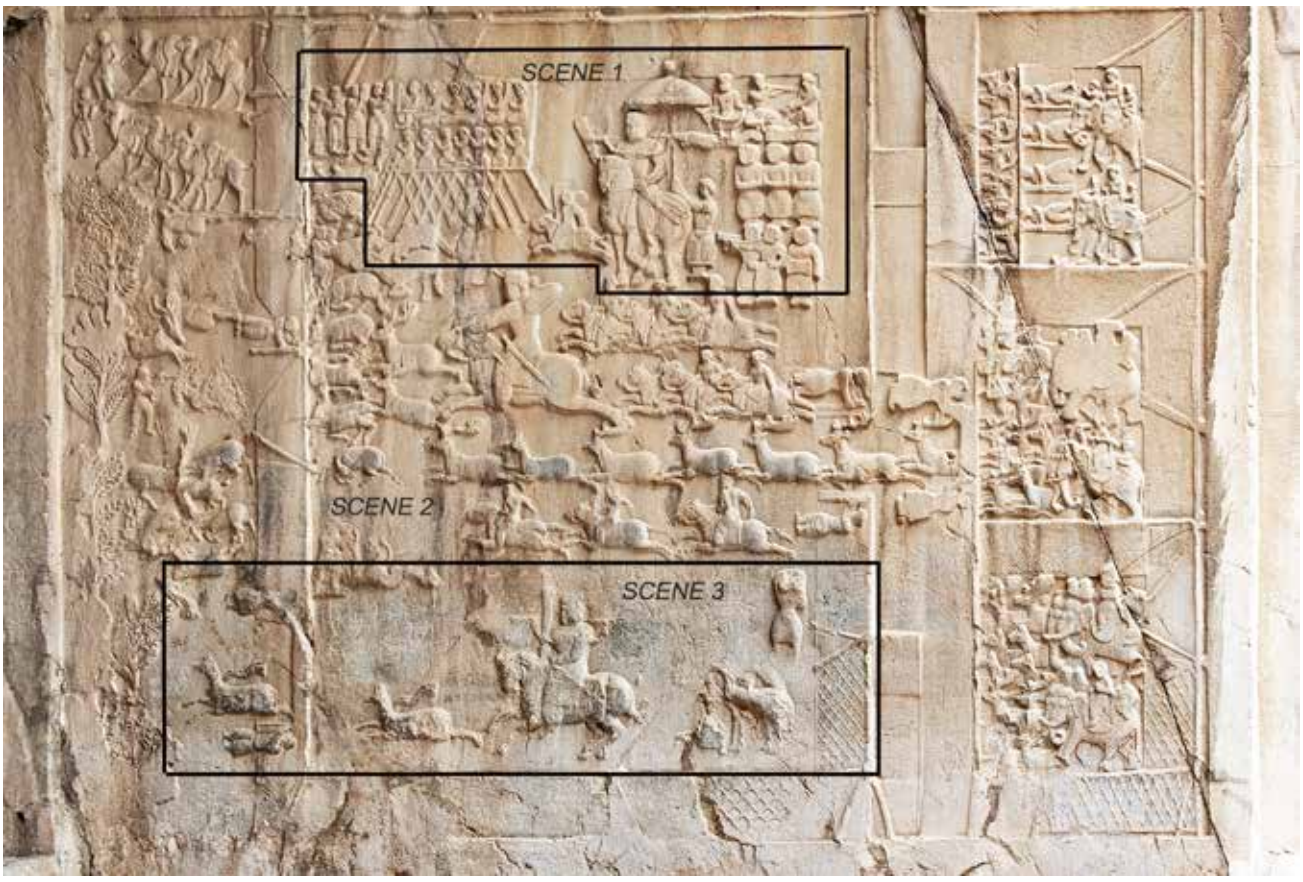


Fig. 6. Schematic drawing of the large grotto reliefs at Taq-i Bustan.

in the boar hunt panel. The central part is where the hunt is taking place inside an enclosure formed by a long net. Outside the enclosure, on the right, a group of attendants mounted on elephants on three levels is forcing a large number of male deer to approach the hunters. The animals enter only through one passage in the central part where standing attendants keep it open. Above and below this central passage, some other elephants are ready to push more prey into the hunting ground or just keep them under control inside specific enclosed spaces. The deer hunt scene develops on three levels as well. The person who has been commonly considered a Sasanian king is the main character of every level and he is repeated three times. In the upper part, he is at rest sitting on a horse while an attendant is holding a large parasol to protect him from the sun [close-up details, Figs. 8, 9, 10 next page]. He is surrounded by several musicians who entertain him, some of them playing music from a wooden stage. This main character is larger than his attendants and musicians. He is wearing a caftan embellished with a much elaborated design but he has no crown, just a very simple headgear exactly like in the boar hunt scene. This last detail does not appear anywhere else in Sasanian art and suggests great caution in identifying that hunter as a sovereign. In any case, he is sitting on his horse while holding the hilt of his sword with his left hand and an indistinguishable object with the right. The bow positioned horizontally on his chest seems to suggest that this is a pre-hunting phase. No stirrups can be observed in the whole panel.

In the central scene of the panel [Fig. 11], the main character is hunting deer clearly depicted while coming out from the exit of the passage in a line directed in perfect order toward the far end of the enclosure.

Figure 7. Deer-hunt panel at Taq-i Bustan, with delineation of the individual scenes. Photo 2010 courtesy of Daniel C. Waugh.



Photos 2010 courtesy of Daniel C. Waugh.

Fig. 8. The upper scene on the deer-hunt panel.
Fig. 9 (right). Detail of central figure in upper scene.
Fig. 10 (below). The upper left side of the deer-hunt panel.

Some attendants are here represented in the act of slaughtering the dead animals to be later transported outside of the enclosure through one other passage kept open by a solitary attendant. It is very clear that the enclosure is composed of a thick net even though many details are not reproduced in every part. The dead prey can be seen on the far left upper corner as carried away by camels outside of the enclosure [Fig. 10]. This part of the panel is the only one where trees and a line under the camels point at the landscape. Inside the enclosure, there is absolutely no trace of landscape, just the animals and the people taking part in the hunt. Those people riding horses around the main character are all smaller and they do not carry any weapons.

Below the line formed by the people riding horses together with the central hunter there is a very interesting scene which is much less complicated than the upper ones and contains only a few people [Fig. 12]. One central horse rider seems to be the same as in the two other scenes described above, although some secondary details are missing such as the decorations on his garments. This is probably due to the fact that the relief was never finished. He is larger than the attendants surrounding him and he is not hunting, as is suggested by the bow positioned horizontally on his chest in a resting position. His attitude is more or less the same as in the uppermost scene, the only difference being the horse represented as moving slowly to the left. With his right hand, the main character holds an object that could be a quiver.[4] In the equestrian statue carved in high relief in the innermost part of the large grotto a similar quiver can be observed, but it is secured on one side of the warrior in a more obvious position

Fig. 11. The central scene on the deer-hunt panel.

Fig. 12. The lower scene on the deer-hunt panel. Photo 2010 courtesy of Daniel C. Waugh.

[Fig. 13]. According to Markus Mode (2006), this kind of quiver can be seen in the art of the steppes and in Persian art beginning from the mid-6th century CE. It is possible that the act of holding the quiver in this position in the deer hunting scene is a further allusion to the non-violent intention of the hunter. With his left hand, he holds the hilt of the sword and, at the same time, the reins of the horse. In front of the main character, a deer with no antlers is running away with a very long ribbon attached to its neck that floats in the air. Probably this is a female deer, actually the second one in the entire scene.[5] Moreover, everything would point to this animal as being the most important, since, in my opinion, it is repeated three times in the lower scene according to a technique called "narrative representation" that is not common in Sasanian art. On the right, two attendants wearing long caftans are restraining the female deer. Every figure has been broken but it seems quite clear that the attendants are doing something to the animal. Probably they are fixing ribbons to her neck so as to make her recognizable. Riding in the central portion of that scene, the hunter appears very still, and there is no intention to kill the female deer as it runs toward another passage leading out of the enclosure. At the very far left end of the scene, the same beribboned deer goes through the passage that two more attendants are keeping open possibly just for her. Despite the simplicity of this scene, the artist felt the necessity to repeat the animal three times because it is the focus of that part of the scene.

Fig. 13. Detail of the armored horseman in lower register of the back wall of the large grotto. Photo 2010 courtesy of Daniel C. Waugh.

However, some questions remain. Why is the hunter not even trying to kill that animal? Why are two attendants attaching a ribbon to her neck while a third one is possibly approaching from above carrying something on his shoulders? Clearly, there is no intention to do any harm to the female deer because two more attendants are keeping the barricade open to let her run outside the hunting ground to the left. However, it is not easy to provide any interpretation of this specific scene. In ancient Persia (both during the pre-Islamic and Islamic periods) hunting was a very important sport practiced by nobles and especially Sasanian kings. Hunting was also very good training for war. Persian kings were accustomed to hunt inside enclosed parks called *paradeisos* by Greek authors. Common people were not allowed to enter these places. It has been proposed that animals had to be embellished with ribbons, as can be observed sometimes in ancient metalwork considered to be Sasanian (Gignoux 1983; Compareti 2014). However, most likely the situation was somehow different and these ribbons had probably another meaning when attached to animals that were not to be killed. Possibly beribboned animals were a symbol of paradise, in the same way that the enclosed park itself was destined just for the pleasure of the king, or possibly beribboned animals symbolized specific deities (Compareti 2014, p. 156). However, one cannot identify beribboned animals as special ones whose death should have been avoided during a royal hunt. Were that the case, the peaceful attitude of the main character in that precise part of the hunting scene would be an allusion to his magnanimity in saving the life of a female animal that was not an interesting trophy or maybe was pregnant.

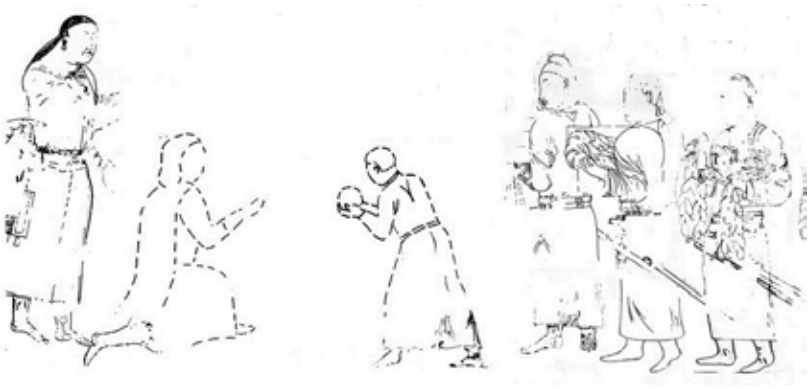


Fig. 14. Lower part of the western wall of the "Hall of the Ambassadors", about 660 CE. Afrasyab (Samarkand). After: *Arzhantseva and Inevatkina 2006, Fig. 5.*

However, this would not explain the presence of another female deer just under the central hunting king.

There is no parallel in Sasanian art for the scene in the deer hunt panel, but the position of at least two attendants calls to mind something that can be observed in Sogdian art. In the mid-7th-century paintings from Afrasyab (ancient Samarkand), on the western wall of the so-called "Hall of the Ambassadors" one person is kneeling in front of a foreign envoy in a way that reminds us of the attendant kneeling in front of the female deer [Fig. 14]. That portion of the painting is very fragmentary and could be seen as parallel only thanks to the reconstruction by the Russian restorers (Arzhantseva and Inevatkina 2006, Fig. 5). Another attendant who is represented as carrying something on his shoulders at Taq-i Bustan calls to mind the position of the Chinese envoys on the western wall of the "Hall of the Ambassadors" at Afrasyab. However, at Samarkand the envoys are moving upwards, while at Taq-i Bustan that attendant seems to move toward the lower portion of the scene.

In my opinion, the attendants in that part of the deer hunt are represented in a very realistic way while all the other people and even animals seem to be stiff stereotypes deeply rooted in Sasanian art. In contrast, the kneeling person and the attendant carrying something on his shoulder do not seem to owe much to local traditions but, most likely could have been introduced from Sogdiana or, in any case, Central Asia. This too could help us better to understand the chronology of Taq-i Bustan.

In this paper, I have avoided calling the figure of the main hunter "king" or "sovereign," a decision I shall now explain while presenting my possible reconstruction for the history of Taq-i Bustan. Some of the most recent studies on Taq-i Bustan point to a late chronology for this site. Markus Mode (2006) had proposed that the large grotto at Taq-i Bustan cannot be earlier than the mid-6th century because of the shape of the quiver that is hanging on one side of the warrior king's statue. Mode also has some other observations which point to a late chronology based on details of the weapons and garments depicted there. In his opinion, the equestrian statue can only be a king and not a divinity: it would have been inappropriate to have a deity under the feet of the statues in high relief in the upper level of that same part of the grotto. Mode also accepted a hypothesis by Heinz Luschey (1996, pp. 122–23), who noticed different stages in the preparation of the innermost reliefs of the larger grotto. In fact, the surface planes of the two hunting panels are different from that of the equestrian statue, which is carved much more deeply into the rock. Therefore, it is possible to hypothesize at least two construction phases at Taq-i Bustan. Initially the hunting panels were carved. It is possible that three of them were prepared: a boar hunt panel on the left, a deer hunt on the right, and another hunting panel in the center. Later, in the second phase, the central panel was destroyed and replaced with the equestrian statue, which could be executed only by carving much more deeply into the back wall. The equestrian armored warrior should be identified as a king, the same one who is depicted above between two deities who are giving him beribboned rings. In this upper image, he wears normal clothes and no armor at all [Fig. 5a]. The two deities flanking the central king have been identified as Ahura Mazda on the right and Anahita on the left. They are presenting important symbols to the king in order to legitimize him as a representative of the Sasanian royal house (Kaim 2009; Huff 2014, pp. 179–87). It is worth observing once more that ribbons of this kind would be attached only to something associated with the royal house or divinities.

Citing information recorded in the *Mojmal al-tawarikh* (12th century), Gianroberto Scarcia has proposed the most recent hypothesis regarding the king who built Taq-i Bustan — the site is very often recorded as Taq-i Bastam, that is, "arch of Bastam."[6] According to that same text, with the help of "Roman and Byzantine" artists, "a general of Khusro II" built it. As a suitor, this general was also a rival of Khusro II's and was confused with Farhad of the story *Khusro and Shirin*. In fact, Bastam was Khusro II's maternal uncle and a military leader of Parthian origins. He rebelled against Khusro II and was able to reign as an independent ruler over a wide territory until the very beginning of the 7th century. His figure became legendary in Islamic times and he too was confused with Farhad in the story of Khusro and Shirin. Scarcia is not the only scholar who has cited the information in the *Mojmal al-tawarikh*,

although he was probably the first openly to propose Bastam as the patron of the reliefs in the large grotto at Taq-i Bustan. The story of Bastam is supported also by numismatic evidence, because he was able to strike coins in western Iran, around the modern city of Ray which possibly was his capital (Göbl 1971, Pls. XI, XIV). However, it is worth noting that in his coins Bastam is not wearing the three-pendant necklace that one can observe in both hunting panels at Taq-i Bustan, and his crown is perfectly adapted to Sasanian taste.

The ideas of Mode and Scarcia could be combined to suggest a better historical reconstruction for every phase at Taq-i Bustan. During the first phase, a local ruler with very close relationships with Eastern Iran (Bastam?) began the construction. He ordered that he be depicted in the hunting relief panels larger in size than his attendants and wearing very elaborate decorations on his garments. He does not wear a crown but just a simple headgear in both panels, because he was not a representative of the Sasanian royal house. A foreign envoy wearing very similar headgear is represented on the western wall of the "Hall of the Ambassadors," and Mode even proposed that he could have been the same ruler represented in the boar-hunt scene at Taq-i Bustan that he identified as Yazdegard III.[7]

In the wild boar hunt scene [Fig. 15], the ruler is wearing a caftan embellished with a composite flying creature that in Eastern Iran represented the idea of *farr* or *farreh* ("glory," "charisma," Pahlavi *xwarrah*). This composite creature usually has been identified as the *simurgh* (Pahlavi *senmurv*) of Iranian mythology. However, this does not seem convincing, since the *simurgh* was a giant magical bird intimately associated with the family of Rustam in Islamic Persian literature (Compareti 2006). In Sogdian paintings excavated in Panjikent (Room 41, Sector VI), there is an entire mid-8th-century painted program dedicated to Rustam's trials. Rustam is often represented according to "narrative technique" (that is to say, in sequence) with a composite creature flying in front of him (*farr*) and, possibly, the real *simurgh* on one (or, possibly, two) frame(s) (Compareti 2013, pp. 25-27; 2015, pp. 37-38; 2016).[8] Moreover, some countermarks on 7th-century Sogdian coins have precisely the same composite flying creature as Panjikent paintings with the inscription *farn*, that is, the Sogdian word for *farr* (Nikitin and Roth 1995). Approximately fifty years ago, the great numismatist Robert Göbl (1967, pp. 156-57) had noticed that some countermarks in the shape of the flying composite creature under consideration here appeared on 7th-century Hunnic coins together with the Pahlavi inscription *xwarrah*, "glory". Such an identification seems to be confirmed in somewhat problematic Pahlavi and Islamic literature (Cristoforetti 2013; Shenkar 2014, pp. 131-33). On some other Hunnic coins, there is evidence regarding the position of the bow on the chest of the king, as in the deer hunt panel at Taq-i Bustan. Rare inscribed gold coins of a mysterious Shri Prakashaditya studied by Pankaj Tandon show the Hunnic king on a horse in the act of killing a lion with his sword. A very interesting detail is the bow positioned on the chest not to disturb the movements of the king and, at the same time, close

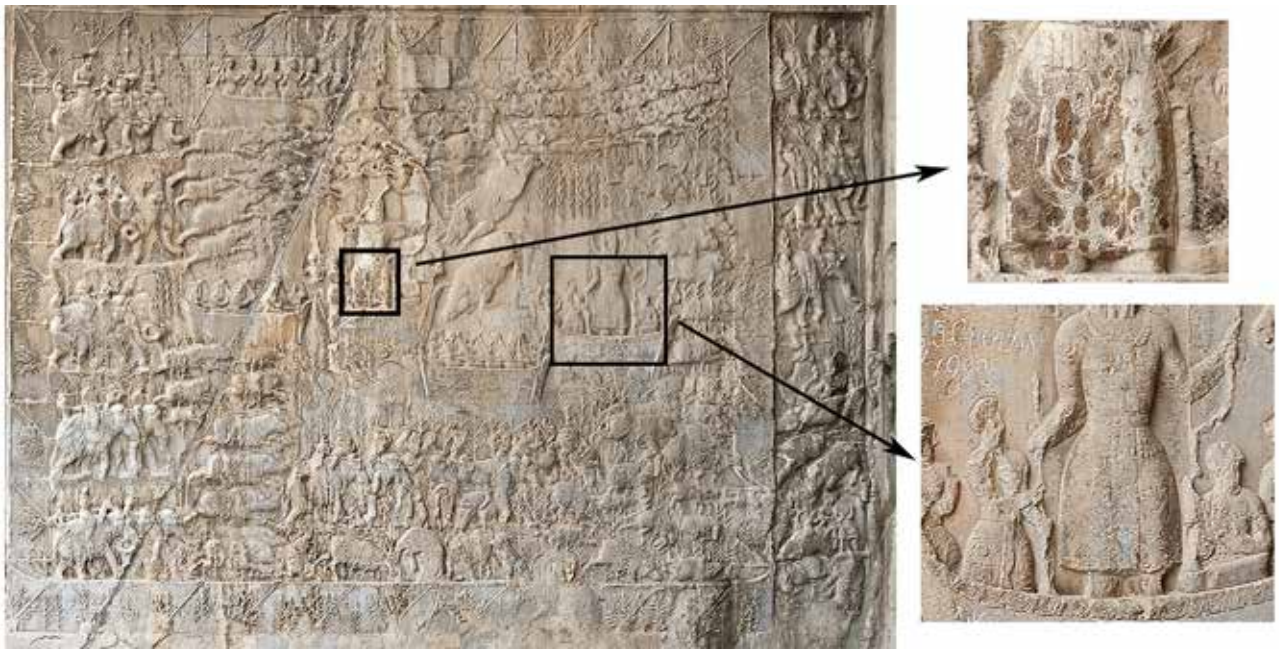


Fig. 15. Wild boar hunt panel at Taq-i Bustan, with details of the ruler's robes on which are depicted the pseudo-simurgh. In the figure on the left, it occupies the large central portion of the lower part of the robe. Photos 2010 courtesy of Daniel C. Waugh.

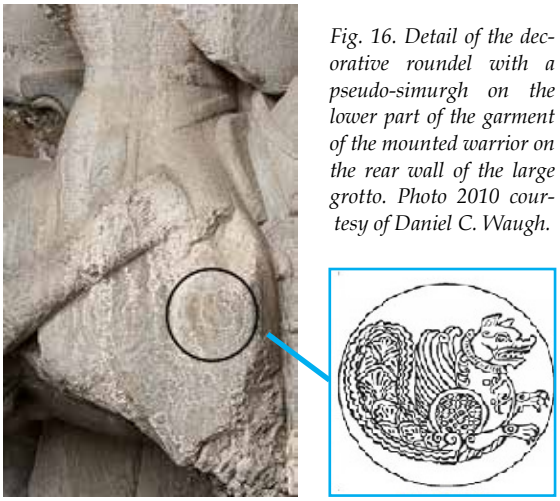


Fig. 16. Detail of the decorative roundel with a pseudo-simurgh on the lower part of the garment of the mounted warrior on the rear wall of the large grotto. Photo 2010 courtesy of Daniel C. Waugh.

enough to be used in case of necessity.[9] Even though the bow is positioned vertically, this is the only image that seems comparable with that on with Taq-i Bustan deer-hunt panel.[10]

After the initial phase of construction, a ruler who belonged to the Sasanian royal house might have decided to appropriate Taq-i Bustan and thus alter the original imagery. He is the king who appears twice on the back wall of the large grotto [Fig. 5a]. In the upper part, he receives an important emblem from the gods, while in the lower part he is depicted as an armed, victorious warrior. That same king was possibly planning to destroy all the panels embellished with hunting scenes but he could not finalize this because of some dramatic event. The unfinished parts of the hunting panels could be attributed to the arrival of this supposed legitimate Persian king, who defeated the first patron at Taq-i Bustan and stopped the construction, or to this "dramatic event" taking place at the end of the Sasanian era. In any case, the very chaotic years following Khusro II's reign could justify the complex historical framework just laid out that is still a matter of debate among scholars and especially numismatists.

Something more should be said about the equestrian statue at Taq-i Bustan. On the garment covering the legs of the king, the same composite flying creature symbolizing *farr* appears once more [Fig. 16]. This is the first occurrence of the flying creature on a monument which can certainly considered pre-Islamic Persian. Other instances of the image on metalwork and textiles have been cautiously dated post-Sasanian or considered to be products of Central Asia (Harper 2006; Marshak 2006; Compareti 2009). In my opinion, the composite creature suggests an association of the sovereign who introduced it to Taq-i Bustan with Eastern Iran.

Some written sources from the Islamic period which refer to Sasanian Persia could be particularly relevant here. In the beginning of 10th century, Mas'udi (1962, II, p. 282) wrote that Khusro II had nine personal seals, and one was embellished with something not better identified that he called *Khurasan khurra* "glory of Khorasan" or, according to a Latin translation proposed by E. Herzfeld, *gloria Orientis* (Herzfeld 1938, p. 157). Between the end of the 11th and beginning of the 12th century, Biruni – another Muslim erudite who was originally from Khorasan – described this *Khurasan khurra* as "flying foxes" that appeared in ancient times during the "spring festival" and represented the wellbeing of the Kayanids (Biruni 1954-1956, I, p. 260: Cristoforetti 2013, p. 341). A Sasanian seal kept in the British Museum (120341, EG 20) [Fig. 17], unfortunately unprovenanced, presents a Pahlavi inscription and a creature very similar to the one on the garment of the king at Taq-i Bustan or

Fig. 17. Inscribed Sasanian seal kept in the British Museum (120341, EG 20). After: *Bivar 1969, Pl. 13, E 20.*

the ambassador at Afrasyab (Bivar 1969, Pl. 13, EG 20; Compareti 2015, pp. 37-38; Compareti 2016, Fig. 3). The inscription can be read as *'pzwn* (*abzud*) "increased," which refers to a very common formula found on Sasanian coins (and seals) from the 5th century until early Islamic times, usually rendered as *xwarrah abzud* "the glory has increased" (Daryaee 2009, pp. 24, 34; Daryaee 2013, p. 18). The flying creature on the seal in the British Museum is possibly a representation of the "glory of the Kayanids". Bivar (who included it in the group of griffin-like creature decorations) proposed for it a 7th-century date, which is in keeping with the evidence of the Islamic written sources and the Taq-i Bustan reliefs (Bivar 1969, p. 81). In fact, even though it is not possible to prove that the British Museum seal is exactly the one described in Islamic sources as belonging to Khusro II, it could be considered an imitation of something very similar that had belonged to an important Persian nobleman or officer who lived at the end of the Sasanian period.[11]

All these arguments can then be situated in the context of late Sasanian history. If Taq-i Bustan rock reliefs had been executed in at least two phases, then it could be supposed that the Sasanian king who took the monument of a local ruler wanted also to appropriate a symbol of good fortune of his enemy that originally was unknown at the Sasanian court because it had come from Eastern Iran. This hypothetical reconstruction fits quite well with the story of Khusro II, who defeated Bastam and, possibly, took his monument and appropriated his symbol of good fortune as a kind of trophy. That is why the flying creature representing *farr* was unknown before Taq-i Bustan: possibly, it was imported from Eastern Iran into Persia and not vice-versa, to be reproduced soon afterwards also by Muslim and Byzantine artists. Why it was accepted and adaptated in many cultural milieux and over a very long period is still a matter of debate, although its association with good fortune, glory or charisma could justify such a wide spread in cultural, geographical and chronological terms.

Fig. 18. Textile details — one clearly a duck — on garment of an elephant rider, at left in boar-hunt panel. Decorative ribbons hang on the animal's cheek. Photo 2010 courtesy of Daniel C. Waugh.

All this evidence additionally points to a later chronology for Taq-i Bustan since that creature symbolizing *farr* appears in Iranian arts pretty late, on the eve of the Arab invasion of Persia and Central Asia. Scenes like those reproduced on the hunting panels at Taq-i Bustan have never been found in Sasanian art, the only possible parallels being represented in metalwork. Unfortunately, very few Sasanian gilt-silver dishes have been found during archaeological excavations (Harper 2000); so every attribution should be treated with caution. The scene of the hunter who is not harming the female deer is another unique representation in pre-Islamic Persian art whose parallels should possibly be sought in Central Asia. As is well known, Bastam began his career in Khorasan and he was a Parthian (Eilers 1989). In this way, many Central Asian elements at Taq-i Bustan could be better explained as specific borrowings imported by Bastam because of his eastern Iranian background. One must also consider that some parallels of those borrowings can be seen in 7th-century Sogdian paintings. As was already observed by Johanna Movassat, the larger figure in the central scene of the deer hunt panel is shooting an arrow with his back to the viewer.[12] This is definitely something unusual for Sasanian art. Many other textile motifs appear on the clothes of the musicians and attendants taking part in the two hunting scenes [Figs. 9, 18], although scholars mainly focused their observations on the central figures in the boar hunt scene (Domyo 1984; Domyo 1997). However, it could be possible that such motifs were introduced from Central Asia into Persia and not, as it seems less probable, vice-versa. No other Sasanian rock reliefs display textile decorations like those at Taq-i Bustan. Apart from the *farr* symbol here to be intended as a trophy, the reliefs on the bottom of the large grotto do not display elaborated textile motifs as can be seen in the hunting panels, because, most likely, those were not Persian decorations at all but a reflection of Central Asian arts. In fact, very similar textile motifs can be observed in 7th-8th century Sogdian paintings and even in 6th-7th century Chinese paintings representing foreigners or "western exoticism," most likely introduced by Sogdian traders. It is very interesting to observe that both the Persians and Chinese, who knew very well typical Sogdian motifs, did not use them in official arts. For example, the very well-known pearl roundel motif appears only in Sasanian stuccoes as an architectonic element (Bromberg, 1983, pp. 251-52). It is very probable that when the Sui Emperors Wendi (581-604) and Yangdi (604-617) appointed He Chou (a Sogdian from Kushanya) for the production of a "Persian garment," they were possibly alluding to pearl roundel decorations or something very similar (Compareti 2011). In this case, it is quite clear that Sogdian textile producers and merchants who were resident in China misled their clients presumably in order to earn more, given the fact that the "Persian style" was particularly popular at the Chinese court.

All these elements appear to foretell typical formulae found in Islamic art. Thus, Taq-i Bustan can be considered not only one of the most important pre-Islamic Persian monuments but also clear evidence of Sasanian contacts with Central Asia and a *trait d'union* between the (late) Sasanian and the (early) Islamic periods with interesting elements imported from Eastern Iran or Central Asia. These elements can be detected among not only the weapons and accessories of the garments of important people in Taq-i Bustan reliefs but also from a stylistic point of view that seems, in some cases, to be completely extraneous to Sasanian art.

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Notes

1. Dr. Khadivi always keeps finding new details on the reliefs that he knows very well. For example, he noticed some strange motifs on the faces of all but two of the elephants in the boar hunt panel. These motifs are shaped like a small circle with two lines attached resembling typical Sasanian floating ribbons but much more stylized [Fig. 18]. They can be observed in: Fukai and Horiuchi 1969, Pls. XXXIII-XXXIV, XXXVI, XXVIII-XLIII, LXXI-LXXII, LXXVI-LXXVIII. These motifs are not present on the elephants in the deer hunt panel. Khadivi also studied the winged victory figures (Nike) at Taq-i Bustan and its influence on Persian art and culture up until the Qajar and Pahlavi periods (Khadivi 2009). The image of the Nike at Taq-i Bustan is definitely rooted in Graeco-Roman art but adapted to Persian taste. Typical late Sasanian motifs such as the three-pendant necklace and the small wings above the diadem on their foreheads are just the most evident adaptations (Fukai and Horiuchi 1969, Pls. XVIII-XX). For a discussion of the image of Nike at Taq-i Bustan and its Roman antecedents, see: Aoyagi 1984.

2. For an early chronology, see Russo 2004; Callieri 2014, pp. 154-59. For a late chronology, see Tanabe 2006; Mode 2006; Scarcia 2013; Compareti 2016.

3. Neither the Japanese team nor the most recent publication dedicated to Taq-i Bustan present an extensive discussion of the deer hunt panel (Fukai et al. 1984b; Movassat 2005, pp. 100-06).

4. Johanna Movassat (2005, p. 101) had already identified it as a quiver or as a barsom. The same object exists but is unfinished in both scenes of the deer-hunt panel and for that reason it looks so unclear.

5. The other deer without antlers can be observed just below the central hunting king on a horse. Both animals are as big as those with antlers, and thus are probably mature deer. For Shinji Fukai (1984b, p. 136), the animals are two dogs. However, this does not seem to be the case, because the animal is too big and has no tail. Dogs in Sasanian-like metalwork are extremely rare. One silver dish kept in the Hermitage (Inv. No. S-216) is embellished with a central king shooting rams while all around the rim there is a hunting net resembling those at Taq-i Bustan. Behind the net, there are alternatively twelve heads of attendants and twelve heads of hounds [Fig. 19, photo courtesy Daniel C. Waugh] (Harper and Meyers 1981, pp. 79-80; Pl. 27). Those dogs are


Fig. 19

definitely not like the beribboned animal at Taq-i Bustan. According to Movassat (2005, p. 102), this animal is a decoy, which is implicitly the reason why the "king" is not going to kill it. There are no other images of decoys in Sasanian art despite the great number of metalwork items embellished with hunting scenes. However, it is not clear why a decoy should be used in a hunting ground enclosed by the net represented at Taq-i Bustan that is not large enough to justify its presence.

6. See Scarcia 2013. On the confusion in written sources between the name Bastam (in Arabic sources Bestam but Vishtam/Bishtam in Pahlavi) and bustan (garden), see Eilers 1989.

7. See Mode 1993, pp. 70-71. Another "eastern Iranian" wearing a similar headgear and clothes can be observed in a unique unprovenanced metalwork kept in the al-Sabah collection (Harper 2015, p. 341). The image of this person is even more surprising because of the object he is holding in his right hand: possibly a necklace, exactly as at Afrasyab.

8. On the occasion of the International Conference Technical Art History of Serindia: Zerafshan River-Turfan Basin Project held at the School of Art of Renmin University of China, Beijing (31 October 2016), Larisa Kulakova presented some recently restored (but still unpublished) portions of Room 41, Sector VI, from Panjikent (the so-called Blue Hall kept in the State Hermitage) where also a yellow giant bird appears next to the hero.

9. Pankaj Tandon showed that some other elements on Shri Prakashaditya coins could offer parallels with pre-Islamic Persian art, especially Sasanian metalwork. One of those coins of Shri Prakashaditya has now been published and is considered to be a specimen of Gupta golden coinage (Rezakhani 2011, Fig. 555).

10. A very interesting 5th-7th-century tapestry kept in the Brooklyn Museum (Charles Edwin Wilbour Fund, 46.128a-b) presents eight people under arches. The one in the upper left corner described as "influenced by Persian fashion" is not only wearing a caftan but his left hand holds the hilt of the sword while the right hand appears to hold what seems to be a bow (Fluck 2012, Cat. No. 108). Unfortunately, in that area the tapestry is not well preserved and it is not completely clear if the bow is positioned on the chest or behind his body. It is not clear if this way of positioning the bow on the chest is a typical Iranian attitude. As kindly pointed to me by Simone Cristoforetti, in the Persian text known as "The Book of the New Year," attributed to Omar Khayyam (2015, p. 58) there is also mention of an interesting comparison between the bow and the human chest.

11. Judith Lerner kindly informed me that more than one seal embellished with such a creature exists, although I am not aware of any catalogue or publication including all of them.

12. Movassat (2005, pp. 104-05) identified a similar posture on one Sasanian silver plate kept in Baku. In my opinion, that plate possibly reflects some problems experienced by the artist in reproducing the hunter's anatomy (Harper and Meyers 1981, pp. 48-49). A very interesting lion hunt scene with the hunter represented with his back to the viewer can be observed in an 8th-9th-century gilt silver plate at present in the Hermitage Museum, considered by Boris Marshak (2006) to be eastern Iranian, probably from Khorasan.

SINO-IRANIAN TEXTILE PATTERNS IN TRANS-HIMALAYAN AREAS

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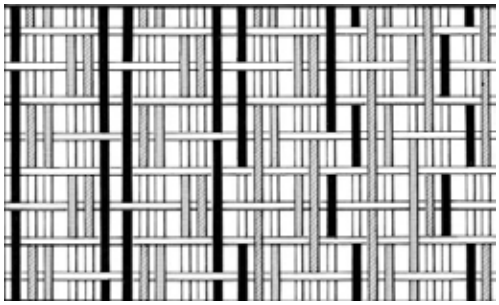
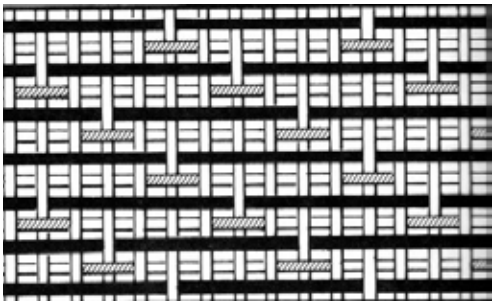
Between the 7th and 14th centuries, a recognized Central Asian textile iconography spread from the Tarim to the Mediterranean Basin. Mainly developed on complex structures, compositions of roundels (beaded or lobed) enclosing animals were woven in weft-faced compounds [Fig. 1]. A subset of textiles with such motifs and woven in that technique has come to be called *zandanījī*, even though, as we now know, the term is a misnomer.[1] Always referred as a cotton textile, the original *zandanījī* was produced in Zandana near Bukhara, one of the centers where this compound was mainly produced and traded (al-Narshakī 1954, pp. 15-20). Not much information has been gathered to date about the material and structure of this original textile. Nonetheless, given the proximity to China and the well-documented trade in silk as a raw or finished material, it is possible that the cotton structure at some point was replicated wholly or partially in silk. Pictorial evidence of the exchange in fabrics can been seen in the "Hall of the Ambassador" in Afrāsiyāb (present Samarkand) where, on the northern wall in a painting dating to the middle of the 7th century, Chinese people carry bolts of textiles and what may be silk cocoons (or possibly balls) as gifts for the local Sogdian ruler [Fig. 2]. The Sogdians undoubedly played a key role in the manufacture and distribution of the so-called *zandanījī* textiles and ones closely related to them (Compareti 2003; de la Vaissière 2004, 2005).

These textiles are generally recorded in Chinese sources under different names that seem to designate textiles distinguished by patterns from the western regions (Zhao and Wang 2013, pp. 369-73). Indeed, textiles similar to the one first identified as *zandanījī* (from a fragment found in Belgium), have been discovered in large quantities in what is now the Xinjiang-Uighur Autonomous Region. There is good reason to hypothesize that many were manufactured there, where there were local communities of Sogdians (cf. Zhao 1999, p. 99; see also Sheng 1998). The weaving technique of the weft-faced compound, its pattern woven horizontally in the weft direction, originated in the West and came into China only in

Fig. 2. Detail from mural in the Hall of Ambassadors, Afrāsiyāb, Samarqand, Uzbekistan. Reconstruction by Al'baum, after: <http://www.iranicaonline.org/articles/afrasiab-ii-wall-paintings-2>.

Fig. 1. Silk fragments with roundel designs, from Tang-period burials in the Astana Cemetery in Turfan. The second of the pieces has the "Sasanian duck" design. Collection of the Xinjiang Autonomous Region Museum, Urumqi, photographed in the Gansu Provincial Museum by Daniel Waugh.





Figs. 3 and 4. Diagrams of warp- and weft-faced compounds. Reconstruction by author.

the 8th century, where it replaced the indigenous tradition of vertical, warp-faced compound textiles. [Figs. 3, 4]. Within the group of weft-faced textiles, a further distinction between those made within or outside China is whether the warp threads have a left (S) or right (Z) twist, the latter characteristic for the Central Asian weaves. The migration of motifs and techniques over time complicates any effort to specify the provenance of any particular example.

Our aim in this paper, which is part of a larger study, is to determine to what extent the technique and motifs of the so-called *zandanījī* textiles and their close relatives penetrated the Tibetan cultural region and to suggest how they might have arrived there and been transformed. Of particular importance is the evidence of the silks excavated at Dulan in Qinghai Province (northeastern Tibet) and a group of yet unpublished textiles studied by the author in the collection of the China National Silk Museum, which most likely came from the same area. Detailed analysis of the latter group is the larger project for which this article provides some context. The material documents how widespread was the vogue for these textiles, ranging across Asia from the Trans-Himalaya to the Mediterranean, well before the rise of the Mongol Empire in the 13th century.

Fig. 5. Bunian Du 步輦圖 [Emperor Taizong giving audience to an ambassador of Tibet] (detail), attributed to Yan Liben 閻立本 (600–673). After: <https://upload.wikimedia.org/wikipedia/commons/8/8d/Emperor_Taizong_gives_an_audience_to_the_ambassador_of_Tibet.jpg>.

While the early history of Tibet is difficult to reconstruct due to the paucity of sources and the opacity of those which we have (Beckwith 1987), we nonetheless have one striking and tantalizing image that may offer the earliest concretely datable evidence of a Tibetan interest in our group of textiles. As the Tibetan kingdom consolidated and was expanding in the 7th century, it came into contact with its vigorously expanding neighbor to the north, Tang Dynasty China. Military confrontations and diplomatic missions ensued, perhaps the most famous of the latter in 640 or 641 commemorated in a scroll *Emperor Taizong Gives an Audience to the Ambassador of Tibet* (*Buniantu* 步輦图) attributed to the Chinese painter Yan Liben 閻立本 (600-673) (the extant version may be a later Song Dynasty copy) [Fig. 5]. The scroll depicts the audience granted the Tibetan envoy by Tang Emperor Taizong. In the painting, the only character who wears a patterned robe, which clearly distinguishes him from the others, is the Tibetan ambassador. He is dressed in "Turkic style," with a narrowly cut caftan and boots. The motif of roundels on the garment each framing a standing bird (a duck??) suggests the fabric likely was of Central Asian origin, possibly manufactured in the area that stretched from Sogdiana to the Gansu Province of China and where, in the 7th century, Tibetan and Turkic forces cooperated against China. Among the silk fragments found in Turfan are ones with such imagery.[2] Of course, we cannot be certain whether he really dressed that way, or whether the depiction was a deliberate effort by the painter either to show him attired in a rich gift from the Emperor or at very least garbed distinctively simply to make a statement about his "foreignness." Other evidence, examined below, attests to such textiles having been known in Tibet, although whether prior to the establishment of contacts with Tang China is difficult to say.

There is a substantial scholarship on the history of the pearl roudel motif, although finding firmly dated evidence to draw up a careful chronology of its spread across Asia can be difficult (see especially Compareti 2003). Murals in the Northern Qi 北齊 tomb of Xu Xianxiu 徐显秀 (d. 571 CE) at Taiyuan, Shanxi, depict robes decorated with pearl roundels that contain confronted animals, a vegetal pattern, and in one instance, unusual imagery of a human head [Fig. 6, next page] in a frontal pose. As Kate Lingley (2014, p. 9) has suggested, the source for this latter imagery may well be Buddhist iconography, an example of which is a stucco relief of Bodhisattva head in a pearl roundel found by Aurel Stein at Shorchuk and dating

Fig. 6. Wall painting (detail). Xu Xianxiu 徐显秀 tomb. Northern Qi 北齊 (550–557). Taiyuan, Shanxi, China. After: <https://upload.wikimedia.org/wikipedia/commons/b/b0/Paintings_in_Xu_Xianxiu_Tomb_10.jpg>.

Fig. 7. Stucco relief with Bodhisattva head, from Silk Road site of Shorchuk, Xinjiang, Collection of the British Museum OA MAS 1108). Photo courtesy of Daniel C. Waugh.

to the 6th or 7th century [Fig. 7]. There are, however, no extant textiles with such a design.[3] An intriguing alternative hypothesis is the possibility that this and other pearl roundel designs were developed under the inspiration of the ruler images on Western coins (Gasparini 2014, pp. 142-43; Melikian-Chirvani 1991), as suggested in some Islamic sources and about which Chinese travelers remarked because they were so different from the standard Chinese coinage [Fig. 8]. Byzantine coins and bracteates imitating them, with front-facing ruler images, have been found in a good many tombs associated with Sogdians or others in China who clearly had foreign cultural tastes and contacts. Often such rarities were pierced so they could be sewn as decorations on garments. Sasanian silver dirhams, quite common in many of those same tombs, had ruler images, but in profile, the heads surrounded by a pattern of raised dots that would be analogous to the pearl roundel.

Fig. 8. Coins found along the Silk Road: left to right -- 1) gold solidus of Byzntine Emperior Justinian I (Constantinople issue, 537–542), found in the tomb of Tian Hong (d. 575), Guyuan, Ningxia, collection of the Guyuan Museum; 2-3). Sasanian silver dirhams, collection of the Gansu Provincial Museum; 4) bronze coin of standard Chinese design, issued in the Gaochang Kingdom (499–640), collection of the British Museum (Stein, Innermost Asia, X.d.4). Photographs courtesy of Daniel C. Waugh.

Other evidence from paintings attests to the popularity of the pearl roundel motif. Several of the Mogao Caves at Dunhuang even allow for a tentative chronology of how the iconography employing it evolved, the Sui Dynasty (581-617) seeming to mark a transition period in which the depictions of animals within the pearl borders gave way by the subsequent Tang Dynasty to their replacement with floral motifs (in the first instance, lotus blossoms).[4] The Bodhisattvas in Cave 427 (possibly as early as the 580s) are dressed in a dazzling array of textiles. Phoenixes are shown within pearl-bordered rhomboids, whereas the pearl roundels contain lotus blossoms. Roughly contemporary (approximately mid-Sui, no precise date known) is Cave 420, where the dhotis of the Boddhisatttva statues have what Whitfield has described as "Sasanian-type" pearl roundels, containing, it appears, a mounted hunter spearing a feline. Another of the Sui caves, No. 277, has pearl roundels with confronted winged horses [Figs. 9a, b, next page]. By the early Tang though, both in Cave 57 and in Cave 220 (built in 641 CE), the fabrics with pearl roundels contain blossoms (Whitfield 1995, pp. 57, 78, 179, 241, 242, 296; Dunhuang 1981-1987, Vol. 2, Figs. 62, 63, 120). This did not mean the end of interest in roundels with animal motifs, witness the fabrics depicted on the pillow under the head of the giant Buddha in Parinirvana in Cave No. 158 [Fig. 10] (Whitfield 1995, p. 103, Fig. 125; Dunhuang 1981-1987, Vol. 4, Fig. 63), constructed in 839, near the end of the period of Tibetan rule in Dunhuang. While the roundels now include stylized lotus petals around the pearls, they contain a bird with the ribbon in its beak (the so-called "Sasanian duck"), iconography found in the earlier Cave 60 of the Kizil Grottoes and also in the silks excavated at Astana in Turfan and Dulan in Qinghai (see below) [Fig. 11].

Textile designs in Buddhist caves, clockwise starting upper left: Figs. 9a,b) in the Sui period murals of the Mogao Caves: a) dhoti of Bodhisattva statue, Cave 420; b) west wall above altar niche, Cave 277. After: *Dunhuang 1981-1987, Vol. 2, Figs. 63, 120; Fig. 10) Detail of pillow under the head of the Buddha in Parinirvana, Mogao Cave 158.* After: *Dunhuang 1981-1987, Vol. 4, Fig. 63; Fig. 11) "Sasanian duck" images, mural fragment from Kizil Cave 60, of uncertain date but likely as early as 6th century. Now in the collection of the Museum of Asian Art, Berlin, MIK III 8419.* After: *Kizil 1989-1997, Vol. 3, Fig. 188.*

In most traditional societies, as Matthew Canepa recently argued (2009, esp. Ch. 9) specifically with reference to Iran and Byzantium, the visual embodiment of royal power and prestige in part was to be found in rulers' attire. Thus it should not surprise us to see in the Buddhist caves divinities garbed in "royal" textiles, themselves possibly modeled on ones which had arrived in China from the West. Even though in the period to which these caves date there were influences from central China at Dunhuang, located as it is at the eastern border of what the Chinese termed the "Western Regions" it was very much open to the artistic tastes coming from Central Asia. Dunhuang also had important connections with Tibet, culminating in more than six decades of Tibetan rule from 781-847.

While establishing a solid chronology in Central Asia and the West for the emergence of the pearl roundels is also problematic, we can find impressive examples to illustrate their popularity in royal imagery, at least some of which is displayed in religious or ritual contexts. On the rock reliefs in the grottoes at Taq-e Bustan in Iran, dating from the 7th century, the rulers and their attendants are garbed in textiles that have pearl roundel motifs framing not a human figure or face but rather an exotic creature commonly, if questionably, termed a *simurgh* [Fig. 12, next page] (cf. Compareti 2013; 2015, esp. pp. 37-38). The famous murals in the "Hall of the Ambassadors" at Sogdian Afrasiab, dating from ca. 660, include several examples of individuals

Fig. 12 (left). Rock relief (detail). in the large grotto at. Taq-i Bustan, Iran, 7th century. Photograph courtesy of Matthew Canepa.

Fig. 13 (right). Detail from procession mural in the "Hall of the Ambassadors," Afrāsiyāb, Samarqand, Uzbekistan. Photograph courtesy of Matteo Compareti.

in the royal procession dressed in garments with pearl roundel or pearl bordered designs, framing a boar's head, or a "simurgh", or a bird with a ribbon in its beak (Compareti 2009b, 2011) [Fig. 13]. Textile designs in Sogdiana also included floral motifs assumed to depict those on Chinese silks. The procession in the Afrasiab painting seems to be related to a Zoroastrian ritual. Analogous pearl roundel imagery with the boar's head decorates the garment of one of the donor figures normally considered to be Tocharians or Sogdians in a mural from Cave No. 8 in the Kizil grottoes along the Northern Silk Road, presumably built during the Sui or early Tang period (*Along* 1982, p. 168; see Vignato 2006, p. 406, citing Su Bai on the dating) [Fig. 14]. Boar's head roundels decorated the caves above the now-destroyed Buddha statues at Bamiyan (e.g., Musée Guimet Inv. MG 17972 and 17973), from the 6th or 7th century. And, importantly, a weft-faced compound-weave textile fragment with Z-twisted warps, buried in the Turfan Astana graveyard in 661 CE, has the boar's head in a pearl roundel (Zhao 1999, pp. 110-11; Kuhn and Zhao 2012, p. 215, fig. 5.8).

Fig. 14. Detail of garments on worshippers, Kizil Cave 8 (Cave of the Sixteen Sword-Bearers), late 6th or 7th century. Collection of Museum of Asian Art, Berlin MIK III 8691. Photograph courtesy of Daniel C. Waugh.

The relatively numerous painted or sculpted images depicting such textiles are limited for our analysis in that they do not allow us to examine weaving techniques. The textiles themselves, given their fragility, are less evenly distributed. In fact for the period between the 6th and 10th centuries no datable examples have been found so far in the *central* Iranian or Chinese territories. Rather, the excavated examples we have come from the "periphery" along the various branches of the silk roads. The Turfan examples are especially well known and abundant, most from the well-preserved tombs at the Astana Cemetery in the Gaochang Kingdom. Another important location of textile finds is the Mogao Caves at Dunhuang, where

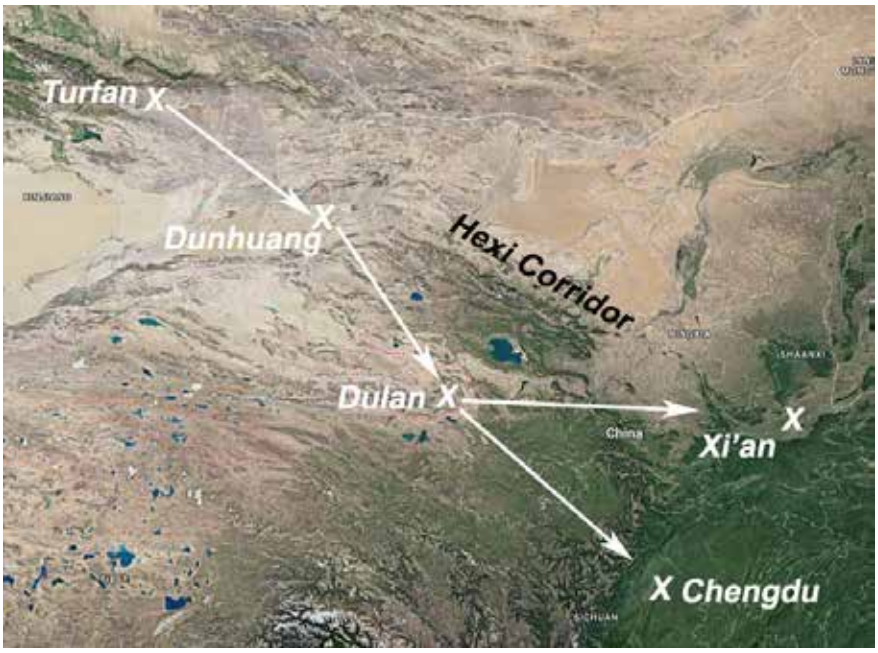


Fig. 15. Map indicating schematically the Qinghai "Silk Route". Satellite photo: Google Earth.

many pieces of banners incorporate the same fabrics which would have been used to make garments. Silk Road studies have paid less attention to some major recent discoveries along the "southern" road, crossing through Qinghai and linking Sichuan and areas of northern Tibet with Xinjiang.

The royal Tibetan tombs at Dulan in the Haixi Mongol and Tibetan Autonomous Prefecture, Qinghai Province, were excavated in 1980s and '90s. This area was first inhabited by a presumably nomadic people the Chinese sources call the Qiang 羌 and then by the Tuyuhun 吐谷渾 (a northern nomadic group), who created a substantial Inner Asian Empire extending into the Tarim Basin. In the 7th century, caught between Tang China and the emerging Tubo 吐蕃 (Tibetan) Kingdom, the Tuyuhun were dispersed or absorbed. Although vanquished as a political force by the Tibetans, the Tuyuhun maintained their social and cultural activities centered in Dulan. The tombs there, probably belonging to the Tuyuhun royalty, are distinguished by accompanying horse burials, confirming the nomadic or semi-nomadic lifestyle, and by rich artifacts which document the centrality of the region on an important route of the Silk Road (Xu 2006; "New Discoveries" 2005) [Fig. 15]. The Qinghai route may at least for a time have been more important for East-West exchange than the better known Hexi corridor route to its north. Artifacts in the Dulan tombs include a lot of Sogdian silver, some Sasanian coins, and a wide range of silks, approximately one-sixth of whose 130 categories have been provenanced as originating in Central or Western Asia, while others evidence the influence of the Central and West Asian motifs even if the provenance of manufacture is less certain (the majority of the Dulan silks are of Chinese origin). The textile finds from Dulan, Turfan and Dunhuang taken together enable one to establish a chronology of change in decorative patterns and weaving techniques for the period roughly from the Sui through to the end of the Tang Dynasty (see esp. Kuhn and Zhao 2012, pp. 213-29).

While the earliest examples often have a Hellenistic or Central Asian iconography that might be linked to Bactria, the later types combine Irano-Turkic and Chinese elements. The Dulan textiles include imagery of the sun god, adapted from Hellenistic motifs into a Buddhist context (Zhao 2015, pp. 129-31); there are early examples of textiles with honeysuckle designs which derive from depictions of acanthus leaves common in the West (Kuhn and Zhao 2012, pp. 198-201). Somewhat later examples with Western motifs, dating from perhaps the late 6th century, include a silk depicting drinkers with a large wine jug. An analogous example found at Astana places them in a pearl roundel (Zhao 1999, pp. 106-07). Another of the Dulan textiles dated to about the same time depicts pearl roundels alternating between ones containing confronted peacocks and confronted rams (Ibid., pp. 108-09).

Ideally, we would find explicit evidence from Dulan to support a hypothesis about the involvement of Iranian people who migrated into Xinjiang and Qinghai following the collapse of the Sasanian empire and the subsequent Arab conquest of Sogdiana. The evidence, however, is indirect, if compelling, in its reinforcement of an explicit western connection. One of the Dulan silks, a very early *kesi* tapestry fragment, most likely developed from from the ancient Iranian woolen *gelīm*, which can be traced back to the 10th century BCE (Wu 2006, p. 229). The introduction of textiles into which designs were woven with gold threads is credited in a late Sui Dynasty text (the *Sui Shu*, Ch. 68) to the arrival of emissaries from Persia. The Dulan tombs contain the earliest extant example of such a weaving with gold (Kuhn and Zhao 2012, pp. 224-26). A motif known as the "Sasanian duck" is known from murals in Kizil Cave 60, dated between the end of the 6th and the early 8th centuries (*Along* 1982, p. 82) and, as noted above, is depicted in roundels in Mogao Cave 158 (dated 839). One of the Dulan silks

depicts this same bird with a ribbon in its beak, the textile probably dating to the 9th century, the warp-faced technique employing Z-twisted warps (the technique common to Central Asia weavings) (Zhao 1999, pp. 114-15). Here the roundel no longer has the pearl design but rather is composed of lotus petals, but the ribbon and the platform on which the bird stands have the pearl design.

Perhaps the most intriguing of the Dulan silks is a band, weft-faced with the Z twisted warp threads, on which is a Pahlavi inscription mentioning the Iranian title "The Great King of Kings." Xu Xinguo, who excavated the Dulan tombs and emphasizes the significance of what he calls the Qinghai Silk Road, argues that this can be linked to the presence in Xinjiang of Narseh, son of the Sasanian king, Peroz III (636-679), who had fled to China and was received by the Tang court in 661 (Xu 2006, pp. 280-81; see also Zhao 1999, pp. 114-15). The weavers from the West were responsible for the fact, that, in Xu's words, "Sogdian and Persian brocades had become indispensable items of decoration and dress for the Tubo people." The weaving with the inscription is one of the rare textile examples which have survived that are made in a technique called in French *à retour*, which sees the alternated sequence of colors in the weaving process [Fig. 16]. Another example of this technique is

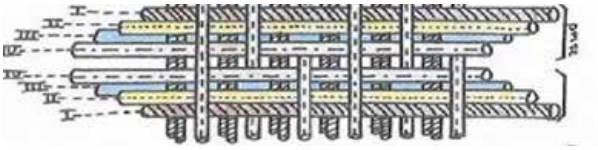


Fig. 16. Diagram of à retour *weaving sequence alternating colors in the process that counts: 1-2-3-4 /4-3-2-1 (or less). By author.*

in a Byzantine textile depicting a man "taming" two lions (a motif well established in the Middle East and Central Asia) which was deposited in a late 8th century reliquary in the Cathedral of Sens in France (Chartraire 1911; for an image, also Daguin, n.d.). That same cathedral treasury contains what Zhao Feng terms "one of the most representative of Sogdian textiles," depicting confronted lions, a design also known from examples found in the Mogao Caves (Zhao 1999, pp. 120-21).

Using the technical information from an analysis of the Dulan silks, I have been able to analyze another group held in the China National Silk Museum, which

Fig. 17. Floating threads on the recto of a weft-faced compound fragment, possibly from Qinghai. Collection of the China National Silk Museum. Photo by author.

was acquired through the Chinese art market, and, I believe, comes from Qinghai. Most of these Central Asian compounds have identical repeated patterns but of different dimensions, although the number of the threads used for each single graphic unit is the same. This "mistake" is most likely due to the lack of a reed in the loom; a sort of comb that equally divides the threads. If this is missing, the threads are loose. Furthermore, due to the thickness of the warp, they show a sort of "pixel-effect" outline that is much more evident in Central Asian than in Western or Eastern Asian compounds. On those from Qinghai, we can also find floating threads on the back twisted in the Z direction, a technique that appears at the very end of the Tang dynasty [Fig. 17].

The collection in the China National Silk Museum includes very rare and refined Central Asian Sino-Iranian patterns. Among the most interesting pieces are:

- a robe with a repetition of facing horses in a lotus roundel combined with crossed felines, similar to what can be seen on what is possibly a Sasanian silver dish in the National Library of France [Fig. 18];
- a triangular fragment with unique standing *senmurv* [Fig. 19], the zoomorphic Iranian creature that most probably, like other Central Asian animals on textiles, was originally in a pair on a winged pedestal;
- a fragment with Sasanian ducks [Fig. 20], combined with another

Fig. 18. Silk caftan (detail). Weft-faced compound with roundel enclosing two facing horses, and external crossed felines. Possibly from Qinghai, 9th–10th century. Collection of the China National Silk Museum. Photo by author.

type of bird, which is only partially visible on the surface (possibly the most popular Turfanese-style pheasant or peacock);

•and a large and thick fragment with partially visible beaded roundels of different sizes enclosing animals and galloping horses. Graphically reconstructed [Fig. 21], this composition appeared to be too large for clothing. It was made with four panels, each 90 cm wide, intended, I believe, for the interior of a tomb in order to recreate a tent for the afterlife, similar to ones still in use today.

Other areas of Tibetan cultural traditions contain evidence of the kind of common Turco-Iranian Central Asian heritage evidenced in the textiles found in Qinghai. In the Western Himalayas, in Ladakh in what is now northern India, a group of Kashmiri painters recorded a unique iconography that preserves evidence of the popularity of the Central Asian textiles. The most famous of the early Buddhist monastic complexes established in the region is Alchi on the Indus River, at an altitude of 3,750 meters [Fig. 22]. Even though the building is still under threat due to the deterioration of its structure, fortunately the three-storey Sumtsek temple, erected in the early 13th century and containing a most impressive array of murals, has been carefully documented and photographed (Groepper and Poncar 1996).[5] The portal is in Kashmiri style, but the interior revels a much more complex combination of styles and patterns from the surrounding areas. Apart from the imposing clay statues of four Bodhisattvas, the interior's dazzling murals include narrative scenes combining religious and secular iconography, mandalas, and abundant depictions of textiles either on the figures or as decoration on ceilings and backgrounds. The paintings still invite study for the important information they contain regarding the multi-ethnic society of the time.

Fig. 19. Silk fragment with standing senmurv, *possibly from Qinghai. Collection of the China National Silk Museum. Photo by author.*

Fig. 22. Façade of Sumtsek Temple, Alchi, Ladakh region, India. Photo by Baldin: <https://upload.wikimedia.org/wikipedia/commons/6/65/Alchi01Sumtsek.jpg>.

Fig. 20. Silk fragment with images of "Sasanian ducks," possibly from Qinghai. Collection of the China National Silk Museum. Photo by author.

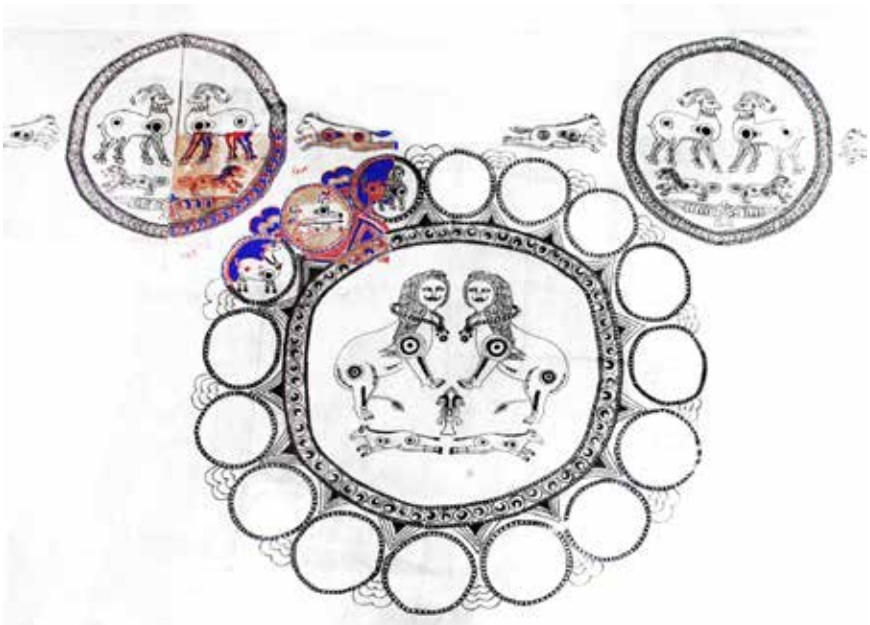


Fig. 21. Graphic reconstruction of a large silk fragment with roundels of different sizes enclosing animals and with galloping horses. Collection of the China National Silk Museum. Photo by author.

Fig. 23. Female deity riding a horse (detail), mural on east entrance wall, Sumtsek temple, Alchi. Early 13th century. Photo by author.

Fig. 24 a,b. Libation scene (detail), mural, Dukhang Temple, Alchi. Photo (a) by author; (b) by Jaroslav Poncar, after: <https://whav.aussereurop.univie.ac.at/display/2008/05/20/ead1e1ac549e49a39f3aeac30accc7ba_display_image.jpg>.

For example, to the right below the central image of the demonic protector *Mahākāla* on the east entrance wall is a female deity riding a horse or mule accompanied on wild animal mounts by four smaller attendants, one of whom holds a parasol over her head (Ibid., p. 35) [Fig. 23]. While most who comment on this image seem to emphasize her wonderful peacock-feather cape, our gaze is drawn to her robe decorated with large roundels, in each of which are crossed lions identical with those on the caftan in the China National Silk Museum. The pose of the deity's mount is reminiscent of that of the confronted horses enclosed in lotus roundels on that same caftan. Another interesting example is in a miniature depicting the royal palace, painted on the dhoti of the colossal statue of Avalokiteshvara. The king wears a jacket decorated with roundels containing some kind of animal, where "we can still recognize motifs of textile ornamentation … which point to Iranian or Central Asian connections" (Ibid., p. 51 [caption]).

As we can see from the paintings in Alchi, deities and royals are depicted with identical or very similar clothing. But who are this people? The royal couple depicted on the dhoti at Alchi, who have "Indian" features, may well be the ruler of Kashmir and his consort, but the ethnic realities in the region would seem to have been complex in the period when the paintings were executed. Not much is known about the region before the 9th century. According to Indian sources, its original rulers were Indian, to be replaced by the Tibetans only around the 10th century. Nevertheless, characters depicted in the Alchi temples have both Indo-Iranian and Turko-Mongol features. In the libation scene in the Dukhang (the main building of the monastic complex) [Fig. 24], while the central male figure, identified as the king, is dressed in Turkic fashion and is holding an ax, the woman who offers him a cup has a lighter skin tone, long hair with a central circular jewel on the forehead. The halo and the almost equal seating posture suggest she should be seen as the king's wife. Her hairstyle and the red painted hand – traditional in Buddhist iconography—suggest she is one of the indigenous population. According to Marjo Alafouzo, who conducted extensive research on the painting, while there is little evidence of cup rites and female cupbearers in Tibetan sources, Islamic-Turkic written sources instead refer to such rites in the pre-Islamic Turkic period in Central Asia, in particular among descendants of the Toquz Oghuz tribes (Alafouzo 2008, 2014; Compareti 2009a; Flood 1991).

It can be no coincidence that the king (of possible Turco-Iranian origin) depicted on the Dukhang's wall is dressed in a costume whose textiles display roundels enclosing a feline and a *ṭirāz* band on his arms; a

fashion in vogue between the 10th and 13th centuries among Muslims. The check-patterned fabric that he is wearing as belt, appears depicted among Mongol Islamic miniatures. The term *ṭirāz* which is a loan Persian term meaning "embroidery," today mainly refers to a type of cloth in cotton or linen decorated with a simple religious Arabic inscription which could be woven, embroidered, painted, or printed. The inscription could also name workshops that produced the textile itself, where production and distribution were closely regulated by sumptuary laws. Armbands with such inscriptions came to be restricted to lavish, royal and noble clothes called *khil'a*, such as the type depicted in Alchi (Stillman et al 2012).

In the same hall of the Dukhang, adjoining the libation scene is one depicting the king frontally, with two attendants at his sides. Below in a damaged and faded mural is a scene showing a tent with people dressed in various fashions [Fig. 25]. The image of the

Fig. 25. Mural detail, Dukhang temple, Alchi, showing tent and attendants. Photo by by Jaroslav Poncar, after: <https://whav.aussereurop.univie.ac.at/display/2008/05/20/4e7c1e-71de674225925744a8d84dd4d7_display_image.jpg>.

king and the attendants recalls depictions on earlier Central Asian silverware. A silver dish, now in the Hermitage Museum, shows a central figure (possibly a king) wearing a double-lapel robe and a Sasanian crown, and two attendants wearing a boat-like hat, like those widely depicted in Alchi (and similar to the type in used today). A number of Central Asian visual sources (for example, the painting in the Hall of the Ambassador in Samarkand) suggest that the double-lapel was the type of robe preferred among different people of mostly Turkic, rather than Iranian origin. Undoubtedly, as an important crossroads, Central Asia created its own style, combining elements from neighboring cultures. Even if its silk with floral medallions can be easily traced to China, both early and later medieval textiles in Central Asia had stronger Iranian and Turko-Mongol features, ones which then were transmitted to Trans-Himalayan areas (Singh 2006, p. 15).

As al-Maqdisī, the 10th-century Arab geographer declared, "The Tibetans had the flat noses of the Türks and the brown skin of the Indians, and wore garments of Chinese style." He described "Tubbat" (Tibet) as a territory belonging to the land of Türks (Akasoy et al. 2011, pp. 22-23). Although the identity of the people in the libation scenes cannot be fully discerned, my analysis of the costumes and the textiles from Qinghai would indicate that at least in the period of the 12th and 13th centuries (the likely date of the paintings), the Ladakhi ruler (and the men of his entourage), most likely were of Turkic origins, integrated in a local Trans-Himalayan context that had absorbed an ancient Central Asian artistic heritage.

The preservation of a common Central Asian textile imagery along and beyond Trans-Himalayan routes is evidence not only of a constant form of trade and gift exchange, which changed little over the centuries, but also of a provincialized form of power in "peripheral areas" by indigenous groups who sometimes identified themselves with the Turco-Iranian or the earlier Sino-Sogdian elite. Zoomorphic patterns were generally preferred to flowers, which instead appear among Chinese textiles, especially during the Tang period. Each geographical area seems to have had preferred decorative patterns and somewhat differentiated weaving production. However, these regional differences were also readjusted multiple times, losing their original meaning and acquiring a new identity that was often combined with a new color palette. The unpublished textile collection in the China National Silk Museum is an important discovery for the analysis of Central Asian textile imagery, and confirms that there was a specific Sino-Iranian production with strong Turco-Mongol elements in Qinghai Province. Preserved over the centuries in these "peripheral areas," Central Asian textile imagery had a great impact on various Eurasian populations that adapted it to their own customs and made it as an indigenous product.

Acknowledgements

This paper was presented for the first time in a symposium, "Textile Iconography and Kingship in Persia and Central Asia," organized by Matteo Compareti in collaboration with the Department of Near Eastern Studies at UC Berkeley on December 4th, 2015.

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NOTES

1. Walter Henning and Dorothy Shepherd (1959; Shepherd 1980) analyzed an inscription on a textile with beaded roundels enclosing confronted deer, discovered in the Church of Notre-Dame in Huy, Belgium. They read the inscription as Sogdian, the reference being to a village of Zandana near Bukhara. A re-examination of the inscription by Nicholas Sims-Williams and Geoffrey Khan (2008 [2012]), determined that it is in Arabic and refers to the monetary value of the textile. As they indicated (p. 209), ^{14}C analysis

has confirmed a date of probably no earlier than the late 8th century for the piece. For a recent survey of the group of textiles with the indicated decorative motifs that generally are assumed to have come from Central or Western Asia into what is now China or at least been influenced by styles from those regions, see Zhao 1999, pp. 95-99; Kuhn and Zhao 2012, pp. 213-20. The so-called *zandaniji* group is a weft-faced compound twill distinguished by a wide spectrum of particularly bright colors and certain confronted animal images.

2. A silk fragment whose design may bear the closest resemblance to that on the robe in the painting (something that is a bit difficult to determine from the pictures of the latter) is in Li Jian 2003, Cat. No. 38, p. 104, identified there as coming from the Gaochang Kingdom in the early 7th century, excavated in the Astana Cemetery. That same fragment is reproduced in Kuhn and Zhao 2012, p. 218, fig. 5.15, but with the (erroneous?) indication it is from the Dulan Cemetery in Qinghai. If in fact from the latter, the correlation with the ambassador's robe is all the more interesting.

3. Surviving examples of human or human-like motifs on textiles include a couple of possibly Sasanian fragments with human faces and foliage from Egypt and a later Byzantine fragment depicting roundels enclosing a human figure, possibly the Emperor (in the Musée des Tissus in Lyon, and in the Treasury of the Cathedral of Sens).

4. Arguably, as I will explain further in my forthcoming book, the very first example of a pearl roundel on textile is on the Pazyryk carpet, the oldest carpet in the world, which might be an Achaemenid gift to semi-nomad peoples of the Altai in the last half of the first millennium BCE. The stags on the carpet are depicted with internal organs, some of which are identical to those reproduced on the bodies of the animals on "zandaniji" weaves. At some point these organs, mostly carrying cosmologic meanings (moon, sun etc.) were transformed in small rosettes (of the Byzantine types) and lost their original meaning.

5. Apart from the superb publication by Groepper and Poncar, for photographs from Alchi one should use the Western Himalaya Archive Vienna <https://whav.aussereurop.univie.ac.at/>, which includes not only images from Sumtsek but also, importantly from the Dukhang temple. Much of the photography is Poncar's. The website shows decently sized but nonethless reduced images; the archive itself contains large tiffs, which require a password to access.

Some Notes on Dayuezhi, Daxia, Guishuang, and Dumi in Chinese Sources

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Daxia (大夏), Dayuezhi (大月氏), and Guishuang (貴霜) were three different countries once active in ancient Central Asia and were known to Chinese of the Han Dynasty (206 BCE–220 CE). There is general agreement that the kingdom of Daxia was conquered by the Dayuezhi tribes who had immigrated from northwest China and then divided the country into five parts, each governed by a Xihou (翎侯 *yabgu*).[1] One of them, the Guishuang Xihou, united all the lands of Dayuezhi and established a new kingdom of Guishuang (Kushan) which later became an Empire including a large part of Central Asia around the Amu Darya and northwest of India. However, in recent years there have been some disagreements about these peoples in Chinese academia, such as where the original homeland of Dayuezhi was, who could be identified as the Daxia people before the conquest of Dayuezhi, and whether Guishuang (Kushan), as one of five Xihou, could be regarded as a branch of Dayuezhi or Daxia. In order to further the research on these problems, relying mainly on the ancient Chinese sources the article will discuss in particular the identities of Daxia, Dayuezhi and Guishuang and the relations among them. Since Dumi (都密, Tirmidh, Termez), where Alexander crossed the Oxus (Amu Darya) to Sogdiana, was an important city in the time of these three kingdoms (possibly the capital of the Xihou of Dumi) and under the Kushan Empire, it will be a focus of some attention here for its relations with China from the Han to the Tang dynasties.

The evidence of the Chinese historical texts

The earliest, relatively extensive records about the Dayuezhi, Daxia and Guishuang are to be found in three Chinese historical books: the Historical Records, *Shiji* (史記), compiled by Sima Qian (司馬遷); Ban Gu's (班固) History of the Former Han, *Hanshu* (漢書); and Fan Ye's (範曄) History of the Later Han, *Hou hanshu* (後漢書). In order better to analyze the relations among these countries and peoples I translate the original sources from Chinese, even though various translations of them have been published previously (e.g., Brosset 1828; Wylie 1881-82; Hirth 1917; Sima Qian 1993; Hulsewé 1979; Hill 2015).

1. The records in the *Shiji*.

Dayuezhi and Daxia were first introduced in the "Description of Dayuan" (大宛列傳) in the *Shiji*.

> The Dayuezhi are west of Dayuan (大宛) by about two or three thousand *li* (里)[2] and are located north of the Oxus (嬀水) [Wei Shui, the Amu Darya]. Daxia lies to the south, Anxi (安息) to the west, and Kangju (康居) to the north. Dayuezhi is a nation of nomads (行國) [literally, 'moving country'] wandering with their herds and practicing the same customs as those of the Xiongnu (匈奴). They have about one hundred or two hundred thousand archers as warriors. Formerly, the Dayuezhi were powerful and strong, and despised by the Xiongnu. As soon as Modu (冒頓) succeeded to the throne, he attacked and defeated the Yuezhi. When Laoshang Chanyu (老上單於) reigned as the king of the Xiongnu, he killed the king of the Yuezhi and turned the skull of the dead king into his drinking vessel. Originally, the Yuezhi tribes lived between Dunhuang (敦煌) and Qilian (祁連). After being defeated by the Xiongnu, they were compelled to move far away. They passed through Dayuan, and to the west of it attacked Daxia, subjugating the country. They then set up their royal court north of the Oxus. [Sima Qian 1982: 3161-3162]

> Daxia lies to the southwest of Dayuan by over 2000 *li* and is located south of the Oxus. The people are sedentary. They live in houses in cities enclosed by walls. Their customs are the same as those of the Dayuan. There is no powerful king in the country. The cities and towns always have their own little chiefs. The soldiers there are weak and afraid to fight. Their people are skillful at trade and commerce. When the Dayuezhi tribes migrated westward, they defeated Daxia and subjected the people to their rule. The population of Daxia is more than a million. The capital is named Lanshi city (藍市城). One can find all manner of goods for sale in their markets. [Sima Qian 1982: 3164]

These descriptions suggest several preliminary conclusions: (1) the Dayuezhi tribes originated from the area between Dunhuang and Qilian; (2) later they were driven out of their homeland and migrated westward; (3) finally they settled north of the Oxus; (4) from there they subjugated the Daxia south of the Oxus; (5) while reduced to vassal status, the Daxia retained a semblance of semi-autonomy with their own capital.

2. The records in the *Hanshu*.

In the "Description of the Western Regions" (西域傳) in the *Hanshu*, Dayuezhi became the protagonist of the series of events and was described in more detail than in the *Shiji*.

> The country of Dayuezhi with the city of Jianshi as its capital is 11,600 *li* from Changan (長安) [the capital of Han China]. It is not ruled by the Protector General (都護). It has 100,000 households, a population of 400,000, and 100,000 men who are qualified as warriors. To the east, it is 4740 *li* to the seat of the Protector General. To the west, one can reach Anxi (安息) [Parthia] after 49 days' journey. To the south it borders Jibin (罽賓) [in the northwest of India]. The land, climate, agricultural products, customs, coins, and manufactured goods are the same as those in Anxi. The camels with a single hump [dromedary] are raised there.
>
> Originally Dayuezhi was a nation of nomads wandering with their herds, having the same habits and customs as those of the Xiongnu. It had over one hundred thousand archers and became so powerful that it looked down on the Xiongnu. Formerly, the Yuezhi had lived between Dunhuang and Qilian. Modu Chanyu (冒頓單於) attacked and defeated them, while Laoshang Chanyu killed the Yuezhi king and made a drinking vessel out of his skull. The Yuezhi had to move far away. They passed through Dayuan, attacked Daxia to the west and subjugated it. Then they set up their royal court north of the Oxus.
>
> Initially, there was no powerful king in Daxia as the cities and towns have always had their own little chiefs. The people of Daxia are weak and afraid to fight, so the Dayuezhi migrated into Daxia and made all the people there their subjects. There are five Xihou [yabgu]. All of them respect or offer tribute to the envoys from Han China. One is called Xiumi (休密) Xihou, who resides in the city of Hemo (和墨), 2841 *li* from the seat of the Protector General and 7802 *li* from Yang Guan (陽關) [Yang Pass]; a second is called Shuangmi (雙靡) Xihou, who dwells in the city of Shuangmi, 3741 *li* from the seat of the seat of the Protector General and 7782 *li* from Yang Guan; a third is called Guishuang (貴霜) [Kushan] Xihou, who lives in the city of Huzao (護澡), 5940 *li* from the seat of the Protector General and 7982 *li* from Yang Guan; a fourth is called Xidun (肹頓) Xihou, who inhabits the city of Bomao (薄茅), 5962 *li* from the seat of the Protector General, and 8202 *li* from Yang Guan; and a fifth is called Gaofu (高附) Xihou, who occupies the city of Gaofu (高附), 6041 *li* from the seat of the Protector General and 9283 *li* from Yang Guan. All five Xihou are members of the Dayuezhi. [Ban Gu 1962: 3890-3891]

By this time, Daxia had been annexed and ruled directly by Dayuezhi. Its lands had been divided into five principalities, or Xihou. The seat of the royal court of Dayuezhi was moved to the city of Jianshi (監氏, i.e. 藍市 in the *Shiji*), the former capital of Daxia.

3. The records in the *Hou Hanshu*.

The transition from the Yuezhi as wandering nomads to the sedentary Guishuang (Kushan) Empire is described in more detail in the "Description of the Western Regions" of the *Hou hanshu* (後漢書・西域傳).

> The country of Dayuezhi with the city of Lanshi (藍市城) as its capital borders Anxi to the west. It takes a 49-day journey to reach there. To the east it is 6537 *li* to the seat of the governor (長史[3]) and 16370 *li* to Luoyang (洛陽) [the capital of the Later Han Dynasty]. It has 100,000 households, a population of 400,000, and over 100,000 men who are qualified as warriors.
>
> Formerly, the Xiongnu defeated the Yuezhi, who were forced to migrate to Daxia and occupy it. Thereupon Daxia was divided into five Xihou: Xiumi, Shuangmi, Guishuang, Xidun (肹頓), and Dumi (都密). More than one hundred years later, Qiujiuque (丘就卻), the Xihou of Guishuang, conquered the other four Xihou, established himself as their king, and named the country Guishuang. He once invaded Anxi, and took over the land of Gaofu. He then conquered Puda (濮達) and Jibin (罽賓), and annexed all their lands. After Qiujiuque died at the age of more than 80, his son Yangaozhen (閻膏珍) succeeded him as the king of Gushuang. He conquered Tianzhu (天竺) and appointed a general to govern it. Since then, the Yuezhi have become a most powerful and prosperous country. All other countries call [the king of] the Yuezhi the king of Guishuang (貴霜王). The Han court, however, still calls them the Dayuezhi after their name. [Fan Ye 1965: 2920-2921]

Note in particular that Dumi is substituted for Gaofu as one of the Five Xihou and is described as a country conquered by Guishuang.

The Chinese sources are of paramount importance for historians of ancient Bactria, who, however, encounter many problems when using them to reconstruct the history of the people, places, and events. My discussion which follows concerning the origin of Dayuezhi, the identity of Daxia, and the relations among the Daxia, Dayuezhi and Guishuang, is based on my understanding of these Chinese sources and new archaeological finds.

The origins of Dayuezhi

Generally Chinese scholars agree that original location of Dayuezhi (Great 大 Yuezhi 月氏) was in the west of China, from the western part of Gansu (甘肅) province to the Tianshan Mountains of today's Xinjiang, at least in the period before the Yuezhi were expelled by the Wusun tribes from the valley of the Ili River.

According to Japanese sinologist Fujita Toyohachi (藤田丰八), the original location of the Yuezhi, as recorded in the *Shiji* and *Hanshu*, was between Dunhaung at the western end of Gansu, and the Qilian Mountains which run south of the Hexi Corridor (河西走廊), right around the modern city Zhangye (張掖, ancient Gan Zhou). Later they were defeated by the Xiongnu and had to move westward to the land of Sai (塞地); again they were driven from there by their western neighbors, the Wusun (烏孫) tribes who were among the vassals of the Xiongnu. Hence it seems probable that the Yuezhi lived and once occupied a territory between the easternmost Tianshan Mountains and the Qilian Mountains (Fujita 1935, pp. 77-95; 1935, pp. 59-99). In other words, the Yuezhi people would have been wandering for a time in what is today Gansu Province. However, an annotation in the "Biographies of Wei Qing and Huo Qubing" (衛青霍去病傳) in the *Hanshu* indicates that Qilian means the Tianshan Mountains (天山), because the Xiongnu called Qilian "Tian" (天, sky, heaven).[4] If so, we are dealing not with today's Qilian, but rather with the Tianshan Mountains in Xinjiang. Alternatively, in the opinion of Professor Lin Meicun (1998, pp. 64-69), "Qilian" as a word may originate from the Tocharian language spoken by the Yuezhi. He thinks that Yuezhi were a branch of Tocharians. In that case, Qilian refers to the Kunshan (昆山), i.e. the Kunlun Mountains (昆侖山), known in Chinese documents that antedate the Qin and Han dynasties. In the *Shiji,* "Qilian" should just be the modern Qilian Mountains and Dayuezhi should be the Tochari of the classical documents in Greek.

However, Professor Yu Taishan[5] has a different idea about the location of Dunhuang and Qilian: Dunhuang had not been set up as a county (郡 *jun*, prefecture) at that time when Zhang Qian (張騫), the first envoy who had been sent to the Western Regions by Emperor Han Widi (漢武帝, 140-87 BCE), returned from Daxia in 126 BCE. Therefore, "Dunhuang" refers to the modern Qilian Mountains in Gansu because it had been mentioned as "敦薨" (Dunhong) in the *Classic of Mountains and Rivers* (山海經, *Shan Hai Jing*) (*Shan* 2011, p. 70), dating from the Warring States Period (475[or 453]–236 BCE). Yu accepts the identification of Qilian with the modern Tianshan, and suggests the original place of Yuezhi people should be located between the Qilian Mountains of today's Gansu and Tianshan Mountains as well as the Altai Mountains in Xinjiang (Yu 2012, pp. 88-92). In other words, his conclusion is similar to that of Fujita Toyohachi (except in the matter of identifying the so-called Dunhong Mountains with the Qilian Mountains—see below).

Apart from the texts cited above from the *Shiji* and *Hanshu*, the biography of Zhang Qian in the *Hanshu* provides more detailed and clearer information on the homelands of Dayuezhi and the complicated relation between Yuezhi, Wusun and Xiongnu. It is Wusun that had been conquered by the Xiongnu. then became their vassals, and finally droved Dayuezhi out of Wusun and forced them to escape westward:

> The king of Wusun is called Kunmo (昆莫). His father Nandoumi (難兜靡) [and his people] originally lived with Dayuezhi as neighbors in the lands between Qilian and Dunhuang. Wusun is a small country. Dayuezhi attacked Wusun, killed the king Nandoumi, and occupied the land of Wusun. Wusun people took refuge with the Xiongnu. Kunmo is son of the dead king had been recently born... and was brought to Xiongnu… When he came of age, the Chanyu (單于) [the highest ruler of the Xiongnu confederacy], the ruler of Xiongnu, gave him his father's people … By that time, Yuezhi had been defeated by the Xiongnu and moved westward to attack the king of Sai (塞王). The king escaped far away and his land was annexed by Yuezhi. Since Kunmo had become powerful, he asked the Chanyu to permit him to revenge for his father. So he marched westward and defeated Dayuezhi. Dayuezhi had to migrate westward again and into the land of Daxia. [Ban Gu 1962: 2691-2692]

The Yuezhi are generally considered to be related to the Indo-Europeans who probably came into the west of what today is China during the second millennium BCE. Mummies with Europoid features have been unearthed in the Taklamakan Desert of Xinjiang, buried there nearly 4000-3500 years ago.[6] Are they related to the later Yuezhi? The answer is not certain.[7] But some of the same or similar names of races such as Yuezhi (月氏), Yushi (禺氏), and so on, were also mentioned as early as in the Western Zhou period (西周, 11th-8th century BCE). Their locations were to the north or the northwest of China.[8] This evidence may help us to resolve the problem of the origin of Dayuezhi.

The identification of Dunhuang (敦煌) with today's Qilian Mountains by Yu Taishan might be problematic. In his opinion (2012, p. 89), the county or prefecture of Dunhuang was probably established in 111 BCE, which would mean that Zhang Qian could not have mentioned the name of the place as Dunhuang in his original report to the emperor. Yu takes it for granted that Sima Qian might have substituted Dunhuang for the Dunhong (敦薨) provided by Zhang Qian. However, his only proof for this hypothesis is to cite a mountain named Dunhong in the legendary *Shan Hai Jing*. That of itself is hardly enough to infer that the place name introduced first by Zhang Qian was not Dunhuang but Dunhong. In fact, according to the description of Dunhong in the *Shan Hai Jing*, this mountain seems to be located to the north and northeast of the Kunlun Mountains. Even if Qilian could be identified with this "Dunhong," Yu's argument cannot deny the fact that the Dayuezhi originally lived in this area that was

covered by the county or prefecture of Dunhuang set up 15 years after Zhang Qian's return in 126 BCE.

The identity of Daxia

Daxia, the farthest country Zhan Qian reached, had been subjugated by Dayuezhi when he arrived there in 128 BCE. But it is strange that Zhang Qian did not indicate the original location of Daxia as he did for Dayuezhi. Why? What relationship is there between this Daxia and the Graeco-Bactrian kingdom?

Yu Taishan thinks Daxia might be also an ancient people with the same name who once lived in the northwest of China; later, they immigrated into Bactria. The routes taken by Daxia were similar to those later followed by Dayuezhi, first to the Ili (伊犁河) and Chu River (楚河) valleys, before establishing their own country in Bactria. He identifies Daxia with the Tochari, one of the four Scythian nomad groups which "took away Bactriana from the Greeks" as mentioned by Strabo (1988: 11.8.2) and assumes Daxia could be a transliteration of Tachari (for his detailed arguments, see Yu 2012, pp. 46-53, 62-66). This inference implies: (1) it is Daxia not Yuezhi who conquered the Greek Bactria; (2) so-called Tochari can be identified only with Daxia, not with Yuezhi.

In response, I have several observations:

First, the absence of any indication of the origin of Daxia in the *Shiji* means that Zhang Qian and Sima Qian (whose knowledge about Daxia derives from the former) could have not known its origin. Maybe what Zhang Qian gleaned from the natives was that the origin of Daxia had no relationship to China and it was a country that had been established long ago in its current location. Had he known Daxia originated from China, surely he would have referred to that fact as he did in his description of Dayuezhi. So, in the eyes of Zhang Qian, there was no connection between the Daxia in Bactria and any people who had lived in China.

Yu Taishan's identification of Daxia with Tochari is also problematic. True, Dayuezhi once occupied the Sai land and Sai people had to move westward. However, could Daxia be identified with one of the Sai tribes? According to the *Hanshu*, the king of Sai and his tribes were forced southward to pass through Xuandu (悬度, the Hanging Pass) into Jibin (罽宾) (Ban Gu 1962: 3901). There is no indication that they passed or settled in Daxia.

Another Chinese scholar, Lei Haizong (2002, p. 352), suggests the name of Daxia came from Daha (Daae, Dahae), one branch of the Scythians. However, this identification too may need to be reconsidered, because these Dahae nomads seemed to have lived along the east of the Caspian Sea as far as Hyrcania as a separate tribe that co-existed with the eastern Massagetae and Sacae. They had never occupied Bactria or founded their country there (Strabo 1988: 11.8.2).

Therefore, we have to look for other way to resolve the problem of the identity of Daxia. It is possible that, in order to indicate clearly to the emperor the farthest country he had reached, Zhang Qian borrowed this name from an earlier Chinese book in which a homonymic country located in the north or northwest of China had been mentioned (Huang 1996, p. 355). No matter what the origin of Daxia's name could be and who had established it, Daxia as a country actually existed in Bactria long before Zhang Qian arrived. Then what can be the relationship between this Daxia and the Graeco-Bactrian kingdom, and who eventually occupied it?

In my opinion, the four tribes mentioned by Strabo should be Scythians who lived in the steppe north of the Syr Darya and who often invaded the lands controlled by the Greeks. When Syrian King Antiochus III entered Bactria in 209 BCE in order to re-establish control of this satrapy, Euthydemus, then King of Bactria, defended his own position, arguing that the northern nomads were their common enemy. If he were not recognized as King of Bactria, "neither of them would be safe; for considerable hordes of Nomads were approaching." In fact, one tribe of Scythians had invaded Hyrcania near Bactria (Polybius 1993: 11.39; 10.48). Thus it can be seen that the successive raids of nomads from the steppe was actually a serious threat to the Greek kingdom. Modern archaeology and numismatics support the conclusion that King Eucratides I of the Graeco-Bactrian kingdom died in ca. 145 BCE (Justinus 1853: 41.6.1-5). When Zhang Qian arrived in Bactria (Daxia) in 128, Daxia had already been subjugated by Dayuezhi.

It is thus possible that those four Scythian tribes might have invaded Bactria and even stayed there for a short time. However, they did not conquer this kingdom completely, and at least a large part of them must have passed through the Hindukush and eventually settled in the south of Afghanistan and the southwest of Iran, thence known as Seistan. Since it is clear from the Chinese sources that Daxia was conquered by Dayuezhi, could we identify Dayuezhi with one of the four tribes? This seems to be possible if, contrary to Yu Taishan, we regard the Tachari as Dayuezhi rather than Daxia. In later Chinese sources, Bactria was called Tuhuoluo (覩貨邏, 吐火羅), where Dayuezhi and later Kushans (one of the Xihou of Dayuezhi) ruled for centuries.

Judging from our current knowledge of the sources and recent research, I would venture the hypothesis that, whether the Dayuezhi were one of the four tribes

or another nomadic tribe from the northwest of China, it was they who delivered the *coup de grâce* to the weak Graeco-Bactrian kingdom. The Dayuezhi departed from the land of Sai in ca. 176 BCE.[9] We cannot know exactly when they arrived north of the Amu Darya via Da Yuan, but it was before Zhang Qian reached Dayuezhi and Daxia in 128-126 BCE, within two decades of the death of Eucratides I. The Bactrian Greeks still had not retreated entirely to India; and the rule of Greeks in eastern Bactria continued until ca. 130 BCE (Bopearachchi 1991, p. 453). Zhang Qian remarked that "There is no powerful king in the country. The cities and towns have always their own little chiefs. The solders there are weak and afraid to fight." This is precisely the political situation in Bactria after Eucratides I was overthrown. So the hypothesis that Greek rule in Bactria was ended by Dayuezhi seems to be justified.

The location of the Five Xihou

The location of the Five Xihou is controversial. Were they divided only in the land of Daxia in the south of the Oxus or in all lands of Dayuezhi along the two sides of the Oxus after Daxia had been annexed by the latter? Or were they first established in the north of the Wei River (the Oxus, Amu Darya), then expanded south to the Daxia Zhang Qian visited? There are different lists of the Xihou in the *Hanshu* and *Hou hanshu*: in the former, the five Xihou are Xiumi, Shuangmi, Guishuang, Xidun, and Gaofu; in the latter, Gaofu has been replaced by Dumi [Ban Gu 1962: 3891; Fan Ye 1965: 2921]. Which list is more believable?

Most Chinese scholars understand the evidence of these texts to mean that the dynasty of Guishuang was established by one branch of Dayuezhi because the Guishuang was one of the five Xihou who belonged to Dayuezhi. But Yu Taishan points out that the five Xihou were divided in the land of Daxia, namely Bactria in the south of the Oxus (even including the eastern mountainous area, that of the so-called Tochari) after it was annexed finally by Dayuezhi. Later Guishuang, one of the five Xihou of Daxia, conquered the other four and their previous suzerain Yuezhi (i.e. Puda, 濮達, mentioned in the *Hou hanshu*, exterminated by Qiujiuque [Fan Ye 1965: 2921]), and founded the Guishuang Empire [see Yu 2012: 53-62; 2005, p. 122 n.314-p. 125 n. 336; p. 283 n. 226; pp. 283-284 n. 232; p. 285 nn.234, 237]. Yu Taishan claims that Dumi should be excluded from the list, as the author of the *Hanshu* could not have made a mistake. There were two names of Gaofu in the Western Regions, one in the Valley of Kokcha River in the north of the Hindukush, the other in the upper valley of the Kabul River. The author of the *Hou hanshu* must have confused Gaofu as a Xihou with Gaofu as a kingdom. Thus, he wrongly thought himself obliged to substitute Dumi for Gaofu, since the kingdom of Gaofu had been annexed by Guishuang [Yu 2005, p. 287 nn. 243-246; for Gaofu in the *Houhanshu*, see Fan Ye 1965: 2921].

Several critical remarks might be made regarding this hypothesis.

First of all, the status of Daxia and the relations between Daxia and Dayuezhi should be clarified. According to the *Shiji*, Daxia had been conquered by Dayuezhi and become its vassal, with its own capital but no powerful king. Surely Daxia must have lost its land in the north of the Oxus, because the domain of the Graeco-Bactrian kingdom in its heyday would have included Sogdiana north of the river (see below). Before the arrival of Zhang Qian, Dayuezhi had subdued Daxia but occupied only the part of Daxia north of the Oxus, as is confirmed by the location of their capital there [Sima Qian 1982: 3161-3162, 3164]. However, in the *Hanshu* and *Hou hanshu*, Daxia as a vassal of Dayuezhi disappeared. Instead, one united and larger kingdom of Dayuezhi (including Daxia) emerged in Bactria. The capital of the Dayuezhi kingdom also was moved to the city of Jianshi (Lanshi), the former capital of Daxia [Ban Gu 1962: 3890-3891; Fan Ye 1965: 2920-2921]. This means that Dayuezhi had occupied all the land of Daxia before the later envoys of Han China arrived. The five Xihou who went to pay their respect or tributes to the Chinese envoys thus belonged to Dayuezhi, not to Daxia.

Secondly, Yu Taishan fails to take into account the difference in the territories of Daxia in different periods. As mentioned above, whether or not Daxia was the original Greek kingdom or a new country founded by Daxia (Tochari), as Yu assumed, it should have included all lands of the Bactrian kingdom, which controlled not only Bactria but also Sogdiana. Even if the Parthians at one time took from the Greeks two provinces (Turiva and Aspionus) in the west of the Bactrian kingdom (Strabo 1988: 11.11.2), the land between the Oxus and the Jaxartes (Syr) rivers (at least the land from the Iron Gate south to the Oxus[10]) was under the rule of Greeks in Bactria for nearly two centuries from Alexander the Great to Eucratides I. Hence the original lands of Daxia were as large as the Bactria the Greeks once controlled. That the Daxia Zhang Qian visited was located in the south of the Oxus was just the result of the first conquest of Daxia by Dayuezhi.

The *Hou hanshu* indicates quite clearly that Daxia, substituted for Dayuezhi, was divided into five Xihou: "Originally Yuezhi was defeated by Xiongnu and was forced to immigrate into Daxia and occupied it. Then Daxia was divided into five Xihou: Xiumi, Shuangmi, Guishuang, Xidun, and Dumi."

Citing the newest archaeological evidence, French scholar Frantz Grenet (2006) argues these Xihou could have originally settled north of the Oxus River in an arc from the Wakhsh Valley to Termez around the Hisar-Baisun-Kuhitang ranges and later expanded to the south of the Amu Darya. I tend to agree with him, for his hypothesis seems not to contradict the Chinese records, if we regard the Daxia first mentioned in the *Shiji* as the remains of the Graeco-Bactrian kingdom. It is possible that Dayuezhi could have divided the new domain into five Xihou as soon as they subjugated Daxia (the Graeco-Bactrian kingdom); later they removed their court to the south part of the country and completely annexed it. The domains of the five Xihou certainly also increased after they penetrated this new land. So it seems reasonable to infer that the five Xihou should have been the five largest tribes of Dayuezhi; among them, Guishuang later become so powerful that it could defeat and unite the other four Xihou and finally establish an empire. Because Guishuang (Kushan) once was one part of Dayuezhi, the country they founded was still called Dayuezhi, the original title of it in China, and their kings were called by other countries kings of Yuezhi (Fan Ye 1965: 2921).

The status of Dumi (Termez).

In Chinese sources, the *Hou hanshu* contains the first mention of "Dumi" (Termez) as one of the five Xihou. As mentioned above, the author of *Hou hanshu* explicitly stated that he had corrected the mistake in the *Hanshu*. He pointed out clearly that there was only one Gaofu country in the Western Regions. Since Gaofu had been an independent and large kingdom in the southwest of Dayuezhi, and had never been subjected to Yuezhi before, it could not be one of the five Xihou. So he substituted Dumi for Gaofu [Fan Ye 1965: 2922]. Although Yu Taishan denies Dumi was one of the five Xihou, he speculates that the royal court of Dayuezhi might have settled in Dumi in the early period of the conquest of Daxia by Dayuezhi, or it might be as a seat of another Xihou after Dayuezhi moved their capital to the south of the Oxus. However, he does not indicate which Xihou it would be [Yu 2012, p. 56; 2005, p. 283 n.231].

As the hypothesis of Grenet indicated, it is also possible to infer from the Chinese sources that in fact Dumi should be listed as a Xihou:

•There is no evidence to confirm the existence of two Gaofu. The description of Gaofu in the Hou hanshu was more detailed and concrete than in the Hanshu. That "Gaofu was in the southwest of Dayuezhi, also one large country" means it was located in south of the Hindukush. Both in the pronunciation of the name and the location given in the Chinese records, Gaofu could be identified with "Kophen" in Greek, i.e. the upper valley of the Kabul River. When the five Xihou were divided, Dayuezhi had subjugated only Bactria and had not invaded south of the Hindukush. If we wish to locate the Gaofu Xihou mentioned in the Hanshu, we must search in Bactria.

•Dumi has been identified by archaeological finds as one garrison in the early Hellenistic period, although there are some disputations about its founders and names.[11] Later it became an important city and a Buddhist center in the Kushan period and even a capital of the Kushan Empire [Leriche and Pidaev 2007, pp. 209-10, and Fig. 1; Ravaud 2006]. So it is quite possible that it could have been selected as the seat of the Xihou of Dumi in the period of Yuezhi.

•Dumi played an important role in the history of Central Asia after the Kushan Empire disappeared. In the Tang Dynasty the famous Buddhist pilgrim Xuanzang (玄奘, 600–664 CE) visited a city named Dami (呾蜜) in ca. 630 CE, which was located at a strategic site on the north bank of the Oxus:

> Dami country has a territory over 600 li from its east to west and over 400 li from its south to north. The big capital has a circumference over 20 li but the east-west direction is long and the south-north direction is narrow. There are above ten Buddhist temples and monasteries with more than 1000 Buddhists in the city. Both stupas and statues of Buddha are more magical and efficacious. [Ji et al. 1985: 103]

This record indicates Dami was still a center of Buddhism in the first half of the seventh century, a fact that has been confirmed by recent archaeological finds [Leriche and Pidaev 2007; Fussman 2013].

Dami was also mentioned in the *New Tang History* (新唐書 *Xin tangshu*):

> There is one race of Dami settling along the north of the Oxus (縛芻水, Fuchushui). Their kingdom is in a length of 600 *li* from its east to west. [Ouyang Xiu and Song Qi 1975: 6248]

Dami was the westernmost country that had contact with Tang Dynasty China:

> From Dami down to other countries, all different races live together. Chinese name their countries after them. They have no contacts with Tang China; so the records about them are too confused and strange to be confirmed." [Ouyang Xiu and Song Qi 1975: 6250]

Furthermore, the country of the Dami people was referred as "Daman" (怛滿) or "Damo" (怛沒):

> Daman also is named Damei. To the east of it is Tuobasi (陀拔斯), to the south of it is Dashi (大食) [the Arabian Empire]. It will take a one-month journey to reach any one of the two countries. To Qilan (岐蘭) in the north of it one would reach after 20-days' journey; to Dashi in the west of it one would reach after a one-month journey. Daman

or Damo is located in the plain of the north of the Oxus. There are a great many lions among the local animals. It borders the country of Shi (史) in the its northwest, and its territory is not beyond the Pass of Iron Gate.

In the sixth year of the reign of Tianbao (天寶六年) [747 CE], the envoys of six countries including Daman and others were sent to China to offer their tributes and respect to the emperor of the Tang Dynasty. Then the emperor gave … King of Daman Xiemei (謝沒) the title of 'Fengshun King' (奉順王) [the king who pays his homage and obedience to Tang China]. [Ouyang Xiu and Song Qi 1975: 6264]

These records indicate clearly the location, land, and special products of Damam or Damo (Termez) as well as its close relations with Tang Dynasty China. It was still a large country and once was a vassal state of Tang China at least in name. More information about the surrounding areas of ancient Termez may be found in *The Collation and Annotation of the Records on the Western Regions of the Great Tang Dynasty* (大唐西域記校注, *Datang Xiyu ji jiao zhu*) and the "Description of the Western Regions" in the *Xin tangshu*.

Preliminary Conclusion

The Chinese records are the most important and indispensable sources for the research on the origins of Daxia, Dayuezhi and Kushan and their destinies in Central Asia. Dayuezhi people came from the northwest of China and divided its domain into five Xihou after having occupied Daxia (including Sogdiana and Bactria geographically), one of which was Dumi. Daxia should be the Graeco-Bactrian Kingdom. However, when Zhang Qian arrived, it had been subjugated by Dayuezhi. Dumi, where Alexander crossed the Oxus River and a Greek garrison was located in the Hellenistic period, later might be one of the capitals of Kushan Empire and the capital of a vassal state of the Tang Empire.

ACKNOWLEDGEMENTS

This article is one of the research results of a key project of the National Foundation for Social Sciences in China led by the author. It was presented at a conference titled "From Bactria to Transoxiana: the Oxus-Amu Darya Civilization (Antiquity & the Middle Ages) and its Place in History" (15-19 September 2014, in Termez, Uzbekistan), organized by Professor Pierre Leriche. I am very grateful for his invitation and his help in my research in recent years.

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NOTES

1.“翎侯” has two meanings in the ancient Chinese historical context: one indicates a person who was ruler of a principality, a feudal prince or a chieftain of one nomad tribe; the other designates a principality or tribe controlled by such princes or small chiefs. Those Xihou generally were established in a tribal confederacy.

2. ”里” (li), a unit of length, equal to 415.8 meters in Han Dynasty China.

3. Generally, “長史, zhangshi” is an assistant official of the ministers or a higher officer in the central government in the Han Dynasty. Hill translates the title as the Chief Scribe. (Hill 2015, 1, p. 29), which is logical and acceptable. Here “zhangshi” is actually the highest official who was in charge of the Western Regions, which previously had been under a protector general (都護). When Ban Yong was appointed as a zhangshi of the Western Regions, the seat of the zhangshi, was in Liuzhong (柳中), modern Shanshan (鄯善) county of Xinjiang, China (cf. Fan Ye 1965: 2915).

4. This was indicated by annotator Yan Shigu (颜师古, CE 581– 645) of the Tang Dynasty (Ban Gu 1962: 2481n. 2).

5. He is a famous expert on the ancient history of relations between China and foreign countries in Eurasia, who has articulated clearly most of the new ideas regarding Dayuezhi, Daxia and Guishuang, his work incorporating many ideas from other Chinese and from foreign scholars.

6. Among them, the best known are the so-called “Beauty of Loulan” and the “Princess of Xiaohe”.

7. Regarding the ethnicity of these people, some scholars such as Victor Mair, J. P. Mallory, and David W. Anthony (as summarized by Philip L. Kohl), “attribute them as ancestral to the later Indo-European speaking Tocharians.” (Mair and Hickman 2014, p. 91). However, they evidently do not connect these people with the later Dayuezhi. See Mallory and Mair 2000 for an elaboration of their views regarding Western origins of the peoples whose mummies have been found in the Taklamakan.

8. As indicated in *The Biography of the King of Zhou Mu* (穆天子傳), *The Fragments of the Book of Zhou* (逸周書), and *Guanzi* (管子). For details, see Yu 2012, pp. 87-88.

9. Ban Gu 1962: 3756-3757. The event took place in or before the fourth year (176 BCE) of the reign of Han Wendi (汉文帝, 202–157 BCE).

10. On the intermittent rule of Greeks in Sogdiana, see Rapin 2007, pp. 45-50.

11. Some archaeologists think it was probably Alexandria on the Oxus (Leriche 2007, p. 133; Cohen 2013, pp. 277-78).

THE PLACE NAMES OF EURO-AFRICA IN THE *KANGNIDO*

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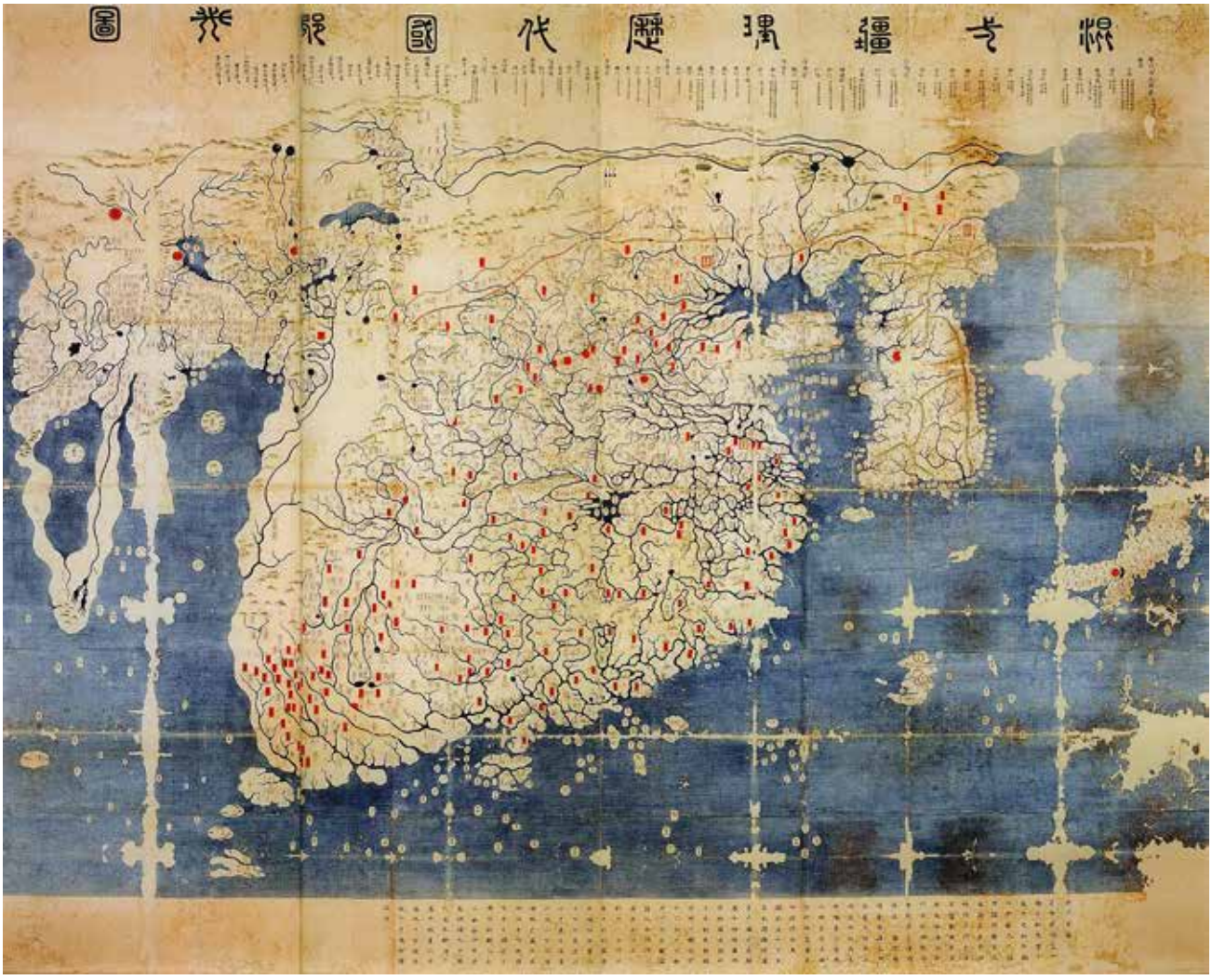
The *Honil kangni yŏktae kukto chito* 混一疆理歷代國都之圖 (Comprehensive Map of Integrated Lands and Regions of Historical Countries and Capitals, hereafter the *Kangnido*), the oldest Korean world map, was compiled in 1402 (Fujii et al. 2007, pp. 56, 448-54).[1] The map [Fig. 1; Color Plate VII] is dominated by a huge China in the center and an overly large Korea in the east, but arguably, much of its interest lies in the Central Asian and western territories it depicts. As one of the most important cartographic representations of the world, it has received much attention, especially since there are controversial challenges in interpreting its data. This article is one of several by the author identifying the place names on the Central Asian and western parts of the map and where possible determining the sources used

Fig. 1. The Honkōji Kangnido, kept in the Honkōji Temple 本光寺 *in the city of Shimabara, Nagasaki prefecture. Picture source:<https://upload.wikimedia.org/wikipedia/commons/1/1d/GeneralMapOfDistancesAndHistoricCapitals.jpg>.*



by the cartographers (Kenzheakhmet 2011, 2015, 2016). Many of the large issues about the conceptual world of the cartographers — whether or not they really understood the geography they were placing on the map — must be left for future discussion. The discussion below will treat selectively a good many of the names which illustrate the complexities of identification. The appended tabulation includes many others as well.

The original map no longer exists; however, two important copies, drawn in the 15th to 16th centuries, survive in Japan. Scholars consider that these two copies — one preserved Ryūkoku University's Ōmiya Library (hereafter referred to as the *Ryūkoku Kangnido*) and the other at the Honkōji Temple 本光寺 in the city of Shimabara, Nagasaki prefecture (hereafter the *Honkōji Kangnido*) — are cartogenealogical descendents of the original map. The Honkōji Kangnido measures nearly 220 by 280 cm and is painted on paper. In addition to thousands of place-names, the map includes an afterword by the map's authors, located at the bottom of the map, and a description of Yuan-dynasty administrative divisions at the top. The map was revised in Japan around 1560 (Miya 2006, p. 599; 2007, p. 14). According to Kenneth Robinson (2008, p. 62), changes in the civil provincial administration profile in Chosŏn-dynasty Korea dates the completion of the Honkōji Kangnido to sometime between 1512 and 1549, or even as late as 1567.

The Ryūkoku and Honkōji versions of the Kangnido present different images of *Xiyu*, the "Western Region," the historical name that Chinese used to refer to lands to their west during premodern times. The more detailed mapping of Xiyu in the Ryūkoku copy has attracted scholarly attention since the early twentieth century.[2] Joseph Needham regarded it as vastly superior to two of its more famous contemporaries, the Catalan Atlas of 1375 and Fra Mauro map of 1459.[3] The data about East Asia that the Ryūkoku map's creators obtained clearly offered a richer repository of information about Asia than anything Marco Polo and other Western travelers had brought home at that time (Needham 1971, pp. 499-551). The western section of the map, based in the first instance on information obtained presumably from Arab or Persian sources, includes more than 430 place names.

According to Sugiyama Masa'aki, two other copies of maps are related to the Kangnido. The Honmyōji copy, housed in the Honmyōji temple of Kumamoto, is known as the *Da Ming guo ditu* 大明國地圖 (Map of the Great Ming) (hereafter the Honmyōji *Da Ming guo ditu*); the Tenri copy, located at Tenri University, is known as the *Da Ming guo tu* 大明國圖 (hereafter the Tenri *Da Ming guo tu*). Sugiyama (2007, p. 56, Pls. 8-9) identifies only 224 place names for Western Region on them.

Sources of the Kangnido

For scholars, the paucity of authentic contemporary sources poses the main obstacle to studying the toponyms of the western region depicted on the Kangnido. Among the sources are important ones which have not previously been used for the reconstruction of the toponyms in the Kangnido, even though they were brought to light a long time ago. In particular, it is important to examine Chinese sources which may have served as the intermediaries beween those in Persian, Arabic and Turkic on the one hand, and what was inscribed on the Kangnido on the other. The western section of the Kangnido describes the general form of the Xiyu, which stretches from Africa and Europe in the west to Qumul in the east; from the Russian Steppes in the north to India, Sri Lanka and the Persian Gulf in the south; and includes Qirqiz (in modern Khakasia) and Dasht-i-Qipchaq (in modern Kazakhstan and Western Siberia). Chinese knew this vast region from three sources:

1) The brisk trade relations that existed between the Arab World and other parts of the Old World beginning well before the time of the map's creation left their mark on traditional Arabo-Persian geography, such as the anonymous *Ḥudūd al-'Ālam*, and the works of Ibn Khurrdādhbih, Ibn Qudāmah, al-Balādhurī (Aḥmad bin Yaḥyā), al-Ya'qūbī, al-Idrīsī, Yāqūt, Mustawfi, al-Muqaddasī, and others. In China, the works of Jia Dan (730–805), Zhao Rugua (1170–1228), and others testify to the extent of the interaction between the Arab World and China at the time of Tang and Song dynasties. Thus it is possible that the cartographers who made the Kangnido obtained some of their information from traders who spoke other languages. Evidence for this is in the linguistic constuctions of the region's toponyms, where, for example, most of the place names used for Central Asia derive from a mix of Turkic, Persian and Arabic languages.

The possibilities for oral transmission of such information aside, cartographers in East Asia undoubtedly based much of their geography of the Western Region on earlier Islamic cartographic works. They adapted place names for Africa, Europe, and Western Asia from Arabo-Persian maps, which required the transliteration of the names into Chinese ideographs. The *Yuan jingshi dadian dili tu* 元經世大典地理圖 (The geographical map from the Encyclopedia of Yuan dynasty Institutions, ca. 1330) shows Zhungar Basin cities such as Zhangbali 彰八里, Gutaba 古塔巴, Yangjibali 仰吉八里, and Yemishi 也迷失. However, the Chinese transliterations of the basin's toponyms in the text differ from those inscribed on the map itself, such

as Changbaliha 長八里哈, Hudaba 忽達八, Yangyilihe 養伊里合, and Aimili 愛密里. Evidence in Chinese sources reveals the presence of scholars in the Yuan court like Jamāl al-Dīn, who used Islamic materials in his mapmaking and geographical works in China. For example, it seems likely that Jamāl al-Dīn adopted the grid system, which was being used to create longitude and latitude coordinates in Islamic cartography, for world maps made in Yuan China (Kenzheakhmet 2015).

2) Unlike for other lands, the place names for Inner Asia (modern-day Xinjiang, Mongolia, and Khakasia) and eastern India drew heavily on the *Tangshu*, or "Book of the Tang (dynasty)" (Kenzheakhmet 2016). The Inner Asia section of the Kangnido includes more than a hundred toponyms and ethnonyms relating to the period of the Second Turkic Khaganate (680–744) and the Uighur Khaganate (745–844). The toponyms of the *Kangnido* were written on cartouches with Chinese characters but are not merely a transliteration of of tribal names and place names, many of which were omitted, possibly because a copyist was unsure about their location. Among the ethnonyms and place names plotted on the Kangnido are Hanhai, Nushibi, Bayegu, and Gaochang, for the most part only the most important names out of hundreds of toponyms listed by Jia Dan 贾耽 and the compilers of the geography sections in both editions of the *Tangshu*. A few of the names that appear on the map also feature in the geography section of the *Hanshu* (Book of the Han [dynasty]). Jia Dan's work, entitled *Huanghua sida ji* 皇華四達記 (The routes leading from China in the Four Directions), is in

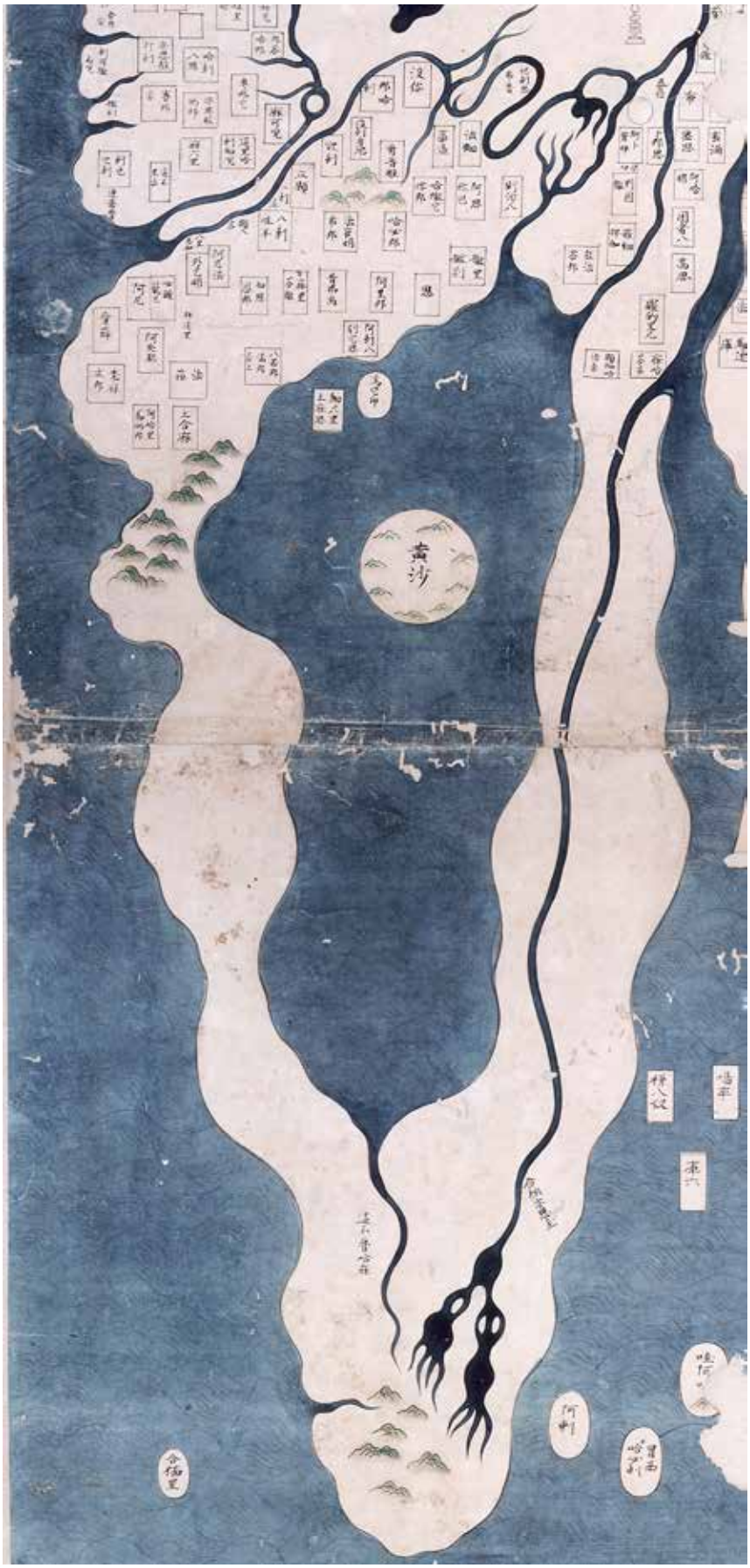


Fig. 2. Africa in the Honkōji Kangnido. The image shows part of the Iberian peninsula in the upper left corner. The long line on the right side of the continent represents the Nile, the upper reaches of which flow into the Red Sea, while its lower reaches flow from the large central lake into the Mediterranean at Cairo, marked by the "pagoda" placed offshore in the far upper right.

Fig. 3. North Africa in the Honkōji Kangnido, with a number of place names captioned with their modern or ancient equivalents to provide some orientation.

part a pastiche of excerpts from other books, drawing heavily on the work of foreign envoys to the western regions. Fragments of his geographic accounts survive thanks to their inclusion in the geography section (*dili* 地理) of the *Xin Tangshu* (New book of the Tang [dynasty]). Besides, Jia Dan completed a map called *Hainei Hua yi tu* 海內華夷圖 (Map of Chinese and foreign lands within the seas). In the *Jiu Tangshu* (Old book of the Tang [dynasty]) appears the following statement: "He ordered an artisan to paint the *Hainei Hua yi tu* on a scroll. It was three *zhang* wide, and three *zhang* and three *chi* high. Its scale was one *cun* to one hundred *li*."[4] In fact, Jia Dan's map and the geography section in the *Tangshu* became a prototype for the Inner Asia section of the Kangnido.

3) Unlike the Ryūkoku Kangnido, the Honkōji Kangnido reflects influence from sea charts in the *Guang yutu* (Broad terrestrial map), a compilation of maps and geographic texts by Luo Hongxian 羅洪先 made in 1541. This influence can be seen in the image of southern Africa and the Indian Ocean and place names along the East African coast. While the sea charts seem to have incorporated records from actual voyages, to a considerable degree the littoral all the way from southeast Asia to southern Africa is only vaguely recognizable.[5] It is no surprise then that on the Honkōji Kangnido cities and other coastal locations including Maqadashu (Mogadishu) in Africa, the Malabar coast of India, Modena (Medina), Baigeda (Baghdad), and Tianfangguo (Mecca) appear as islands. The maps also contain information about legendary regions, such as the country of Wowo (Wāq-wāq), the country of the hairy little people, in addition to other hard-to-identify places. In particular, the creators of the Honkōji Kangnido were influenced in their world view of the world by two sea charts in the *Guang yutu*: The "Map of Foreign Lands in the Southeast Sea" (*Dongnan haiyi tu*東南海夷圖) and the "Map of Foreign Lands in Southwest Sea" (*Xinan haiyi tu* 西南海夷圖). In addition, the depictions of Hemaoli, Deli, Guli, and other places in the Honkōji Kangnido almost certainly came from an appendix in the *Guang yutu* entitled *Huayi jianzhi* 華夷建置 (Chinese and Non-Chinese administrative division). Luo Hongxian (1969, p. 1) specifically indicates that in creating his atlas he consulted a Yuan-period map (now lost) by Zhu Siben 朱思本 (1273–1333/?40), a fact which then raises complex issues concerning the relationship between the navigation charts and the tradition of the Islamic "academic" geography which was also available to the Yuan cartographers.

Africa

The Kangnido depicts the general form of Africa, from the Maghreb in the west to the east coast; from Egypt in the north to the Equator in the south [Figs. 2, 3]. Contrary to what some modern authors have asserted, there is little reason to believe that the Kangnido reflects any real knowledge of the southern tip of Africa, despite its roughly triangular shape. Chinese mapmakers knew about North Africa — Egypt and the Maghreb — from Arabo-Persian maps and other foreign sources. Because of this, the Kangnido can help scholars reconstruct the Arabic worldview of Africa as they saw it around the 9th–10th centuries, a time during which the norms of classical Arab geography were being developed.

1. Miṣr (Egypt)

The capital of Miṣr during the tenth century was the city of al-Fostāt (Fustat)—which the Kangnido simply calls *Misi* (Miṣr) (Ibn Khurradādhbih 1889, p. 80; al-Muqaddasī 1976/1877, p. 317). Curiously, the Arabic name *Iskandiriya* (Alexandrī, Alexandria) does not appear anywhere on the Ryūkoku Kangnido. A number of unidentified, pagoda-shaped buildings represent the city, including one that clearly stands for the famous Minār (Tower or Pharos). Ḥamd

Allāh Mustawfī al-Qazwīnī author of the celebrated geographical work entitled *Nuzhat al-Qulub*, says that, beside the city, but four leagues distant from it, is a strong castle, set on a hillock, which overlooks the sea: and by reason of its height it is known as the Minār (Minaret or Tower) of Alexandria. This is one of the most famous buildings of the world (al-Qazwīnī 1915-19, 2, p. 239; Ibn Ḥauqal 1800, p. 33).[6] On the Honkōji Kangnido near the pagoda-shaped buildings are two places: Xunta 尋他 and Bu 布. The name Xunta is said to reflect Arabic Shaṭā, on an island in Lake Manzalah, east of Tinnis (Rapoport and Savage-Smith 2014, p. 451; Mižk 1916, p. 20).[7]

South and east of Miṣr, the map gives the names of many places on both banks of the Nile River, such as Manyong, Bunasi, Abusaiyi, Liangyi, and Ahaming, which are among the many identified by Ibn Khurradādhbih and other Arabic geographers — Manf, al-Faiyūm, Ikhmīm wa al-Dayr, al-Bahnasā, and Fuwwah (Ibn Khurradādhbih 1889, p. 82; al-Fidā, 1840, 2/1, p. 152; al-Qazwīnī 1916-19, 2, p. 265; al-Ya'qubi 2011, p. 332).

• The city of *Abusaiyi* 阿卜賽伊[8] — Abusir, also known as Busir, in Arabic — appears in the world of earlier Arabic geographers (al-Idrīsī, 1836-40, 1, p. 306). Busir was an ancient city of Lower Egypt, located at the modern Abu Sir Bana (Djedu). Busiris was also the name of a town in Middle Egypt, in the neighbourhood of Memphis and the Great Pyramid. Its site is marked by the modern village of Abousir in that district (*Dictionary* 1854, pp. 458-59).

• Near Miṣr is a city that the Kangnido calls *Manyong* 蛮涌. Perhaps this refers to Memphis, which the Arabs call *Manf* or *Manūf*, considering that the second character, *yong* 涌, may actually be a copyist error for a more likely character *pu* 浦. The renowned 12th-century geographer al-Idrīsī in his *Nuzhatul Mushtāq fī Ikhtirāqul Āfāq* names the town Menf (al-Idrīsī, 1836-40, 1, p. 306; also, Ibn Baṭṭūṭa 1958-2000, 1, p. 51). Sugiyama (2007, p. 58) points out that this name is written as *Manfu* 蛮甫 in the Honmyōji *Da Ming guo ditu* and the Tenri *Da Ming guo tu*.

• The town of *Ahaming* 阿哈明, south of Fustat and on the east bank of Nile, apparently stands for the modern-day city of Akhmim, which Ibn Khurradādhbih and other Arab geographers called Akhmim, Ikhmyn, Ikhmīm, Ikhmīm wa al-Dayr (Ibn Khurradādhbih 1889, p. 81; al-Ya'qubi 2011, p. 332; Ibn Ḥauqal 1800, p. 35; al-Muqaddasī 1976/1877, p. 319).

• *Bunasi* 卜那思 is al-Bahnasā (Behnasa, ancient Oxyrhynchus) (al-Idrīsī, 1836-40, 1, p. 327; al-Muqaddasī 1976/1877, p. 319; al-Ya'qubi 2011, p. 331).

• Bu 布 stands for Fūa or Fuwwah, a town in Northern Egypt (Miller 1926-31, 1, p. 85; Miller 1986, p. 58).

• Further south along the Nile are several cities. South of Gaosi 高思 (Qus) (al-Ya'qubi 2011, p. 334) is Luodelini 羅的里尼, this Chinese name possibly a transcription of Radyny (= Meshed al-Radyny), the name of the city that lies near Aswan (al-Fidā 1840, 2/1, pp. 141-42). Idrīsī (1836-40, 1, p. 27) called it Anfōr al-Radini. More likely Luodelini transcribes Rūd-i Nīl, Rud Nīl or Rūdh-i Nīl, the Persian name for the Nile (*Ḥudūd* 1982, p. 68; Miller 1986, p. 53). The *Yongle dadian* (The Great Encyclopedia of the Yongle [Emperor]) identifies this city, transcribed into Chinese as Lude Nile 盧的泥勒, in the country of Misi'er 密斯兒 (Yao 1959, juan 3526, book 49). Liu Yingsheng argues that this name must be a Chinese translation of the Persian name Rūd-i Nīl, still used for the Nile today (Liu 2010, p. 93).

• South of Luodelini, the map marks a place called Mahadalai 麻哈荅來 (an error for Mahadashu 麻哈荅束), which Sugiyama (2007, p. 58, Table 1, № 151) identified as Maqdashaw (or Mogadisho). If so, then the name appears twice on the map, once adjacent to the Red Sea and once far to the southeast at a place labeled Mahehashu 麻合哈叔, connected by the Nufa 奴發 (Zufar).

• Lastly, Kunzheba 困者八 may be a corruption of Qena or Qinā, a city north of Luxor (Mižk 1916, p.14).

2. The Maghreb

West of Tripoli routes led to the settled lands of what is now Tunisia, the region known to the Arabs as Ifrīqīya. Geographically, the Maghreb encompasses present-day Morocco, Algeria, Tunisia, and Libya. Ibn Khurradādhbih gives an account of the high road of the Maghreb, which extended east from Spain to Libya (Barqah, nowadays called al-Marj) (Ibn Khurradādhbih 1889, pp. 85-87). The likely Arab sources for the information on the Kangnido connect the region with areas to its south, where the medieval Islamic maps show a huge lake (possibly representing Lake Chad) and other features which will be discussed further below. After flowing out of this large lake, the Nile splits into two branches, and then flows northward to lower Egypt.

Near the north shore of this lake lies a city called *Xizhilitumasi* 細只里土麻思, which is also shown surrounded by water. The name appears to be a transliteration of *Sijilmāsiyah* or *Sijilmāsa*, whose ruins lie on the Wadi Ziz in the Tafilalt oasis in southeastern Morocco, adjacent to the modern town of Rissani (Ibn Baṭṭūṭa 1958-2000, 4, p. 946; Levtzion and Hopkins 1981, pp. 7, 47-9; Lightfoot and Miller 1996, pp. 78, 80; *Ḥudūd* 1982, p. 417; Leo Africanus 1896, 2, p. 780; Juvaini 1958, p. 649). Sijilmāsiyah, the capital of Tafilat

oasis was the second capital city that Arabs founded in North Africa, after Qayruwan, and played a very important role in the Middle Ages in the trade relations between the African countries south of Morocco — especially Aoudagost — and the Mediterranean region, particularly the great Moroccan metropolis of Fez. In his description of Sijilmāsa, Ibn-Ḥauqal offered praise for the town and its people:

> I saw a bill in Awdaghost certifying a debt owed to one of them [of the people Sijilmāsa] by one of the traders of Awdaghost, who was himself of the people of Sijilmāsa, in the sum of 42,000 dinars. I have never seen or heard anything comparable to this story in the east. I told it in al-'Irāq, in Fārs, and in Khurāsan, and everywhere it was regarded as a novelty. [Levtzion 1968, p. 225]

Fra Mauro, a fifteenth century Camaldolese monk and mapmaker in Venice, referred to the city of Sijilmāsiyah as *Siçilmensa* in his well-known *Mappa mundi* (Brooks 2009, pp. 294-95; Mauro 1966, p. 23, B13). The Kangnido marks a place called *Weitamao* 為它卯, probably to be identified with a mountain east of Sijilmāsiyah, Aydemur (al-Idrīsī, 1836-40, 1, 328).

In the west of the Maghreb, several of the names on the map may be identiried with locations in what is today Morocco.

• Ani 阿尼 and Aixue 愛薛 are possibly Adna and Aqsa, which Arab geographers always write as Sūs al-Adnâ and al-Sūs al-Aqṣa (Ibn Khurradādhbih 1889, p. 89; Al-Balādhuri 1916, p. 359).

• Ashiye 阿失耶, refers to Aṣīlā/Azīlā, Acila— corrupted into Arzila, a charming little seaside resort south of Tangier (Rapoport and Savage-Smith 2014, p. 447; Levtzion and Hopkins 1981, p. 444).

• The Kangnido identifies Casablanca, which the Arabs (and Berber) called Anfa, as Anifa 阿尼法 (al-Idrīsī, 1836-40, 1, p. 219; Miller 1926-31, 2, p. 177; Leo Africanus 1896, 2, pp. 396, 552, 652).

• Malidasa 麻里荅撒 refers to Mostāsa or Misiṭāsa (al-Idrīsī, 1836-40, 2, p. 9; also see Miller, 1926-31, 2, p. 177).

• Balawayang refers to Barghwāṭah, a Berber confederation established in the Tāmasnā province, extending along the Atlantic coast of Morocco, between Salé and Safi, from the 8th to the 12th century (Rapoport and Savage-Smith 2014, p. 422.).

• Shanghema 上合麻 is probably a mistake for Ahema 阿合麻, Āghmāt. There were two towns called Āghmāt Ūārīqa and Āghmāt Ūāilan or Āghmāt Aylā in western Morocco. Āghmāt Ūārīqa or Āghmāt Wurīka is near the modern village of Ouriki, 37 km southeast of Marrakesh (Levtzion and Hopkins 1981 p. 443). In the Kangnido the name seems to follow the form of Āghmāt Aylā (al-Muqaddasī 1976/1877, p. 97; al-Idrīsī 1836-40, 1, p. 207; Rapoport and Savage-Smith 2014, p. 423).

• The city of Ahalimadena 阿哈里馬的那, on the Ryūkoku Kangnido is written as Ahaheima madena 阿哈黑麻馬的那, where madina or medina means 'town' or 'city' in Arabic and occurs in composition of many place names. The reference here could be to Agadir Medina in Morocco.

• Tumatena 禿麻忒那 possibly stands for Tāmdalt/ Tamadult (written by Idrīsī as Tāmdalat; Miller 1926-31, 1, p. 81). The ruins called Tamdoult Ou Akka, are visible about 13 km southwest of Akka on the south side of the Anti-Atlas (Levtzion and Hopkins 1981, p. 457).

On the Mediterranean coast, the Kangnido features a place called *Hasatanina*, that is, Constantine, the city in Algeria that the Arabs conquered in the seventh century and renamed Qusantina (al-Idrīsī 1836-40, 1, p. 242; Qosantīna in Ibn Baṭṭūṭa 1829, p. 3; Quṣṭanṭiniyya, according to Sugiyama 2007, p. 58). Moving east along the coast, the map marks the capital of Ifriqiyah (Africa), Ibn Khurradādhbih's *Qayruwān* which the Kangnido calls *Kanpuban* 看普般, the site of modern-day Kairouan in Tunisia (al-Idrīsī 1836-40, 1, p. 260). *Zaobian* 藻邊, perhaps a corruption of Zaosa 藻颯, refers to Sūsa (present-day Sousse), a town near Tunis (al-Idrīsī 1836-40, 1, p. 252; Rapoport and Savage-Smith 2014, p. 451). *Moni* sounds like *Būnah* or *Bône*. Bone is modern Annaba, one of the most important commercial centers of the Algerian coast (al-Idrīsī 1836-40, 1, p. 246; Rapoport and Savage-Smith 2014, p. 424).

The Arab geographers generally give meager accounts of other towns in the Maghreb. Groups of villages, so common elsewhere in Africa, did not exist. In addition, Portugal began conquering city after city in Northern Africa during the 15th century, which meant that some places ceased to exist or, when rebuilt, were renamed, which affected the makeup of all subsequent maps.

3. South and Southeast Africa

The Honkōji Kangnido seems to have made use of a number of "modern" maps — that is, maps reflecting contemporaneous knowledge of the world drawn from the accounts of explorers or navigators, even if the map also relied heavily on a classical understanding of the world. In particular, the map's geography of the East African coast draws directly from the *Guang yutu* (The broad terrestrial map) of Luo Hongxuan (1504-1564). The overall sense of the African landmass is deceptively suggestive of our modern understanding. A close examination of detail though reveals a rather mixed picture of recognizable locations and hugely distorted understandings of the actual geography.

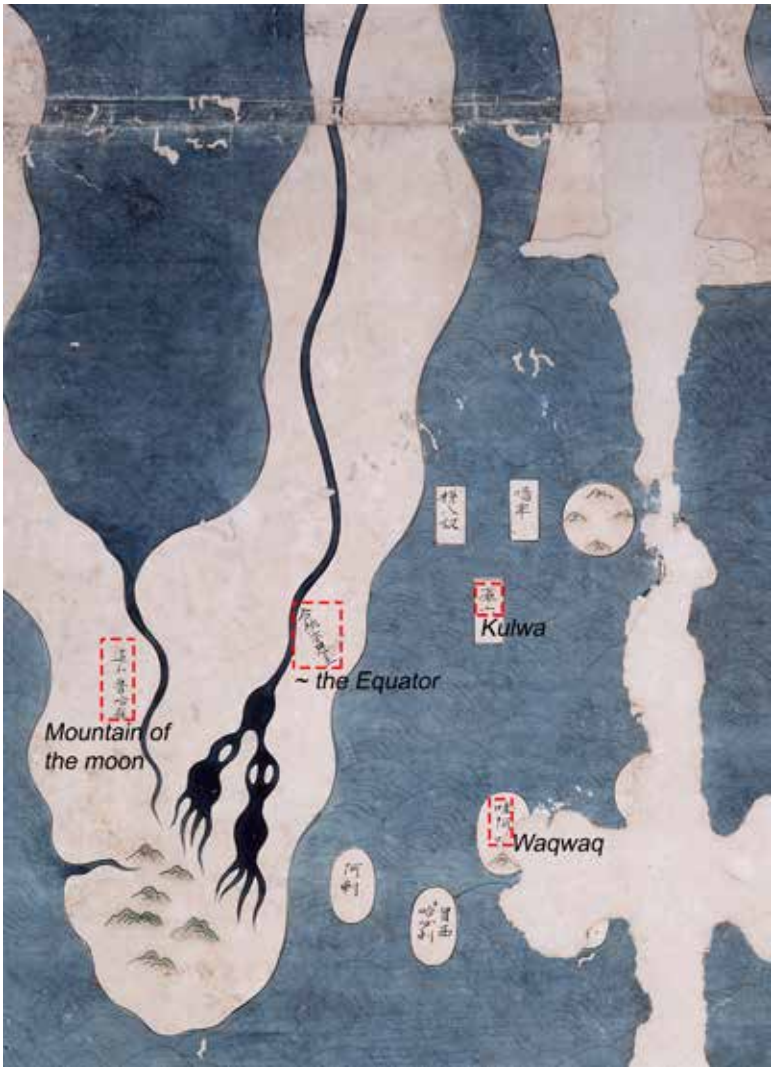


Fig. 4. Detail of South and East Africa in the Honkōji Kangnido, with some inserted captioning.

Classical Arab geography, and through it the influence of the 2nd-century geography of Ptolemy, is abundantly evident here. Like Islamic maps, the Kangnido devotes a great deal of attention to the course of the Nile. Yet it is an odd Nile indeed, its lower reaches flowing out of the huge central African lake, whereas its long upper course [Fig. 4], while deriving from the river's source in what the map designates (more or less correctly) as the *Zhebulu hama* 這不魯哈麻 (Jabāl al-Qamar), literally the *mountain of the moon*, located not about midway down the continent but near its southern tip, debouches into the Red Sea, not the Mediterranean.[9] Chinese maps of the Ming period, such as the *Liangyi xuanlan tu* 兩儀玄覽圖 (the World Observing Map, 1603) by Matteo Ricci and *Tianxia jiubianfen yeren ji lucheng quantu* 天下九边分野人迹路程全图 (A Complete Map of the World, 1644) called it Yueshan 月山 (mountain of the moon), the Chinese name for the Jabāl al-Qamar (Wang et al. 1994, Pl. 59, p. 146).

The body of water that is shown to occupy much of the interior of the continent surrounds an island called Huangsha 黃沙, which literally means "Yellow desert." It perhaps refers to Ṣaḥārī rimāl in inner Africa, Jazīrat al-Tibr (Island of Gold), Bilad al-Tibr or Jazīrat Wankarā al-Tibr, one of the countries of Sudan situated south of the Maghreb (see Levtzion and Hopkins 1981, p. 169). We observe here the pictorial description of the Arab legend that claims the existence of a large lake in the central portion of the African continent. Al-Idrīsī, however, writing in 1145, makes of 'Wangara' a piece of land, an island surrounded by the 'Nile' to the east of Ghana. In his text he tells us that it is inundated by the 'Nile' waters annually and that after the flood people swarm over it to search for gold. In describing the lake, Al-Idrīsī recognized that the information was transmitted through al-Khwarizmi from Ptolemy and wrote:

> This lake is just beyond the equator, and touching it. In the lowest part of this lake in which the rivers collect, a mountain protrudes, splitting the main part of the lake into two, and extending from the lake to the northeast. One of the branches of the Nil flows along this mountain on the western side. This is the Nil of Bilad al-Sudan, on which most of the towns are situated. The second branch of the Nil comes out of the lake on the eastern rift of the mountain, and flows to the north, through the country of the Nuba and the country of Egypt. [Levtzion and Hopkins 1981, p. 115; Levtzion 2000, pp. 73-74]

The inscription designating the "Mountain of the Moon", *Zhebulu hama* 這不魯哈麻 [=Jabāl al-Qamar] is located on the Kangnido south of the large lake and between it and the symbols for the actual mountains. Almost directly east of that inscription, and east of the river is a place called Henayisigui 合納亦思圭, which the *Da Ming hunyi tu* calls *Fanayisiwa* 法那伊斯哇, and the *Guang yutu* calls *Hanayisijin* 哈納亦思津 (Wang et al. 1994, p. 54; Luo 1969, pp. 388-89). The fifth character is evidently incorrectly drawn, given they way in which the *Da Ming hunyi tu* inscribes the name above. The name *Henayisiwa* (also *Fanayisiwa*) transcribes the Arabic name for the Equator, *Haṭ al-īstiūā* (Miller 1926-31, 1, p. 80; Takakashi 1963-75 (1963), pp. 87-90).

Locations along the southeastern African coast are all indicated in cartouches placed out in the ocean, thus making their relationship to the land somewhat unclear. From south to north, starting at approximately the latitude of the source of the Nile in the Mountains of the Moon, they include *Maoxi habila* 冒西哈必剌 / *Changxi habila* 昌西哈必剌, *Ala* 阿剌, *Wa'a'wa* 哇阿

Fig. 5. Detail of the Mediterranean basin and portions of Europe in the Honkōji Kangnido, with selective inserted captioning.

哇, and *Kexidabin* 顆細打賓, all located south of the designation for the Equator. While the equivalent for Ala is uncertain (it might represent Sofala), *Maoxihabila* or *Changxihabila* occurs in the *Da Ming hunyi tu* and *Guang yutu*,[10] perhaps a transliteration for *Jazirat al-Qamar* (Comoro Islands) (Miller 1986, pp. 108-9; *Ḥudūd* 1982, p. 205); or perhaps *Jazīrat al-Qanbalū* (Pemba Island) or *Marsa Qanbala* (Rapoport and Savage-Smith 2014, p. 434). On account of the position assigned this island, the name Changxi for the inhabitants of the Somali coast was given to the Mozambique channel. The similarity of sound between this name and that used by the Arabs of the time to designate the big island of Pemba, Qanbalu, leaves little doubt that the Chinese name means the Zanj-i Qanbāla (or Qanbalū) "Zanj of Qanbalū." Kexidabin perhaps refers to Ra's Jardafūn (Cape Guardafui, ancient Cape Aromata). Al-Jardafūn, or Ra's Jardafūn, the name used by Arab navigators for the cape at the tip of the Horn of Africa, known today as Ra's 'Asir and in European literature as Gardafui (Rapoport and Savage-Smith 2014, p. 445).

Wa'a'wa 哇阿哇 (*Wāqwāq*) is a place visited by the Arabs and located somewhere on the eastern coast of Africa. However, the Arab sources also refer to an Asian *Wowo* 窩窩 (*Wāqwāq*).[11] Al-Idrīsī believed that Sofala was called the Sofala of the Wāqwāq on the basis that the indigenous speech resembled a whistling sound of a bird (al-Idrīsī 1836-40, 1, p. 79).

Just to the north of the Equator on the map are cartouches for *Kuliu* 庫六 (*Kulwā*), *Tibanu* 梯八奴 (*Dibanu* 娣八奴 in the *Guangyu tu*), and *Hezu* 喝卒, the last two placed in the ocean between the coast and a mountainous island. Tibanu refers to *Ṭabarnā*, the Arabic name for the Taprobanē of Ptolemy (*Ḥudūd* 1982, p. 57). The southernmost point of human habitation was Taprobanē (Ṭabarnā), which Ptolemy located at 41/4° north of the equator; the exact place to which the name referred remains uncertain. Just to the east of the mountainous island is a damaged section of the map, where, presumably, there might have been other names relating to the African coast. The map does include *Mahehashu* 麻合哈叔 (Maqdashaw or Mogadishu), far to the southeast, connected by the *Nufa* 奴發 (Zufar) in the Honkōji Kangnido and *Guang yutu*, leaving questions as to whether the cartographer had any real idea of its location. In general, traditional Arab geography preserved more and better information than is reflected on the Kangnido regarding the East African coast.[12]

Europe

One of the striking features of the Kangnido is its inclusion of Europe, even if its rendering of the Mediterranean world substantially distorts the way it is depicted in the maps of classical Arab geographers [Fig. 5]. While the map outlines what we can reasonably interpret as coastlines (even if hugely deformed), the

Black Sea is entirely absent, and the Mediterranean not marked by any shading to distinguish water from land in the way that the map does for the oceans. Compounding the confusion in the eastern end of the Mediterranean world is the conflation of the Balkans and Anatolia. The Kangnido's Europe divides into five parts: northwestern and central Europe, the Iberian peninsula (*Al-Andalus*), the Italian peninsula, the Balkans, and the Crimean Peninsula.

1. Northwestern and central Europe

In the northwest, the mapmaker of the Kangnido labels two countries as *Aluni'a* 阿魯尼阿 and *Falixi* 法里昔. Aluni'a refers to *Qalūnīa*, the Arabic name for Cologne (Köln) in Germany. Falixi transliterates *Barīz*, the Arabic name for Paris. In the *Mingshi* (History of the Ming [dynasty]), the characters *Balaxi* 巴喇西 designate Paris, perhaps derived from the Arabic name for the city.[13] The *Ming shi* records:

> Balaxi is very far away from China. In the sixth year (1511) of the Zhengde reign, (Balaxi) sent the envoy Shadibai, to offer tribute. He advised that their country was located in the Southern Ocean. Initially, carrying his king's orders, he had travelled four and a half years in an ocean-going ship.[14]

According to the Ryūkoku Kangnido, south of Falixi (Paris) lies a place named *Ainu* 愛奴, probably the historical province of Aunis in southwestern France. To the southwest of Ainu is a place named *Alazhila* 阿剌只剌, probably *Raġāla*, the Arabic name for La Rochelle, the capital of Aunis. To the northeast of Ainu stood a place named *Aminaxinan*, represented by a pagoda-like building with a cross, so perhaps a church. Sugiyama (2007 p. 58, table 1: № 186) thinks this may actually signify the papal city of Avignon, although it more likely is Venice (see below).

The Kangnido shows the Mediterranean coastline from Dénia (*Dāniya*) to Barcelona (*Baršluna*) in Catalonia, along the south of France, and extending as far as Genoa (Ǧanua) in Italy. The name *Malixilina* 麻里昔里那 is either Marseille (according to Sugiyama) or, more likely, Barcelona (see below). To its north is *Jiliruo* 汲里若, which Sugiyama (2007 p. 58, table 1: № 189) identifies as Girona. However, the first and last characters in the name, *ji* 汲 and *ruo* 若, could easily have been mistakenly exchanged for the similar-looking characters *mo* 沒 and *ku* 苦. If that is the case, then the actual characters, Moliku 沒里苦, may be a variant of the name *Moniku* 沒尼苦 that appears in the same location in both the Honmyōji *Da Ming guo ditu* and the Tenri *Da Ming guo tu*.[15] Thus, the characters may refer to Monaco, the city-state between France and Italy.

2. Iberian peninsula (Al-Andalus)

Spain, on the Iberian peninsula, was partly controlled by Muslims and known to Arab geographers by the name *al-Andalus*, from which evolved the name for the modern Spanish province of Andalucía. While some of the place names within al-Andalus in the Kangnido are of Arabic origin, others originally were Roman or Gothic names that were later modified by Arabic speakers. The Kangnido marks a place it calls *Zhebulifa* 這不里法 at the southern end of the Iberian peninsula. Professor Sugiyama identifies the compound name *Zhebulifa* + *Dapulu* as *Jabal al-Ṭāriq*, otherwise known as Gibraltar (2007 p. 58: table 1, № 204). However, the name *Dapulu* 達普魯 appears in the Honkōji Kangnido separately from Zhebulifa and probably refers to Tabira, an important town in the Algarve (*al-Gharb*) or *Ṭarf al-Gharb* (Cabo de São Vicente), the southern coastal region of modern-day Portugal (Mónica Herrera-Casais 2008, p. 250). There is in fact a better interpretation of the toponym Zhebulifa. Indeed, the name *Gibraltar* derives from the Arabic name *Jabal al-Ṭāriq*, which means "the mount of Ṭāriq." 'Alī al-Sharafī (fl. 1551–79), the 16th-century Tunisian chartmaker and scholar, rendered the name *Gibraltar* into Arabic as *Jabal al-Fatḥ* (Herrera-Casais 2008, p. 250). About *Jabal al-Fatḥ*, Ibn Baṭṭūṭa writes:

> I therefore set sail from Subta to Spain; and the first place I saw was the *Jabal al-Fatḥ* (Hill of victory). This is one of the greatest refuges of Islamism, and one which forced sorrow down the necks of the idolaters. From this place commenced Islamism, in the great victory; for here landed Tārik (Ṭāriq) Ibn Ziād, the slave of Mūsa Ibn Nasīr, at the time of his passing over to Spain. From this circumstance it was named after him, and called 'Jabal Tārik (Ṭāriq). It is also called the 'Jabal Fath (Hill of Victory), because his beginnings had their commencement here. [Ibn Baṭṭūṭa 1829, pp. 226-27; Ibn Baṭṭūṭa 1958-2000, 4, p. 935]

Thus, the name *Zhebulifa* most likely transliterates *Jabal al-Fatḥ*.

Professor Sugiyama identifies a nearby city, named *Maliuli* 麻六里 (recorded on the Honkōji but not on the Ryūkoku Kangnido), as the city of Marbella (2007, p. 58, table 1: № 203). Alternatively, the name may refer to *al-Marīri* or *Mawrūr* (Morón de la Frontera) in the Seville province. In any event, we must be dealing here with a town that was important in Arab Spain. The name Maliuli surely dervives from a rendering in Arabic, and, like many of the cities on the Iberian Peninsula in the Kangnido, it probably was a city on the border between Christian and Muslim territories.

Further north, the Kangnido plots a city it calls *Falata* 法剌它 presumably the one the Arabs called *Baladu-Walid*, Valladolid (al-Ya'qubi 2011, p. 354). North of it lies a city called *Tangela* 嘆戈剌, perhaps originally written as *Tanfala* 嘆伐剌, which suggests the Arabic name *al-Tafaylla*, in other words, the name for modern

Tafalla in Navarre. To the east, the name *Nadula* probably indicates Andorra, now the microstate between Spain and France.

Continuing east to the Mediterranean coast, *Talaruona* 他剌若那, an error for *Talakuna* 他剌苦那, refers to the Arabic name *Ṭarakuna*, modern Tarragona. The position of *Maxilina*, which Sugiyama identified with Marseille, permits an alternative identification with *Baršluna*, the Arabic name for Barcelona. In the Kangnido, there are several place names with an initial *b* or *m*, but their sound varies between the two consonants. This variation between *b* and *m* typically appears in the initial position and entails the replacement of *m* by *b* or *b* by *m* in the several place names, such as Maxilina, *Baršluna* in Arabic.

3. The Italian peninsula

A large Italian peninsula cuts off the Iberian peninsula on the northeast and turns to run into the Mediterranean from the north. In the far north of the Italian peninsula is a pagoda-like object named *Aminaxinan* 阿彌那昔南, which probably is a corruption of names like *al-Finīziya* or *al-Beneçia*, the Arabic name for Venice. 'Alī al-Sharafī (fl. 1551–79), the sixteenth century Tunisian chartmaker and scholar, renders the Italian Venice into Arabic as *Finīziya wa-hiya l-Bunduqīya* (Venice, that is, al-Bunduqīya) (Herrera-Casais 2008, p. 252).

Despite the map's deformation of the shape of the land masses and the relative placement of cities, we can identify with some certainty many of the geographical names in this region and at least suggest reasonable possibilities for the identity of others even if the phonetic shifts may not always be readily explained by formal linguistic analysis. The name *Lamo* 剌沒, which appears in the center of the peninsula, clearly stands for Rūma or Rumiya, the Arabic name for Rome. The *Zhufanzhi* calls Rome *Lumei* 盧眉. To the north of Rome, the map lists five more place-names: *Nainina* 妳你那, *Malu* 麻魯, *Tianxiahu* 天下戶, *Talitu* 它里禿, and *Banifa* 八你法. The name Nainina 妳你那 seems to be an error, instead of *Jinnina* 妗你那, which suggests the Latin name for Genoa. Malu probably refers to *Malf*, modern-day Melfi, in the Southern Italian region of Basilicata. On the Ryūkoku Kangnido Tianxiahu is written as *Tiandinghu* 天丁戶, perhaps Tarquinia (Tarchuna), an ancient city of Viterbo. Talitu probably denotes *Ṭārant*, the Arabic name for Taranto in the far south of the peninsula. Banifa transliterates *Benebent*, the Arabic name for Benevento.

The southeastern tip of the Italian Peninsula, known as Apulia, is shown separated from the mainland by a strait and bordered on the south by high mountains, suggesting that it is dangerous for ships. While the name *Halabayinu* 哈剌八以奴 may represent a corruption of *Qalibli* (Gallipoli), geographic logic would suggest instead that it could be *Qalawriyah*, the Arabic name for Calabria in the Southern Italy, mentioned in other Muslim sources (Rapoport and Savage-Smith 2014, p. 421). The name *Tasina* 他思那 / *Talina* 他里那 may transcribe the toponym *Taliya* or *Taliyan*, the Arabic name for Italy, mentioned in other Muslim sources which used this name for the language of Franks. However, the toponym may in fact be a corruption of *Atrānt* (=Turenum/Trani). For other locations on the map in southern Italy, see my appended table.

4. The Mediterranean world and its islands.

Even though the map's rendering of the Mediterranean does not distinguish its waters from the adjacent land masses by the use of color, at least some important geographic features found in or along it are depicted. For example, we find *Sahalina* 撒哈里那 (Sicily), the name of the island written in a cartouche. Lying at the heart of the Mediterranean, it is the sea's largest island, a natural stopping place for travellers, and close to both Rome and Tunisia on the North African coast, which profoundly influenced the island's history. The name *Sahalina* probably refers to *Siqalīa*, the Arabic name for Sicily (Ibn Ḥauqal 1800 p. 53). Indeed, the older Chinese geography *Zhufanzhi* called the island *Sijialiye* 斯加里野 (Zhao 1996, p. 133), clearly derived from the Arabic name *Siqalīa*. In Arabic and Judaeo-Arabic sources, Palermo is usually *Madīnat Ṣiqillīya* (the city of Sicily), and often just *Ṣiqillīya* (Sicily) (Rapoport and Savage-Smith 2014, p. 469). While the dark color filling the contours of what in terms of its placement might be mistaken for Sicily would seem to be make it impossible to read any inscriptions from the photograph of the Honkōji *Kangnido*, Sugiyama Masa'aki has made out on it the names *Molide* 莫里的 and *Falisang* 法里桑, which he identifies as Marsara and Palermo (2007, pp. 58-59: table 1, №№ 182-183). In fact, it seems more likely that Molide refers to Malta, and Falisang to Balzan, a town of Malta.

5. The Balkans

The configuration of the Balkans on the Kangnido is unusual. Some important cities of Balkans seem to be missing, the confusion compounded by the fact that the landmasses of Asia Minor and the Balkans are subsumed into one. Many of its labels await identification. There are four place names east of Aminaxinan (Venice): *Saba* 撒八, *Chedala* 車大剌, *Shangnigu* 上尼古 and *Lataba* 剌它八. Saba probably refers the Arabic name *Ṣaṭwa* or *Ṣaṭu*, modern Zaton west of Zadar; Chedala is *Jādara* or *Jādhara* (al-Idrīsī), the Arabic name for modern Zadar; Shangnigu is *Sabnaqi*, the Arabic name for modern *Šibenik (Sebenico)*; and finally, Lataba is *Lastobon* (modern-

day Lastovo), the Slavic name of both an island and a city. Even if the Black Sea itself seems to be missing, major locations connected with its western and northern shores are included on the map. *Gusitanxina* 骨思嘆昔那 (*Qusṭanṭīniyyah*) is a phonetic rendering of Constantinople, present-day Istanbul. Along what might correspond to the sea's western coast is a toponym *Wusida* 烏思達, probably a corruption of *Wulida* 烏里達, referring to *Rūtā* river, an ancient name for the Danube; The toponym *Xikena* 昔克那 (the position of a large, red, gear-like marker on the river and west of the Gusitanxina) might correspond approximately to Šighnu or Šaghnu (*Istaghnō* — Tomaschek 1886, p. 341), the Arabic name for modern Stagno (Ston), also known as Stagno Grande (Roman settlement Sta-g-n-um), in the Bay of Sabioncello, a historical town in Croatia (cf. Miller 1926-31, 1, p. 73; 2, p. 127). The foundations of the Roman castrum can still be seen on Starigrad Hill. In the tenth century Ston was the seat of the diocese, probably located by the church of Our Lady of Luzina. *Shalehe* 沙樂呵 (an error for *Duolehe* 多樂呵) refers to *Adras*, the Arabic name for Durrës, historically Dyrrachium or Durazzo, the starting point for the Via Egnatia, the important Roman (later Byzantine) road that led east across the southern Balkans. For other cities in the Balkans identified on the map, see my appended table.

6. Crimean Peninsula

To the east along northern coast of Black Sea in the Honkōji Kangnido there is damage obscuring some of the names. However, the Ryūkoku Kangnido identifies several important cities: Shatianpulu 沙天普魯, Qusun 曲孫 (Korsun), Puyu 普余 (Fori, modern Foros), Chijina 赤吉那 (Kikineiz, modern Opolzneve), Sudali 速達里 (Sudaq) and Fashi 法失. Shatianpulu 沙天普魯 is most likely a copyist's error for the very similar-looking Shashipulu 沙失普魯, which presumably was intended to transliterate Sizūboli or Sizubli, the Arabic name for Sozopol, the oldest towns on the southern Bulgarian Black Sea coast (Konovalova 2006, p. 153). Fashi 法失 is most likely a copyist's error for the very similar-looking Qieshi 怯失. This suggests that Qieshi was intended to transliterate Karši, the Turkic name for Kerch. Sugiyama (2007 p. 59, № 94) identified Sudali as the Russian city of Suzdal', which is so remote from the other locations here as to be improbable. Very likely, the character li 里 in this name must have been brushed in error, where the cartographer must have intended to write the similar looking character, hei 黑. Sudahei would make a plausible transcription for Sudaq (also known as Soldaia). Qusun (Karsūna, Kherson or Korsun), formerly called Cherson Trachea (outside present day Sevastopol), is to be distinguished from another Kherson on the Dnieper River. The one in the Crimea was taken by the Rus' prince Vladimir in the 10th century; its name in the Russian annals is Korsun', which has been proposed as the source for the form of the name in the Arab sources (Konovalova 2006, p. 177). On the east coast of the Black Sea lies a place named Hudadeli 忽達的里, perhaps a corruption of Rud-i Ātīl, the Persian name of the modern Volga River.

Conclusion

This study of the toponyms written on the Kangnido in Chinses ideograms has resulted in the identification of most of them with toponyms recorded in the classical Arab and Persian geographies. In fact, it is remarkable that the names, when compared with those given by Arabic geographers, show as close an approximation to original Arabic sound as the Chinese language is capable of expressing. Despite the cartographic distortions in the western parts of the Kangnido, it is possible to discern how the basic outlines of landforms and the division of the world into several regions derive as well from Islamic cartographic traditions. The anonymous *Ḥudūd al-ʿĀlam* and Ibn Khurradādhbih's *Kitāb al-Masālik wa-'l-mamālik* are among the most detailed and earliest texts in that tradition and were based on itineraries of actual travel. That such information then was copied and transformed in subsequent Islamic "academic" geography is important to understand if we are to be able to say more (as remains to be done) about the direct Islamic sources used in the compilation of the Kangnido.[16] Not the least of the issues here is the question of the relationship between text and map, where the maps may be rather schematic and farther removed from any geographical reality than are the texts their cartographers consulted.

Even given strong evidence about the Kangnido's reliance on Islamic sources for its depiction of the western regions, it is important to understand how, in captioning it using Chinese ideograms, the cartographers may have transformed their originals and, at least to a certain degree, drawn on Chinese cartographic traditions that preserved other evidence. The maps in the 16th-century *Gang yutu* seem clearly to have been such a source for the revised and fullest version of the Kangnido. A full discussion of such matters requires separate treatment, but it is to be hoped that this article will contribute to such a study.

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Notes

1. In Chinese pinyin, the title would read *Hunyi jiangli lidai guodu zhitu*. For a treatment of the Kangnido in the context of the history of Korean cartography, see Ledyard 1994, pp. 244-49, 265-67. On the different copies and later maps of the Kangnido, see Fujii et al. 2007, pp. 56; 448-54. Sugiyama Masa'aki (2007) discusses the Kangnido in Ibid., 54-83. Also see Robinson 2010, p. 92.

2. Japanese scholars have made significant contributions to the study of Kangnido. The Japanese historical geographer Ogawa Takuji (1928-29, 1, pp. 59-62) first brought the Ryūkoku Kangnido to scholarly attention. After Ogawa, see the careful study of the place names in the Kangnido by Aoyama 1938. See also Wada 1958; Takakashi 1963-75; Miya 2006; Miya 2007, p. 14.

3. Cf. Sugiyama 2007, p. 56, who regards the comparison with the Catalan Atlas more grounded in history than the comparison with the Fra Mauro map.

4. Chinese text: 謹令工人畫‘海內華夷圖’一軸，廣三丈，從三丈三尺，率以折成百里 (Liu 1975, 12: 138:3787).

5. On the problematic treatment of the Indian Ocean region and especially the Persian Gulf on this map and possible Islamic sources for it, see Kauz 2013.

6. In the *Ming shilu* called Xigandaliye 西干達哩耶 (Iskandiriya). See *Ming shilu* 1964-67, Ming Taizong shilu, juan 56: [Yong-le: Year 4, Month 7, Day 29 (12 Aug 1406)] 舊港頭目陳祖義遣子士良梁道明遣姪觀　政及西干達哩耶回回哈直馬合默等來朝賜鈔幣有差: "[Chen] Shi-liang, who had been sent by his father Chen Zu-yi, a chieftain of Old Port, and [Liang] Guan-zheng, who had been sent by his uncle Liang Dao-ming, also a chieftain of Old Port, as well as the Muslim Ha-zhi Ma-he-mo from Xi-gan-da-li-ye, came to Court. Paper money and silks, as appropriate, were conferred upon them."

7. Alternatively, the name *Xunta* is said to reflect Arabic *Iskandiriya* which would confirm the pronunciation of our name as *Skinda*.

8. Alternatively, assuming a northern route, it could be the city of *Abshāya*, which appears in the world of earlier Arabic geographers (Ibn Khurradādhbih 1889, p. 81; al-Ya'qubi 2011, p. 332). According to Al-Ya'qubi, Abshāya was also known as al-Bulyāna (al-Ya'qubi 2011, p. 332). Al-Bulyāna is located near the ancient Egyptian city of Abydos. In the Ryūkoku Kangnido this name is transcribed as Alasaiyi 阿剌賽伊. Sugiyama (2007, p. 59) identified it with Alexandrī.

9. Although not on the Ryūkoku Kangnido, the Honkōji Kangnido shows the Chinese transcription *Zhebulu hama* 這不魯哈麻, which Takakashi identifies with the Persianized Arabic name *Djebel alqamar*, 'Mountains of the Moon'. See Rapoport and Savage-Smith 2014, p. 494.

10. About *Da Ming hunyi tu* and *Guang yu tu*, see Wang et al. 1994, pp. 51-55.

11. For a review of some of the issues requiring a new study about the location of *Wāqwāq*, see Tolmacheva 1987-88.

12. See, e.g., the discussion in Tolmacheva 1969, but with important qualifications based on more recent analysis of evidence not from "academic" geographical treatises but rather from actual travel itineraries (Tolmacheva 2015).

13. Other scholars identified Balaxi with Brazil or with the ethnonym Pārsis/Parsi. See Wade 2010.

14. Chinese text: 巴喇西, 去中國絕遠. 正德六年遣使臣沙地白入貢, 言其國在南海, 始奉王命來朝, 舟行四年半 (Zhang 1962, juan 325).

15. Mapmakers of the Honkōji Kangnido write the character *ku* 苦 as *ruo* 若. For example, 他剌若那 = 他剌苦那 (Tarragona). See Sugiyama 2007, p. 58, Table 1: № 189.

16. While there is a huge literature on Islamic geography, readers may wish to consult first of all Harley and Woodward 1992, especially Chs. 4-7.

The Place Names of Euro-Africa in the *Kangnido*

№	*Kangnido*	Name	Remarks/Location
Africa			
1.	Misi 密思	Miṣr	Cairo
2.	Manyong 蛮涌	Manūf	Memphis
3.	Ahaming 阿哈明	Ikhmīm	Akhmim, ancient Chemmis
4.	Xunta 尋他	Shaṭā	
5.	Bu 布	Fuwwah (Fūa)	
6.	Abusaiyi 阿卜賽伊	Abu Sir?	
7.	Bunasi 卜那思	Al-Bahnasā	Ancient Oxyrhynchus
8.	Lieyinsa 列因撒	Menshie or Al Minšā?	Al-Manshah, an error for Bieyinsa 別因撒. Ancient Ptolemais Hermiou
9.	Liangyi 梁伊	Al-Minya?	
10.	Kunzheba 困者八	Quna, Qena or Qinā	
11.	Gaosi 高思	Qūs	
12.	Luodelini 羅的里尼	Rūd-i Nīl?	
13.	Mahadalai 麻哈荅來	Maqdashaw	
14.	Kexihanichi 顆細哈你赤	Ra's Khanzira?	Ra's al Khanzīra, or Ra's Anf al Khanzīra ('the cape of the Pig's nose) is located between Berbera and Maiṭ, on the northern coasts of modern Somalia, opposite Aden. See Rapoport and Savage-Smith 2014, p. 445.
15.	Luoxi niejia 羅细捏伽/羅细捏加	Berniq or Berenice (Berenike)	Berenica=Benghazy in Libya. Outwardly resembles Cyrenaica, Arabic Barqah, nowadays called al-Marj.
16.	Dunfadana 敦法荅那	Thubaqt (Thubactis)?	Misrata
17.	Talasibulu 他剌思布魯	Tarābulus/Tarābolos	Tripoli. Mustawfi al-Qazwīnī 1919, p. 258; Ibn Khurradādhbih 1889, p. 86

18.	Faxi 法細	Fākis; Asfaqus (Sfax)?	Al-Ya'qubi 2011, p. 350.
19.	Zaobian 藻邊?	Sūsah	Sousse, an error for Zaosa 藻颯.
20.	Zeshaba 則沙八	Jerbē	Djerba. Al-Idrīsī 1836-40, 1, pp. 274, 282.
21.	Asiniye 阿思你也	Al-Aṣnām	A locality west of Sirte. Rapoport and Savage-Smith 2014, p. 42; Miller 1926-31, 2, p. 183.
22.	Moni 没你	Būnah	Al-'Annāba, modern Bône
23.	Nahala 那哈剌	(Qasr) al-Nakhla	According to al-Idrīsī, (Qasr) al-Nakhla is situated near Benzert (Bizert), see al-Idrisi 1836-40, 1, p. 277.
24.	Kanpuban 看普般	Qayruwān	Kanluwan 看魯般
25.	Hasatanina 哈撒它你那	Qusṭanṭiniyya	Constantine
26.	Molakandi 沒剌看地	Al-Murabitun? Or (Jaza'ir Banū-) Mazghannā?	The position assigned by *Kangnido* to the country of Molakandi, as well as the similarity in sound of the name point to its being the kingdom of the al-Murabitun or Almoravide princes who reigned over al-Maghreb and southern Spain from the latter part of the eleventh century to the middle of the twelfth. (Jazā'ir Banū-) Mazghannā, present-day Algiers. Wheatley 2001, p. 205.
27.	Salisabie 撒里撒別 or Salisaye 撒里撒也	Zarzis or Sarsis (Zerzīs)	
28.	Habina 哈必那	Ṭubnah	An error for Dabina 荅必那, Classical Tubunae, present-day Tobna. Wheatley 2001, p. 204.
29.	Si 思	Sirt?	Sirte (Surt). Al-Idrisi 1836-40, 1, pp. 274, 289.
30.	Alina 阿里那	Wargla/Wārqalān?	Ouargla
31.	Fagun 法衮	Fakkān or Afkān	'Ain Fekan
32.	Mingfuna 明弗那	Ṭarfānah	An error for Zhaofuna 照弗那: A medieval locality on the route between Fez and Ténès. Rapoport and Savage-Smith 2014, p. 423.
33.	Like 立顆	Nākūr	*Ḥudūd* 1982, p. 154. Sugiyama Masa'aki identified it with Larache. Its native name is al-Araish, corrupted by the Spaniards into Larache.
34.	Yula 欲剌	Al-Ulyah	Rapoport and Savage-Smith 2014, p. 423.
35.	Balazhe 八剌遮	Ballash	Velez (in Spain). Ibn Baṭṭūṭa 1958-2000, 4, p. 944.
36.	Balawayang 八剌哇羊	Barghwāṭah	A Berber confederation in the Tāmasnā province, extending along the Atlantic coast of Morocco, between Salé and Safi, from the 8th to the 12th century. Rapoport and Savage-Smith 2014, p. 422.
37.	Xifuli 昔弗里	Ṣufrūy or Ṣofrūi (madīnāt al- Ṣufr)	Sefrou. Also Safrava, see Al-Idrīsī 1836-40, 1, p. 202; Miller 1926-31, 2, p. 178; Leo Africanus 1896, 2, pp. 552, 652.
38.	Malidasa 麻里荅撒	Mostāsa or Misiṭāsa	An error for Masidasa 麻思荅撒.
39.	Alababietasi 阿剌八別它思	Arba' Brūj or Arwalṭis	al-Idrīsī, 1836-40, 1, p. 293. Arwalṭis, a mountain in the Libya Interior, Pliny. Also see Nallino, "Al-Ḥuwārizmī e il suo rifacimento della Geografia di Tolomeo," in: *Atti Della R. Accademia Dei Lincei. Memorie Della Classe di Scienze Morali, Storiche e Filologiche*, Vol. 2, Roma, 1896, 29.
40.	Xizhilitumasi 細只里土麻思	Sijilmāsah/Sijilmasa	City now abandoned
41.	Weitamao 為它卯	Aydemur	al-Idrīsī, 1836-40, 1, p. 328.
42.	Huangsha 黃沙	Ṣaḥārī rimāl	May refer to Jazīrat al-Tibr (Island of Gold), Jazīrat Wankarā al-Tibr, or Bilad al-Tibr, one of the countries of Sudan, south of the Maghrib. See Levtzion and Hopkins 1981, p. 169.

43.	Bakuna 八苫那	Meknasa	
44.	Mannakushang 滿那苫上	Marrākeš	Marrakash
45.	Jiasi'enna 加思恩那	Qeznāna?	Also Kazenāia or Keznana. al-Idrīsī 1836-40, 1, p. 251.
46.	Anifa 阿尼法	Anfa	
47.	Balisihe 八里思和	Berešk/Brishk/Barashk	
48.	Waiyeming 外也明	Wārīfan or Wāryād	A town on the banks of the river Chelif. Rapoport and Savage-Smith 2014, p. 423.
49.	Baizheli 拜這里	Fédala	Mohammedia
50.	Binanlongni 必難籠尼	Benō Marōnī	al-Idrīsī 1836-40, 1, p. 223.
51.	Tumatena 禿麻忒那	Tāmdalt/Tamadult	
52.	Aixue 愛薛	Al Sūs al Aqsa	
53.	Ani 阿尼	Al-Sus al-Adna?	
54.	Fasu 法蘇	Fās	Fez
55.	Ashiye 阿失耶	Aṣīlā/Azīlā/Arzila	Asilah
56.	Ahalimadena 阿哈里馬的那	Agadir Medina?	
57.	Shanghema 上合麻	Āghmāt	Located approximately 30 km east of Marrakech on the Ourika road.
58.	Zhebululuhama 這不魯哈麻	Jabāl al-Qamar	The Mountain of the Moon
59.	Henayisiwa 合納亦思圭	Ḥaṭṭ al-īsṭiūā	Equator
60.	Tibanu 梯八奴	Ṭabarnā	Taprobanē
61.	Hezu 喝卒	Hiiṣ	Heis or Hais. Rapoport and Savage-Smith 2014, p. 445.
62.	Kuliu 庫六	Kulwā	Kilwa Kisiwani in Tanganyika. The ruins of Kilwa are located on a small offshore island, south of Dar-es-Salaam.
63.	Wa'a'wa 哇阿哇	Al-Wāqwāq	
64.	Ala 阿剌	Unidentified	On the *Ximan haiyu tu* of Luo Hongxian written as Shi'alatulichi 失阿剌禿里赤 (Shi'erlatulina 失尔剌禿里那 in the *Da Ming hunyitu*). Perhaps refers to Sofala.
65.	Maoxi habila 冒西哈必剌/Changxi habila 昌西哈必剌	Marsa Qanbala or Jezira Qanbala? / Zanj-i Qanbala (or Qanbalū)?	The Island of Pemba
66.	Hemaoli 合貓里	Qumair?	Comoros (Arabic Juzur al-Qamar). According to al-Bīrūnī (1910, 1, p. 210), the island of al-Wāqwāq belongs to the Qumair Island.
67.	Dieli 碟里	Deli (Sumatra)	Near Medan
68.	Habaya 哈八牙	Dībājāt, the Arabic name for the Maldivies and Laccadives archipelago	An error for Dabaya 苔八牙
69.	Mahehashu 麻合哈叔	Maqadashaw	Mogadisho, an error for Mahedashu 麻合苔叔.
70.	Malongsha 麻龍沙	Malong 麻龍	Malindi Malindi, a town on the east coast of Africa, a little more than 3 degrees south of the Equator, in today's Kenya. In the Ming Shilu mentioned as Malin 馬林, a polity noted in connection with the eunuch-led maritime voyages into the Indian Ocean in the early 15th century. Mills follows Pelliot in identifying this with Malindi (Ma Huan 1970, p. 205).

Europe			
71.	Aluni'a 阿魯尼阿	Qalūnīa	Cologne (Köln)? Perhaps an error for Aluwa'a 阿魯瓦阿, referring to Awrūfā, the Arabic name for Europe.
72.	Falixi 法里昔	Barīz	Paris
73.	Ainu 愛奴	Aunis	Aunis
74.	Baizhena 拜者那 / Baizhuna 拜渚那	Baiūna	Bayonne. Miller 1926-40, 2, p. 104.
75.	Jiliruo 汲里若	Monaco	Monaco
76.	Nadula 納都剌	Andorra (of Navarre)	
77.	Alazhila 阿剌只剌	Raġāla	La Rochelle. Miller 1926-31, 2, p. 134.
78.	Zhebulifa 這不里法	Jabal al-Fatḥ	Gibraltar
79.	Layetala 剌也它剌	Mārtulah	On the Ryūkoku *Kangnido* Laditala 剌地它剌. Mertola
80.	Dapulu 達普魯	Tabira	Tavira
81.	Zhelihalaxi'er 這里哈剌細児	Jazirat al-Khaḍrā	Algeciras
82.	Maliuli 麻六里	Al-Marīri or Mawrūr	Morón de la Frontera
83.	Make'er 麻可児	Muxacra	Mojácar
84.	Sala 撒剌	Shilb	Silves
85.	Sainaruo 賽那若	Zallaqa?	Sagrajas
86.	Yisibandena 亦思般的那	Išbīliyah	Hispalis, modern Seville
87.	Yuenata 粵那它	Gharnāṭa	Granada. Ibn Baṭṭūṭa 1958-2000, 4, p. 943.
88.	Lakesabu'er 剌可撒布児	Lishbūnah/Al-Ushbuna	Lisbon
89.	Yisibandala 亦思般打剌	Al-Ashfān	Hispania. Rapoport and Savage-Smith 2014, p. 432. On the Honkōji copy this name is written together with Dala 打剌.
90.	Halabali 哈剌八里	Qulumriyah	Coimbra
91.	Halabasi 哈剌八思	Qal'at Rabāh	Calatrava was located on the road between Cordoba and Toledo, the two major cities of al-Andalus.
92.	Nadahana 那荅哈那	Qarṭājannaẖ	Cartagena
93.	Hehui'an 合惠安	Covilham?	Covilhã
94.	Lahesha 剌合沙	Lourosa?	
95.	Helike 合里渴	Galika	Miller 1926-31,2, p. 177.
96.	Falata 法剌它	Baladu-Walid	Valladolid
97.	Jiaola 交剌	Quellar	Cuéllar
98.	Touliha 投里哈	Darawqa	Daroca was a center of Jewish learning in Muslim Andalus. Its castle still exists today.
99.	Ma'er 麻児	Mursiyya	Murcia
100.	Falibaha 法里八哈	Faḥṣ al-ballūṭ	Los pedroches
101.	Tena 忒那	Tīrwāl	Teruel
102.	Haniye 哈你也?	Dāniya	Denie
103.	Jishan 雞山	Canary (islands)?	
104.	Halacha'er 哈剌剎児	Qalahurraẖ	Calahorra (means castle of stone in Arabic)
105.	Nazhe 那者	Nāǧera	Nájera
106.	Tangela 嘆戈剌	Al-Tafaylla	Tafalla
107.	Fasibaha 法思八哈	Wašqaẖ?	Huesca
108.	Baibuna 拜不那	Banbalūnaẖ	Pamplona
109.	Bailarenna 拜剌紉那	Balansiyya	Valencia. On the Ryūkoku *Kangnido*, Bailaxina 拜剌細那.
110.	Malixilina 麻里昔里那	Baršluna	Barcelona
111.	Talaruona 他剌若那	Ṭarakuna	Tarragona
112.	Aminaxinan 阿彌那昔南	Al-Finīziya	Venezia
113.	Nainina 妳你那	Ganua	Genoa
114.	Malu 麻魯	Malf	Melfi

115.	Talitu 它里禿	Ṭārant, or Toront?	Taranto or Tronto (Arquata del Tronto). Miller 1926-31, 2: 114. On the Ryūkoku *Kangnido*, Talitu and Banifa are written together in one cartouche.
116.	Banifa 八你法	Benebent	Benevento
117.	Tianxiahu 天下戶	Tarquinia	Tarchuna. On the Ryūkoku *Kangnido*, Tiandinghu 天丁戶.
118.	Lamo 剌沒	Rūma	Rome
119.	Kedunula 渴都奴剌	Qoṭruna/Kutruna	Cotronei
120.	Halana 哈剌那	Callana	Calanna
121.	Linu 里奴	Riyū (Rivāh or Rayah)	Reggio [di Calabria]. Rapoport and Savage-Smith 2014, p. 462.
122.	Sahalina 撒哈里那	Siqalīa	Sicily
123.	Falisang 法里桑	Balzan	
124.	Molide 莫里的	Māliṭah /Meliṭa	Malta
125.	Manfalina 滿法里那 / Manfasina **滿法思那**	Manabīra/Manubali?	Monopoli
126.	Nisazheluo'er 你撒者羅児	Asṭranjlu	Strongoli
127.	Halabayinu 哈剌八以奴	Qalibli? Or Qalawriyah?	Gallipoli, Calabria
128.	Laladai 剌剌歹	Adrant/Adrantu	Otranto, or possibly Aradeo. Miller, 1926-31, 2, p. 114.
129.	Tasina 他思那/Talina他里那 /Dilina地里那	Taliya or Taliyan	The Arabic name for Italy
130.	Nakesina 那可思那	Anqūna?	Ancona. On the Ryūkoku *Kangnido*, Nakelina 那可里那. al-Idrīsī 1836-40, 2, p. 271; Miller 1926-31, 2, p. 114.
131.	Asuwumo 阿速烏沒/ Asuwunu 阿速烏奴	Azmuna	Osimo. Miller, 1926-31, 2, p. 117.
132.	Xikena 昔克那	Šighnu or Šaghnu	Stagno (Ston)
133.	Saba 撒八	Satu or Satwa	Modern Zaton west of Zadar. al-Idrīsī 1836-40, 2, 267; Miller 1926-31, 2, p. 127.
134.	Chedala 車大剌	Jādara (Zadra)	Zadar
135.	Shangnigu 上尼古	Sabnaqi/Sabaqi?	Šibenik (Sebenico). Miller 1926-31, 2, p. 127; al-Fidā 1836-40, 2, p. 312.
136.	Lataba 剌它八	Lastobon?	Lastovo?
137.	Danzhuna 淡竹那	Deldjina or Delūgīa/Dulchigno	Dulcigno/Ulcinj. al-Idrīsī, 1836-40, 2, pp. 268-87; Miller, 1926-31, 2, p. 127.
138.	Niji 尼几	Nona or Ninos	Nona/Nin; an error for Nini 尼尼. al-Idrīsī,1836-40, 2, 267; Miller, 1926-31, 2, p. 127.
139.	Sadu 撒都	Satu or Satwa	Modern Zaton west of Zadar. al-Idrīsī, 1836-40, 2, 267; Miller, 1926-31, 2, p. 127..
140.	Shalehe 沙樂呵	Adraso?	Durrës, historically Dyrrachium or Durazzo. al-Idrīsī, 1836-40, 2, p. 120; Miller, 1926-31, 2, p. 130.
141.	Qifu'ake 奇福阿可 / Qibu'ake 齐补阿可	Divjakë	
142.	Alang 阿郎	Lablūna / Aulon / Avlonya	Vlonë or Valona. al-Idrīsī 1836-40, 2, p. 295; Miller, 1926-31, 2, p. 127.
143.	Funina 福你那	Fania	Jannina/Ioannina. Miller, 1926-31, 1, p. 73.
144.	Jiaofalina 交法里那	Kaūala	Kavala (ancient Christupolis)
145.	Ahesubi 阿合蘇必	Aḥrisūbali	Chrysoupoli. Miller 1926-31, 2, p. 128.
146.	Futalina 福它里那	Butrinṭu	Butrinto. In the Ryūkoku *Kangnido* Butalina 补它里那. Buthrotum, some 14 km south of Sarandë, was an ancient Greek and later Roman city and bishopric in Epirus. Miller, 1926-31, 2, p. 127.
147.	Nasihalina 那思哈里那	Ashkīlū?	Skyros. Rapoport and Savage-Smith 2014, p. 452
148.	Dabalizhu 達八里渚	Deabolis?	modern Devol in Albania

149.	Chixiba'er 赤細八児	Jimara?	Himara or Himarë is a bilingual region and municipality in southern Albania, part of Vlorë County. al-Idrīsī, 1836-40, 2, p. 120; Miller 1926-31, 2, p. 127.
150.	Hebisuna 合必速那	Kobsila / Kibsila	Ipsala; ancient Cypsela. Miller 1926-31, 2, p. 130.
151.	Shashenglilina 沙生里里那	Jefalūnia	Kefalonia. On the Ryūkoku *Kangnido*, Shashenglina 沙生里那; perhaps an error for Shafalina 沙法里那.
152.	Makeduni 麻渴都尼	Maqedūnia / Maqadūniyah	Macedonia (region around Vardar river)
153.	Xisiwa 細思哇	Isqūbīa?	Skopje / Üsküb
154.	Afa 阿法	Arghu?	Argos (Greece). al-Idrīsī 1836-40, 2, p. 125.
155.	Sazhengda 撒正打	Jajat, Jajito	Zakynthos. al-Idrīsī 1836-40, 2, 121; Miller 1926-31, 1, p. 73.
156.	Taku 他苦	Thākū	Ithaki. al-Idrīsī 1836-40, 2, p. 121. Ithaca (modern Ithaki) is mentioned on al-Idrīsī's maps as Thākū. Miller 1926-31, 2, p. 119.
157.	Hali'a 哈利阿	Jazīrat Ḥarkah	Classical Chalke, modern Halki
158.	Kelijiao 可里交	Kérkyra (Corfu) or Qorfus (Corfu)	An error for Kelifu 可里夫. al-Idrīsī 1836-40, 2, p. 121.
159.	Naiye 妳葉	Niyā?	Ios/Nio. This could be Ios/Nio in the Cyclades, which appears on the Idrīsī's map as Niyā. Miller 1926-31, 2, p. 124.
160.	Lamanusi 剌馬奴思	Lemnos	
161.	Meililina 美里里那	Miliṭīn	Mytilene, the major port on the Island of Lesbos. Rapoport and Savage-Smith 2014, p. 486.
162.	Gusitanxina 骨思噗昔那	Qusṭanṭīniyyah	Istanbul
163.	Shatianpulu 沙天普魯	Sizūboli/Sizubli	Sozopol
164.	Wusida 烏思達	Rūtā (river)	Ancient name for the Danube. *Ḥudūd* 1982, p. 76. An error for Wulida 烏里達.
165.	Qusun 曲孫	Karsūna or Kherson	Chersonnes. al-Idrīsī, 1836-40, 2, p. 595.
166.	Puyu 普余	Fori	Foros, west of Yalta
167.	Chijina 赤吉那	Kikineiz	Opolzneve
168.	Sudali 速達里	Ṣolṭāṭa /Sudaq	Sudak. Cf. Konovalova 2006, p. 177, citing al-Idrīsī's *Sultatiyya*.
169.	Fashi 法失	Karsh	Kerch. The Turkic name for Kerch was Karsh or Karši (Ibn Baṭṭūṭa 1958-2000, 2, p. 469).
170.	Hudadeli 忽達的里	Rud-i Ātil	This could be the Volga River, which appears on Idrīsī's map as Nalu Ātil. Miller 1926-31, 2, p. 156.
171.	Fannahudi 凡納忽地	an-nugarda	Novgorod Republic (Konovalova 2006, pp. 191, 198).

Acknowledgement
This article was written within the framework of a research project supported by the Humboldt Research Foundation.

Technology Transfer from Ancient Egypt to the Far East?

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Very special black patinated alloys were employed in the western ancient world for exceptionally precious objects. After the fall of the Roman Empire they were lost and forgotten in the West, but they survived in Asia. In Southern China they are known as *wu tong*. The same material is called *shakudō* in Japan, where it is considered characteristic of Japanese metal art. Related patinated alloys of different colours were employed in Roman Egypt and are found in 19th century Japan too. This paper will explore the possibility of and means of technology transfer from Egypt to Asia by examining the appearance, composition, manufacture and characteristics of the various finds, from the earliest to the latest in their historical contexts. Readers can expect a fair amount of technical detail about the composition of alloys, but without this kind of evidence, it is impossible to make the connections.

In the West, for many centuries, and even after the emergence of archaeology as an academic discipline and the re-discovery of the ancient world, nobody knew what these alloys really were. In 1982 Paul Craddock proposed a tentative theory based on the analysis of a small decorative Roman plaque, but only later, in 1993, did technical analysis firmly identify this very special material, known in Latin as *Corinthium aes*, i.e. the Corinthian copper alloy of the Romans, with a composition that is identical to Japanese *shakudō* (Craddock 1982; Craddock and Giumlia-Mair 1993; Giumlia-Mair and Craddock 1993).

The history of this alloy, however, begins in Egypt, at the beginning of the 19th century BCE. The famous daggers from the Mycenaean shaft graves are also decorated with it, but until recently their black decoration was thought to be *niello*, i.e. black metal sulphides with the appearance and the fragility of dark glass (La Niece 1983). However, as demonstrated by scientific analyses, niello was first used in the Black Sea area in the 5th – 4th century BCE (Giumlia-Mair and La Niece 1998). Only later — in the Roman period and until modern times — did it become common and was employed mainly on small decorative objects. The fact that the decoration on the Mycenean daggers is an altogether different material came as a surprise for the world of archaeology. After the fall of the Roman Empire, the black patinated material is mentioned in Syria. There are hints of its existence in Persia, India and Tibet; it is definitely present in China, Korea and Myanmar; and it reaches the peak of its fame in Japan, where it was employed on metalwork until the Meiji period.

Patinated alloys

The materials discussed in this paper are artificially patinated copper-based alloys containing small amounts of precious metals such as gold and silver. They were treated in aqueous solutions, so as to achieve various surface colors. This kind of patina is very stable and compact, it re-grows by itself when damaged — for example if scratched — and mostly shows a beautiful iridescence on the surface, especially when the alloy contains small amounts of arsenic and/or iron. Its production is closely connected with the history and evolution of alchemy.

The most characteristic of these alloys — and by now the best known — is a copper alloy containing around 1% of gold, often combined with 1% of silver and 0.5% of arsenic and/or iron. After the treatment in a solution of copper salts and other ingredients, this alloy acquires a beautiful black-purple or black-blue color, depending on the elements present in the alloy. Objects made of this patinated alloy are always inlaid with precious metals or metals in contrasting colors. In most contexts there are also cheap imitations that do not contain precious metals, but their properties are different. Nevertheless, it is difficult to distinguish the real thing from the imitations without appropriate

Fig. 1 [Color Plate VIII]. Example of Japanese shakudō*, artificially black patinated alloy containing small amounts of gold, treated in a chemical bath to achieve a purple-black or blue-black colour.* Tsuba *belonging to a* daisho *(pair of long and short swords) by Kazutomo, Edo period, 19th century CE. Autumn grass and deer. (Photo by author)*

Fig. 3. Sentoku *is a Japanese patinated copper-based alloy with Sn and Zn that can have various colour nuances between yellow and brown.* Tsuba *by Kanshiro, Edo period, 17th century CE, National Museum Tokyo. (Photo by author)*

examinations and analyses. One of the most important properties of Corinthian copper was that when the patina was damaged it regenerated by itself. However, this happens only if gold — for Egyptians the metal and the essence of the gods — is present in the alloy. The experiments performed on laboratory samples of this material demonstrated that just handling them with bare hands enhances their beauty and promotes a fast re-growth of the patina (Giumlia-Mair and Lehr 2003).

Fig. 2. Examples of Chinese wu tong *from Yunnan, now in the British Museum (Inv. № OA 1992. 11/9. 1-6). Wu tong is the Chinese equivalent of* shakudō*. The boxes for ink stones were produced at the end of the 19th century CE. (Photo by T. Milton, British Museum, from Giumlia-Mair and Craddock 1993, Fig. 25)*

The purple-black colour — purple was the colour of kings and gods — the bluish iridescence, the mysterious recipes of the production process, the use of precious metals and the strange regeneration property imparted to these objects a magical aura. They were employed in rituals and ceremonies in temples and palaces of kings.

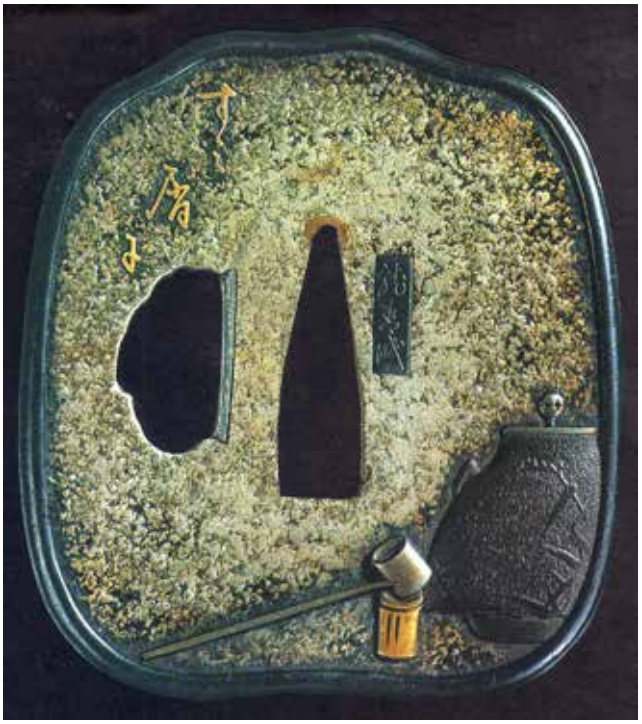
The best known of this family of black patinated alloys in Asia is found in modern Japan under the name of *shakudō* (赤銅) [Fig. 1], and its Chinese counterpart is called *wu tong* [Fig. 2] (Giumlia-Mair and Craddock 1993, pp. 40-45, Figs. 25-28). In other Asian countries there are more patinated and inlaid alloys similar to these, for instance the material that in Korea is allegedly called *ah dong* or *oh dong*, (Giumlia-Mair 2002) and a much later alloy, found in Mianmar, called *mylar* (van Bellegem et al. 2007), certainly derived from the Chinese *wu tong*. Very recently, not only black, but some artificially patinated alloys in different colors, such as for example red, yellow and orange, similar to other modern Japanese alloys, *sentoku* and *suaka*, were identified on Western objects dated to Roman times (Giumlia-Mair 2014; 2015; Giumlia-Mair and Mrav 2014). *Sentoku* (宣德) [Fig. 3] is an artificially patinated Japanese copper-based alloy, containing tin and zinc that can acquire various colour nuances

Fig. 4. Suaka *or* Akagane *is an artificially red/orange patinated alloy, containing 1-2% of zinc and/or lead. Modern architectural fitting, Morimoto Kazari, Kyoto. (Photo by author)*

between yellow and brown. *Suaka* (素銅) (or *akagane* 赤金) [Fig. 4] is also artificially patinated and contains 1-2% of zinc and/or lead. It is characterized by an orange-red colour that can vary from light orange to dark red, depending on the composition.

A further, very appreciated, patinated Japanese alloy is *shibuichi* (四分一) [Fig. 5]. The name comes from its best known composition: copper alloyed with 25% of silver. In Japanese "shi bu ichi" means "one quarter." This is a greyish-beige patinated alloy, but there are also *shibuichi* alloys (consisting of copper and silver) with colours that range from dark olive green to greyish. A very attractive variety of *shibuichi* is called *obore shirogane* and it is characterized by a distinctive very light and pale colour. Its very poetic and descriptive name means "white metal with the colour of the veiled moon." All these alloys are either used as inlays or are themselves inlaid with other metals or other patinated alloys.

Fig. 5. Example of shibuichi. Tsuba *made of grey-beige* shibuichi, shakudō, *silver and gold. Seimin, 1769-1838. Genova, Museo d'Arte Orientale E. Chiossone. (Photo by A. De Luca, Rome, from* FMR *90 [1992], p.123)*



Early examples of *ḥmty km*

The name of the artificially black patinated alloy in ancient Egyptian is *ḥmty km* (pronunciation hemty kem), and it means "black copper" (Giumlia-Mair and Quirke 1997). The earliest patinated alloys containing gold and silver were produced for the pharaoh and the temples of the Egyptian gods in the mystical environment of the workshops attached to the temple of Ptah in Memphis in the course of the 19th century BCE. Some archaeological publications suggested that black patinated, inlaid objects were first employed around the middle of the 2nd millennium BCE, and that they came from the Near East (for instance Cooney 1966; 1968; Hood 1978, pp. 178-81; Laffineur 1990-91). However, apparently only two of the objects from the small group of patinated and inlaid finds from the Near East, Syria and Mesopotamia were analysed (Schaeffer 1939, pp. 107-13). Neither contains precious metals and thus may have served as inspiration, but do not seem to be direct predecessors of the Egyptian *shakudō*-type alloys.

The earliest scientifically identified objects made of this material are dated to the Middle Kingdom (19th century BCE) and appeared in Egypt at the time of the 12th Dynasty (Giumlia-Mair 1996; 1997). These are the well-known crocodile statuette, representing the Egyptian crocodile god Sobek (Ägyptische Sammlung, Munich, Inv. № ÄS 6080), and the statuette of the pharaoh Amenemhat III, (Ortiz Collection, Geneva, Ortiz 1994, № 37).

The crocodile statuette [Fig. 6] is ca. 20 cm long and is intricately inlaid with gold wires depicting the scale pattern of the body and the features of the god. The inlays are made of *electrum*, the gold-silver alloy

Fig. 6. Egyptian crocodile god Sobek made of ḥmty km, *inlaid with* electrum, *found at el Fayum. Ägyptische Sammlung Munich, Inv. № ÄS 6080. (Photo by author)*

Fig. 7. Statuette of pharaoh Amenemhat III, found together with the crocodile of Fig. 6 in el Fayum, now in the collection Ortiz in Geneva. H.: 26.3 cm. This portrait is the largest object made of ḥmty km *identified up to now. The head cloth was made of gold, the loincloth was probably of silver rich* electrum. *(Photo by author)*

widely used in Egypt for precious objects. The copper-based alloy employed for the body, analysed by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES), has the following composition: 86.5% Cu; 3.00% Sn; 0.74% Pb; 0.03% Zn; 0.44% Fe; 0.41% Ni; 1.51% Au; 0.92% Ag; 1.54% As (Giumlia-Mair 1996; 1997).[1] The X-ray Diffraction (XRD) analysis of a small sample of the black surface layer showed that the patina consists of cuprite with some metallic gold.

The superb statuette [Fig. 7], allegedly found at El Fayum in the same hoard with the crocodile and other pieces, faithfully reproduces the features of Pharaoh Amenemhat III (1842–1794 BCE), as they are known from the many portraits of the king. He was originally wearing a loincloth made of silver, as the remains of a sheet in the thin groove under the navel suggest. On the temples there are still some remains of the hanging gold sheet representing the head cloth of the pharaoh that originally was fixed with tiny rivets on the breast, over the nipples and in the middle of the back, where small holes are still recognizable. The very shiny purple-black patina is still perfect and slightly iridescent, except on the area of the body that was covered by the loincloth and had not been polished. The results of the ICP analysis are: 86.6% Cu; 1.3% Sn; 0.7% Pb; 0.2% Zn; 0.5% Fe; 0.3% Ni; 2.9% Au; 1.1% Ag; 0.038% Co; 0.80% As. The XRD analysis of the patina revealed cuprite and some metallic copper. The low amount of tin present in the alloy of both statuettes is sufficient to confer better working and casting properties to the metal, but before patination the alloy still has a coppery-red color. Gold, silver and arsenic are present in considerable amounts, and they compare well with the percentages determined in the early examples of Japanese *shakudō* alloys (Oguchi 1983; Harris 1993; Notis 1988; La Niece 1991).

From the early period, only one more object decorated with *ḥmty km* from outside of Egypt was analysed. This is the scimitar (or *khepesh*) from Balata Sichem [Fig. 8], near Nablus in Palestine (Ägyptische Sammlung, Munich, Inv. № ÄS 2907). Atomic Absorption Spectroscopy (AAS) analysis of the scimitar from Balata Sichem carried out on the actual sword showed that the metal is bronze containing 11.9% of tin, 0.7% of arsenic and only traces of other elements. The blade of the scimitar could be hardened by hammering and is an efficient weapon. The black inlay is copper containing 2.97% Sn, 0.56% Pb, 0.5% Fe, 0.5% Au, 0.2% Ag, 3.1% As, and other elements at trace level (Giumlia-Mair and Quirke 1997).

The largest example of *ḥmty km* identified up to now is the massive portrait of Amenemhat III (H.: 26.5 cm). All other objects and statuettes identified up to now are either much smaller and lighter or are made of common bronze and only inlaid with sheets or wire details made of *ḥmty km.* The analyses carried out up to now on later Egyptian examples of black copper showed that the gold content or in general, all alloying components, are lower than in the earlier objects. The real evolution in the use of the black patinated alloys seems to be the fact that the artisans managed to use less precious metals and nevertheless to achieve a black, stable and iridescent patina on their objects. This continues in the later production and in other contexts.

Some of the hieroglyphic texts seem to suggest that there were imitations and fakes of *ḥmty km* in circulation

Fig. 8 [Color Pate VIII]. Khepesh *from Balata Sichem, detail of the lotus flower. Ägyptische Sammlung Munich, Inv. № ÄS 2907. This important piece demonstrates that* ḥmty km *circulated in regions under Egyptian influence. (Photo by author)*

Fig. 9. Inlaid, head- and armless statuette in the Louvre, Inv. № E27430, stylistically dated to 1075–664 BCE or 1994–1650 BCE, representing a woman wearing a gold embroidered clinging dress. The material is only an imitation of ḥmty km. *(Photo by author)*

(Giumlia-Mair and Quirke 1997). This demonstrates that only a few artisans were able to produce this fascinating material, and that there were artisans who tried to imitate it without much success. Cheaper fakes on which pitch or other black mixtures and resins were applied to imitate the black patina are relatively common, and much easier to spot than patinated imitation alloys. A good example for an imitation of patination on a different alloy, difficult to recognize without analyses, is an inlaid head- and armless female statuette [Fig. 9] of uncertain date (Louvre, Inv. № E27430) (Giumlia-Mair 2002, p. 320, Fig. 2), that contains only 2% As and 5% each Sn and Pb (Mathis, 2011, p. 130).

The number of analysed pieces made of real *ḥmty km,* a rare and precious material, is very low: up to now only around 14 pieces of "real" *ḥmty km* have been scientifically identified, while 7 more pieces were found to be ancient imitations (Giumlia-Mair and Craddock 1993; Craddock and Giumlia-Mair 1993; Delange 2007; Mathis 2011). Therefore, any hypothesis on the development or the evolution of these alloys in the course of an entire millennium would be based on a far too small number of observations to be of any value or significance. Nevertheless, in the late periods there seems to be a more evident decrease of precious metals in the analysed black patinated pieces, and this also is true for the examples found in Mycenaean contexts.

Black copper in the Mycenaean area.

Some of the most famous and precious Mycenaean objects are made of artificially black patinated alloys. However, at the time of the discovery of the daggers from the Shaft Graves in Mycenae many decades ago (Evans 1929), the black patinated inlays were interpreted as early examples of *niello* (Laffineur 1974). *Niello* consists of black metal sulphides of various composition inserted hot in molten or semi-molten status in a keying on the surface. At that time *niello* was the only black material known to be applied on metals. The earliest scientifically identified examples of *niello* are dated much later, to the 4th century BCE, and are found in Bulgaria and on the north coast of Asia Minor, i.e. in the Black Sea area (Giumlia-Mair and La Niece 1998). Believing that the black patinated inlay was *niello*, analysts of some of the objects — e.g., the crocodile from el Fayum — thought they had detected some sulphur (Müller 1987) when in fact there was none, as later, more precise analyses demonstrated (Giumlia-Mair 1996).

The connections between Egypt and the Minoan and Mycenaean world had begun early and are manifold (see for instance Hankey 1981; Davies and Schofield 1995; Kelder 2009; 2010 etc.). The Minoan paintings at Avaris are only the most visible sign of a Minoan presence in Egypt (see, e.g., Bietak 1992, 1995; 2006; 2008; Schneider 2008; 2010). In Crete and mainland Greece are innumerable traces of strong Egyptian influence (see, e.g., Helck 1979; Kelder 2009; Giumlia-Mair 2011, Cline 1998; Giumlia-Mair and Soles 2013, etc.). Possibly the artisans who produced the Mycenaean daggers and other black decorated items were Egyptians or at least artisans who had learnt their craft in Egyptian workshops and made luxury weapons and other objects for Mycenaean warriors and notables (Cline 2013). The motifs on the Mycenaean daggers are clearly Egyptian.

The Mycenaean daggers from the Shaft Graves in Mycenae, and from other Mycenaean contexts, show generally a central black patinated panel, inlaid with gold and silver, and applied as inlay on the actual bronze blade [Fig. 10]. The first to be analysed was the

Fig. 10. Mycenaean dagger, private collection. The black patinated midrib contains Au, Ag and As, and is inlaid with gold and silver figures of dead enemies laying between rocks. In the Mycenaean world this material was called kuwano. *(Photo by author)*

dagger belonging to a private collection. Ogden (1993) found that the blade of the dagger was bronze, but the black inlaid panel contained 93% Cu, 5% Sn, 1.7% Au, 0.53% Ag and 0.5% As. Subsequent analyses on other Mycenaean pieces and fragments all demonstrated that their patination had been carried out on alloys containing small amounts of precious metals that acquire a dark nuance when treated in weak aqueous solutions. In a more recent analysis of the same dagger, this author used X-ray Fluorescence Spectrometry (XRF) to check the composition of the inlays and to study the patina growth. The results generally confirmed Ogden's data (Giumlia-Mair 2013). The blade is made of bronze with ca. 13% Sn and traces of As and Fe. The black inlays are copper containing around 5% Sn; 2.5% Au; 0.5% Ag, 0.5% Fe and traces of As. The gold inlays contain around 11% Ag, 3% Cu, while the "silvery" inlays are electrum, the gold-silver alloy, and contain silver with 16% Au and 3% Cu. Two tiny samples of black and green patina were taken from the dagger for XRD analysis. The black patina is cuprite with some metallic Au and small amounts of paratacamite, a copper chloride. The green patina on the blade is malachite, i.e. copper carbonate.

A further important object dated to this period and belonging to a Mycenaean context is a cup [Fig. 11], discovered in the 1940s during the French excavations at Enkomi on Cyprus (Archaeological Museum of Cyprus, Nicosia, Inv. № 4207) (Schaeffer 1952, pp. 379-86; Figs. 116-22, Pl. CXVI). It is dated to the period between Late Helladic II and the beginning of Late Helladic IIIA, i.e., shortly after 1425 BCE, and its Aegaean and Mycenaean characteristics and style are very clear. Made of silver, the cup is decorated with the black patinated alloy and gold. The silver of the cup contains 9.5% Cu and around 4% Au, while the gold of the inlays contains around 3% Cu and 8% Ag. The black inlays are made of copper containing around 6% Au, 2% Ag; 0.3% As and 0.4% Fe (Giumlia-Mair 2012).

Cups in the National Archaeological Museum in Athens were non-destructively examined by XRF, which demonstrated that some gold and silver were present in the inlays. A more precise analysis by AAS of a small fragment of black inlay from one of the silver cups gave following results: 53.3% Cu, 8.73% Au, 2.83% Ag, 2.42% Sn, 0.27% Fe, 0.03% Ni; 0.02% Zn, 0.22% As, 0.33% Sb, and no detectable Co and Pb (Demakopoulou et al. 1995). There can be no doubt that the black decorated Mycenaean objects are made of black copper.

Black copper in Classical Greece

Literary sources demonstrate that in Mycenaean times the name of this material was *kuwano* (Giumlia-Mair 1995; 1997). In Classical times and later the word *kyanos* that derives directly from the Mycenaean *kuwano,* seems to indicate a patination treatment and not the material, but there are several passages in Classical Greek texts that use the terms "Corinthian copper," "Corinthian works," and "Corinthian ware" to indicate a patinated and inlaid material; the same terms are employed in Latin in Roman times.

Why this material was called "Corinthian" can only be hypothesised, as none of the Greek and Latin authors that use this term explain the origin of the name. The most probable explanation is that in Corinth there were one or more specialised workshops that produced objects made of black copper. The excavations in the metal artisan quarters of Corinth uncovered the remains of a basin, fed by the fountain of Peirene, as described by Pausanias (Geographia, 2, 3, 3).[2] He stated that "Corinthian copper was dipped, when red-hot, into the water of the spring Peirene." "Dipped" is the translation of the Greek verb *bapto* that means to dip, but also to colour, to dye, and it is the term used by the Alexandrian alchemists, when they colour metals by dipping them into acids or other solutions.

Up to now no ascertained examples of black copper from Classical Greece have been identified, but the name of the material in Roman times and the literary sources leave no doubt that in Classical times and later there was a continuity in the production of the black patinated alloys inlaid with precious metals.

***Corinthium aes*, the Roman black copper**

Corinthian copper seems to have been in great fashion in the first century BCE, either when in 146 BCE Greece became a province of the Romans and Greek works of art were brought to Rome or, perhaps, when

Fig. 11. Silver cup from Enkomi, Cyprus, now in the National Archaeological Museum, Nicosia, Inv. № 4207. The cup is decorated with black and gold bull heads, lotus flowers, rosettes, arches and dots. The black material is kuwano. *(Photo by author)*

queen Cleopatra followed Caesar to Rome with her exotic court in 46 BCE. In the same period, Egyptian gods and cults begun to spread first in Rome and then in all corners of the empire.

In the Latin literature of the imperial period many passages mention precious Corinthian ware, in particular vessels, statuettes and similar ornamental items (cf. Mau 1901; Murphy-O'Connor 1983). Collectors paid enormous sums to obtain them, and did not hesitate to use less than honest ways to satisfy their passion for these objects, as many ancient sources testify (Seneca, *Brev. Vit., 12,2;* Propertius, *3, 5, 3;* Suetonius, *Aug., 70, 2;* Pliny the Elder, *Nat. Hist., 34, 6*). The recipes for the production of the precious alloys were a jealously kept secret, and even in Roman times not many workshops were able to produce them. As in Egypt, imitations and fakes existed in the Roman empire (Pliny the Younger, *Epist., 3, 6, 3*; Pliny the Elder, *Nat. Hist., 34, 6*; Martial, *Epig., IX, 59, 11*), and black inlaid materials produced without precious metals were apparently sold as "real" Corinthian ware. Some of these "fakes" have been identified. Two are still unpublished Roman medical instruments that might belong to sets, made of common bronze, but inlaid with silver and black wires. The black details do not contain gold, but only some arsenic and traces of iron. The analysed examples were found one in the Roman town Aquileia, in Northern Italy, and the second in Cologne, Germany, the ancient Roman *Colonia Claudia Ara Agrippiniensium.*

Evolution in the patination techniques

In the course of the 1st century BCE – 1st century CE an important evolution can be noted in the production technique of this material: in this period luxury objects with more complex patinations in several colours appear for the first time. Polichromy is achieved not as it was done before, just by combining bronze with the black patinated alloys and gold and silver, but by using new alloys, patinated in red, orange and yellow. It is important to emphasize that the most impressive objects made of patinated alloys are mostly somehow connected to Egypt or at least with North Africa, and it is very likely that they were produced by Alexandrian artisans or workshops. Nevertheless, it is also possible that some Alexandrian artisans moved to Rome and other centres, and supplied rich Romans with the luxury objects they so passionately craved.

Two magnificent examples of patinated objects that can be connected to the Alexandrian school are the vessels found in the 19th century at Egyed in Hungary (Giumlia-Mair and Mrav 2014). They are a jug and a skillet [Fig. 12], both black patinated and inlaid with precious metals. They must have originally belonged to the inventory of a nearby sanctuary, built for the cult of Isis or in general for Egyptian deities. Regrettably, their owner, Count Festetics, wanting to know if they were of precious metal, gave them to a local goldsmith who poured on the vessels various acids, among them also *aqua regia*, and badly damaged the silver inlays and the patina. Nevertheless, the beauty and the intricate inlays of the vessels are still recognisable. The body of the skillet is a copper-based alloy with a gold content of around 2%, 0,5% Ag, around 0,5% As, and small amounts of iron. The gold coloured inlays are made of a gold alloy containing 3,5 % Ag and 2% Cu. The silvery inlay is of a relatively good silver alloy containing around 16% Cu, but also around 3% As. The silvery colour in this kind of alloy results from the pink of the high copper content being counterbalanced by the presence of arsenic that confers a silvery colour to copper. A third kind of inlay of a dark crimson red colour, made of copper containing low traces of lead and arsenic, was used to depict some of the details of the various flowers in the scrolls. The alloy employed for the jug is slightly different from that of the

Fig. 12. The Corinthium aes *vessels from Egyed, National Museum Budapest (Magyar Nemzeti Múzeum), Inv. №№ RR 10/1951.104 and RR 10/1951.105. The artificially patinated body of both is inlaid with alchemistic alloys, containing arsenic and other metals, described by Alexandrian alchemists. (Courtesy of the Hungarian National Museum, photo by András Dabasi. From Giumlia-Mair and Mrav 2015)*

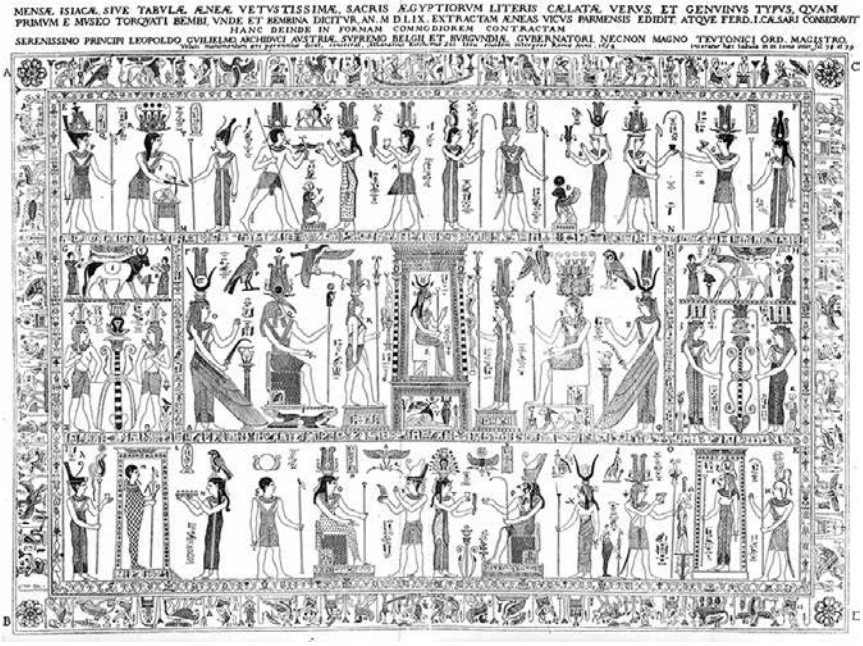


Fig. 13. The Mensa Isiaca (74 x 123 x 7 cm), in the Museo Egizio in Turin, was allegedly found in Rome. It is an altar top decorated with complex and colourful inlays in seven different colours. The German Renaissance scholar Athanasius Kircher had this drawing, showing all details of the inlays, done for Leopold Wilhelm Archduke of Austria.(drawing from Leospo 1978)

skillet: it contains around 1.5% Au, but also 2% Sn and very low traces of Pb. The silvery inlays are made of a silver alloy with around 14% Cu and with a noticeable amount of 2,5-3% As. The gold inlays are mainly Au, with around 6% Ag and 2 % Cu.

The presence of small amounts of gold in the black patinated vessels indicates that these are "real" Corinthian ware and not an imitation, while the presence of arsenic suggests that the artisans who produced them had a fair knowledge of the special alloys described in the texts of the Alexandrian alchemists (Berthelot 1888/1967, 1893/1967), which were not in the repertoire of "normal" metal workers. This fact, together with the choice of motifs, representing Egyptian deities with their attributes on the jug, and a Nilotic scene with animals, flowers and plants, typical for the Egyptian landscape, on the skillet, seem to indicate that both vessels might have been manufactured by Romano-Egyptian artisans or, at least, by artisans who learnt their skills in the famous workshops of Alexandria in Egypt.

Another object that shows similar characteristics is the Mensa Isiaca [Fig. 13], an altar table top (74 x 123 x 7 cm; Museo Egizio, Turin, Leospo 1978), allegedly found in Rome, and recently analysed (Giumlia-Mair 2014; 2015). The piece shows characteristics and alloys similar to those of the vessels from Egyed. The main figure in the centre of the altar is the goddess Isis, but the table is inlaid with a large number of spectacular multicoloured figures of various Egyptian gods, the pharaoh and his wife performing various rituals, and animals and objects belonging to Egyptian mythology and iconography [Fig. 14]. The way they are depicted with finely worked inlays closely resembles the figures of Egyptian gods on the vessels from Egyed. The alloys employed for the inlays are artificially patinated in various colours, such as black with different shades of iridescence, red, orange and yellow. The composition of the black and the red patinated alloys is very similar to the ones identified on the vessels from Egyed, while the silvery inlays are complex alloys of various composition, but containing 2% of arsenic, as in the case of the silvery inlays on the vessels from Egyed. The golden inlays are made of copper containing around 12% of tin and silver, and 5-6% of gold. Some of the golden details also contain around 2-3% of arsenic. The figures are strikingly similar to the figures on the jug from Egyed in clothing and headgear. The sixteen crowns on the shoulder of the jug are identical to some of the crowns worn by the figures on the Mensa Isiaca, and many of the garments and attributes of the

Fig. 14. Detail of the Mensa Isiaca. The pharaoh is offering a bird to a goddess sitting on a throne and wearing a red dress decorated with silvery stars. The black, red, yellow and orange inlays of the Mensa Isiaca are artificially patinated The body of female figures is made of a yellow patinated alloy never encountered before: Cu containing 12% of Sn and Ar, 5-6% of Au and ca. 2% of As, a typical Alexandrian alchemistic alloy. (Photo by author)

figures can be found on both objects, represented in an identical way. The obvious difference is that the figures on the jug are simply depicted with gold wire, while the figures on the altar table are larger, and intricately inlaid in various colours by using sheet inlays, often themselves completely covered with the finest inlays made of multicoloured wires, but their similarity is surprising.

The Mensa Isiaca was allegedly found in Rome, but it might have been produced in an Egyptian workshop or by Alexandrians who worked in Rome as specialised metalworkers. The vessels from Egyed and the magnificent altar top were perhaps produced by different artisans or at slightly different times, but certainly in the same workshop, and by artists who were definitely using the same figure templates.

The yellow and orange alloys contain zinc; therefore, they could not have been produced before Roman imperial times, when the first brasses came into circulation. The very first brass coins are known from Asia Minor and were issued by King Mithridates (135–63 BCE), but in the Roman world the first issues were those of Caesar in Macedonia in 44 BCE (Bahrfeldt 1905, p. 42; 1909, pp. 78-84; Istenič and Šmit 2007). As soon as the coins arrived to Egypt the alchemists begun to experiment with the previously unknown gold-colored alloy and managed to produce new patinated alloys.

Other red patinated inlays are known from Roman objects, for instance appliqués (Museo Archeologico, Naples, Inv. №№ E812 and E1118) and a vessel (Inv. № E2541) from Herculaneum. A Roman *strigilis* (i.e. a tool for cleaning the skin) from the Roman town Sicca Veneria in Tunisia (Louvre, Inv. №. BR1582) has an orange patination. The object is copper containing 19% of zinc and traces of iron and arsenic; its composition is very similar to that of the orange inlays on the Mensa Isiaca, containing up to 20% of zinc and traces of iron (Mathis et al. 2005). The pale yellow patinated alloys of the Mensa Isiaca, employed for the body of female figures, gods such as Ptah, the personification of rivers and some more details, were never encountered before. They are made of brass, containing small amounts of tin, silver and arsenical copper. The gold-colored alloys of the Mensa consist of copper containing 12% Sn, around 12% Ag, 5-6% Au and around 2% As. The silvery colored parts can have different compositions: many contain some gold (1-2% Au), in these cases the silver content is around 50%, with variable amounts of tin and arsenic. The silvery alloys of lesser quality are copper containing up to 10% Sn, 3% As, and around 3% Ag, while for the central figure of the goddess Isis a better quality alloy (80% Ag, 6% each of Cu and Sn, 2% Au and 2% As) was employed. Recipes for alloys with a composition very similar to those of the Mensa Isiaca and the vessels from Egyed can be found in the texts of the Alexandrian alchemists (Berthelot 1888/1967, 1893/1967) and in the alchemistic texts of the Leyden and Stockholm papyri (Halleux 2002).

After the fall of the Roman Empire this very sophisticated material disappears from the West. Apparently only in remote provinces or even outside of former imperial regions did this knowledge survive for a short while, as suggested by two examples of Anglo-Saxon fittings dated to around the 9th century CE, one from Bawsey, Norfolk, and the second unprovenanced, which seem to have been still decorated with rivets made of a black patinated alloy (Stapleton et al. 1995). Working knowledge of this recipe, would have been possessed by very few craftsmen and probably disappeared in the West, not only because of lack of customers, in the turmoils of Late Antiquity. Nevertheless some texts of the ancient alchemists survived and were brought to the Near East. The ways through which Corinthian copper might have reached China and other Asian countries are numerous and manifold.

Early Greek and Roman contacts with Asia

It is widely believed that the "Silk Road" had been opened in the 1st century BCE from Chang'an (Xi'an) through Kashgar, Merv, Ctesiphon, Palmyra, Damascus, Tyros, Petra and Alexandria, or through Zeugma, Antiochia and the Mediterranean to Rome. Goods from the East traded on these important routes included not only silk, but also ivory, spices, clover, pears, flowers, rhubarb, peaches, almonds and *ferrum sericum* (Chinese cast iron), in exchange for glass, metal objects, artificial precious stones, amber, coral, wool, linen, grapevine, chives, cucumber, figs, safflower (*Carthamus tinctorius*), sesame, walnuts and pomegranate. The silk roads were also a conduit for knowledge and ideas (Needham 1984).

However, some educated Greeks and Romans had travelled east much earlier and wrote about the world beyond the Caucasus. The earliest one we know was the historian Herodotus (5th century BCE), who went to far away Scythia, beyond the Black Sea. He knew about what are today Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan, Kyrgyzstan, and possibly Mongolia, and mentions the regions of the Achaemenid empire up to India and Xinjiang. Ctesias from Cnidus was a Greek physician at the court of the Persian king Artaxerses II Memnon (405–398/97 BCE) and wrote several books about Persia and India.

The campaigns of Alexander the Great, which took him into Central Asia and the western borders of India in the 4th century, had significant consequences for east-west interaction, embodied after his death in the

Graeco-Bactrian and Graeco-Indian kingdoms. The geographer Megasthenes was sent by King Seleucus of Syria as ambassador to King Chandragupta Maurya and wrote a book on his travels in which he also described Taprobane (Sri Lanka). The historian Diodorus Siculus (1st century CE) refers the story of Iambulus, who also went from Ethiopia to Taprobane and returned to Greece via Persia (Diod. *2, 4*). After Strabo, the pharaoh Ptolemy Euergetes sent Eudoxus of Cyzicus from Egypt to India, where he had numerous adventures (Giumlia-Mair et al. 2009).

We begin to obtain even more substantial information on routes and exchanges in Roman times. An important work dated to the end of the 1st century BCE and the beginning of the 1st century CE called the Parthian Stations (*Stathmoi Parthikoi*), written by Isidore of Charax, describes the itinerary of the caravans through Parthia, with all the toll stations between Antiochia in Syria to Zeugma on the River Euphrates, to Seleucia, the Caspian Sea, through Turkmenistan, Afghanistan, and Pakistan to *Alexandria Arachoton* (Qandahar). The text was apparently ordered by emperor Augustus, when he was planning the war against Parthia (<http://www.parthia.com/doc/parthian_stations.htm>; Belfiore 2004, App. B, pp. 205-59; Giumlia-Mair et al. 2009).

Some scholars even argue that there were frequent sea travels between Graeco-Egyptian traders from the Red Sea coast to China, and that Romano-Egyptians founded colonies in Guangzhou and Hangzhou in the 3rd century CE (Needham 1984, p. 89). The well-known pilot's book in Greek, the *Periplus of the Erythrean Sea*, dated most probably to the mid-1st century CE, describes in detail the navigation and trade from Roman Egyptian ports along the coast of the Red Sea, the Persian Gulf and the Indian Ocean. If initially the Indian Ocean trade had hugged the northern littoral, once the value of the seasonal changes in the direction of the monsoon winds was understood, it became possible to make more rapid voyages across open water. There is substantial archaeological evidence about Roman trade with India, including deposits of Roman coins, amphorae that must have contained products from the Mediterranean, and more.

Fig. 15. The page representing Central Asia in Ptolemy's Cosmographia in the National Library of Naples shows the place called Turris Lapidea, *Stone Tower in Latin. The name is written around a mountain in a valley to the east of Ferghana. (Photo from Ptolemäus 1990)*

Of particular interest for the early history of the overland "silk routes" is the information contained in geographic notes compiled by Marinos of Tyre (1st–2nd centuries CE), which have come down to us via Claudius Ptolemy's *Geographia* (ca. 150 CE). Ptolemy supplemented Marinos with a good many other sources, some based on accounts of sea travel all the way to Southeast Asia. Marinos' record of the travels of Maes Titianos (Ptolemaeus 1990, I, 17.5), a Syrian merchant whose agents went overland to a place called the "Stone Tower" in Central Asia [Fig. 15], has been exhaustively analyzed (without settling some questions about the details of his route) in the attempt to pinpoint exactly what was the "first Silk Road" and in particular where that Stone Tower was located (P'iankov 2015; Dean 2015, with references). Beginning at Hierapolis on the Euphrates Maes' agents headed in direction of Bactria, stopped there to meet the caravans from India, and then continued to the "international market" of the Stone Tower. There they met merchants coming from China (Seres).

So there are various possibilities as to how knowledge of specific metal technology could have gone from the Mediterranean world (Egypt, or other areas of the Hellenistic and Roman world) to the Far East, as early as the beginning of the Common Era.

Zosimos' recipes

An important alchemistic text can explain how this very special patinated material came to Asia. The alchemist Zosimos from Panopolis in Egypt, then part of the Roman Empire, lived around the end of the 3rd century CE or perhaps a bit earlier; he was so important for ancient alchemy that later alchemistic texts call him "the divine Zosimos." We do not know much about his life, but have an important corpus of his texts and his correspondence with a woman alchemist he calls Theosebeia in which he discusses the principles of alchemy. Regrettably many fragments of his writings survive mostly in fragments, copied into the texts of later alchemists; so it is difficult to attribute them to Zosimos with any certainty. In the main corpus there are no descriptions of artificially patinated alloys, but a significant recipe for the production of black patinated alloys survives in one of the later copies

of his work (Cambridge University Library, MS Mm 6.29) (Berthelot 1893/1967). This is a 15th-century copy of a 10th century CE translation into the medieval Syriac used by Jacobite monks. It is important to note that alchemistic texts were always faithfully copied in exactly the same way, without leaving out any word, but sometimes adding comments and details on the various processes.

The relevant text states: "To make a thin strip of black metal sheets or Corinthian alloy in the manufacture of images or statues you want to make black. It works the same on statues or trees or birds or fishes or animals or any objects you want. Cyprian copper (i.e. unalloyed copper), one mina, silver, 8 drachmas, gold 8 drachmas...". Then various similar detailed recipes for different kinds of artificially patinated alloys follow. All use the typical vocabulary and the signs and symbols employed by alchemists, such as for example the sun with one ray for gold, or the half moon for silver [Fig. 16]. A further important symbol employed in the manuscript is a circle with an inscribed cross or "heavenly wheel" that has been interpreted as the representation of the four cardinal directions and the alchemical elements combined with the sun and the moon (Burkhardt 1996, p. 71). In this manuscript, this symbol, often erroneously translated as gold, means instead the treated substance that the alchemists called "their" gold: the preparation called the "ferment" or the "seed" of gold, that had special properties. In this case this preparation is the alloy described above (one mina of copper, 8 drachmas of silver, 8 drachmas of gold = 82.6% Cu, 6.9% Ag and 6.9 % Au), a small part of which had to be added to copper to achieve the right composition for patination (Giumlia-Mair 2002, pp. 318-19). 1:10 would be the proportion necessary to obtain the kind of composition of patinated alloys mostly used in Roman times. Besides the recipes for black patinated alloys, the manuscript also gives various other recipes to obtain different colors on copper-based alloys. The most relevant ones in this context are the recipe for "male images" with a red patination and the one for "female images" that "resembles female flesh. It glows whilst it shines." The recipes and the descriptions seem to fit the composition and the look of the inlays of the Mensa Isiaca (Giumlia-Mair 2014).

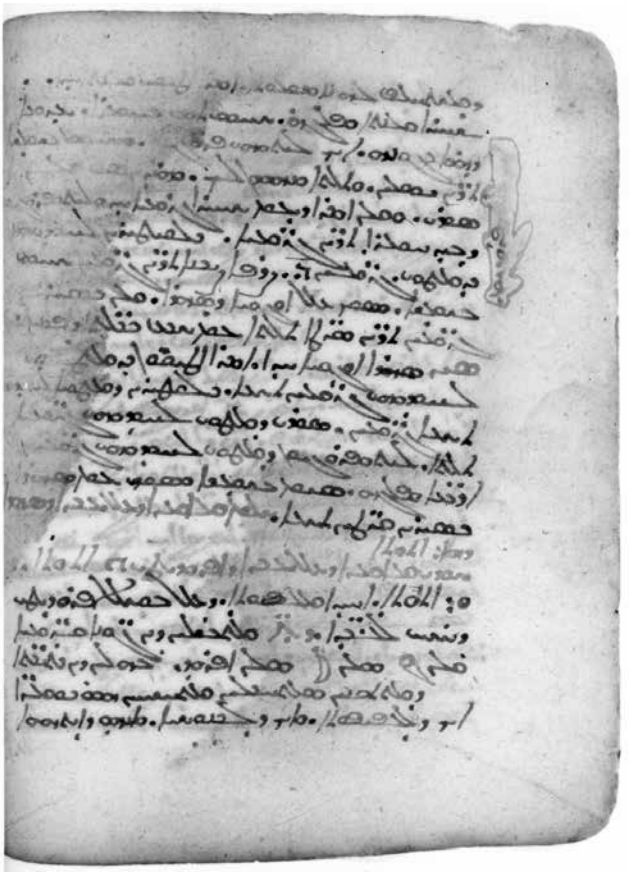


Fig. 16. The Cambridge manuscript Mm 6,29, in the Library of the Cambridge University, a 10th century CE translation into medieval Syriac. The third line from the bottom shows on the right the symbols employed by alchemists: the sun with one ray, i.e. gold, and the half moon, i.e. silver. (Photo Courtesy of E. Hunter)

Alchemists going East

How did Zosimos' recipes arrive in Syria? How were his texts preserved after the fall of the Roman Empire? And how might they then have made it into East Asia? Syria had been a Greek province, deeply influenced by Hellenistic culture, and it played an important role of mediator between the two worlds. It was mainly through this region that Greek and Roman science arrived later in the hands of Islamic scholars.

As the Cambridge manuscript suggests, Syriac Christians must have played an important role in the transmission of the texts. The early spread of Christianity across Asia is connected with the complex history of the Church of the East and a variety of Christian sects. Central to this story is what we commonly (if erroneously) term "Nestorianism," associated with Nestorius, who was for a time the Archbishop of Constantinople in the 5th century before being deposed for allegedly heretical views on the nature of the Trinity, exiled first to Antioch and from there to Panoplis in Egypt, coincidentally also the home town of Zosimos. His followers eventually were forced to seek asylum in Sasanian Persia, where Christianity had earlier spread but also had suffered persecution (Meyerhof 1930; Gottschalk 1965). From the schools of Nisibis, today's Nusaybin in Turkey, and later from Gundeshapur, one of the culturally most important towns in Persia (Khuzestan), they begun their missionary journeys to Asia. Their arrival in China in the 7th century was commemorated in Tang Dynasty Changan (Xi'an) in a very famous stele

erected in 781. Its text shows in interesting ways how they attempted to adapt the Christian message to take into account traditional Chinese sensibilities. We can assume that the Syriac clerics had contacts with local scholars, and apparently in particular with Taoist monks (cf. also Wallis Budge 1928).

Another of the Christian sects in the East was the Jacobites, the Monophysites of Syria, who translated the manuscript belonging to the Cambridge library. Declared heretics in 518, fifty Monophysite bishops were excommunicated at the Synod of Constantinople. They sought refuge in Syria where they founded schools in Qennešrē, in Syria, and in Rēš 'Ainā in Mesopotamia. In their academies they translated a large number of alchemistic texts into Syriac (Sherwood Taylor 1953, p. 71), their religious and ecclesiastical language. Alchemy belonged at the time to science, just like mathematics, geography, astronomy and medicine, and was part of the teaching in the academies. The most important personality among Jacobite scholars was the poet and commentator Jacob of Edessa, who translated many Greek works and died in 708 AD. Jacobites were sent very early as missionaries to Yarkand, in Xinjiang (Roux 1997, p. 217), and from there they seem to have come into contact with Chinese scholars too, in particular Taoist monks.

There were as well rather early contacts and exchanges between Islamic alchemy and the Chinese "art of yellow and white," as alchemy was called in China, referring to the transformation of base metals into gold and silver. For example, the idea of a life elixir that had much earlier been known and developed in China appeared in the 9th century CE in the Islamic texts too (Sherwood Taylor 1953, pp. 71-75).

Alchemy had come from the schools of the Christian East into the Islamic world. In the Arabic texts the names of the early alchemists are quoted with great respect, and the writings were literally translated, trying to keep the original text without changing its structure and meaning. In the Arabic texts the technical terms derive from the Greek words, mixed together with some Persian and even Assyrian ones, taken from the writings of the ancient Sabians from Harran (Holmyard 1957, pp. 66-68). The work of Zosimos had a great influence n the Arabic alchemistic tradition. He was known as Zusimus, Risamus, Rusim, Arsimun and other variations of his name, and his texts circulated among scholars and were also translated into Arabic (El Khadem 1996).

Such evidence is, of course, fragmentary and leaves open the question of precisely what the routes and chronology of transmission of the knowledge of patinated alloys may have been. That there was such knowledge in many countries of Asia and at different dates is certain though, as the following discussion will demonstrate.

India and Tibet

A material called *jambunada,* a kind of native metal from the Himalayas is mentioned in the *Ramayana*, the Indian epic poem dated to the 4th century BCE, but reflecting older traditions. In this epos the material *jambunada* (or *jambunada suvarna*, i.e. "the gold of the Jambu river") is considered a precious kind of gold with the purplish colour of a plum, and it is used to pay the priests performing the important horse ceremony, the Ashvamedha of Vedic tradition (Tod 1892/1978, p. 66). The Greek sophist Philostratos wrote a "Life of Apollonios of Tyana" in the 3rd century CE. Apollonios was a wandering philosopher from Cappadocia, in Asia Minor who allegedly lived in Asia Minor and Greece, but traveled to many countries and up to India. Here he noticed "black copper coins" (perhaps *jambunada*?), and in a temple at Taxila saw copper-based tablets representing the life and deeds of Alexander and Poros (a mythological hero), on which the figures were made of brass, silver, gold and black copper, and the weapons of iron (Philostratos, *Apoll., 2,7;20*).

In India there is also an alchemistic, or magic, alloy called *asta dhatu*, consisting, after an ancient tradition, of copper, tin, lead, antimony, zinc, iron gold and silver or, in some texts, of gold, silver, copper, zinc, lead, tin, iron and mercury. This alloy was mentioned by several scholars working on northern Indian bronze statues; however, apparently, no example made of this kind of alloy has yet been scientifically identified (Lo Bue 1981, p. 33).

A possible trace of the earlier existence of a black patinated alloy in India can be found, allegedly since the 15th century, in the Islamic region of Deccan, at Hyderabad and in Bidar (Karnataka), but also in centers such as Murshidabad, Purnia and Lucknow, where *bidri*, a black-patinated and silver inlaid alloy, made of 90-92% of zinc and small amounts of copper and lead still is manufactured today. The objects are cast and must be carefully cleaned of the casting skin before patination, then the cross-hatched keying for the inlays is engraved and finally the object is inlaid with silver [Fig. 17, next page], more rarely with brass or gold. After hammering the inlays and polishing the surface, the items are ready for patination. The traditional method uses the soil taken from around the mud-brick walls of the fort of Bidar (hence the name of *bidri*), which is very rich in various salts, because the walls have been used as a latrine for a long time. In modern times a solution containing one part of potassium nitrate, 4 parts of ammonium

Fig. 17. Small bidri *box from the Indian state of Karnataka, inlaid with silver.* Bidri *consists of 90-92% of Zn and small amounts of Cu and Pb and is patinated in a solution with one part of potassium nitrate, 4 parts of ammonium chloride and one part of sodium chloride. Imported black patinated, inlaid objects of Corinthian type might have suggested the idea for* bidri. *(Photo by author)*

chloride and one part of sodium chloride dissolved in hot water is used for the patination of *bidri* (Stronge 1985, 1993; Craddock 2005; La Niece 2015). The studies carried out by La Niece (2015, p. 188) have shown that the main components of the black patina are simonkolleite ($Zn_5(OH)_8Cl_2$), zincite (ZnO), both normally white, and cuprite (Cu_2O), normally red. The reason for the black color seems to be the patina structure. As it is the case with the Corinthian alloy, it seems that the black *bidri* patina, when damaged, can be restored by holding the object in the hands (La Niece 2015, p. 188). Interestingly, although the material is different from that of the ancient black patinated alloys, the treatment, some properties and the look of *bidri*-ware are very similar to those of copper-based patinated alloys containing gold. This suggests that *bidri* might be a local, cheaper imitation of the ancient *shakudō*-type alloys. The local popular tradition claims that this technique came from Arabia or Persia in the 14th century CE. However, zinc was not used in those areas, and certainly there is no *bidri.* The style of the earliest known objects and their decoration seem however to be Iranian, and this confers some credibility to the local legends and to the hypothesis that black patinated and inlaid objects of Corinthian type coming from Persia (where the Nestorian academy was) might have suggested the idea for *bidri*.

There are several indications of such an alloy in Tibet. In the 10th century CE some texts mention a rather mysterious alloy, produced there at least until the 18th century CE. Padma-Bkar-Po, a Tibetan artist and scholar who lived in the 16th century, wrote about *zi-khym*, an alloy used for inlays on statues. A further name for the same alloy seems to be *dzne-ksim,* described by Jigs-mad-gling-pa (1792–1798) as a dark and very precious alloy of copper, silver and *baitong* (the Chinese copper-nickel-zinc alloy) (Dagyab 1977, Ch. 21; Craddock 1981, p. 25).

As reported by Lo Bue (1981, p. 41), the larger-than-life statue of the Jo-bo of Lhasa, Śakyamuni, perhaps the most famous statue in Tibet representing the young Buddha, allegedly consists of an alloy of gold, silver, zinc, iron and copper, and was reputedly brought to Lhasa by Wen Cheng, the Chinese wife of King Srong-btsan-sgam-po (Songtsen Gampo) in the second quarter of the 7th century CE. This famous statue does not look black or inlaid, and no analytical data on the composition exist. However, from the documentation collected by Tucci (1945), it seems that the original statue was destroyed in 1717 by the Dzungars and that the image now visible in the temple was produced much later.

Black copper in China

In the first millennium CE, Chinese Buddhist sutras contain references to materials called *chi jin* 赤金 (scarlet gold), *zi jin* 紫金 (purple gold) and *zi mo jin* 紫磨金 (purple sheen gold) (Needham 1974, pp. 257–66). They state that these metals were originally found as native metal, i.e., as naturally occurring alloys, but that, after the sources were exhausted, the alloys were produced artificially. The encyclopedia *Liu tie* (六帖, Six Slips) dated around 800 CE mantains that the country Po-Lu (Bolur or Hunza Nagar, southeast of the Pamir, now northern Pakistan) was rich in *zi jin,* and it was suggested that the purple gold may have been *jambunada suvarna*. From the many records it is quite clear that this rather mysterious alloy had been in continuous use for many centuries. Needham tentatively identified *zi mo jin* with *shakudō* (Needham 1974, p. 264).

An alloy that is almost identical to *ḥmty km*, Corinthian copper and *shakudō,* except for the different patination treatment and the way the inlays are produced, was identified by H. Bruce Collier (1940, 1977), a Canadian scientist who worked in Yunnan between the First and the Second World Wars. This is the alloy *wu tong* 乌铜, "black or crow copper," consisting of copper containing around 1% of gold, and artificially patinated by handling the inlaid objects with perspiring hands. It is important to note the similarity of this process with the repatination suggested for damaged *bidri*-ware. The decoration in contrasting color on the black surface is not a normal inlay, i.e. wire or thin metal sheet hammered into a keying cut on the surface of the black patinated material, but a different method. The motifs were chased or engraved on the surface, then a debased silver alloy of the type employed as a hard solder for silver, with 50-80 % Ag, 15-40% Cu, 4-8% Zn

Fig. 18. Closed shops in the street of Shiping where wu tong *ware was sold. (Photo by author)*

Fig. 19. A narrow street in the village of Yuejiawan, near Shiping. Here the family Yue had a well-known wu tong *workshop. (Photo by author)*

and some Pb, was inserted in the keying. The object was then heated above 820° C, so that the debased silver alloy melted into the keying and could, after cooling, be filed flat to remove the silvery metal in excess and obtain a smooth surface (Craddock 1996). The *wu tong* items are composite objects, with only thin sheets of the artificially patinated copper with 1% of gold — the actual *wu tong* – brazed with the same alloy used for the inlays on thicker sheets of brass, obviously to reduce the amount of the more expensive alloy. Strips of silver (in the better quality pieces), or of cupro-nickel, were used to finish the edges, keep the sheets in place and render the objects more stable.

This material was studied by Mang Zidan 忙子丹 and Han Rubin 韩汝玢 (1989), who personally told the author that the origin of *wu tong* might be as early as the Ming period (1368–1644). In their paper they report the information given in the *Records of Yunnan Province* 1939, stating that especially fine *wu tong* was produced in the town of Shípíng 石屏 in Yunnan [Fig. 18]. The most common objects were vases, boxes and inkwells, decorated with floral motives or writing. The *Record of Shiping Town* 1938 stated that the old production centre was the village of Yuejiawan 岳家湾 [Fig. 19], not far from Shípíng, where polychrome objects were produced. Allegedly since the 17th century, in Yuejiawan there was a well-known workshop, that also took apprentices and instructed them in this particular metalcraft. The name of the village — "The village of the family Yue"— comes from Yue 岳, the name of famous metalworkers and a family of artisans and artists who possessed the secret recipe for the production of this special alloy. Apparently the artisans in this area were not interested in the different nuances that could be obtained by varying the composition of the alloy, but only used copper with 1% of gold, to obtain a deep black color without bluish or purplish shades (Han Rubin, personal communication). Nevertheless, the Chinese Encyclopedic Dictionary 辭源續編 /*Ci yuan xu bian* (Fang et al. 1932) under the entry *wu jin* 乌金, dark gold or crow-gold, states: "Take copper 100 parts and add gold 1 part. Melt to produce a purple-black colour."

The known *wu tong* objects studied by Collier (1940; 1977), Mang and Han (1989), Wayman and Craddock (1993) and van Bellegem et al. 2007 all seem to have been manufactured at the earliest in the 19th century, with the only exception being small box in the collections of the British Museum, roughly dated to the early 18th century and possibly produced for the European market (Wayman and Craddock 1993, p. 133).

The production of *wu tong* seems to have stopped in rather recent times. The last famous artisan, Su Jincheng, begun to work for the family Yue in 1916, and at some point he moved to Kunming where he was active until 1960. In 1994 his grandson still lived in Shípíng and agreed to be interviewed in his house [Fig. 20]. At Kunming there is a workshop called Arts and Crafts Mill, where various differently colored copper-based objects are produced. Here some older frames for photos made of *wu tong* were on display in glass

Fig. 20. The grandson of the last famous wu tong *artisan Su Jincheng, in his home at Shiping, Yunnan, with his own grandson. Su Jincheng begun to work as an apprentice for the family Yue in Yuejiawan, near Shiping in 1916. (Photo by author)*

Fig. 21. Wu tong *frame, on display in the Arts and Crafts Mill, Kunming, with the photograph of a peacock made of "ice copper." (Photo by author)*

cases [Fig. 21], but they were not on sale. Other large pieces made of "ice-copper" or "mottled copper" had some black details, but they seemed to be stained, not inlaid. The items produced in this workshop were also sold in Beijing in various shops selling metalcraft.

From Yunnan, in southwest China, this technique seems to have reached the neighboring areas, for instance in Myanmar, where a very similar material, called *mylar* is found. Regrettably not much information on this material exists, and the known pieces are mostly dated to the beginning of the 20th century. Several boxes, employed as lime containers, were studied by van Bellegem et al. (2007), and these were very similar in manufacture and construction to the *wu tong* boxes. They had various components. The black patinated sheets were soldered on copper, and a silver brazing alloy was used for the inlays. However, a wider range of alloys, brass, copper, cupro-nickel, copper-arsenic, silver and a silver brazing alloy was employed to achieve polychromy effects. In the area of Chieng Mai in Thailand, not far from Myanmar, there is an alloy called *pan ca*, apparently a Hindi word, that is used for black patinated betel boxes and it is said to contain five metals (or alloys): silver, gold, brass, red-copper and red-gold (Craddock et al. 2009, p. 49).

At least since the 17th century in Korea, there are metal objects, mainly of cupro-nickel, inlaid with black copper, itself inlaid with silver and sometimes gold. However, these pieces do not seem to have ever been analysed (Craddock et al. 2009, p. 48). The Korean name of the black patinated copper seems to be *oh dong* or *ah dong* (Giumlia-Mair 2002). Korea seems to have been the *trait d'union* between China and Japan, particularly regarding the transmission of materials and technologies. However, absent any study of the Korean black patinated alloys, it is not possible to say anything about the role Korea may have played in the creation of *shakudō*.

Alchemy in Japan

When and how did alchemy arrive to Japan? Needham (1974, pp. 12-50) lists several cases of alchemical experimentations and concepts, reported in various texts dated to the 5th – 4th century BCE that represent the earliest documentations of attempts chemically to produce gold as a medicine to attain longevity and actual immortality. In short, they document the existence of alchemy in China. Legends say that alchemy was brought to Japan by the scholar, alchemist and magician Xu Fu 徐福 in the 3rd century BCE (Davis and Nakaseko 1937a,b). The Chinese scholar Xu Fu was the court magician of Emperor Qín Shi Huang 秦始皇 (259–210 BCE), who twice sent him off to discover the secret of immortality on the "three supernatural islands" where, "the immortals and the drug which prevents death can be found" on the Penglai 蓬萊 mountain [Fig. 22]. He sailed to the East, but the first time he came back without having found the mountain of the immortals. When the emperor sent him again on the quest for the wonderful drug, he prepared an expedition "with a fleet of decked ships," accompanied by archers, by a large number (varying in the different texts) of young men and women, and many labourers, and

Fig. 22. The Penglai Mountain. Xu Fu was sent by the Qín Emperor Shi Huang Ti (259–210 BCE) to find the supernatural mountain, where the immortals live. Painting by Yuan Jiang. Collection of the Palace Museum. Beijing.. (Photo: <https://upload.wikimedia.org/wikipedia/commons/d/d0/YuanJiang-Penglai_Island.jpg>)

sailed to the Japanese islands, but he never returned to the emperor (Needham 1974, pp. 122-23).

An ancient grave in the city of Shingū 新宮市, situated at the estuary of the Kumano River on the main island of Japan at the easternmost point of the Wakayama Prefecture, is considered one of the places of interest in the Yoshino-Kumano National Park (吉野熊野国立公園). The grave is allegedly that of the alchemist Xu Fu, known in Japan as Jofuku, Jofutsu or Joshi, still venerated today as a sage and wise man. Japanese people pray at his shrine for longevity and happiness. Xu Fu legends are found in many locations in Japan, and also in South Korea and in China. In Japan he is seen as a saintly man who brought knowledge to the country, and apparently he also had many followers who continued to teach his doctrine: next to his grave in Shingu a monument also honours the "seven disciples of Jofuku" and the park is called "Jofuku Memorial Park." Here a memorial festival is held every August. Apparently the Chinese legend of the naval expedition of Xu Fu must contain some grains of truth, if the memory and the beliefs in his science and his teachings survived in Japan for such a long time. However, the earliest mention of this legend in Japan is found in Kitabatake Chikafusa's *Jinnō Shōtōki* (The True Lineage of Emperors of Divine Descent), composed in 1339 (Davis and Nakaseko 1937a, p. 112).

The name *shakudō* is found in the texts of the Nara period (710–784), but up to now no actual objects dated to this time have been identified, and, as the word literally means "red copper," it might refer to an altogether different material. In Japanese, the black-patinated *shakudō* is sometimes called *karasu-kin*, the literal translation of which is "crow-gold" (Morimoto Yasunosuke, personal communication). This name strongly recalls the Chinese appellative *wu jin*, dark gold or crow-gold, described as purple-black alloy in the Chinese Encyclopedic Dictionary (Fang et al. 1932). One of the Japanese varieties is called *murasaki-kin*, which means purple gold, and contains over 10% and up to 25% of gold (Murakami 1993, p. 88).

The earliest examples of *shakudō* employed as decoration are the set of sword fittings (*mitokoromono*) attributed to Goto Yujo (1440–1512), founder of the most famous family of metal artisans Goto, however some scholars suggested that this material had became popular already in the late Kamakura period (1185–1333) (Harris 1993; Craddock et al. 2009, p. 45). The family Goto is said to have possessed and kept secret the recipe for *shakudō* for a long time, until this knowledge slowly spread to other artisan families, and finally, in the Edo period, treatises on this art were compiled (Oguchi 1983, p. 125). As in ancient Egypt and in Roman times, in Japan too there were cheaper imitations made of other alloys that sometimes were also employed as ingredient for cheaper versions of *shakudō*, with only very little gold.

Conclusions

This paper is a much shortened summary of the long and complex story of patinated alloys through three continents and four millennia, one which has omitted many facets of the larger study. Important questions concerning the possible transmission of the Egyptian technology to far away countries are still open and in need of more research. An entire forthcoming mongraph will serve as the basis for research in the Near East, with a particular focus on alchemy as it was known and practiced in the academies from which it then spread farther into Asia. The role of Persia still has to be investigated, and Chinese predecessors of *wu tong* are still to be recognized in museums and among finds from excavations. The reconstruction of the story of *wu tong* and its related alloys is important, and can illustrate the fundamental role of China in the diffusion of ideas and the transmission of technologies in Asia. The connection of this material with the world of alchemy is indisputable. In all probability, its history begun in the workshops attached to the temple of Ptah, under the control of the high priests and the pharaoh. The experiments that led to this discovery were certainly related to the imitation of gold or to the attempt at producing gold out of base metals.

For the moment there is no direct evidence of technology diffusion in the case of these special alloys, and it will certainly be difficult to prove or disprove this fascinating hypothesis. Nevertheless, the probability seems rather small that such an unusual alloy, which looks like unalloyed copper before patination, and needs a long surface treatment and a complex chemical process to be transformed in a beautifully colored metal, might have developed more than once in different places around the world.

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NOTES

1. Cu = copper; Sn = tin; Pb = lead; Zn =zinc; Fe = iron; Ni = nickel; Au = gold; Ag = silver; As = arsenic; Sb = antimony.

Explanations of the analytical techniques referred to in this article may be found as follows:

- **Inductively coupled plasma atomic emission spectrometry (ICP-AES)** <https://en.wikipedia.org/wiki/Inductively_coupled_plasma_atomic_emission_spectroscopy>;
- **X-ray crystallography (X-ray diffraction or XRD)** <http://encyclopedia.thefreedictionary.com/x-ray+diffraction>;
- **Atomic absorption spectroscopy (AAS)** <http://encyclopedia.thefreedictionary.com/Atomic+Absorption+Spectroscopy>;
- **X-ray fluorescence (XRF)** <http://encyclopedia.thefreedictionary.com/X-Ray+Fluorescence>.

2. The texts of Pausanias and of the other Classical authors may be found in the "Perseus Digital Library <http://www.perseus.tufts.edu/hopper/>, some including English translations. They will not be listed individually in the references to this article.

Production of Bronze Wares among the Xiongnu[1]

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PREFACE

Archaeological research on the Xiongnu nomadic state of Mongolia, Inner Mongolia, and Transbaikalia has surged over the past decade. Material data and anthropological theory are fast re-writing the history of steppe nomads and of East Asia more generally, although not without significant precedents and predecessors. Major shifts in our knowledge of Inner Asian prehistory were foreshadowed by the work of a small number of international scholars who excavated the major "type" sites, created the first chronologies, and advanced a wealth of promising new ideas. One of these pioneers has long been Dr. Sergei Miniaev whose research on Xiongnu settlements, cemeteries, and material culture has helped to establish the foundations of today's Xiongnu archaeology. A lesser known side of Dr. Miniaev's research is his precedent-setting articles on Xiongnu bronze metallurgy published in Russia during the 1980s. These studies contain valuable technological data from archaeological sites across Inner Asia and were among the first attempts to characterize the alloys, manufacturing technologies, and regional centers of Xiongnu bronze production. Dr. Miniaev's exploration of bronze traditions dating from the Late Bronze Age to the Xiongnu period produced concrete evidence that effectively countered historical stereotypes of nomadic organization and political economy. Following on these first studies, a number of international research groups are now continuing this effort and expanding on Dr. Miniaev's original conclusions using the latest analytical equipment, new mathematical protocols, and recently excavated bronze artifact assemblages (e.g., Park et al. 2011; Park et al. 2015; Hsu et al. 2016). Dr. Miniaev's early metallurgical research is not always easily accessible to the scholarly community even though his arguments and data are perhaps more pertinent today than ever before. For that reason, *The Silk Road* has agreed publish here a translation of one of Dr. Miniaev's most comprehensive compositional studies of Xiongnu bronze technology with the permission of the author. The original article (published in 1983) has been modified but slightly, as spelled out in the note at its end. The discussion provided here of bronze chemical composition draws upon spectral analyses of more than 748 artifacts from sites in South Siberia and Mongolia, the result of survey and excavation up to the last two decades of the 20th century. With the assistance of Dr. Miniaev, *The Silk Road* is compiling and plans to post as an electronic file the complete set of these compositional data for use by the research community in further understanding the bronze traditions of ancient Inner Asian nomads.

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* * * *

Excavations of Xiongnu settlements have provided us with new research material for the characterization of Xiongnu society (Davydova 1965, 1968, 1978). Analyses of these materials have demonstrated the existence not only of pastoralism, but of agriculture and craft specialization, and have led us to re-examine the common perception of Xiongnu society as a typically nomadic one. In the first instance, this re-assessment has required addressing questions about the economic structure of the Xiongnu confederation that formed in the Central Asian steppes at the end of the 3rd century BCE, a task which may in part be approached by detailed research on specific sectors of material culture and its production.

Bronze wares and ceramics are among the major kinds of artifacts recovered from archaeological contexts that can inform us about Xiongnu material culture. However, to date, problems concerning the nature of bronze production among the Xiongnu have not been resolved, and, in fact, many of them have not even been addressd in the scholarly literature. Yet the thorough study of Xiongnu bronze not only provides new information on their bronze technology but helps

Fig. 1. Types of Xiongnu bronze wares, from the Ivolga settlement. After: *Davydova 1965. Also illustrated in Davydova 1968, Fig. 17; Davydova 1995, Tab. 187.*

to resolve issues regarding the development of their material culture and more generally to characterize the Xiongnu economy.

Typological characterization of Xiongnu bronze is not the primary goal of this article. I merely note that a wide variety of bronze wares have been recovered from Xiongnu sites: a substantial quantity of decorations for clothing, arrowheads, horse harness decoration, and bronze vessels. The most complete inventory of Xiongnu bronze artifacts is from the assemblage excavated at the Ivolga site in Buriatia [Fig. 1] (Davydova 1968; 1995). In my opinion, Xiongnu bronzes are an integral part of the developmental sequence of bronze wares among the Asian steppe populations, since most of the artifacts have direct analogs in the assemblages of the preceding late Scythian period on the steppe.

Focused research on ancient metal working has not been carried out in Tuva, Khakasia or the Transbaikal region of southern Siberia to the extent that it has for the Urals and in the European parts of the [former] U.S.S.R. (Chernykh 1970). Moreover, historical records contain no information on bronze casting or other forms of Xiongnu craft production. Hence, discussions of Xiongnu metallurgical technology perforce must be limited to hypothesis, rely on very limited data, and require confirmation on the basis of new materials.

Apparently as early as the 2nd millennium BCE, the mining of copper ore and smelting of copper had been mastered by the population of western Transbaikalia where major Xiongnu sites are located. A small number of varied finds attest to this. First of all one should note a series of well-known copper and bronze wares in the Eneolithic burials of the Fofanovskii cemetery on the lower reaches of the Selenga River (Okladnikov 1955, p. 28; Gerasimov and Chernykh 1975). Bronze artifacts have also been found in the uppermost level of the Neolithic Berezovskaia habitation in that same region (Okladnikov 1951) and in the Eneolithic burials of northeastern Buriatia (Ivashina 1979). Of course, even in the absence of concrete evidence, one cannot exclude the possibility of the penetration, especially into the northern taiga regions of western Transbaikalia, of bronze wares from other regions which had more advanced metallurgy. Thus, if one takes into account the archaic forms of certain Fofanovskii metalwares—the "leaf-shaped" knives, needles, and awls found in Eneolithic graves (Okladnikov 1951, p. 28), and the influence of Neolithic technology on metal working (Ivashina 1979, p. 135), one can hypothesize an earlier and, apparently, independent development of copper metallurgy in western Transbaikalia.

During the Karasuk Culture period [Late Bronze Age, 14th–9th century BCE] and the subsequent Tagar and slab burial period [Early Iron Age, 8th century BCE–1st century CE], bronze production in southern Siberia reached a high level of technological sophistication, as evidenced by a wide variety of bronze artifact finds, caches of bronzes, and casting molds (Dikov 1968; Grishin 1971, 1981). Among chance finds from various parts of western Transbaikalia are copper slag, bronze ingots, sprue casting remnants [Rus.: *litniki*], and pestles for grinding ore (now in the Kiakhta Regional History Museum, Inv. №№ 3023, 3691 etc.).

Furthermore, the data of toponyms and hydronyms are indirect evidence for the existence in this region in ancient times of copper mining and smelting. The name of the Dzhida, one of the Selenga River's major tributaries, means copper in both Turkic and Mongolian languages. A tributary of the Dzhida, the Darkhintui, derives its name from the Buriat-Mongol "darkhan" or metalsmith. Close by is a mountain with the same name on whose slopes have been found traces of ancient mining (Mel'kheev 1969, p. 98). During archaeological survey on the left bank of the River Dzhida by an expedition from Leningrad University in 1977, I found remains of mining activity near the villages of Torei, Shartykei and Tsakir and along the 208 km-long Zakamenskii path. Laboratory analysis of the remains of tailings from Shartykei revealed 1% copper content, seeming to confirm the presence of copper ores and their working in the Dzhida valley in antiquity. However, more fieldwork will be needed for better documentation in support of this hypothesis. Unfortunately, ancient quarry sites, like most remains of metal production, are difficult to date precisely.

In neighboring western Tranbaikalia the populations also mastered metallurgy at a rather early time; in eastern Transbaikalia, it arose during the Glazkovo Culture [ca. 3000–1400 BCE]. Archaeologists have documented the remains of copper and tin workings along the Argun' and Onon Rivers, and have found evidence of smelting at Bronze-Age habitation sites and specialized smelting areas in their vicinity as well as fragments of casting molds (Grishin 1961, 1975, p. 66). Recent finds document copper production and the casting of bronze wares in northern Mongolia (Volkov 1967, p. 94; Voitov et al. 1977, p. 586). West of Transbaikalia, in the adjacent regions of Tuva, the Altai, and Khakasia, there is rather reliable proof of the early emergence and development of copper metallurgy (Chernykov 1949; Sunchugashev 1969, 1975).

It is evident that there were already substantial metal mining regions and well-developed metallurgy in the broad expanse of Central Asia and Siberia which the Xiongnu brought under their control toward the end of the 2nd and beginning of the 1st century BCE. It is possible that the effort to gain control of this potential for metal production was one impetus for Xiongnu expansion (Kyzlasov 1979, p. 83). Furthermore, the goal was not just control of resources for copper production, but also control of sources of iron and its working, as it had become the main material for the production of tools and weapons.

Visual analysis of Xiongnu bronzes indicates that they were all manufactured by casting, with no evidence indicating any subsequent mechanical working. Only the mold seams and seam flanges were removed, apparently by means of some kind of chisel made of a very hard material. That such tools were available to Xiongnu metallurgists has been proven by the discovery at the Dureny settlement of a seal, on whose face is an image of a mountain goat, incised using a hard cutting tool (Davydova 1979, p. 200; Davydova and Miniaev 2003, Tab. 46: 15, 17).

In the rare instances where casting seams have been preserved, their location makes it possible to reconstruct the type of casting mold used (Rybakov 1948, p. 63). For example, bronze rings with a round cross-section preserve seams all around the inner face of the ring, evidence that they were cast using a two-sided (i.e. bivalve) symmetrical mold. In the absence of such seam patterns, the cross-sectional profile of an artifact provides essential evidence about the kind of mold used. By examining such evidence, it has been possible to establish that some of the Xiongnu bronzes (those with a trapezoidal cross-section) were cast in a single-sided mold (i.e., an open mold), while those with a concave cross-section, where the lower surface replicated all the bends and unevenness of the upper face, were cast in a two-sided asymmetrical mold.

Since no molds have been found at Ivolga in northern Transbaikalia, the most direct evidence for Xiongnu casting techniques is the sprue remnants (*litniki*) found there. [The sprue is the channel through which the molten metal is poured into the mold. The term also refers to the excess metal left in the channel, which then is clipped off of the finished object. Those clippings [*litniki*] provide the evidence discussed here. — *ed.*] This evidence points to three types of molds:

(a) *litniki* in the shape of a flattened cone with seams along the middle of the object, the casting and its seam evidence suggesting that it was produced in a two-sided mold.

(b) two-sided *litniki* that have one flat side and one convex, with seams along the outer edge. Such pieces probably were made in a single-sided mold, where the shape of the object was formed only on one side while the other was flat.

(c) *litniki* of irregular shape having three channels that join together on one side, the seam lines running along the center of the artifact and suggesting that the pieces were made using a two-sided mold with three channels for pouring in the molten metal.

Thus, studies of such *litniki* found at the Ivolga settlement and other Xiongnu bronze wares demonstrate that metalworkers employed several types of molds: open ones with a single pouring channel, bivalve symmetrical (single- or triple-channeled), and bivalve asymmetrical molds.

Interestingly, the *litniki* found in House 37 at Ivolga demonstrate that all three mold types were used at the same time, possibly by a single craftsman.

We have not identified among Xiongnu bronzes any series of objects cast from a single mold: external similarities notwithstanding, wares of a single type all differ in small details. The frequent finds of traces from casting done from different molds would suggest that bronze working was rather widespread among the Xiongnu. However no actual remains of Xiongnu bronze-casting molds have yet been found, which would seem to indicate that the metallurgists employed a technique in which the molds were re-used. This indicates that, in all likelihood, they were made of stone. We note that a few Bronze-Age casting molds found in Transbaikalia were made of talc schist (Dikov 1968, Tab. XIX; Grishin 1975, Figs. 13, 17; Chlenova 1971, Fig. 46).

The study of the chemical composition of bronze wares and the delineation of characteristic types of alloys helps answer many questions about Xiongnu bronze-casting. Using quantitative spectrometry, we studied the composition of virtually all the excavated Xiongnu bronze wares from Transbaikalia and in part as well from Mongolia (Noyon uul) and from synchronic Xiongnu finds in southern Siberia. We also analyzed unprovenienced finds from those same regions. This analysis yielded the following results for the basic components of Xiongnu bronze (in addition to the base metal, copper [Cu]): tin (Sn), lead (Pb) and arsenic (As) ranged from a few thousandths of a percent to ten percent or more [Fig. 2]; bismuth (Bi) , antimony (Sb), nickel (Ni), cobalt (Co), iron (Fe), gold (Au) and silver (Ag) varied from as little as thousandths of a percent to some tenths of a percent but rarely higher [Figs. 3, 4]. Indium (In) and zinc (Zn) were found only in traces, amounting to no more than a few thousandths or hundredths of a percent.[2]

As shown in Figures 2, 3, and 4, the distribution of these chemical components of Xiongnu bronzes varies from site to site. In fact, there is no site that has a chemical profile that matches that of any other site, which seems to lend credence to the idea that there were various sources of ore and various production centers. However, spectroscopic analysis of bronze wares from Early Iron Age sites has demonstrated that in that period some complexity is to be found in the composition of artificial alloys, on account of the mixing of metals from different sources. This circumstance had a significant impact on the distribution of trace element additives in bronze wares and makes it impossible to reach any kind of conclusion only on the basis of the distribution graphs. Hence, the main criterion for studying the metals from various collections must be the delineation and analysis of metallurgical groups (types of alloys), i.e., to treat as a group those artifacts among which the main alloy elements have a stable relationship to one another (Chernykh and Bartseva 1972).

As the histograms in Fig. 2 show, the main constituents added to copper to make Xiongnu bronzes are tin, lead and arsenic, whose concentrations consistently are 1 % or higher. Statistical analysis of the distribution data makes it possible to distinguish between natural and purposefully added constituents and thus distinguish

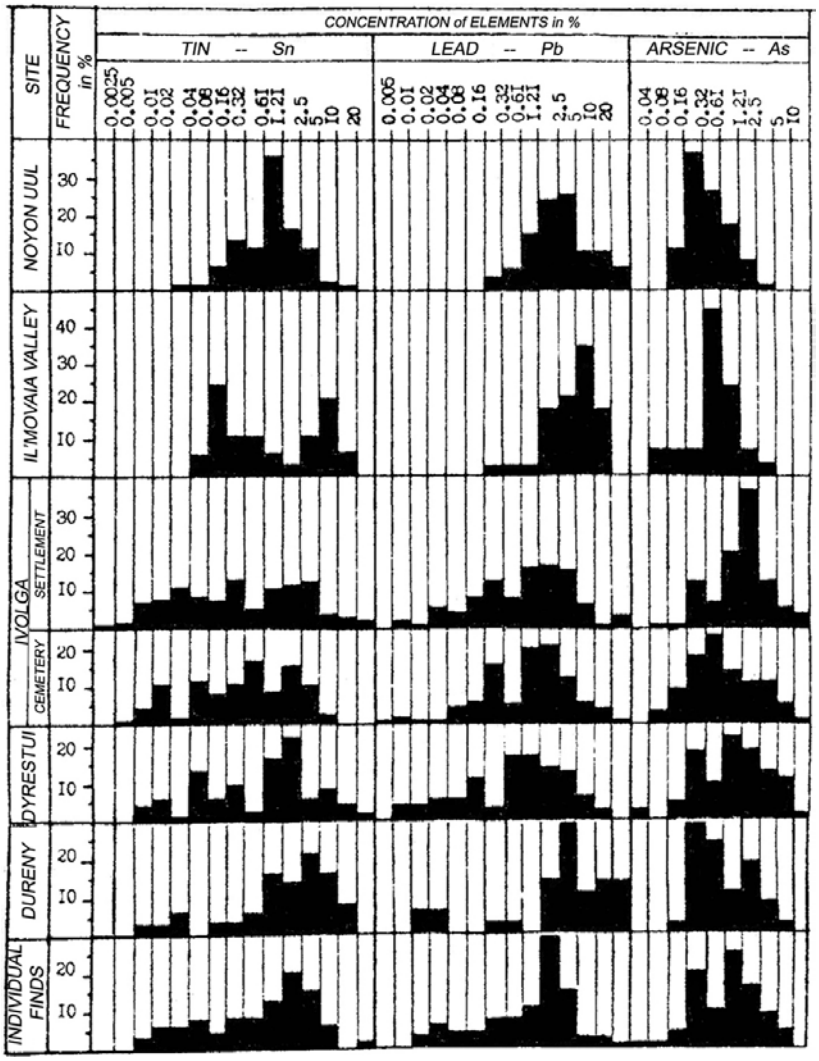


Fig. 2. Distribution of tin, lead and arsenic in Xiongnu bronze.

the different types of alloys. The method used is that which has been employed for spectroscopic analysis of Early Iron Age bronzes (ibid., 55-59). Ratio analysis of the different types of alloys documented at each site is shown in Figure 5 and is summarized below [for most of the sites, we have provided references to the main published archaeological reports—*ed.*].

• *Noyon uul* (Rudenko, 1962). The majority of the bronze artifacts found there (63%) were made of a leaded-tin alloy, while leaded bronze objects comprise 26%. There are no arsenical bronzes; that element is present only in tenths of a percent (i.e., presumably naturally present in the ore). There are only isolated examples of tin bronze or artifacts made of pure, unalloyed copper.

• In the *Il'movaia Valley* cemetery (Konovalov 1976, esp. pp. 25-80) the bronzes were similar in their alloys to those at Noyon uul, but the percentages of the two main types differed: leaded bronze constituted 36% and leaded-tin bronze 42%. There also were individual examples of wares made from arsenical and leaded-arsenical alloys.

• In contrast, at the *Ivolga settlement* (Davydova 1995) the main alloys in the artifacts are arsenical bronze followed by tin-lead-arsenical alloys (27%) and arsenical bronzes (21%). Other alloy types were rare.

• At the adjacent *Ivolga cemetery* (Davydova 1996) there is a more even distribution consisting of leaded-tin alloys (23%), arsenical alloys (17%), leaded bronze and pure copper (15% each), leaded-arsenical bronze s (14%), and a smaller representation of the multi-component alloy containing tin, lead, and arsenic (11%).

• At the *Dyrestui cemetery* (Miniaev 1998) 30% of the artifacts consist of tin-lead-arsenic alloy, while there is a more even distribution of artifacts made from tinned bronze (19%), leaded bronze (18%), and arsenical bronze (14%). There are but few examples of other types of alloys.

Fig. 3. Distribution of antimony, bismuth, nickel and cobalt in Xiongnu bronze.

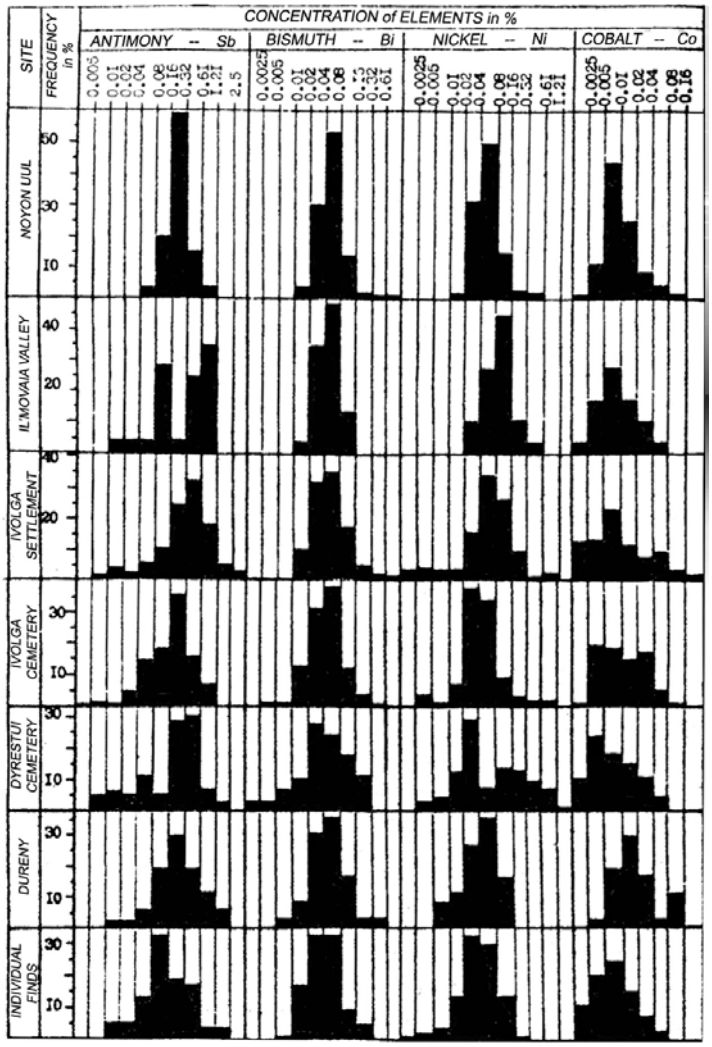
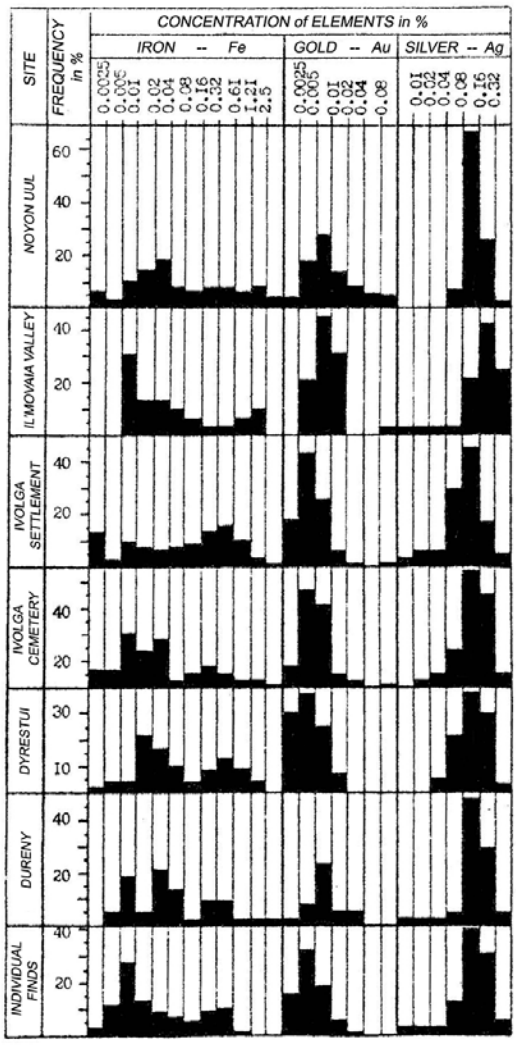


Fig. 4. Distribution of iron, gold and silver in Xiongnu bronze.



• The *Dureny settlement* (Davydova and Miniaev 2003) is dominated by leaded-tin bronzes (46%) with only about half that percentage represented by the multi-component tin-lead-arsenic alloy. Again, there are only isolated examples of other alloy types

• Finally, among the *random surface finds* (and some from isolated burials) from around the southern region of western Transbaikalia, the basic alloy types are found in these percentages: leaded-tin bronzes and tin-lead-arsenical bronzes (25% each), arsenical bronze (17%), leaded-arsenical bronze (11%), and pure copper artifacts l (14%).

Comparison of the characteristics of the collections of bronzes from these sites then suggests that they fall into three groups:

(1) At Noyon Uul and the Il'movaia valley, the main alloy groups are leaded-tin and leaded bronze while arsenic-based bronze is absent;

(2) At Ivolga (both the settlement and cemetery) and the Dyrestui cemetery, the majority of bronze artifacts are arsenic-based including leaded-arsenic and tin-lead-arsenic alloys;

(3) At Dureny, the main alloy types are leaded-tin and tin-lead-arsenic bronze.

The random finds as a group are best characterized as falling into the second and third groups.

The differences among these groups could be due to several reasons. The fact that Noyon uul and Il'movaia Valley comprise a single group is to be expected, given that the inventories of the elite burials at these sites include for the most part imported tribute goods, the bronzes among them. Thus it seems likely that the Noyon uul bronzes were made in Han Dynasty (202 BCE – CE 220) workshops, as has frequently been observed in the scholarly literature (Bernshtam 1951; Rudenko 1962; Umehara 1960). The difference in the characteristics of the metals found at these two sites and the other sites supports this supposition and, beyond that, the important conclusion that Xiongnu bronze technology was not influenced in any way by the metallurgical traditions of the Central Plain.

TABLE 1. DIFFERENCES IN BRONZE ARTIFACT ASSEMBLAGES FROM XIONGNU SITES BASED ON ALLOY TYPES

Site Name	1	2	3	4	5	6	7
1 Noyon uul	X	20.95 –	292.38 –	110.17 –	158.56 –	72.48 –	128.20 –
2 Il'movaia Valley		X	101.65 –	19.08 –	43.24 –	14.97 –	33.13 –
3 Ivolga settlement			X	53.42 –	18.24 –	55.41 –	20.27 –
4 Ivolga cemetery				X	24.06 –	16.63 –	11.52 +
5 Dyrestui cemetery					X	15.06 –	4.15 +
6 Dureny settlement						X	10.37 +
7 Random surface finds							X

NOTE: The numbers above each plus or minus symbol are values of the chi-squared statistic. A minus sign indicates that the differences between the paired site assemblages are non-random, while a plus sign indicates that they are random. The critical values for chi-squared with 6 degrees of freedom are 12.59 at the 5 percent level of significance (p=0.05) and 16.81 at the 1 percent level of significance (p=0.01).

Editor's note: These statistical tests were carried out on the alloy data provided in Fig. 5 and include all alloy types with the exception of Zn+Sn, Pb, As. To facilitate statistical analysis, alloy types As and Sn+As were combined since their proportions show similar information. In all, 7 alloy types were used in pair-wise comparisons of site assemblages. In some cases, at least 20% of expected frequencies were less than 5 and some expected values fell below 1. The chi-squared statistic was used in the original study and so these results were cross-checked using Fisher's exact test. For comparisons marked with a minus sign, the results were $0.019 > p > 0.000$ and for those marked with a plus sign, $0.679 > p > 0.055$.

The second group includes the Ivolga settlement and cemetery and the Dyrestui cemetery. There can be little doubt that bronze production was carried out at the Ivolga settlement, since archaeologists have recovered many examples of copper slag, bronze ingots and fragments, *litniki* and crucible fragments (Davydova 1965, p. 11). One might be tempted to suggest that the bronzes of this group all originated from the Ivolga workshops, but several facts indicate otherwise.

In the first place, despite external similarities, the proportions of alloy types between the three sites show marked differences. Evidence for this is provided by applying a chi-squared statistical test to the differences in proportions, which demonstrates that the differences are not accidental [Table 1].

Secondly, the Dyrestui cemetery bronzes, similar to those from with Ivolga, differ from them in the presence of the trace element indium which is rarely found in copper. Two-thirds of the Dyrestui bronzes have indium, which is practically unknown in any other Xiongnu bronzes (Miniaev 1977). This then suggests that the ore smelted for making the Dyrestui bronzes came from a separate site or group of sites. This distinctive feature of the Dyrestui alloys is the criterion for classifying them in a separate group among Xiongnu artifacts.

Thirdly, as just noted, there is reason to assume that an independent metallurgical center existed in the Dzhida River valley where the Dyrestui cemetery is located. The presence of indium confirms this.

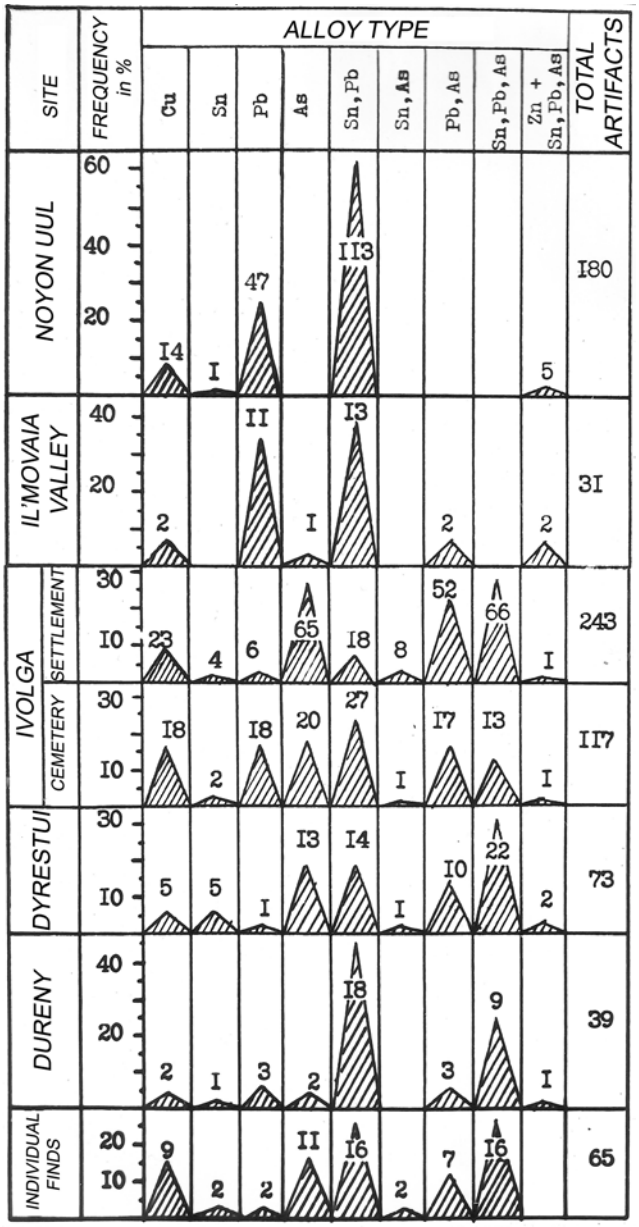
In sum then we hypothesize that the Ivolga and Dyrestui bronzes were produced in different metallurgical centers, one of which was located at the Ivolga settlement and the other along the middle course of the River Dzhida.

Based on its metallurgical characteristics, the bronze assemblage from the second Xiongnu settlement — that of Dureny on the Chikoi River — cannot be associated with either of the proposed Ivolga or Dzhida production centers, from which the proportions of the alloys are quite different as the chi-squared test confirms [Fig. 5; Table 1]. Hence, the Dureny assemblage argues for yet another center of Xiongnu bronze production in Transbaikalia, probably located in the Chikoi River valley, where casting molds, mortars and pestles for grinding ore, and copper slag have been found. Also found there are deposits of bronze wares (the Sharagol'skii cache, [now kept in the Museum of the Institute of Mongolian, Buddhist and Tibetan Studies, Ulan-Ude]).

It is also possible that in Xiongnu times the casting of bronze wares took place right in the Dureny settlement, since among the finds from the disturbed layer of that site are *litniki* and bronze ingots whose composition is completely analogous to that of the bronze wares found there. There is no concrete evidence though regarding smelting of copper in the settlement. The indicated artifacts merely tell us that there was metalworking, again suggesting that there must have been a center for metal extraction in the Chikoi valley.

In sum, then, we can identify three major centers of metal extraction and working in western Transbaikalia during the Xiongnu period [Fig. 6, next page]. The evidence includes the characteristics of the metallurgical groups and their relationship to the bronze ware assemblages from the several sites, the

Fig. 5. Distribution of bronze artifacts from Xiongnu sites based on alloy type.



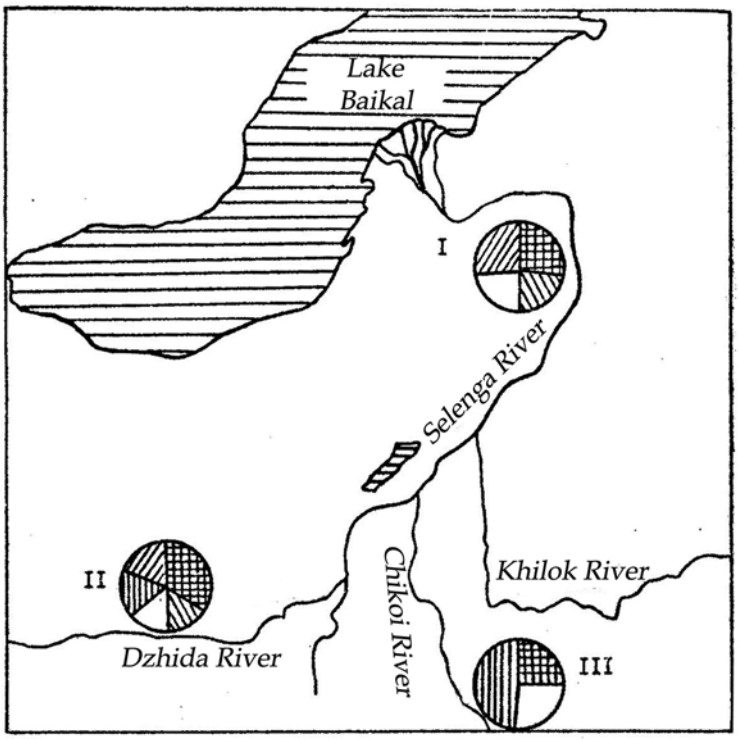


Fig. 6. Xiongnu centers of metallurgy and metalworking in Western Transbaikalia: I) Ivolga; II) Dzhida; III) Chikoi.

- arsenic bronze
- leaded-tin bronze
- leaded-arsenic bronze
- copper-tin-lead-arsenic bronze

presence of indium in the Dyrestui bronzes, and the remains from copper smelting and bronze casting in the settlements. The *Ivolga center* is distingished by the numerous finds of copper slag, of bronze ingots, of casting and crucible fragments. The wares produced there are among those found both in the settlement and in the adjoining cemetery. The *Dzhida center* is distinguished by the presence of indium in the artifacts found in the Dyrestui cemetery and presumably produced nearby, in the correlation of the types of alloys which differ from those of other sites and by the data concerning toponyms and hydronyms. The *Chikoi center* is distinguished on the basis of the artifacts from the Dureny settlement, whose bronzes comprise an alloy group that is different from those of any other Xiongnu metallurgical sites.

As would be expected, bronze items produced in several centers might be found at a single site. Especially telling in this regard are the products of the Dzhida center with their traces of indium. Such Dzhida wares have been found in the Ivolga settlement (5 cauldron fragments and a small bell) and in the adjoining cemetery (3 belt buckle-plaques), and among unprovenienced artifacts in western Transbaikalia (2 cauldrons and 5 belt buckle-plaques). Among the few bronzes found at Noyon uul which are typologically most similar to Xiongnu wares, 2 cauldron fragments from Barrow № 6 and one harness plaque with rectangular petals from Barrow № 49 contain indium. A fragment from a belt buckle-plaque with 0.003% indium has been found in northern Mongolia (Miniaev 1980, p. 31). Apart from the objects with trace indium, in the Ivolga cemetery a significant part of the bronze wares are made of lead-tin alloy, which is not typical for the metal production at the nearby settlement. This evidence shows that what was produced in the several Xiongnu metallurgical centers had a wide distribution. Specifically, even if the share of Dzhida bronzes at the Xiongnu sites was small, with the exception of Dyrestui, those wares are found practically everywhere in western Transbaikalia and in northern Mongolia too.

Currently we have no data indicating the existence of any other metallurgical centers in the western part of Transbaikalia. Almost all analyzed bronze artifacts belong to one of the three known centers discussed above. We have analyzed virtually all the bronze artifacts from Xiongnu sites in Transbaikalia, and the results indicate that a preponderant part of them can be connected with Ivolga, Dzhida and Chikoi. The relatively small group of unprovenienced finds (12 % of the total number of Xiongnu bronzes) which have been collected in the south of western Transbaikalia are analogous in their metallurgical groupings to those from Dzhida and Chikoi [Fig. 5; Table 1]. It is thus most likely that the wares in this group were cast in those two centers. Seven of the finds can be connected with Dzhida. It seems unlikely then that in the Xiongnu period there were any other significant centers of metal production which have yet to be discovered.

While so far it is not possible to identify any specific centers of Xiongnu metallurgy in Mongolia and the Ordos region, that such centers existed is certainly likely. Evidence for this is in the composition of several Xiongnu belt buckle-plaques found in the Ordos and southern Mongolia (Samolin and Drew 1965). Analyses show that in those regions during the Xiongnu period leaded-tin, tin and lead alloys were prevalent, whereas there are no wares alloyed with arsenic. The interrelationships of these alloy types in this assemblage of artifacts clearly differentiates it from the Transbaikalia assemblages. It is especially important to note that among the Ordos buckle-plaques are metallurgical groups completely

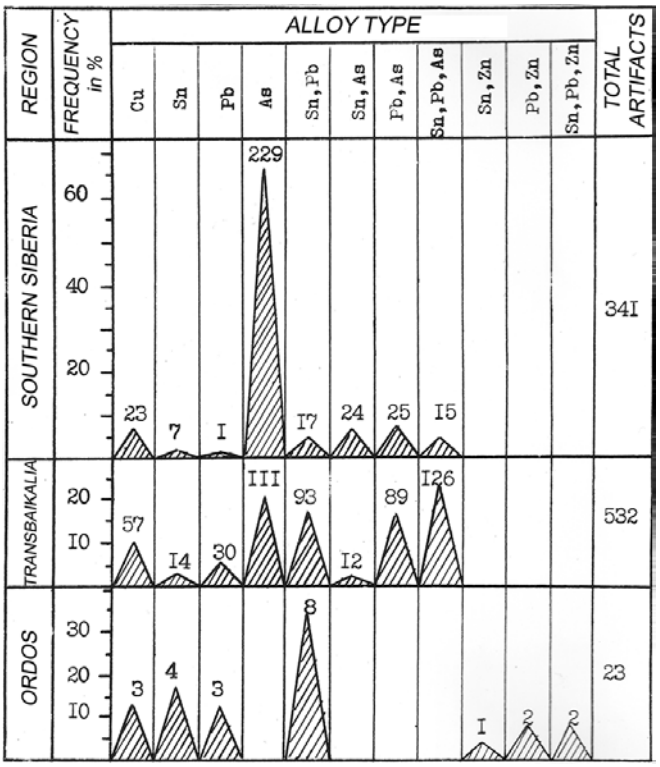


Fig. 7. Distribution of Xioingnu bronze artifacts based on alloy type in southern Siberia, Transbaikalia and the Ordos.

unknown in Transbaikalia. These are alloys which contain zinc in combination with tin and lead [Fig. 7, Ordos]. Despite the fact that the quantity of these objects so far analyzed is very small, the use in the Ordos and Mongolia of alloys absolutely unknown in Transbaikalia points to the possible existence of independent centers of metal production in those two regions.

Thus one can see that in the Xiongnu period production of bronze wares on the territory of Transbaikalia, Mongolia and the Ordos was organized according to different metallurgical complexes, each of which had its own distinctive features in terms of the alloys produced there. So far the fullest data come from western Transbaikalia, where, as indicated above, there were two centers for metal production and one for the making of finished wares.

Some of the specific features of the organization of bronze-casting among the Xiongnu can be seen in examples from the Ivolga settlement. There, the remains of bronze-working (e.g., copper slag, ingots, bronze spills, *litniki*, pestles, etc.) were recovered from houses, cultural layers, and pits. However, in the entire excavated area of the settlement (some 8000 m^2 or 20% of the site), there were no specialized structures or rooms (i.e., workshops) for copper working. Almost all the evidence for copper working and bronze casting was from ordinary residences, in which, it seems, the entire process of making bronzes took place. The necessary conditions for this process, in particular the requisite high temperatures, were likely achieved by constructing the stone slab ovens covered with clay which have been found in Ivolga houses. So it is no accident that the base of a vessel used as a crucible was found within such a furnace in House 48 (for the furnace, see Davydova 1995, Fig. 7; for the house plan and artifacts, Tab. 100, 101). In their construction and inventory the houses with evidence of bronze production hardly differ from the other Ivolga houses and thus they would appear to have served simultaneously as both the residence and workshop of the craftsman. That these craftsmen who cast the bronzes were of Xiongnu cultural affiliation is suggested by the presence in the household inventories of typical Xiongnu ceramics and other artifacts.

The layout of the Ivolga site, with rows of houses and what might be seen as "quarters," suggests it was a planned settlement [Fig. 8] (Davydova 1968, ill. 1, 2; 1995, fold-out Tab. 2, 3). However, the random distribution of houses with evidence of metallurgy would seem to indicate that this production was not concentrated in any special quarter set aside for these craftsmen. Some resided along the outer walls, others

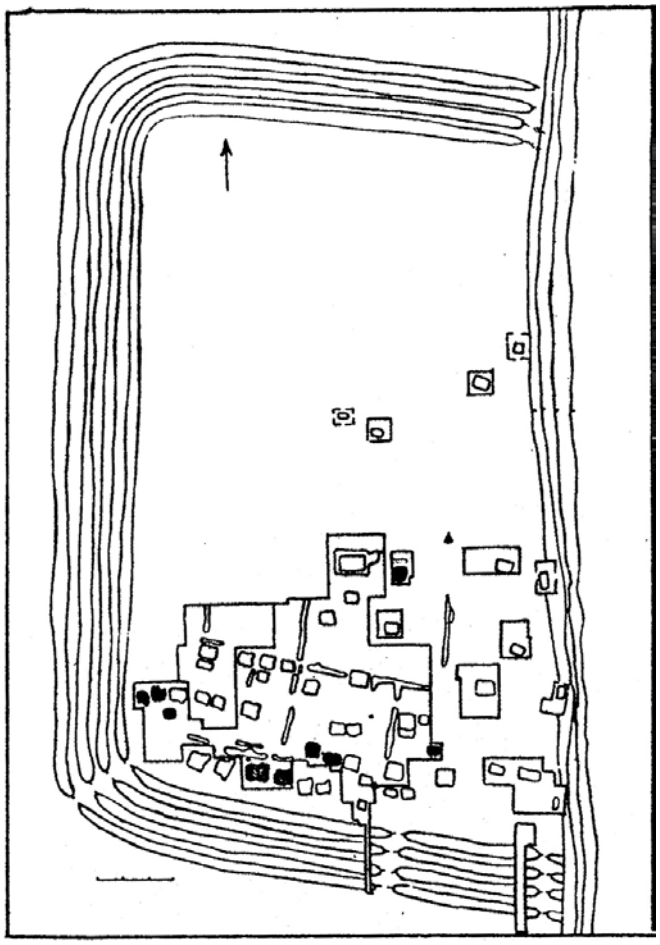


Fig. 8. Plan of the Ivolga settlement (units with remains of bronze casting production indicated in black).

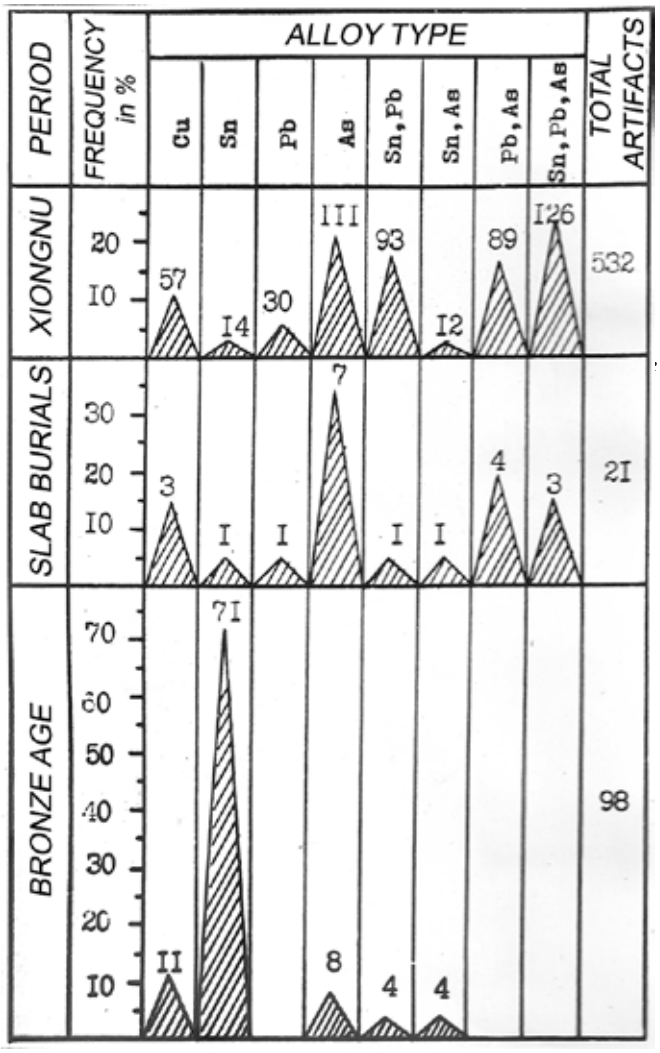
in the center near to where there were furnaces for iron production. That the bronze casting specialists were not distinguished from the rest of the population is understandable, given the fact that the Ivolga settlement was both a military and administrative post as well as a center for craft and agricultural production for the Xiongnu of Transbaikalia. Other crafts at the site included ferrous metallurgy, specialized bone carving, and jewelry manufacture (Davydova 1965; 1995, pp. 50-52). In several instances a single house contained evidence for more than one craft activity, e.g., House 25 which was used for both bronze casting and bone carving (Davydova, 1995, Tab. 44-46). Possibly specialists of different crafts worked there under a single roof. That so many in the population were craftsmen would explain why the houses used for metal working were in no way set apart from the others.

It is also worth noting that in its functioning the Ivolga center was atypical compared to the other Xiongnu centers of metal production, reflecting the fact that it was separated by a considerable distance from most of the Xiongnu sites and was a kind of outpost of the Xiongnu in the northern reaches of Transbaikalia. It was defended by strong fortifications (up to 36 m wide), presumably because it was surrounded by hostile tribes who would eventually storm and destroy it once Xiongnu power collapsed (Davydova 1965, p. 18). These conditions may have impacted the organization of bronze production at the site, for example by making it necessary to work bronze within the settlement in houses poorly adapted for that purpose, instead of creating special foundries where the ore was mined and worked as was the case in Khakasia (Sunchugashev 1969). It is also possible that in other parts of Xiongnu territory, in Mongolia and the Ordos, bronze production achieved the higher level of specialization that had been attained already among populations of the Asiatic steppes. However, so far the lack of data prevents any assessment of production in other Xiongnu metallurgical centers.

One must not lose sight of the fact that all Xiongnu metallurgical centers in western Transbaikalia are located in areas with long histories of metal processing. Evidence for this is provided by is in the Zakamenskii cache of pre-Xiongnu Scythian (i.e., Early Iron Age) artifacts from the Dzhida River valley, where the Dzida metallurgical center came to be located during the subsequent Xiongnu period. Also, there are the Scythian-period casting molds from Khar-Busun in the region near the Xiongnu metal workings on the Chikoi River (Grishin 1975, Figs.. 13, 17; Grishin 1981; Chlenova 1971). The Ivolga center is on the lower reaches of the Selenga River, where the earliest bronze wares known in western Transbaikalia have been found (Okladnikov 1955, Fig. 28). Such facts demonstrate the necessity of at least briefly characterizing the development of copper metallurgy in western Transbaikalia in the Bronze Age and Scythian times in order to elucidate the basis on which Xiongnu metallurgy developed there. The data for such a characterization are few, but taken together they at least enable one to sketch the basic features of the development of bronze production in western Transbaikalia.

The possibility of an early and independent invention of copper metallurgy in this region has already been noted. Let us now examine evidence about the pre-Xiongnu types of alloys used by the metalsmiths of western Transbaikalia. Even the first and still infrequent analyses of the artifacts found here showed that the local populations rather early on had mastered the production of objects not only from copper but also from intentionally produced alloys.

Fig. 9. Alloy types used by metallurgists in Western Transbaikalia in the Bronze Age, Scythian (slab grave) period, and in the Xiongnu period.

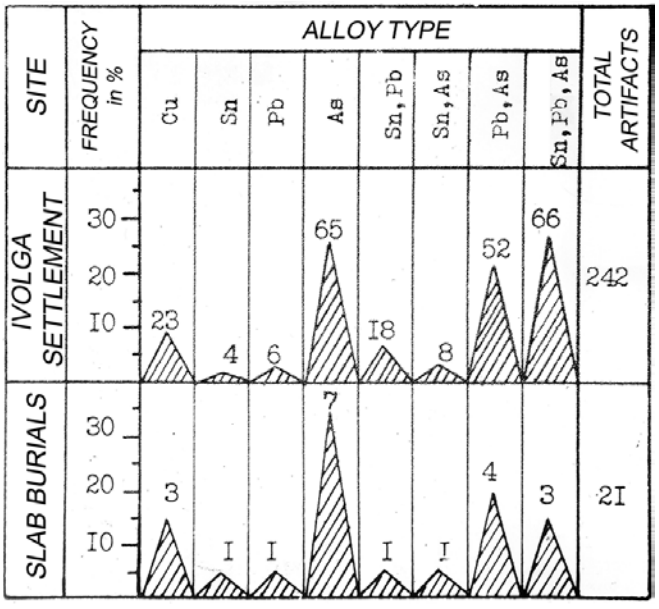


Thus, analyses of the Fofanovskii bronzes showed that a large part of them had been cast from tin bronze (Okladnikov 1955, table 4; Gerasimov 1975, p. 47). This author's study of unprovenienced finds of bronzes from western Transbaikalia dating to the Karasuk and Early Scythian era [late 2nd–early 1st millennium BCE] (now in the collections of the Kiakhta and Ulan-Ude museums) confirmed that in that period tin bronzes were the main type of alloys. More than 72% of the artifacts were made of that alloy [Fig. 9, Bronze Age]. Only rarely are there artifacts made of arsenical bronze or unalloyed copper.

Later, when the slab burial culture became widespread in Transbaikalia [in the Scythian period, Early Iron Age], the types of alloys changed. Analysis of the relatively few artifacts recovered from slab burial cemeteries (excavations by Julian. D. Tal'ko-Grintsevich and Georgii P. Sosnovskii at Shamanskaia valley, Ikherik, Tapkhar, Yenyskei, Saiantui, Sosnovaia valley, etc.) demonstrates that all these objects were made of alloys whose main constituent was arsenic, sometimes in combination with tin and lead [Fig. 9, slab graves]. Due to inadequate evidence, it is difficult to explain this change in the types of alloys. Possibly the chief determinent was the development of ferrous metallurgy which then obviated the need to use tin bronze, which is harder than other alloys and was preferred for edged weapons and tools during the Karasuk period.

Comparison of the alloy types of artifacts from slab burials and Xiongnu sites shows that they are substantially alike [Fig. 10], an observation confirmed by the chi-squared test, which yields a value of 5.7, demonstrating that any differences in the proportions of alloys are not statistically significant. This similarity is even more striking in comparisons of the distribution of alloy types among Ivolga bronzes with those of artifacts from slab graves [Fig. 10], the largest assemblages of which are located directly adjacent to habitation sites (Tapkhar, Saiantui) and farther to the southwest in the Selenga basin (Sosnovia valley, Ubur-Biliutai, Enyhskei). Most of these bronze artifacts of the Scythian period were recovered from those sites which G. P. Sosnovskii (1941) discovered. Unfortunately, the number of slab burial bronzes (21) is small in comparison to those from Ivolga (242, excluding one sample containing zinc) and the even larger number of Xiongnu bronzes in Transbakalia (537). Thus one should not make too much of the results of the comparisons and calculations, which have for the most part but a formal nature. However, for our subject, of fundamental importance is the fact that even in Scythian times, prior to the spread into Transbaikalia of Xiongnu influence, the local metalsmiths already knew the types of alloys which then became the dominant ones in Xiongnu metallurgy. Apart from the slab graves, such alloys have been attested in a group of burials from the Bronze Age Fofanovskii cemetery, where one of the knives was cast using lead-arsenical alloys characteristic later during the Xiongnu period (Gerasimov 1975).

Fig. 10. Ratio of alloy types in artifacts from the Ivolga settlment and slab graves.



Hence, even the fragmentary evidence cited suggests definite continuity in the metallurgical recipes between Scythian and Xiongnu times, something that is true both for Transbaikalia and, apparently, for Ordos metallurgical centers. This circumstance possibly points to the fact that the traditions and experience of the indigenous population of Central Asia formed the basis for the development of copper metallurgy in Xiongnu times. Confirmation of this hypothesis will require a broad series of analyses of Scythian bronzes from Transbaikalia, Mongoia and the Ordos.

As a result of our metallurgical analysis of Xiongnu artifacts and the examination of evidence from specific excavated sites, we have been able to describe the general nature of bronze-casting among the Xiongnu, to assess the level of the development and degree of independence of Xiongnu copper-based metallurgy, and to provide fundamentally new information to resolve a series of general problems concerning Xiongnu culture. Despite the relatively small amount of data, the material suggests that there was a high level of development in Xiongnu bronze technology. Xiongnu metal producers had extensive knowledge of mining (both in locating and then extracting the ore) and of metal working (smelting of the copper, preparation of various alloys and casting of bronzes, some of them complex). The basis for the development of copper metallurgy among the Xiongnu was, apparently, the metallurgical traditions of the previous popoulations of the Asiatic steppes. The example of western Transbaikalia shows that the Xiongnu metallurgical centers were located in the same places where in all probability such centers had existed earlier. The alloys of Xiongnu bronzes were the ones known to the earlier metalworkers in Scythian times. Evidently the Xiongnu did not simply rely on the sources of ore and experience of their predecessors but also exploited new sources of raw material. This would explain the appearance in the Xiongnu period of a series of wares with a measurable indium content, something that was almost entirely absent in the products of the earlier period, before the Dzhida region became a production center.

The independence of the development of Xiongnu copper metallurgy is especially evident in comparisons between the characteristics of the Xiongnu bronzes and imported ones made by the Han Dynasty workshops and found in the burials at Noyon uul. The fundamental differences in both the metal content and in the types of artifacts suggest that Xiongnu metallurgy was not influenced either by Far Eastern or by any other such metallurgical regions. The only influence which can be traced in Xiongnu copper metallurgy and which affected its development came from the experience and traditions of the indigenous populations of the Asiatic steppes.

Bronze production among the Xiongnu apparently was a small-scale craft enterprise. The materials from western Transbaikalia show that the demand for bronze wares in the wider region could be met by a small number of centers (two for all aspects of production and one just for casting and finishing). The objects cast in these centers, as is apparent from the example of the Dzhida bronzes with their marked indium content, were distributed over a rather wide territory.

From the perspective of the history of metallurgy, the data we have examined indicate that it is possible to discern in western Transbaikalia the existence of an independent metallurgical region which arose probably in the Eneolithic era, functioned actively in the Bronze Age and Scythian period, and then continued to be significant in the Iron Age (i.e., Xiongnu period). Thus it is accurate to define Transbaikalia as a separate mining and metallurgical province (MMP/GMO) which, along with others, determined the development of copper metallurgy on the territory of the [former] USSR (Chernykh 1978, pp. 63, 77). It will be possible for archaeologists to provide more detail about the activity of the western Transbaikal metallurgical region only when new evidence becomes available.

The singling out within the structure of the Xiongnu economy of one of the most important kinds of material production — copper metallurgy — underscores all the more strongly the incompatibility between traditional perceptions about the primitive Xiongnu economy (i.e., an economy based mainly on nomadic pastoralism) and the archaeological evidence obtained in recent years. Resolving such contradictions, which had been noted from the start with the excavation of the first Xiongnu settlements, requires detailed study of all branches of their material production, something that goes well beyond the bounds of our topic. Thus we will merely highlight what has been learned from the analysis of bronze-casting as it pertains to a fuller understanding of the Xiongnu economy.

The initial perceptions of the Xiongnu polity were shaped by the information in written sources, and primarily by the "Historical Records" (*Shiji*) of Sima Qian. His image of Xiongnu life is widely known and oft repeated: "They move from place to place in search of water and grass. They have no towns…nor any permanent place of residence, nor do they engage in agriculture." The pages of the written sources are filled with information about the Xiongnu ownership of a large number of herd animals of various breeds. Naturally, "the economic system of the Xiongnu, as it is

depicted in the sources, can justifiably be characterized as primitive or extensive animal husbandry" (Taskin 1968, p. 28).

Xiongnu archaeological sites first were studied beginning in the late 19th century. The excavations of cemeteries and later of settlements recovered bones of domesticated animals, thus seeming to confirm the information of the written sources. This resulted in the formation of what at first glance was a fully justified conception of the Xiongnu economy, expressed most precisely by S. I. Rudenko (1962, pp. 29, 112, 62): "There is no doubt that animal husbandry in the period of concern was the main occupation of the Xiongnu. Hunting…was an important supplementary resource." And, additionally, agriculture for them "could not have had any real significance in their economy," while "their casting technology was far from being perfected to the degree that it had been mastered by their western neighbors, the peoples of southern Siberia."

However, the archaeological evidence which has now accumulated clearly contradicts that earlier assessment. Certainly the excavation results confirm that the Xiongnu practiced developed animal husbandry, but the materials also speak of their engaging in agriculture, iron-smelting, bone-carving and the making of ornaments (Davydova 1965, 1978). The typological and spectro-analytical research on Xiongnu bronzes as discussed above clearly indicate that the Xiongnu engaged in independent bronze-casting. Thus the archaeological materials depict a more complex structure of the Xiongnu economy than that which is reconstructed from historical annals. The results of the excavations in no way provide evidence that animal husbandry dominated their economy.

To resolve the contradictions between these two kinds of historical records (the written sources and archaeology), it is necessary first of all to analyze carefully the annals. At the outset, one must stress that in dealing with the Central Asian tribes, the written sources are very one-sided. Given that their main focus is on military and political events, the early historians saw their task as "explaining and laying out the transfer of power from one ruler to the next," and in the process paying no attention to many complex aspects of the internal life of those groups (Taskin 1968, pp. 21-22). Furthermore, the way of life of the most varied tribes who inhabited Central Asia over several millennia — the Xianyun, Shanroung, Xiongnu, Wuhuan, Gaoju and Tujue — are described in identical terms, as quoted above. An additional pecularity of the written sources can be seen when one analyzes Chapter 110 of Sima Qian's "Historical Records" ("The Account about the Xiongnu"). All the data there regarding their supposed nomadic way of life relate not to the period of the creation of the Xiongnu confederation but to the history of the Xiongnu in the legendary period of distant millennia (i.e., in the time of their supposed mythical ancestor, Shunwei). In describing the way of life of the Xiongnu who were his contemporaries approaching the beginning of the Common Era, Sima Qian focuses attention on military and political events and describes the Xiongnu economy in clichés.

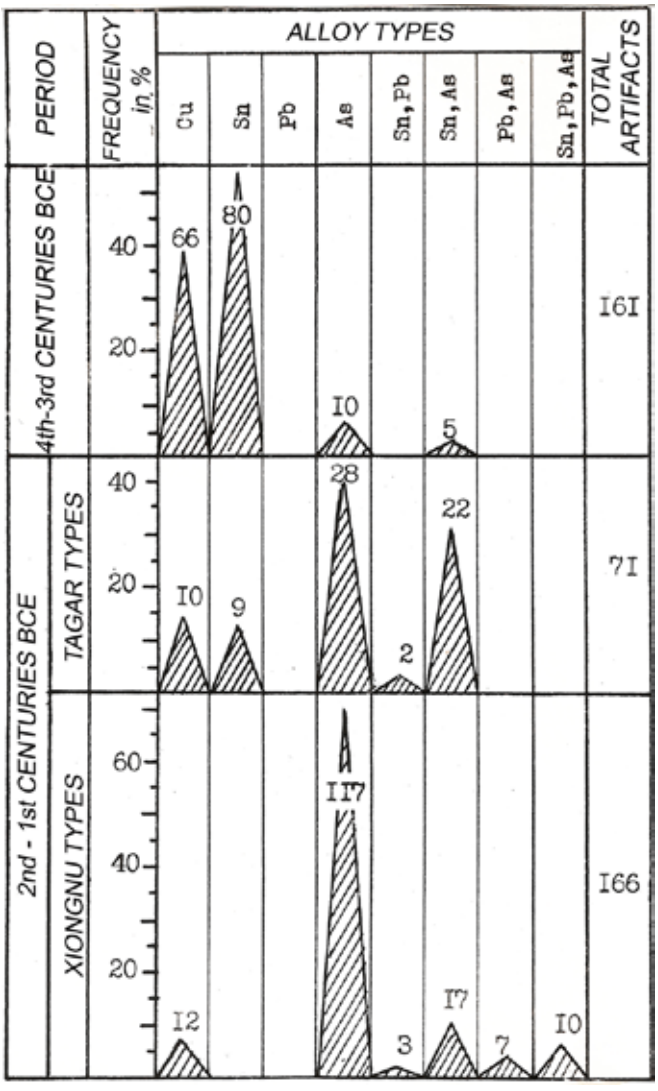
A glaring example of such a one-sided treatment is the fact that the highly developed and well organized bronze-casting practiced by the Xiongnu is not even mentioned in the written sources, nor are any other crafts. Yet it is abundantly evident that in the period when the Xiongnu confederation dominated Central Asia, the productive capacity of the population there rose to a qualitatively new and higher level, as can be seen in the building of unprecedented craft and agricultural centers like the Ivolga and Dureny settlements. Even though the historical accounts are a valuable source for Xiongnu military and political history, for a number of reasons (e.g., cliched phrasing, traditional ways of thinking, absence of concrete observations, and in part a distinct cultural bias) the texts do not reflect the multidimensional nature of the Xiongnu economy.

For the same reasons, the written sources fail to indicate the structural changes which had occurred in the process of development of the economy of Central Asian populations. The information in these sources cannot serve as the basis for reconstructing the main branches of the Xiongnu economy and their relation to each other. It is entirely probable that the observation made by Taskin (1968, p. 24) about the Xiongnu political system which, "by the era of Maodun underwent significant changes compared with the first period in their history," likewise applies to the Xiongnu economy. Furthermore, the structural changes in the economy were, it seems, influenced by the perfecting of the political system.

It is clear that in order to explain the reasons for the qualitative development of the Xiongnu economy, additional multi-perspective studies along with objective assessment will be required. The formation and development of each branch of material production must be studied along with its close connection to changes in social and political organization among the populations of the Asian steppes beginning as early as the Bronze Age and Scythian period. The basis for such a study should primarily be archaeological evidence, and ideally evidence recovered from settlement sites dating to the Xiongnu and preceding periods.

The determination of the recipes of metal alloys used by the Xiongnu metalsmiths opens wide the possibility of answering questions long ago posed in the literature but so far insoluble using ordinary archaeological methods. I have in mind here the unusually wide distribution in Asian steppe sites of "Xiongnu-type" bronze objects. Opinions regarding the question of who produced these artifacts are quite contradictory. Some scholars believe that such bronzes were in fact made by the Xiongnu, but others assign such objects to the peoples of southern Siberia and speculate that the Xiongnu were mere conveyors of these wares within the Central Asian steppes. Since the Xiongnu were able to produce their own bronze, one might well assume that these objects came from their own (i.e., Xiongnu) metallurgical centers. Thus we might expect that the Xiongnu-type artifacts found in various parts of the Asian steppes should have the same composition as the objects which we know

Fig. 11. Distribution of alloy types in Middle Enisei sites of the 4th–3rd to 2nd–1st centuries BCE.



were procduced in their workshops in Transbaikalia, Mongolia and the Ordos. However, the picture seems to be rather more complex.

The best way to verify such a hypothesis is by examining the materials from southern Siberia. At a rather early period, in the middle Enisei River basin within the boundaries of the Saian-Altai metallurgical province (Chernykh 1978, p. 54), there came into being and continued to function one of the largest mining and metallurgical complexes on the territory of the [former] USSR (Sunchugaev 1975). On the eve of Xiongnu penetration into the region, this was the home of the tribes of the Tagar Culture, who had a high level of material production (Grishin 1960). The copper and bronze inventories at Tagar Culture sites comprise the characteristic types of Tagar wares: weapons, tools, decoration for clothing and fixtures for horse harnesses (Griaznov 1968). In the period of the Tagar Culture preceding the Xiongnu incursion (4th-3rd centuries BCE), these wares were made of tin bronze, and in part, also from unalloyed copper [Fig 11].

With the arrival of the Xiongnu at the end of the 3rd and beginning of the 2nd century BCE, the middle Enisei tribes experienced a transformation whose characteristics have already been spelled out in the literature (the Tesinskii stage of Tagar Culture [Griaznov 1968), the Tagar–Tashtyk transitional period [Kyzlasov 1960]). It is precisely at the sites from this period that we find alongside traditional Tagar bronzes the analogous Xiongnu ones. A large number of such bronzes are known from unprovenienced finds in the region. Spectroanalytical study of the copper and bronze inventory of middle Enisei sites from the 2nd–1st centuries BCE shows the following.

In Tagar copper metallurgy at the turn of the 3rd–2nd centuries BCE there was a change in the traditional recipes for alloys, which can be seen in the replacement of tin bronze, characteristic for the 4th–3rd centuries, by arsenical and tin-arsenical bronze. There can be various explanations for this. The most likely is that the Xiongnu incursion interrupted the routes which supplied Tagar metallurgists with tin and forced them to return to recipes characteristic of the Bronze Age.

Arsenical bronzes became the dominant type of alloys in middle Enisei metallurgy of the 2nd–1st centuries BCE. Artifacts made from them comprise some 70–80% of those obtained both in archaeological contexts and as unprovenienced finds [Fig. 12]. A portion of these objects differ from normal arsenical-tin bronzes where arsenic substantially exceeds that of tin. Typologically in the assemblages of the indicated period two groups can be distinguished. One of them is the traditional Tagar bronzes — cone-shaped tubes [*vorvorki*], belt

studs [*poiasnye oboimy*], mirrors with a nob on four supports or with a loop on the reverse side, miniature knives, metalworking punches. Typologically these items are genetically connected with the inventory of the preceding period and, as is quite evident, were cast by local metallurgists who were using at that time, as the chemical analysis demonstrates, arsenical and arsenical-tin bronze.

The other typological group includes objects completely analogous to Xiongnu bronzes: belt buckle-plaques, spoon-shaped decorations, round open-work buckles, buttons with zoomorphic depictions on their faces. However, the alloy types of this group substantially differentiate it from the production of the Xiongnu metallurgical centers in Transbaikalia and the Ordos. Only a small part (ca. 10%) of the artifacts in the given group can be associated with these complexes in that they were made of the characteristic Xiongnu lead-arsenical bronze or a copper-tin-lead arsenical alloy. Some of these artifacts can be attributed to the Dzhida metallurgical center because they contain measurable quantities of indium (Miniaev 1980b, p. 31). The majority of the objects analogous to Xiongnu bronzes from the middle Enisei were fabricated from arsenical and less frequently arsenical-tin bronzes, i.e., from the types of alloys characteristic of Tagar bronzes, whose production did not cease, it seems, even in the 2nd–1st centuries BCE [Fig. 11].

There is a fundamental difference in the metallic alloys used to produce similar kinds of artifacts known from Transbaikalia and the Ordos, on one hand, and from southern Siberia (i.e., middle Enisei), on the other. This fact demonstrates unequivocally that the production of Xiongnu-type bronzes found in the middle Enisei must be connected with local metallurgical traditions, despite the making of artifact types and styles that were non-local in origin [Fig. 7]. Scholars have already noted that bronze wares made by Xiongnu metallurgists in Transbaikalia or Mongolia and found in southern Siberia differ markedly in the execution of their designs [Devlet 1980, p. 20]. Apparently these non-local Xiongnu objects served as the models for the Enisei craftsmen who sought to replicate a large series of Xiongnu-type bronze wares. They probably used the original objects to create impressions in clay which were then used as molds for replicative castings. As a result, the images of these second and third generation bronzes lost detail leading to a kind of "smudging" of the original design (Grishin 1960, p. 165).

It is not inconceivable that Xiongnu-type bronzes were cast not simply following the examples manufactured in Transbaikalia and Mongolia, but for the Xiongnu

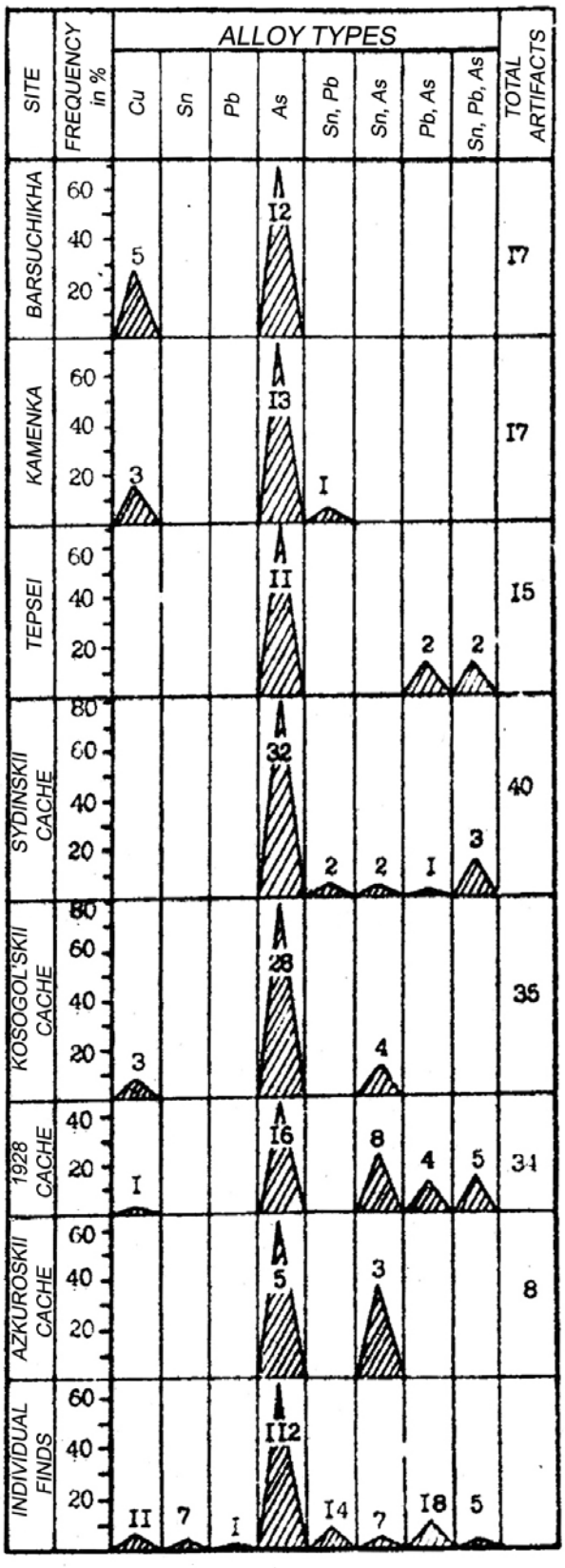


Fig. 12. Distribution of alloy types in bronzes found in southern Siberia.

themselves who had brought under their control the middle Enisei basin. Support for such a supposition lies in the circumstance that in the early Tashtyk Culture sites, which replaced the Tagar ones there, Xiongnu-type bronzes are hardly in evidence. With the formation of Tashtyk culture, these wares ceased to be used and apparently were melted down for re-casting. Evidence for this comes from a number of deposits in the given region, the main part of which consist of Xiongnu-type bronzes. These deposits sometimes contain pieces of bronze, metal scrap, shapeless fragments of artifacts — in other words, objects that were not suited for daily use. Most likely, these caches consist of bronze objects collected by metalworkers with the intent of melting them down for recycling and re-use. Three such caches are currently known: the Kosogol'skii cache, which is the largest (Miniaev 1978), the Askyrovskii cache (Kyzlasov 1960, p. 163), and the Sydinskii cache (kept in the school museum of Novo-Syda village). Probably another group of artifacts found in 1928 on the left bank of the Enisei and obtained by the Minusinsk Museum (Collection No. 9742) also constitutes a single cache. It is likely that a situation in which Xiongnu-type bronzes ceased to be used and were consigned to be melted down would probably have occurred only after the collapse of Xiongnu influence in the middle Enisei, at the moment of the formation of the Tashtyk Culture. The enumerated deposits must be dated to that time, which both the written sources and the archaeological materials (Kyzlasov 1960, p. 115) indicate was the middle of the 1st century BCE.

Hence, considering the composition of the alloys in middle Enisei and Baikal Xiongnu-period metallurgy, which distinguish the artifact groups in each of these regions, and taking into account as well the small number of Ordos bronze analyses (Samolin and Drew 1965) helps to resolve the problem of the dissemination of the Xiongnu-type bronzes within peripheral parts of the Asiatic steppe. This phenomenon unquestionably is connected with the expansion of Xiongnu influence into these territories and the creation there of a relatively uniform socio-economic structure during the 2nd–1st centuries BCE. However, it would be incorrect to speak about the creation within the framework of that structure of a single center where the characteristic Xiongnu bronzes were created and from which they could have spread. In their metallurgical characteristics (i.e., alloys), the bronze wares from Xiongnu sites have almost no analogs in adjoining territories. In each region where one can find a wide distribution of Xiongnu bronzes, their production is to be associated with the activity of local metallurgical centers and their respective indigenous bronze technology. This conclusion can be considered proven for Transbaikalia and southern Siberia and with a considerable degree of probability also for the Ordos [Fig. 7]. Apparently the metallurgists of the mining and metallurgical regions that came under Xiongnu control were compelled to produce wares that the Xiongnu required. Thus one must speak not about the wide distribution of Xiongnu bronzes but rather, in widely separated regions, of a well organized production process involving the reproduction of bronze objects following Xiongnu models and, in all probability, for the Xiongnu themselves. In every case local metal alloy recipes were employed and casting was done using clay impressions made from existing objects. This explains the observed occurrence of large numbers of the same type of Xiongnu style bronzes in regions far removed from the centrally located Xiongnu sites of Transbaikalia and Mongolia. Examples of such peripheral regions where this holds true would be parts of southern Siberia to the northwest of Mongolia and the steppe regions of Liaodong Peninsula in the east.

The middle Enisei materials point to yet another important circumstance connected with the study of Xiongnu bronzes. As we have shown, the bronze wares found in this region that are stylistic analogs of Xiongnu bronzes were in fact made by local metalsmiths. When such bronzes are encountered in middle Enisei burials, these burial contexts are typical of the local traditions (e.g., group burials) and not like Xiongnu burials. In them we find ceramics and other objects characteristic for the local population. These data, along with the fact of the production of the indicated bronzes by local metalsmiths, make it clear that in the territories controlled by the Xiongnu, Xiongnu-type bronzes are not a criterion for determining the ethnic identity of those sites in which they are found. To do that requires taking into account the entire range of indicators which characterize a given site.

The significance of the study of bronzes for addressing general problems of Xiongnu culture is not confined to the questions examined here and has great potential to facilitate the study of many other problems of Xiongnu history. Some of these questions have already been explored by the author (Miniaev 1980; 1976); others need to be examined in conjunction with the study of other categories of material culture.

Unfortunately, tracing the detailed development of post-Xiongnu bronze working at Central Asian sites is not yet possible during the early centuries CE. In Transbaikalia, Mongolia and the Ordos at present no sites have been identified which have been reliably dated to the centuries immediately following the collapse of the Xiongnu polity. One can but suppose

that with the collapse of the Xiongnu confederation, the production of characteristic Xiongnu bronzes ceased. The explanations could be several. It goes without saying that the collapse of the Xiongnu confederation would not inevitably lead to the cessation of the activity of the metallurgical centers which had existed during the time of Xiongnu influence. However, that collapse apparently was accompanied by the dissolution of the socio-economic structure within which was organized the production of bronze wares of a specific type over a wide territory.

This same insufficiency of data likewise does not permit tracing the subsequent fate of the western Transbaikal metallugical complex. We have only a few bronze objects from medieval burials of western Transbaikalia (esp. the Khoitsegor cemetery, located near Butshura village in Buryatia). They are made of alloys in which, along with tin and lead, one finds a substantial amount of zinc. Such alloys, as indicted earlier, were not characteristic for Transbaikal metallurgy in Xiongnu times.

Undoubtedly the further development of archaeological studies, especially on the territory of Mongolia and the Ordos, and new finds of Xiongnu bronzes will enable us in the future to offer a much more detailed characterization of Xiongnu bronze production. However, given the analysis and discussion presented here, the importance of characterizing distinct branches of material production in Xiongnu society should be clear. Further work in this direction, based on a multi-perspective study of the formation and development of each such branch, will then enable us to characterize more broadly the economic structure of Xiongnu society and to arrive at conclusions on the basis of concrete archaeological evidence. It is not impossible to imagine that, as a result of such work, our traditional conceptions about the development of economic and cultural types in the steppes of Central Asia will undergo a fundamental transformation.

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NOTES

1. [This is a complete translation of the author's "Proizvodstvo bronzovykh izdelii u Siunnu," in: *Drevnie gorniaki i metallurgi Sibiri: mezhvuzovskii sbornik*, Iurii Kiriushin, ed. (Barnaul: Altaiskii gos. universitet, 1983): 47-84. A few explanatory notes have been added, generally marked by brackets, and for the major Xiongnu sites in Transbaikalia, references to the fuller published archaeological reports that were not available at the time the article was published have been supplied. However, no attempt has been made to update other references. While the charts have been re-captioned, the drawings are the original ones executed by hand. William Honeychurch of Yale University re-calculated the chi-squared values of Table 1, replacing those of the original article and adding some explanation for readers not familiar their significance. The new calculations are compatible with the ones in the original table. The author thanks him and the translators for their efforts to present the article for the first time in English. Dr. Miniaev may be reached at: <ssmin@yandex.ru> – *ed.*]

2. After this article was published in 1983, some additional analyses of bronzes from the Dyrestui cemetery were performed. Two of the artifacts contain more than 1 % Zn (belt plaques in the shape of a carnivore and horses from burial № 38 [Miniaev 1998, Fig. 6: 3,7]).

-- translated by Jargalan Burentogtokh and Daniel Waugh

Orgoiton – A Xiongnu Cemetery in Transbaikalia

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During the 2016 season, the Central Asian Expedition of the State Hermitage Museum, headed by Nikolai N. Nikolaev, in collaboration with Sergei S. Miniaev (the Institute of the History of Material Culture of the Russian Academy of Sciences), completed the study of an elite Xiongnu barrow in the Orgoiton Valley on the left bank of the Selenga River in the Dzhida region of the Republic of Buriatia [Fig. 1]. The site had been discovered at the end of the 19th century by Julian. D. Tal'ko-Gryntsevich (1900/1999, pp. 79-81), who classified it in a group of "burials in larch chambers" which he identified as belonging to the Asiatic Huns (Xiongnu). In 2009, the Central Asian Expedition renewed the study of the site, compiled a detailed map of the cemetery and excavated the small Barrow № 5 (Nikolaev 2010). At the bottom of the latter's burial pit was a monumental stone structure resembling a stone "sarcophagus," constructed of horizontally and vertically placed slabs. There was no evidence of a grave or timber chamber within this "sarcophagus." The burial had been completely looted, the skeleton of the interred missing. In the fill of the grave pit was found a fragment of a bronze mirror of the TVL-type dating no earlier than the first century BCE [Fig. 2].

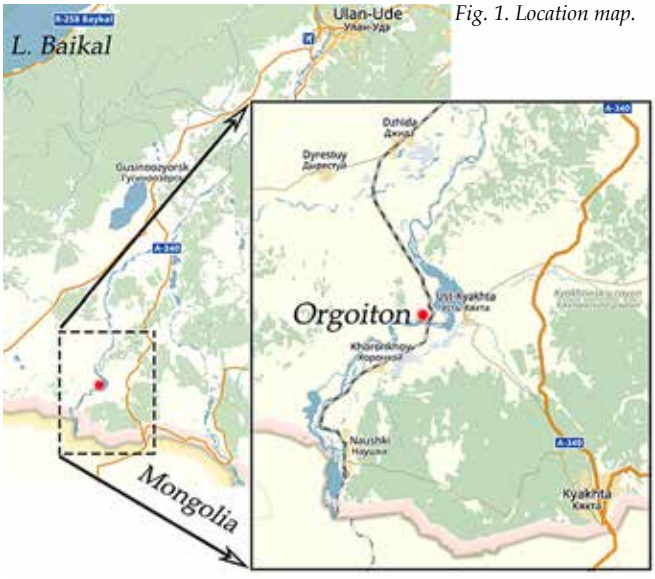

Fig. 1. Location map.

The subsequent work of the expedition concentrated on the study of the largest barrow in the cemetery (№ 6), located in its northern sector. On the surface of the barrow were visible the destroyed and sod-covered remains of a stone cover measuring 16 x 14 m., on whose southern side was an entrance ramp (dromos), which also was defined on the surface along its perimeter by a stone cover. In the cover of the barrow, which had been created from horizontally laid slabs, were several stone steles. In the upper part of the burial pit were the remains of three partitions – two of them transverse, oriented east to west, and one axial, oriented north-south. The foundation of the partitions consisted of thick beams held in place by stone slabs. In the center of the burial pit was the outline of a looter's entrance, in the fill of which almost to the very bottom were encountered fragments of a human skeleton and animal bones. At a depth of about 6 m in the northwestern corner of the burial pit was a large collection of animal bones (skulls of cattle and small horned animals, ribs, the pelvic part of the spinal column, metapodia and tail bones).

The internal structure of the grave included a triple burial chamber (an outer wooden frame, an inner wooden frame and a wooden coffin). On the planks of the cover of the outer chamber were no fewer than five skulls of cattle. Atop the eastern and western walls of the burial chamber were remains of the wheels of a

Fig. 2. The fragment of a Chinese TVL bronze mirror found in Barrow № 5.

Fig. 3. The burial pit of Barrow № 6, showing the remains of the Chinese chariot.

Chinese chariot [Fig. 3]. The body and shaft of the chariot had been destroyed during the looting. The small fragments of painted wood found in the fill of the grave support the supposition that the chariot was painted in red, white, green and brown colors. The wheels were covered in black lacquer. Three tips from the ribs of the chariot's umbrella along with traces of silk were found in the fill of the burial pit.

The internal grave structure had suffered substantially during the looting. Five of seven logs of the northern wall had been hacked through; only one large fragment of the lower part of its eastern wall remained from the coffin, which was covered by the beams of the eastern wall of the inner chamber.

In the northwestern corner of the northern corridor of the burial chamber was a large clay vessel, crushed by the beams of the burial structure. Inside the vessel were remains of cereals. Next to it were fragments of another ceramic vessel and remains of two small vessels made of organic material. In the western and eastern corridors on the walls of the chamber were fragments of woolen fabric and silk. In the western outer corridor were two large accumulations of iron bridle bits and cheek-pieces, numerous iron buckles and iron brackets of a saddle bow. Clearing the remains of the coffin revealed on its exterior quatrefoil rosettes and intersecting strips made of thin gold foil, the traditional decoration of the coffins of the Xiongnu elite. The burial was at a depth of 10.27 m.

The barrow excavated in the Orgoiton valley compares with Barrow № 24 of the Noyon uul Cemetery which was excavated in 1924 by S. A. Teploukhov (Teploukhov 1925, pp. 41-52; Rudenko 1962, pp. 9-12, 121-22, Pls. I-III and passim). The relatively small dimensions of Barrow № 6 notwithstanding, one can assign it to the elite Xiongnu barrows on the basis of the features of its construction, the measurements and the presence of prestige artefacts: the chariot, the gold decorations of the coffin, etc. This is the first barrow of the given type which has been studied on the left bank of the Selenga River, and the results of its excavation may prove to be of primary importance in the delineation of the local and chronological features of elite Xiongnu barrows.

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Sergei S. Miniaev is the author of numerous articles and monographs on Xiongnu archaeology and founding editor of a Russian monograph series, *Arkheologicheskie pamiatniki Siunnu*. In 2007 he received an award from the Euroasian Archaeological Institute in Izmir recognizing his contributions to Xiongnu archaeology; in 2008 he was a fellow at the Institute for Advanced Study in Princeton. Additional material on his excavations may be found at <http://archeo.academia.edu/SergeyMiniaev/>. E-mail: <ssmin@yandex.ru>.

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– *translated by Daniel C. Waugh*

Newly Discovered Petroglyphs of Hūrānd County

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Rock art is to be found in many parts of the world and provides some of the best evidence for identifying the environment, beliefs, and culture of its creators. Most petroglyphs are located in semi-arid regions, covered with stone and rocks, but near water sources (Karimi 2007). Archaeological studies in the vicinity of petroglyph sites may help to determine their cultural-historical context, and their study is further enhanced by comparison with finds from similar ancient sites.

Archaeological investigation of Hūrānd (Horand) County, in East Azerbaijan, Iran, in 2013 by Reza Salmanpoor and Zahra Abtahi revealed some remarkable cultural remains in the region, among them numerous petroglyphs from Qawtanlū and Nawqada on the northeast and northwest of the township. Until recently in Iran, the petroglyphs which have been studied are ones located everywhere but in the north of the country. The first important studies on rock art in Iran were done forty-six years ago upon discovery of some petroglyphs by Hamid Izad panah in the Kūh Dasht region in Luristan (Qasimi 2007). Although Iranian archaeologists and anthropologists generally have studied motifs of rock art, the subject of dating them has received less attention.

The pioneering study of rock art in the north of Iran dates from the work of Jalāl al-Dīn Rafi'far on Ahar and Hūrānd petroglyphs in 2004. Also, Kyumarth Karimi studied petroglyphs of the Navasar region on the banks of the Qara Soo River in the southern part of Hūrānd (Karimi 2013). The goal of this paper is to introduce, analyze and compare the newly discovered petroglyphs of Hūrānd and to determine their dates. While the focus is on the discoveries from Qawtanlū and Nawqada on the north of Hūrānd, the comparative examples include the Liqan petroglyphs in the same region.

The location of Hūrānd and its petroglyphs

Newly established Hūrānd County is one of the northern townships of East Azerbaijan. This mountainous county, covering an area of 670 km² is located at 150 km northeast

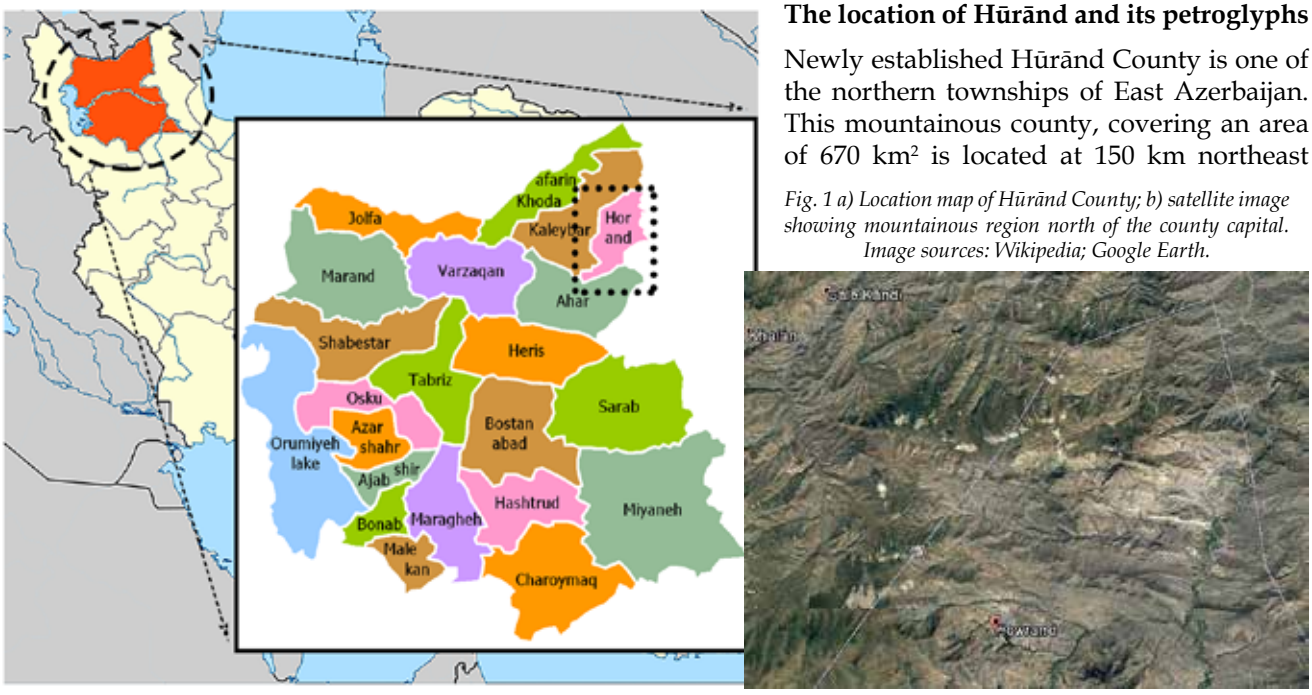

Fig. 1 a) Location map of Hūrānd County; b) satellite image showing mountainous region north of the county capital. Image sources: Wikipedia; Google Earth.

of Tabriz and 52 km north of Ahar. Its capital city is Hūrānd at an altitude of 1110 m above sea level, at N 4303933 latitude, E 705636 longtitude. It is bordered on the north and west by Kalibar, on the south by Ahar, and on the east by Meshkin Shahr in Ardabil (Khamachi 1991). Located on the highest part of the Qara Daq to the north, Hūrānd's best known mountain is 2220 m Hasht-e Sar (Hashe Sar). Other important mountains of the region are Yeli Yourt (2124 m), Qala Ci (1230 m), and Nawrouz Qawzie (1226 m) (Hūveyda 1973).

The rock art is situated northwest and northeast of Hūrānd, 500-800 m above sea level. All the rock art sites are located in natural valleys where the smooth slope of the mountains descends to river beds. The mountains slope from north to south, with the petroglyphs on the south side of rocks extending over an area of 3-11 hectares. Most of the petroglyphs found here have the same structure, style, and motifs as those elsewhere in Iran and in other parts of the world. The rocky and semi-arid region in which they are located is similar to that of rock art sites elsewhere (Karimi, 2007).

General characteristics of the petroglyphs

All Hūrānd petroglyphs were inscribed on black granite. Although it is abundantly available in the region, the petroglyphs are to be found only in certain areas. Unfortunately, high erosion and varnishing make it impossible to be certain about the tools used for carving. However, comparative examples suggest that similar markings had been made by striking the rock surface with a sharp-edged, hard stone (Rafi'far 2005). The depictions include both linear outlines (that is, stick figures) and evocations of the volume of the bodies.

The Hūrānd petroglyph complex may be divided into three groups: zoomorphic, anthropomorphic figures, and symbolic designs. Most of the motifs are animals, shown either individually or in groups. It is possible to identify humans, ibexes, dogs, rams, camels, deer, and antelope. Some of the anthropomorphic figures and symbolic designs cannot be identified because of the erosion. Of some interest is one panel on which are numerous motifs belonging to different eras. This suggests that the region was ritually and religiously important over an extended period.

The motifs

Zoomorphic designs

The main animal motifs on the Nawqada, Liqan, and Qawtanloo petroglyphs are **ibex** (or, generically, ovicaprids), depicted individually or in herds with different sizes and motions. Some of their features are similar to those of other ibex petroglyphs in Iran, for example at Ahar, Meshkin Shahr, Hamadan, and Oraman. The ibexes of the region are shown with stylized, long, and detailed curved horns [Fig. 2, see plates at end of article], short curved horns [Fig. 3], or, rarely, with long, knotted curved horns [Fig. 4]. The tail of this animal is in two sizes, short and curved [Fig. 5], or long and straight [Fig. 6]. In some cases the tail is depicted bent at a right angle [Fig. 7]. The body is shown as a thin or thick line or with volume. Legs are represented by four plain, vertical lines in different sizes, long [Fig. 8] and short [Fig, 9]. The shape of the legs and body may convey a sense of the animal's movement [Fig. 10]. More often than not, in both the individual representations and the depictions of herds, the animals face right [e.g., Figs. 9, 10, 25]. Only rarely are ibexes shown confronting one another.

Deer: Among the newly found Hūrānd petroglyphs are deer motifs, where the horns are shorter than ibexes' horns and the tail angles downward.

Ram: This motif is found only in Qawtanloo. It differs little from the depiction of the ibex; its horns are short and angled. A straight line under the chin shows its beard [Fig. 11].

Camel: Among the notable Hūrānd petroglyphs are images of camels on two rocks at Nawqada. There, four camels are depicted on two separated panels. The camels are drawn in linear style with a long tail, oval and hollow hump, small head and short ears. In one scene, two camels are accompanying a rider [Fig. 12].

Dog: Among the petroglyphs of Dashli Sara and Qawtanloo is an animal with small body, short ears and long tail which is similar to a dog. This motif is depicted in three scenes. In Qawtanloo two scenes have a dog accompanying an ibex, and in another scene a dog is depicted with a symbolic design [Fig.13].

Antelope: One of the petroglyphs of Nawqada has an animal depiction that seems to be an antelope. It has long feet and muzzle, short and jagged horns [Fig.14].

Animals of indeterminate type: On the petroglyphs of Dashli Sara and Nawqada are two animal depictions that cannot be identified due to erosion and weathering. In one of the scenes is a man with an animal and ibexes. This animal is drawn in linear style and has long body and tail [Fig.15], but with no legs or ears (probably due to erosion). The body form with the long tail and small head suggest that it might be a leopard. Also, among the Nawqada petroglyphs is an animal which resembles a rabbit with oversized ears [Fig.16].

Images of humans

At least twelve different scenes in the Nawqada and Qawtanloo petroglyphs, include humans [Fig.17].

Possibly there were more, but they have eroded away. Jalāl al-Dīn Rafi'far (2005) mentioned some ambiguous human depictions in Liqan (the Jeiran Vallay and Taze Kand in Qawtanloo). The human depictions are quite stylized and plain, most rendered in linear fashion with either narrow or thick lines. Only two of the images show the volume of the body, in once case at Nawqada depicting three naked men standing with open hands in the company of an ibex. The significant degree of erosion suggests that this may be the oldest petroglyph in the region [Fig. 18]. Unlike the rock art at other sites in Iran such as Arges in Hamadan (Beikmohammadi et al. 2012), Farahan in Arak (Poor Bakhshande 2007), and Oraman (Qasimi 2007), which includes various hunting scenes involving humans, at Dashli Sara (Nawqada) there is only one hunting scene in which a rider with a lance in his hand hunts an ibex [Fig. 19].

The other petroglyphs in the region depicting human figures show them in three poses, with open arms [Fig. 20], arms raised, or arms lowered [Figs. 21, 22]. In one case the human seems to be riding or herding animals that include an ibex, a camel and another of an indeterminate type [Fig. 23].

Symbolic designs

Some images seem to be symbolic designs, depicted either by themselves or next to a human or an animal [Figs. 22, 24]. However, it is difficult to determine what exactly is represented, due to eroson.

Archaeology and the chronology of the petroglyphs

Since most of the rock art in Iran lacks specific ethno-cultural attributes, establishing the chronology of the images relies upon the broader cultural and historical context. Thus, to identify the date of the petroglyphs of this region, the researchers studied landscape and the neighboring ancient sites of Nawqada and Qawtanloo.

To the north of Hūrānd rock arts extend over 9 km where flowing seasonal rivers such as the Akiabad and Qarasoo have invited occupation of the region by different tribes from the 4th millennium BCE (the Eneolithic) to the Islamic periods in the 11th – 14th centuries CE. There are Iron Age cemeteries and fortified settlement sites located 200–2000 m from the petroglyphs. One of the those forts, Ala Sandal, occupied from the 2nd – 1st millennium BCE, is 200 m from the Qawtanloo petroglyph site, and 300 m from that of Madan. The proximity to Qawtanloo suggests that that the region was a ritual place. Altogether, eight settlement sites and a cemetery, dating back to Iron Age, have been identified in the region.

Determining the age of petroglyphs has always been a major challenge in rock art studies. Absolute chronology may be established by scientific analysis: radio carbon dating, potassium argon dating, thermoluminescence dating, uranium dating, and analyzing rock crystals and sediments. Relative dating, on the other hand, relies on the context of remains, comparative anthropological studies, and, in the case of petroglyphs, especially the study of their style and any inscriptions (Pahlavid, Arabic, Persian) (Qasimi 2007).

For Hūrānd rock art, relative chronology is used. Hūrānd petroglyphs in their style and subject content are comparable with the Sonqūn and Dai Mamiq petroglyphs in Ahar (Rafi'far 2005), Shahryeri (Horshid 2007), Oraman (Qasimi 2007), Khere Hanjiran in Mahabad (Pedram 1994), and Erqes Sofla in Hamadan (Poor Bakhshande 2007). Also, Hūrānd petroglyphs can be historically and culturally compared with Shaharyeri. Both petroglyphs of Hūrānd and Shaharyeri are located in the vicinity of Iron Age sites (Horshid 2007). The ibex motif is the central one in both regions. An indication of the fact that ibexes had a close relationship with people's lives in the past (from the Neolithic to the 1st millennium BCE), is the common depiction of the motif on manmade objects, such as bronzes and pottery, even as its depiction on rocks became less frequent in the more recent eras. It was mostly used as a symbol of fertility, life, moon, water, etc. (Hatam 1995).

Of particular interest are the petroglyphs which can be dated to several eras, as can be determined from patination, weathering, and layering of the rock art in the regions of Nawqada, Leiqan, and Qawtanloo. Sometimes motifs which are engraved over older ones ruined the previous motifs. Different motifs from different periods show that the region played a culturally and ritually important role over an extended time. It appears that depicting humans was more common in the earlier period than later.

Judging from the motifs of Hūrānd rock arts, we can but loosely date the petroglyphs of the region in the period from the 2nd millennium BCE into the historical period.

Summary and conclusion

Much work remains to be able to achieve more precise results, where until now, for example, there are rather limited data for any kind of statistical analysis or comparative study. At Nawqada 41 petroglyphs have been studied. There are 30 with animal motifs, of which 14 depict ovicaprids in a group, 13 show single ibexes, two depict camels (individually and in a herd) and one a dog. Also, there are four images with humans, three of them riders, and the one image with three naked men and an ibex. In the Dashli Sara region are 36 petroglyphs, of which 90% include identifiable

animal motifs. Of particular interest is the image of a dog with a symbolic design. Most of the motifs are simple stick figures (linear drawing), but four show the volume of the bodies. Most of the animals are shown in a herd, and there is one hunting scene similar to that in Hūrānd. Another of the regions studied is Zardrasi, where there are about 18 petroglyphs (16 animal motifs, depicted singly, and 2 human figures). 27 petroglyphs have been studied in the Qawtanloo region. Most of the animals are shown in herds, and several motifs are carved atop each other, which emphasizes the importance of the region in different periods. The drawing style is linear, with less attention given to showing the volume of the animals' bodies.

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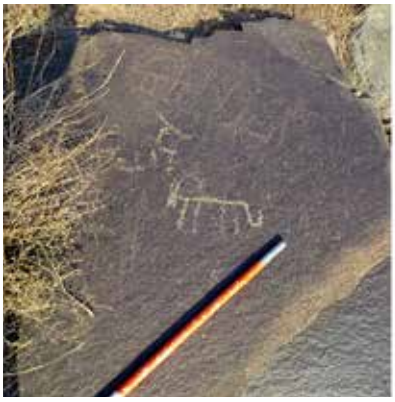
Fig. 2

Fig. 3



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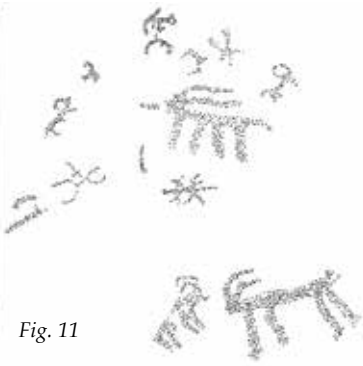

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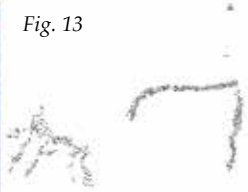

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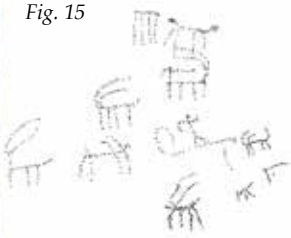

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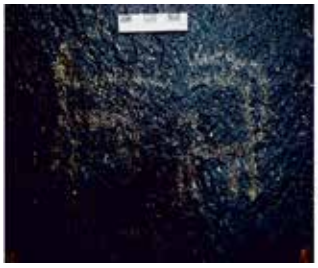

Fig. 19

Fig. 20

Fig. 21

Fig. 22

Fig. 23

Fig. 24

Fig. 25

A Gift of Steppe Bronzes from the Arthur M. Sackler Foundation to the Miami University Art Museum

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In 2015 the Arthur M. Sackler Foundation in New York made a permanent gift of fifty-eight objects to the Miami University Art Museum in Oxford, Ohio. The objects in the gift came from the Sackler Foundation's extensive collection of bronze artifacts of ancient Eastern Eurasian steppe cultures. In this article we acknowledge the collaboration that led to the gift, identify the objects, announce their availability to researchers and students, and sketch plans to use the Sackler steppe bronzes to advance the Miami University Art Museum's mission as a teaching museum. Appended is an illustrated Object List. An article accompanying this one presents interdisciplinary research on one of the objects, a Xiongnu-era belt buckle plaque depicting a narrative scene.

The recent gift comes in the aftermath of an event that involved intensive partnering of curators, researchers, teachers, and students. In August 2012 the Miami University Art Museum opened the semester-long exhibition *Grass Routes: Pathways to Eurasian Cultures*. The traveling exhibition *Ancient Bronzes of the Asian Grasslands,* eighty-five objects curated by Trudy S. Kawami, director of research for the Arthur M. Sackler Foundation, formed the centerpiece of *Grass Routes* and occupied its largest gallery. Miami University was the last stop in a lengthy itinerary that had seen *Ancient Bronzes of the Asian Grasslands* exhibited at museums around North America and Europe.[1]

Miami's preparations and welcome for the Sackler steppe bronzes were unusually substantial. Other highlights on display in *Grass Routes* included historical books, maps and engravings by Pallas, Strahlenberg, Atkinson, Abu'l-Ghazi and others; detailed reconstructions of textile grave goods from the tombs at Pazyryk and Noin-Ula by the artist Lois Hale; a 19th-century Kyrgyz reed screen (yurt décor); an exhibit on Pazyryk tattoo art curated by an undergraduate history and anthropology major; and botanical specimens of steppe plants from the university's Turrell Herbarium. Throughout the fall semester an extensive program of events featured lectures, gallery talks, and a demonstration of bronze-casting. The program concluded with a two-day symposium entitled "The Steppes: Crucible of Eurasia," with papers presented by scholars from the U.S., the U.K., and Russia; the participants held their discussions in close interaction with Miami University faculty and students in the audience.[2] After *Grass Routes* closed, the Arthur M. Sackler Foundation deposited the entire set of exhibit panels, photomurals, and maps from *Ancient Bronzes of the Asian Grasslands* in the care of the Miami University Art Museum for possible future use in exhibitions at Miami or elsewhere. All of the bronzes returned to New York in December 2012.

Writing in her introduction to the catalogue of the Arthur M. Sackler collections of Eastern Eurasian steppe bronze artifacts (Bunker et al., pp. 7-8), Emma C. Bunker described these objects in terms of their ancient meanings and their modern profile in the art world:

> Popularly known as "Ordos Bronzes," after the Ordos region where they were first discovered and acquired, these artifacts were useful, portable

objects — personal ornaments, horse gear, tools, and weapons — richly decorated with intricate geometric, zoomorphic, and vegetal motifs, the visual embodiments of clan and group affiliations, and the supernatural world that governed people's lives.[3]

The Sackler steppe bronzes, dating from the 13th century BCE through the first century of the Common Era, span more than a thousand years of bronze working in the steppes. The works were part of an assemblage of collections that were formed in China well before World War II. Medical and educational "missionaries" like Duke Larsen, Bill and Isabel Myers and their extended Chinese-speaking families collected these small bronzes from early in the 20th century until they were forced out of China by the Japanese. The large ritual bronzes prized by Chinese collectors were too pricey for their small purses, and they treasured the small bronzes as tokens of their vacations on the Ordos steppes. In the early 1950s interest waned in Chinese and steppe art, and the early collectors were aging. So with the help of the renowned dealer C. T. Loo, Dr. Arthur M. Sackler was able to acquire the collections.

The bronzes that were taken from the steppes and sold in the markets of northern China have now found their permanent home at Miami University. In September 2014 the Sackler Foundation offered to make a permanent gift of a portion of its collection of steppe bronzes to the Miami University Art Museum. Objects were chosen to provide a chronological and geographical overview, to include objects that would benefit from further scholarly research, and to include works that were visually pleasing or intriguing. The last characteristic was intended to aid the museum in its mission to expose the university and surrounding community to a wide spectrum of art works. The objects arrived at the museum in April 2015.

The mission of the Miami University Art Museum is to serve as a teaching museum that provides a visually and intellectually challenging environment to cultivate life-long engagement with the arts. As an institution that mentors and engages scholars and students, MUAM is dedicated to developing a strong permanent collection of original art and material culture representing diverse world traditions and making those resources available through display, study, publication, and educational programs as well as experiential learning encounters. By embracing collaboration and participating in collaborative projects, MUAM establishes an atmosphere that is conducive to learning about difference through active dialogue with and about visual culture. The addition of 58 ancient steppe bronzes from the Sackler Foundation to MUAM's collections will continue to provide an abundance of institution-defining opportunities far into the future.

Educators at Miami University and in the Oxford, Ohio community began using the Sackler bronzes for teaching and learning during their first appearance with *Grass Routes*. Both of Daniel Prior's undergraduate history courses in Fall 2012 ("Eurasian Nomads and History"; "The Horse in Human History") were held in the Art Museum throughout the semester to take advantage of the museum exhibits. Classes across the university and in the local Talawanda school district incorporated the exhibition into their course work. At the symposium that concluded *Grass Routes,* students presented poster sessions on their research projects. Topics included falconry on the steppes (the poster presenter, a bird handler at the Cincinnati Zoo, brought a live hawk to the museum) and images of the "barbarians" in Roman sources. The imagery of the Sackler bronzes provided material for the student researchers to practice coordinating historical, archaeological and ethnographic information, and building models of movement and change in space and time.

Starting in the Fall 2016 semester, Miami University Art Museum has placed nine of the Sackler bronzes on display in an exhibition of new acquisitions. Thereafter a selection of the bronzes will be on rotating display in the museum's on-going Global Perspectives gallery, where students in introductory art history and world history surveys compare ancient, non-Western and indigenous art traditions. Smaller courses such as "Eurasian Nomads and History" make use of the entire collection of bronzes in laboratory exercises focused on interactions between China and the mobile pastoralist peoples of the eastern steppes, and the question of a "Xiongnu" culture in relation to written historical sources. The entire collection is available for study at the museum, and an online exhibition is being planned.[4]

Bunker's thoroughly-researched catalogue, *Ancient Bronzes of the Eastern Eurasian Steppes from the Arthur M. Sackler Collections,* remains definitive. One of the catalogue's main achievements is that it re-integrates many of the so-called "Ordos Bronzes" (which had entered the art market in the early twentieth century without exact provenience) into a semblance of their archaeological contexts. This task required meticulous survey of objects that had come to light in excavations and publications by Chinese, Mongolian, and Russian archaeologists, with which the "Ordos" bronzes can be compared. Subsequent publications have further advanced the study of the "Ordos" bronzes. A catalogue of a different group of bronzes by Bunker

analyzes numerous artifacts that are related to the Sackler objects. A chapter by Ursula Brosseder on belt plaques in an edited volume on Xiongnu archaeology has established transregional aspects of the design and distribution of this particular class of artifact. Catrin Kosts's archaeological and iconographic survey of buckle plaques in interregional perspective is the current standard of synthesis. See the Object List below. (Bunker et al. 1997, pp. 112-299; Bunker et al. 2002; Brosseder 2011; Kost 2014).

As an art collector and patron of educational institutions, Arthur M. Sackler sought every opportunity to promote the interdisciplinary study of art, in particular by giving students access to his collections. Miami University, with its renowned commitment to undergraduate teaching, is grateful to have been chosen as the new home of a small portion of those collections. While in the latter half of the twentieth century research on Asian antiquities in the West moved from the preserve of connoisseurship into university graduate studies, today we may look ahead to the further enlargement of this vigorous field of scholarship through deeper engagement of undergraduates. Arthur M. Sackler's overall vision accords well with the new opportunities that Miami University's teaching museum can now provide to students to gain experience of the cultures of Inner Asia.

About the Authors

Trudy S. Kawami retired in 2015 from the Arthur M. Sackler Foundation in New York. Her main area of interest had been the art of ancient Iran which in turn led her to examine the cultures of the steppes and their influence on the Iranian plateau. She is now looking to the south to assess the impact of the cultures of the Gulf on ancient Iran. Her most recent book (with John Olbrantz) is *Breath of Heaven, Breath of Earth: Ancient Near Eastern Art from American Collections* (University of Washington Press, 2013). E-Mail: <trudykawami@gmail.com>.

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Grass Routes 2012

Grass Routes: Pathways to Eurasian Cultures [website for the exhibition and related events at Miami University 21 August–8 December 2012]. <https://muamgrassroutes.wordpress.com/>, last accessed 14 October 2016.

Kost 2014

Kost, Catrin. *The Practice of Imagery in the Northern Chinese Steppe (5th-1st Centuries BCE)*. Bonn: Vor- und Frühgeschichtliche Archäologie, Rheinische Friedrichs-Wilhelms-Universität, 2014. (Translation and substantial revision of Ph.D. dissertation, *Studien zur Bildpraxis im nordchinesischen Steppenraum vom 5. Jahrhundert v. Chr. bis zur Zeitenwende,* Ludwig-Maximilians-Universität, München, 2010; <https://edoc.ub.uni-muenchen.de/17603/>.)

Notes

1. *Ancient Bronzes of the Asian Grasslands (Grass Routes 2012)* was exhibited at eighteen venues, including:

Miami University Art Museum, Oxford, OH; Aug. 21–Dec. 8, 2012

International Museum of the Horse, Lexington, KY; June 24–Oct. 23, 2011

Museum of Art and Archaeology, University of Missouri, Columbia, MO; Oct.16–Dec. 24, 2010

Mt. Holyoke College Art Museum, South Hadley, MA; Sept 2–December 14, 2008

Frank H. McClung Museum, University of Tennessee, Knoxville, TN; May 16–August 3, 2008

Museum of Fine Arts, Santa Fe, NM; September 29, 2007–January 6, 2008

Hallie Ford Museum of Art, Willamette University, Salem, OR; January 21–April 1, 2006

Samuel P. Harn Museum of Art, University of Florida, Gainesville, FL; May 3–July 31, 2005

Carnegie Museum of Natural History, Pittsburgh, PA; October 2, 2004–January 2, 2005

National Archaeological Museum, Florence, Italy; May 15–September 5, 2004

Poznań Archaeological Museum, Poznań, Poland; January 29–April 18, 2004

Römer- und Pelizaeus-Museum, Hildesheim, Germany; September 16, 2003–January 6, 2004

Náprstek Museum of Asian, African and American Cultures, Prague, Czech Republic; April 15–August 10, 2003

Museum of Cycladic and Ancient Art–Goulandris Foundation, Athens, Greece; April 25–September 14, 2002.

2. The symposium, The Steppes: Crucible of Eurasia (Nov. 30–Dec. 1, 2012) <https://muamgrassroutes.wordpress.com/symposium2012/> brought together a group of participants for informal interactions along the lines of meetings that occur typically at larger institutions or on the East Coast. The papers were both interdisciplinary in their approaches and interregional in their subject matter, mirroring the Grass Routes exhibition, which served as background and inspiration for discussions. Seven of the sixteen presentations were by archaeologists; three papers by historians, two on art history, and a paper each on comparative linguistics, comparative mythology, population genetics, and artistic reconstruction rounded out the group. Most of the papers either focused on the eastern steppes or took a trans-regional stance; two papers dealt with Central Asia. The chronological focus was predominantly in the Iron Age to Xiongnu Empire period within an overall time span that stretched from the Neolithic to the Qing dynasty.

Participants noted progress in resolving hitherto schematic east-west connections into more definite movements of goods, genes, political elites and languages (though debates will continue). They compared views of different disciplines on connections between peoples as well as between people and their environment, people and animals, people and the things they own and trade; between artifacts and oral narratives. Problematic concepts such as "shamanism" and "tribe" and cases of interstitial political powers received historical scrutiny. The papers showed that concrete artifacts are increasingly leading research beyond problems grounded in classification and periodization to new sites of analysis of value, the senses, and the "construction" of bodies, landscapes, and social and interspecies relations. The consensus among those present at the symposium was that the energy and linkages the gathering had generated were sufficient gains without the publication of proceedings in a collective volume.

3. In a note Bunker points out that the designation "Ordos Bronzes" is misleading, since the objects' actual places of origin are not limited to the Ordos region. The "Ordos Bronzes" (also referred to as Suiyuan Bronzes) are small bronze artifacts of daily use and adornment that entered the international art market in great quantities in the first third of the twentieth century via the traffic of Chinese art dealers with mostly foreign collectors. The objects were presumably acquired from excavations and chance finds at tombs and other sites by unknown suppliers who failed to document their locations or any other aspects of their archaeological context. The name "Ordos," referring to the region inside the great bend of the Yellow River in present-day Inner Mongolia, was attached to the bronzes by convention, but their true places of origin are more widespread. Locations and dates have been established by researchers through comparison of "Ordos Bronzes" with analogous and even identical exemplars excavated from known, dated sites with full archaeological documentation, and in some cases metallurgical analyses.

4. Interested researchers may direct requests for access to Laura Stewart, Collections Manager/Registrar, Miami University Art Museum, <stewarle@miamioh.edu>; 513-529-2235.

OBJECT LIST

THE ARTHUR M. SACKLER COLLECTION OF STEPPE BRONZES AT THE MIAMI UNIVERSITY ART MUSEUM

The museum's collection of steppe bronzes comprises a variety of pieces from each one of the areas and periods analyzed by Emma C. Bunker in the catalogue, *Ancient Bronzes of the Eastern Eurasian Steppes from the Arthur M. Sackler Collections* (1997). The following list of all the objects in the Miami collection follows the order and numbering as listed in the 1997 catalogue; Bunker's chapter headings are also given. See the catalogue for further descriptions and literature relating to each object. Additional references to important subsequent literature (Bunker et al. 2002, Brosseder 2011 and Kost 2014) are given for objects treated in those works. Buckle plaques are dated below according to Kost (2014).*

* Information in Bunker (1997) was adapted for this list by Laura Stewart (Miami University Art Museum collections manager and registrar), Katrina Fausnaugh (MUAM undergraduate arts management intern), and Daniel Prior. Photographs by Scott Kissel.

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The Bronze Age in Northwestern China

1. Ritual implement with reptilian head. Bronze inlaid with turquoise. 13th–11th century BCE. MUAM no. 2015.2.9; Sackler no. V-3088. (Cf. Bunker et al. 2002, pp. 176f., no. 164.)

2. Bow-shaped fitting with jingles. Bronze. 13th–10th century BCE. MUAM no. 2015.2.52; Sackler no. V-7414.

3. Short sword with rattle pommel. Bronze. 13th–11th century BCE. MUAM no. 2015.2.47; Sackler no. V-7319.

5a. Knife with rowel pommel. Bronze inlaid with turquoise. 13th–11th century BCE. MUAM no. 2015.2.1; Sackler no. V-2029.

5b. Knife with rowel pommel. Bronze inlaid with turquoise. 13th–11th century BCE. MUAM no. 2015.2.3; Sackler no. V-2031.

6. Knife with ibex-head pommel. Bronze inlaid with turquoise. 13th century BCE. MUAM no. 2015.2.2; Sackler no. V-2030.

14. Curved implement with rattle and jingling pendants. Bronze. 13th–11th century BCE. MUAM no. 2015.2.4; Sackler no. V-3048.

17. Finial with animal head and bell. Bronze. 12th–10th century BCE. MUAM no. 2015.2.57; Sackler no. 72.2.534.

The Bronze Age in Northeastern China

26. Knife with two-ring pommel. Bronze. 11th–10th century BCE. MUAM no. 2015.2.51; Sackler no. V-7372.

The Bronze Age of the Far North

32. Hair ornament. Bronze. 13th–11th century BCE. MUAM no. 2015.2.10; Sackler no. V-3100.

35. Knife with ring pommel. Bronze. 13th–11th century BCE. MUAM no. 2015.2.49; Sackler no. V-7334.

The Iron Age in Northeastern China

66. Knife blade. Bronze. 8th–7th century BCE. MUAM no. 2015.2.45; Sackler no. V-7266.

70. Awl case with deer. Bronze. 8th–7th century BCE. MUAM no. 2015.2.6; Sackler no. V-3057.

72. Plaque with copulating deer. Bronze. 5th–4th century BCE. MUAM no. 2015.2.43; Sackler no. V-7196.

73. Finial with boar mounting sow. Bronze. 5th century BCE. MUAM no. 2015.2.11; Sackler no. V-3108.

86. Spoon with two birds. Bronze. 8th–6th century BCE. MUAM no. 2015.2.8; Sackler no. V-3062.

93. Cauldron. Bronze. 7th–6th century BCE. MUAM no. 2015.2.27; Sackler no. V-68.

94. Short sword with openwork hilt. Bronze. 6th–5th century BCE. MUAM no. 2015.2.19; Sackler no. V-3376.

97. Short sword with round pommel. Bronze. 5th century BCE. MUAM no. 2015.2.46; Sackler no. V-7314.

98. Short sword with a pommel of two addorsed hollow balls. Bronze. 6th–4th century BCE. MUAM no. 2015.2.44; Sackler no. V-7239.

103. Socketed adz blade. Bronze. 6th–5th century BCE. MUAM no. 2015.2.50; Sackler no. V-7355.

105. Awl case with openwork. Bronze. 6th–5th century BCE. MUAM no. 2015.2.7; Sackler no. V-3058.

106. Awl case. Bronze. 6th–5th century BCE. MUAM no. 2015.2.5; Sackler no. V-3055.

110. Pectoral ornament with frog. Bronze. 6th–5th century BCE. MUAM no. 2015.2.24; Sackler no. V-3515.

112. Feline-shaped pectoral ornament. Bronze. 6th–5th century BCE. MUAM no. 2015.2.39; Sackler no. V-7077. (Cf. Bunker et al.2002, pp. 171f., no. 157.)

121. Garment plaque with recumbent stag. Bronze. 6th–5th century BCE. MUAM no. 2015.2.15; Sackler no. V-3165.

130. Garment plaque with carnivores devouring heads. Bronze. 6th century BCE. MUAM no. 2015.2.41; Sackler no. V-7105.

138. Belt ornament with two connected spirals. Bronze. 5th century BCE. MUAM no. 2015.2.20; Sackler no. V-3443.

The Iron Age in South Central Inner Mongolia

139. Short sword with flat pommel that curves to form ring-like terminals. Tinned bronze. 5th century BCE. MUAM no. 2015.2.48; Sackler no. V-7325.

140. Short sword with two inverted bird heads on pommel. Bronze. 5th century BCE. MUAM no. 2015.2.53; Sackler no. V-7438.

142. Garment ornament with crouching carnivore savaging the head of an herbivore. Bronze. 5th century BCE. MUAM no. 2015.2.40; Sackler no. V-7092.

149. Ring buckle with hook. Bronze. 6th century BCE. MUAM no. 2015.2.21; Sackler no. V-3466.

155. Openwork hook buckle with crouching tiger and three gazelle heads. Tinned bronze. 5th–4th century BCE. MUAM no. 2015.2.33; Sackler no. V-7026. (Cf. Kost 2014, plates 76f.)

156. Belt plaque with standing tiger and five gazelle heads. Bronze. 5th–4th century BCE. MUAM no. 2015.2.55; Sackler no. 72.2.449. (Cf. Kost 2014, plate 78.)

Northwestern China and Southwestern Inner Mongolia

161. Belt hook with chain. Tinned bronze. 5th century BCE. MUAM no. 2015.2.36; Sackler no. V-7069.

184a. Yoke ornament with standing doe. Bronze. 5th–4th century BCE. MUAM no. 2015.2.13; Sackler no. V-3132.

184b. Yoke ornament with standing doe. Bronze. 5th–4th century BCE. MUAM no. 2015.2.14; Sackler no. V-3134.

186. Vehicle fitting with recumbent ram. Bronze. 4th century BCE. MUAM no. 2015.2.58; Sackler no. 72.2.91.

190b. Bridle ornament with falcon or hawk clutching a dead bird. Bronze. 3rd century BCE. MUAM no. 2015.2.17; Sackler no. V-3330.

The Iron Age in Northeastern China: Ningxia and Gansu

199. Belt buckle with two entwined dragons. Bronze. Mid- to late Zhanguo period (4th–3rd century BCE). MUAM no. 2015.2.34; Sackler no. V-7051. (Cf. Kost 2014, plate 35.)

207. Belt ornament with zigzag between ball-like ends. Bronze. 6th–4th century BCE. MUAM no. 2015.2.16; Sackler no. V-3198.

209. Belt ornament with two stylized bird heads. Bronze. 6th–4th century BCE. MUAM no. 2015.2.56; Sackler no. 72.2.472.

210.1. Yoke ornament with recumbent doe. Bronze. 5th–4th century BCE. MUAM no. 2015.2.12; Sackler no. V-3131. (Cf. Bunker et al. 2002, pp. 66-69, nos. 32-35.)

15a. Shafthole pickaxe. Bronze. 6th–4th century BCE. MUAM no. 2015.2.18; Sackler no. V-3362.

218a. Buckle plaque with standing ox (pair with 218b). Bronze. 2nd–1st century BCE. MUAM no. 2015.2.37; Sackler no. V-7074. (For this and 218b cf. Bunker et al. 2002, pp. 99f., no. 66; Kost 2014, plates 1f.)

218b. Buckle plaque with standing ox (pair with 218a). Bronze. 2nd–1st century BCE. MUAM no. 2015.2.38; Sackler no. V-7075.

223. Buckle plaque with feline attacking camel. Bronze. Western Han dynasty (206 BCE–8 CE). MUAM no. 2015.2.29; Sackler no. V-7008. (Cf. Brosseder 2011, p. 423 list 6e; Kost 2014, plate 56.)

225. Buckle plaque with two fighting stallions. Bronze. 2nd century BCE. MUAM no. 2015.2.31; Sackler no. V-7011. (Cf. Bunker et al. 2002, p. 132, no. 104; Brosseder 2011, pp. 364-367, 370, 417 list 2a; Kost 2014, plates 43f.)

231a. Buckle plaque with three ibex. Bronze. 2nd–1st century BCE. MUAM no. 2015.2.30; Sackler no. V-7009. (Cf. Bunker et al. 2002, p. 136, no. 108; Kost 2014, plates 18ff.)

233a. Buckle plaque with two confronted Bactrian camels. Bronze. 2nd–1st century BCE. MUAM no. 2015.2.28a; Sackler no. V-7000a. (Cf. Kost 2014, plates 23-26.)

233b. Original backing of 233a. Wood. 2nd–1st century BCE. MUAM no. 2015.2.28b; Sackler no. V-7000b.

241. Buckle plaque with wolf-like creature. Bronze. 2nd century BCE. MUAM no. 2015.2.35; Sackler no. V-7052. (Cf. Bunker et al. 2002, pp. 103f., no. 71; Brosseder 2011, p. 423 list 8; Kost 2014, plate 11.)

242. Buckle plaque with dragon and felines. Bronze. 2nd century BCE. MUAM no. 2015.2.26; Sackler no. V-3925. (Cf. Bunker et al. 2002, pp. 133f., nos. 105f.; Brosseder 2011, pp. 372-80, 418 list 2c.)

243. Buckle plaque with standing man and cart. Bronze. 2nd–1st century BCE. MUAM no. 2015.2.32; Sackler no. V-7013. (Kost 2014, plate 88.3; cf. Brosseder 2011, p. 423 list 7.)

Xianbei Artifact from the Northern Zone

250b. Garment plaque with deer. Bronze with traces of gilding. 1st century CE. MUAM no. 2015.2.42; Sackler no. V-7110. (Cf. Bunker et al. 2002, pp. 167f., 169, nos. 152, 154.)

The Eastern Eurasian Steppes

254. Garment plaque with vulture over a fawn. Bronze. 7th–5th century BCE. MUAM no. 2015.2.23; Sackler no. V-3493.

255. Ornament with six rattles. Bronze. 1st millennium BCE. MUAM no. 2015.2.54; Sackler no. 72.2.383.

257. Ring buckle formed by the coiled body of a wolf. Bronze. 5th century BCE. MUAM no. 2015.2.22; Sackler no. V-3475.

264. Ornament with curled-up stag. Tinned bronze. 3rd century BCE. MUAM no. 2015.2.25; Sackler no. V-3710.

Fastening the Buckle: A Strand of Xiongnu-Era Narrative in a Recent Kirghiz Epic Poem

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This interdisciplinary exercise in comparative mythology has two subjects: a bronze belt buckle plaque bearing a figural scene, from a Xiongnu-era grave (2nd-1st century BCE) in south or southeast Siberia,[1] and *Joloy Khan*, a Kirghiz epic poem written down in the mid-19th century CE from the performance of an oral bard in the Tian Shan mountain region of Central Asia. The thematic content shared by these two works of art suggests some sort of narrative continuity across the two thousand years and two thousand miles that separate them. To find evidence of a connection of this kind is rare. My first encounter was with the complicated plot and mythic themes of the *Joloy Khan* epic; later, when the plaque came to my attention, it seemed to illustrate the poem's strange finale. The buckle plaque is among the objects recently acquired by the Miami University Art Museum in a gift from the Arthur M. Sackler Foundation (see the accompanying article in this volume of *The Silk Road*).

A well-known type of the so-called "Ordos Bronzes" are the belt buckle plaques of the Iron Age and Xiongnu era (5th century BCE to 2nd century CE) from present-day northern China, Inner Mongolia, the Mongolian Republic, and southern Siberia (Kost 2014; Brosseder 2011).[2] Belt plaques were a special type of object, made for a culture built on exchange and marked with heightened meaning by their form, materials, and use in burials (Linduff 2012; Linduff 2009). The buckle plaques such as the one examined here normally were produced and worn as pairs, with mirror images on each side of the belt's opening. Stylized animals and groups of animals were common subjects. A special category are what have been called "anecdotal" or "narrative" plaques of the 3rd to 1st centuries BCE. They seem to represent tableaux of specific action, as if alluding to stories told by ancient steppe pastoralists — referred to as "oral epic traditions" — the texts of which are unknown (Bunker 1978; Bunker 1997, p. 275).[3] The human figures seen on these anecdotal or narrative plaques are a rare feature in steppe art.

Fig. 1. Buckle plaque. Bronze, eastern or southern Siberia, 2nd–1st century BCE, W: 13.3 cm; H: 7 cm. Miami University Art Museum accession number 2015.2.32. Photo © Daniel Prior.

The B-shaped buckle plaque under examination here [Fig. 1] is a "narrative" plaque, its scene belonging to a group of possibly related images depicting people, carts drawn by animals, and other creatures (cf. Kost

2014, pls. 81-84). In the following discussion, certain thematic elements will be set in italics for the purpose of comparing the epic with the buckle plaque. The plaque depicts a male *warrior* clad in a thigh-length sleeved jacket, wide jodhpur-style trousers and boots, holding a *sword* in his left hand and grasping with his right a branch of a luxuriantly twining *tree* that also forms a part of the border of the plaque. He looks to his left, watching three harnessed horses, one of them with a *bird of prey* perched on its croup, drawing a two-wheeled spoked *cart* with canopy. The heads of *two passengers* are visible above the rim of the cart. The scene has two additional animal elements. In front of the warrior's chest are what appear to be the arched necks of two confronted *waterfowl*, forming a heart shape, as if the warrior were cradling the birds in his bosom. On the right side of the scene is a crouching canid (a *dog*?), positioned vertically to fit on the border of the plaque, nose-down, with its paws "resting" on the right-hand edge.

Following its acquisition by C. T. Loo from an unknown source in China in the 1920s, a number of authors have analyzed the plaque from art-historical and archaeological perspectives.[4] It exists in two similar exemplars: a close analogue of the Sackler/Miami plaque was excavated in the disturbed cemetery at Xichagou 西岔溝, Liaoning province in northeast China (Manchuria), in the 1950s (Tian and Guo 1986, pp. 96-97). That comparand as well as metallurgical analyses help to localize these plaques' manufacture somewhere in southeastern or southern Siberia, not far from the core zone of the Xiongnu Empire. Associated coins date the comparand to a *terminus post quem* "in the last quarter of the 2nd century BC or in the 1st century BC" (Brosseder 2011, p. 383). The best iconographic analyses of the Sackler/Miami plaque to date are by Emma C. Bunker (1978; 1997), who notes the image's evident connection to some lost narrative. As I shall demonstrate, the epic *Joloy Khan* contains elements of that narrative.

The chronology and mapping of the spread of motifs are problems that art history, archaeology, folkloristics and comparative mythology as disciplines have all attempted to resolve. Material culture and expressive culture have different specialized tools of analysis; coordinating them is further complicated by the fact that few sources in the languages of Inner Asian nomadic pastoralists have survived from before the middle of the first millennium CE. Nevertheless, occasionally cases are found in Inner Asian steppe cultures where analyses of specific motifs in texts and artifacts yield conclusions that illuminate both; the materials compared are usually close in date (e.g. Drompp 2011). Among Inner Asian steppe nomadic cultures, the oral traditions that were recorded ethnographically in the last two centuries are seen as especially important sources for illuminating the culture and history of earlier times. Epics in particular have been viewed as layer cakes consisting of themes, motifs, characters and incidents that have survived in one way or another from past historical circumstances, the dating and location of which are often matters of debate. It is widely recognized, however, that motifs can be quite durable and can move widely across cultures and even languages, a phenomenon that is easy to observe in the special environmental–economic–cultural zone of interaction in the interior of Asia. Among the nomads, the Kirghiz (Kyrgyz, Qırğız) are renowned for possessing an unusually rich and developed epic tradition. Highly skilled, non-literate bards composed the epics in the act of oral performance by drawing on an inherited but adaptable store of formulas and themes; these epics have been the centerpiece of Kirghiz cultural life since long before they were first written down in the mid-19th century. The texts we possess thus represent nodes in a long-term flow of changing narratives, from which older elements can sometimes be picked up and given approximate dates. The normal techniques used in historical analyses of this kind are comparative, though comparisons of recent epics and ancient artifacts are seldom possible.

Joloy Khan, a unique and puzzling document in the Kirghiz epic tradition, is less well known than the famous epics about the supreme hero Manas. The German-born Russian Turcologist Wilhelm Radloff (Vasilii V. Radlov) wrote down the text of *Joloy Khan* in 1869 while collecting Kirghiz oral materials from non-literate singers in the Chu River valley in what is today northern Kyrgyzstan. He published the text (5,322 verse lines) in the original Kirghiz language, as well as his German translation (*Joloy Khan* 1885).[5]

In his own epic, Joloy, a figure known from the main Kirghiz oral epics as a gigantic heathen and an enemy of Manas, is not an enemy but an anti-hero and a parody of himself. As in the *Manas* epics, he is a fantastic glutton who has the habit of walking, a perverse trait among those born equestrians, the Kirghiz. He attacks his kinsmen and roasts and eats their horses when they ride to him to ask for help. He acquires two wives as spoils of a husband-killing and a rape; yet he exudes irresistible sexual power over women and girls, even when incapacitated by alcohol. He can also be a formidable warrior, so long as his friends manage to trick or shame him out of his natural laziness. His final campaign ends in disaster for himself, his family, and his realm. The first part of the epic (2,463 lines) concludes after numerous misadventures with Joloy lying unconscious in a pit where he has been imprisoned by his enemy. Yet we

sense that the epic audience, like the maiden who has fallen in love with him as he lies helpless in captivity, was firmly on his side for the duration. Arthur Hatto calls this transgressive hero "Rabelaisian" and the text "in part mock-epic" (Hatto 1977, p. 90; Hatto 1980, p. 302).

Our direct concern, however, is not with Joloy. The latter part (2,859 lines) of the sprawling plot of *Joloy Khan,* more than half the text, focuses on Joloy's son Bolot. The picaresque episodes of the Joloy half of the epic are notably loose. Bolot, on the other hand, is a more spiritually weighty if enigmatic figure, and in his half of the epic a more discernible plot arc is present. At the center of odd relationships that nevertheless give him the support he needs, Bolot puts right the problems that Joloy's chaotic career has created. In the Bolot-centered part of the epic, the main characters are Joloy; Joloy's wives Sayqal and Aq Qanısh; Joloy and Sayqal's son Bolot whom Sayqal raises jointly with Aq Qanısh; Köchpös Bay and his wife Baybichä, who live in a distant Underworld-like land and adopt the young Bolot as their son; and Qarachach, a hawk–spirit-maiden and Bolot's ally and protector who first appears disguised as a lowly shepherdess.

As Joloy lies in captivity in a distant land, his two wives Sayqal and Aq Qanısh are captured and enslaved by the enemy who has usurped his realm. Sayqal (who believes Joloy dead) gives birth to Joloy's son, Bolot (whose name means 'Steel', *'Sword'*), and immediately attempts to drown him in a *lake,* but Aq Qanısh dives under the water to rescue him, and the two women then nurture him as co-mothers. Sayqal sends Bolot away with Aq Qanısh through a deep cave (essentially an Underworld passage) to hide him from the enemy. After a long journey they arrive in the land of Köchpös Bay, whose name means 'Non-migrating Rich Man', and whose senior wife Baybichä adopts Bolot in a ritual re-"birth." When Bolot has grown to the age of thirteen, old enough to fight, Bolot and Aq Qanısh return home; Joloy's realm is restored, and he is freed from captivity. Meanwhile, Köchpös Bay's realm has been reduced by enemies, and he and his wife pine for their foster/ritual son, Bolot. An enslaved shepherdess (actually a disguised spirit-maiden with shaman-like shape-shifting power) engineers Bolot's return, which Baybichä foresees in a dream where a sprouting poplar *tree* symbolizes Bolot. Upon Bolot's return, the shape-shifting girl, in reality the beautiful Qarachach, announces that she can now leave Köchpös Bay's service. She changes into her *hawk*-form and flies away. Bolot chases after her, but an enemy army suddenly attacks. Bolot is killed, is revived by Qarachach's spells and prayers, utters a last testament, dies again, and is revived finally a second time with milk from Baybichä's breast. Bolot decides to return to his home. Köchpös Bay and Qarachach effect a scheme to put off Bolot's departure, in which Qarachach flies over the earth in hawk-form seeking a suitable mate for Bolot to marry. The search is inconclusive; Bolot remains single. Qarachach constructs a *cart* and flies off uttering a blessing. Köchpös Bay and Baybichä ride away in the cart, arrive at Joloy's realm, and unite with Joloy and his family. They live on ("knowing neither sunrise nor nightfall, they played at hazards"), and Köchpös Bay rules the land. We may infer, though it is not stated (perhaps due to the bard's fatigue at the end of a long performance), that Bolot accompanied Köchpös Bay and Baybichä on the journey to Joloy's realm, effecting by his return the conclusion of the long story.

The penultimate scene in the epic thus consists of Bolot (*'Sword'*), a strongly integrative hero who has appeared in his foster-mother's dream as the symbolic *tree* of life; a *cart* bearing *two passengers,* his foster-parents; and a *hawk*–spirit-maiden, Bolot's ally, who has provided the cart. It is this scene that is nearly identical with the image on the buckle plaque. Images of two different animals on the buckle are less clearly related to Bolot in the epic, though there are correspondences that may reflect a past relationship between their underlying narratives. The standing hero holds two long-necked birds in his arms, evidently swans or geese. In the epic, Bolot's origin is connected with water and waterfowl. At the moment of Bolot's conception, as Joloy rapes the maid Sayqal on the shores of a lake, flocks of geese and swans are startled into flight by the sound of her cries (*Joloy Khan,* lines 874-922). Then Sayqal throws her newborn son into a lake and Aq Qanish rescues him (*Joloy Khan,* lines 2785-2819). Either or both of these details could be fragmentary remnants of themes relating the hero's watery nature with the waterfowl in the warrior's arms on the buckle plaque.[6] The fact that the warrior on the buckle holds a pair of birds even tallies with his paired mothers in the epic, who raise him jointly and whom the narrative circumstances associate with water.

The canid depicted on the right-hand edge of the buckle has only tenuous reflexes in the epic. Joloy utters an enigmatic curse on Bolot at the inception of Bolot's career as a warrior, which includes the words, "You have become a dog!" (*Joloy Khan,* line 4344). Near the end of the epic, when Bolot decides to return home, Köchpös Bay asks the hawk–spirit-maiden Qarachach if there is any way to convince him to remain, and she replies, "Is the offspring of a wolf a dog? Is the offspring of a man a nation?" (*Joloy Khan,* lines 5182-5185), thus seemingly confirming that Bolot like his father is a hero among men, and intimating that the answer to the question Köchpös asked is

"no"—though her placement of wolf/father/Joloy in rhetorical opposition to dog/son/Bolot muddles the suggested dog-association.[7]

The Bolot half of the story contains elements that transcend the perverse and parodic aspects of the Joloy half. Where Bolot's heroism is more straightforward than his father's, not all the narrative underpinnings of his origin and life story are common in Inner Asian epics. Table 1 lists the thematic correspondences between buckle plaque and epic as a basis for further discussion.

Table 1. Thematic comparison of the Kirghiz epic hero Bolot and the Xiongnu-era bronze buckle plaque

Bolot	Buckle
hero	warrior
watery conception/ birth (mother has swan maiden attributes?)	waterfowl
name = 'steel'/'sword'	carries sword
ally = hawk–spirit-maiden	hawk accompanies
dream of tree = his power	trees
transports foster parents in cart …	two people in horse-drawn cart
… to land of everlasting happiness	trees (= tree of life?)
dog association?	dog

When a comprehensive thematic comparison yields a cluster of varied, highly specific similarities, the results can be termed *exquisite correspondences,* which by their nature tend to preclude an explanation based on chance coincidence. Our task, then, is to seek some explanation of the exquisite correspondences between *Joloy Khan* and the buckle plaque that illuminates a real historical relationship or tradition.

Besides the details summarized in the table, the bronze buckle plaque and the oral epic have something else in common: both were significant in their respective cultures. The plaque (so far as we are able to infer from its form and the funerary context of the analogous, excavated example) was probably a valued possession of the individual with whom it was buried, and highly significant to his survivors (Kost 2014, pp. 149-60). The image corresponds to a crucial moment in a story about an important hero. In the *Joloy Khan* narrative, Bolot is surrounded with signs of power and efficacy, from which we can discern a deep structure of serious symbolism. The image on the plaque helps to confirm this symbolism. Where the buckle helps to bring the Bolot figure into focus, the epic allows us to say something definite about the content of a Xiongnu-era narrative of the eastern steppe region. The link between the two affords us the ability to trace a possible route that the story traveled.

Scholars have developed two main supra-regional historical frames for understanding the nomadic Xiongnu in Inner Asia, one emphasizing east to west influences and movement, and the other, west to east.[8] The first of these, which has dominated historical studies, relies on the written evidence in Chinese annals. From their base in Mongolia and southern Siberia starting in the 3rd century BCE, the Xiongnu confederation established a powerful empire that expanded to the west and southwest on the steppes and from there directly challenged the security of the Han's western territories and interests. The Xiongnu pushed their nomadic neighbors the Yuezhi and Wusun south-westward into the Tarim Basin and Central Asia. The Han bought security at extortionate expense from the Xiongnu *chanyu* (rulers); this made possible the beginning of the "Silk Roads" (Yü 1990; Barfield 1989; Di Cosmo 2002, 2011). In this interpretive framework, one can posit the Central Asian Kirghiz as ultimate continuators of an ancient Xiongnu-era tradition that traveled westward from Mongolia or southern Siberia after the collapse of the Xiongnu polity in the 2nd century CE. This tradition would have passed through many stages along the way, including possibly Yuezhi, Wusun or eventually Yenisei Kirghiz oral repertoires.[9]

An alternative frame — based on linguistic, archaeological and genetic evidence — reaches back earlier in time and points to a western origin of some (culturally, linguistically, demographically) significant portions of the group we call "Xiongnu," including probably its ruling elite. Whatever linguistic affiliation the Xiongnu aristocracy may have had, their culture was clearly influenced by peoples to the west, on the steppes. As Peter Golden has noted, "If they were not themselves Indo-Europeans, it seems very likely that elements of Hsiung-nu [Xiongnu] equestrian culture, came from the Inner Asian Indo-Europeans. Iranians or Yüeh-chih [Yuezhi] may have served as the transmitters of this horse culture coming from the western steppes. This may also have entailed elements of political culture as well" (Golden 1992, p. 59; cf. Psarras 1995, pp. 110, 112). Recent interpretations of historical and archaeological sources stress the western connections that brought

prestige goods eastward to Bronze Age and Iron Age steppe elites and bolstered the early political development of the Xiongnu (Honeychurch 2015; cf. Brosseder 2015). Extensive evidence from physical anthropology suggests "[i]t is possible that the western frontier of the Xiongnu empire was more permeable than the eastern frontier" (Lee and Zhang 2011, p. 200). Preliminary results of mitochondrial DNA haplogroup frequencies sequenced from more than 40 Xiongnu-period individuals in central Mongolia show significant similarity between them and the Bronze Age Mongolian gene pool, and between Bronze Age Mongolians and populations farther west; and no significant similarity between the Xiongnu-era or Bronze Age Mongolians on the one hand and contemporary populations surrounding the eastern steppe zone on the other (Leland Rogers, personal communication; Rogers et al. 2016; Kim et al. 2010; cf. Haak et al. 2015).

This second interpretive framework then suggests a model of narrative transmission whereby the Xiongnu-era buckle plaque may reflect the continuation of a traditional story that arrived from the west. Older themes underlying the Kirghiz epic *Joloy Khan* in Central Asia could be antecedent to, or offshoots of an antecedent to the Xiongnu story as attested by the buckle plaque in southern Siberia. The east-to-west model of transmission has the advantage of parsimony— that is, it conforms to the chronology of the evidence. The west-to-east model requires us to posit an additional, unattested and reconstructed stage of the tradition that eventually gave rise to both the buckle plaque and, two millennia later, the epic. Nevertheless, the west-to-east path appears likely. Recent genetic evidence increasingly points to connections between "Xiongnu" human remains and populations in the Minusinsk Basin of southern Siberia and the Altai mountains, and through them with populations of the western steppes (Rogers, personal communication); these connections implicate archaeological cultures (Afanasievo and Yamnaya) theorized to have been bearers of ancient, unattested Indo-European languages. The Bronze Age looks less remote in time and Indo-European associations less exotic for resolving the issue at hand in the light of preliminary research suggesting that a number of themes and motifs in the text of *Joloy Khan* reflect elements of Indo-European myths (Prior 2012; cf. Miniaev 2000, p. 297).

The two theoretical directions of transmission are not necessarily exclusive of one another. It is possible that the narrative themes in some form traveled first in the direction of the Xiongnu homeland with western Eurasian migrants in the Eneolithic or Bronze Age, and later were carried in changed form by peoples defeated by or broken off from the Xiongnu in the centuries just before or after the turn of the Common Era. In any case, the vast time interval separating the *Joloy Khan* epic from the bronze plaque allows for the arrival on stage of other necessary players of whom there is no direct evidence in our reconstructed scenario, such as speakers of Turkic languages. The empty centuries also serve as a reminder of the innumerable generations in the relevant tradition or traditions of which we have no knowledge at all.

Comparative analysis of the buckle plaque and the epic raises a number of issues that require more research. The narrative context of the plaque may help to illuminate similar motifs found in related objects. Four swans decorate a rectangular bronze Xiongnu-type belt plaque flanked by two standing warriors dressed in clothing almost identical to our plaque's hero [Fig. 2]. The swans have been thought to suggest "a remote Altaic ancestry" but may also relate the two warriors to the fragmentary narrative motif of Joloy's watery begetting of Bolot, mentioned above, and to the waterfowl that our plaque's hero cradles in his arms.[10] A bronze openwork plaque depicting a jacketed and trousered man on foot leading a horse-drawn, covered, two-wheeled cart

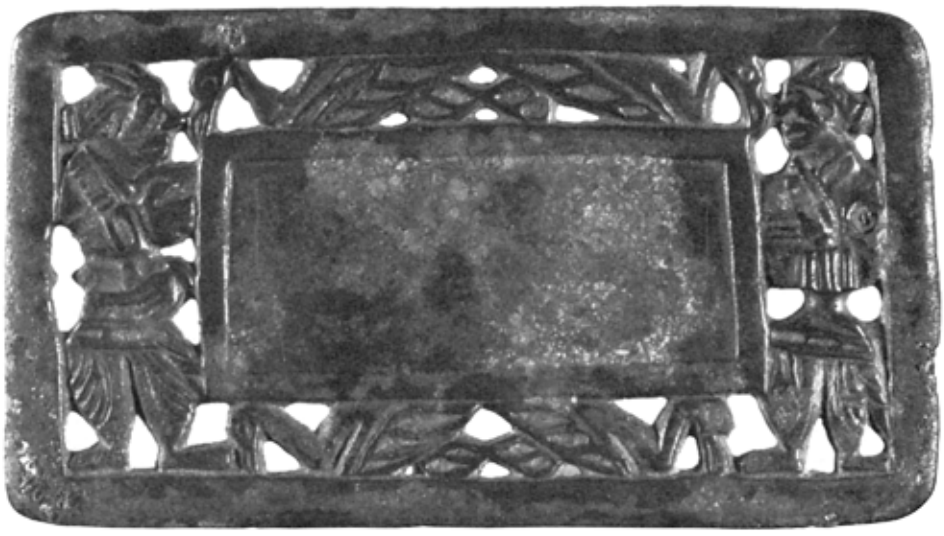

Fig. 2. Buckle plaque with two standing warriors and four swans. Bronze, 2nd–1st century BCE, W: 11.1 cm; H: 6.2 cm (Kost 2014, pl. 87.3; cf. Bunker 1981, p. 168; Bunker 1978, pp. 124f., pl. 4a). After: Kost 2014, pl. 87.3; reproduced with permission.

Fig. 3. Buckle plaque with man leading horse-drawn, covered cart and passengers through trees. Bronze, 2nd–1st century BCE, W: 11.1 cm; H: 5.7 cm (Kost 2014, pl. 83.3, [main text] p. 126); cf. Bunker 1981, p. 168; Bunker 1978, p. 125, pl. 5b; Miniaev and Smolarski 2002, pp. 84ff.). After: Kost 2014, pl. 83.3; reproduced with permission.

with passengers through a stand of trees, known in several examples, presents clear thematic parallels with the Sackler/Miami buckle plaque [Fig. 3]. Could the scene's reference to two-wheeled transport have been specifically related to and in discursive interaction with the mythic themes reflected in the Sackler/Miami plaque? On the other hand, other representational motifs which appear in similar Xiongnu-era buckle plaques but which are not in the *Joloy Khan* story underscore the uniqueness of the exquisite correspondences noted above. What are we to make of the convergent motifs—trees, cart, man with sword, dog—in the several known examples of a 2nd-1st century BCE bronze buckle plaque depicting a singular scene where "a mounted warrior grabs the hair of a pot-bellied demon that is wrestling with a dog. A second dog points at a bird hidden in the trees while standing on the canopy of a cart pulled by two reindeer […] The warrior brandishes a short sword in his raised hand" (Bunker et al. 2002, p. 111)? [Fig. 4]. The scene may be connected to a Xiongnu-era narrative milieu that relates in some way to the *Joloy Khan* epic, though the exact narrative references are unknown.

Themes of death, Underworld, afterlife and spirit-beings in the Bolot story harmonize with the buckle image in ways that may illuminate both. Such harmonies may then help to clarify the thought-context in which the buckle plaque was acquired, used and treasured. At the moment of his birth Bolot becomes the victim of an attempted infanticide, but is saved (*Joloy Khan*, lines 2785-2825). Twice he makes the passage to and from the mysterious realm of Köchpös Bay, whose name 'non-migrating' may be an ironic kenning for 'dead' to the nomadic Kirghiz. A Köchpös Bay figure also appears in a version of the shamanic Underworld epic of the Kirghiz, *Er Töshtük* (Kaiypov 1990, p. 5, n. 5). The cart that the hawk–spirit-maiden Qarachach makes for the final trek in *Joloy Khan* is 'six-footed' (*Joloy Khan*, line 5307: Kirghiz *altı buttū*), an echo of the six-legged/seven-legged (*alt'ayaqtū, jet'ayaqtū*) steed that Er Töshtük rides on his spirit-world errands 'having hobbled its four legs with velvet'. The latter formula clearly reflects the preparation of a horse for ritual sacrifice as bearer of the dead to the Underworld, an ancient and widely-attested funerary practice on the steppes (*Er Töshtük* 1885, lines 189-194; cf. Kaiypov 1990, pp. 299ff. *et passim*). The six-leggedness/seven-leggedness of the horse in *Er Töshtük* and the cart in *Joloy Khan* also chimes with a curious detail of the buckle image. Though a team of three horses is implied by the number of heads represented, the sculptor has shown exactly seven of

Fig. 4. Buckle plaques. Bronze, North China, 2nd–1st century BCE, each, W: 11.1 cm; H: 7.3 cm (Kost 2014, pl. 82.1-2, [main text] p. 125; cf. Bunker et al. 2002, pp. 111-12 [animal on cart = "dog"]; Bunker 1978, p. 124 [animal on cart = "feline"], pl 3a). After: Kost 2014, plate 82.1-2; reproduced with permission.

their legs in tight rows. (Interestingly, the cart's wheel has seven spokes.) In a battle in Köchpös Bay's realm in *Joloy Khan,* Bolot dies, is revived by the spiritual ministrations of Qarachach, lives long enough to utter his last testament, dies again, and is revived finally by Baybichä (*Joloy Khan,* lines 5056-5168). Among the instructions in his testament, Bolot commands that his heirloom steed Ach-budan be saddled with tied-back stirrups and sent home to Joloy (*Joloy Khan,* lines 5116-5133). In this connection the riderless horse, a funerary motif known even today, seems to have a complementary expression in the dismounted warrior on our buckle plaque, all the more significantly if we allow the rich atmosphere of the afterlife at the end of the Bolot story to inform our view of the plaque.

Our discussion of the significance of wheeled vehicles in Xiongnu ideas about death must include wheeled vehicles buried in ordinary graves and aristocratic tombs associated with the Xiongnu. There is clear evidence of a widespread Xiongnu-era practice of burying ordinary people in graves with pieces of simple carts, a custom which may have given rise to the use of imported Chinese chariots in the more elaborate tomb burials of elite individuals.[11] A two-wheeled, covered chariot rigged for three horses (essentially the same type as on the buckle plaque) was found inside the large central barrow at the Xiongnu royal tomb complex at Tsaraam in Transbaikalia. Clearly the elite of Xiongnu society imagined a place for wheeled transport in the afterlife of the tomb's occupants. Chinese historical sources such as the *Hanshu* mention chariots among luxurious gifts from the Han emperor to his Xiongnu counterpart, the chanyu. There is also mention of a specifically death-related instance of such a gift: at the demand of the Xiongnu, the Han court sent the bodies of executed Xiongnu hostages back to their homeland "laid into chariots" for transport. This occurred during the reign of Wang Mang (9-23 CE), the approximate period from which the Tsaraam Barrow 7 dates (Miniaev and Sakharovskaia 2007, pp. 49, 54; Miniaev and Sakharovskaia 2006). Our buckle plaque was made probably a century or so before the Tsaraam Barrow 7 burial and the hostage incident and was owned by someone below the elite level of society attested in the elaborate burial and the *Hanshu*. Yet in light of what the Bolot story reveals about the background of the plaque's image, the demand that the Xiongnu dead be returned in chariots can be placed in a more definite cultural setting, one that may even evoke the elite's view concerning traffic with a more prosaic Otherworld of "non-migrating rich men": China.

Linguists, geneticists, archaeologists and folklorists all deal with widespread empirical connections across Eurasia. Only very rarely do researchers in the last two fields have opportunities to sift together fine-grained analyses of each other's materials. I know of only one other proposal of a specific, substantial thematic connection between representational art of ancient steppe pastoralists and recorded Inner Asian oral epic poetry (Haskins 1961). Data such as those examined here are not likely in the future to be found any more commonly than they have been in the past. On its own, the argument in this paper has little power to advance historical reasoning about any movements of specific peoples; in particular, the suspected Indo-European mythic themes in *Joloy Khan* await full explication. But this exercise does support general trends in recent thinking that lend definition and focus to the tapestry of "vastly complicated cultural admixture" that formerly lay across Eurasia (Bunker 1978, p. 129). The analysis here is an attempt to fasten back together two long-separated ends of a single strand of tradition, rendering a two-dimensional bronze image in unusual depth, and giving the weightless words of an oral singer of tales the solidity and permanency of a piece of treasure that can be grasped and carried great distances.

Acknowledgments

This is the first published result of an on-going study of ancient thematic layers in *Joloy Khan*. Ideas underlying parts of it were presented at the conference of the International Association for Comparative Mythology at the University of Edinburgh in 2007, and at a symposium, *The Steppes: Crucible of Eurasia,* at the Miami University Art Museum in 2012. I wish to thank colleagues at those meetings for their discussions, Leland Rogers for advice on population genetics, and most of all Trudy Kawami for her collaboration and uncommonly generous support. All errors herein are my own.

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NOTES

1. I attempt here to follow Ursula Brosseder's (2011, p. 349, n. 1) example of caution to avoid as much as possible uncritical extensions of the historical term "Xiongnu" from the usage of ancient Chinese political chroniclers to the modern identification of an archaeological culture or cultures, to say nothing of an ethnic group or a scantly-attested language.

2. On the "Ordos Bronzes" see note 3 (p. 178) in the accompanying article, "A Gift of Steppe Bronzes from the Arthur M. Sackler Foundation to the Miami University Art Museum."

3. For earlier interpretations of narrative features of such images see Haskins 1961 (involving analysis of a recent Kazakh epic), and further references in his nn. 6-7 on p. 154.

4. Including Rostovtsev 1929, pp. 23f., 44 (where it is noted that the plaque was "recently" obtained in China by Loo) and plate 11.56; Tsunoda et al. 1954, p. 42 and figure 13.4 facing p. 41; Samolin and Drew 1965, plate 9B; Maenchen-Helfen 1973, p. 217 and figure 4; Bunker 1978, pp. 124f. and plate 3b; Bunker 1997, pp. 275f. (cat. no. 243), where references are given to additional works not seen by the present writer; Brosseder 2011, pp. 383, 423; Kost 2014, [main text] p. 128, [catalog] p. 246, plate 88.3.

5. Other treatments of the text are available (English plot précis based on Radloff's German: Chadwick and Zhirmunsky 1969, pp. 38-40, 104f.; English prose summary of the Kirghiz original: Prior 2002, pp. 271-94; French translation of Radloff's German: Corsi and Karro 1999, pp. 103-206). On the text see also Prior 2002, pp. 180-87; Hatto 1990, pp. 524f.

6. Cf. the archaic Eurasian story of the swan maiden and her husband and offspring (Hatto 1961/1980).

7. The creature on the buckle plaque [Fig. 1] seems more dog than wolf to this writer; iconographic expertise is needed.

8. The well-known frame of correlation that posits a connection between the Xiongnu of Asia and the Huns of late antique Europe is not discussed here (Sinor 1990, pp. 177ff.).

9. On theories of ethnogenesis of the Central Asian Kirghiz, see Prior 2013, pp. 23-26.

10. On the breadth of swan imagery in northern Eurasia beyond "Altaic," see Hatto 1961/1980; Barber 1999.

11. On wheeled vehicles in ancient Inner Asian burials and conceptions of death, see Rudenko 1970, pp. 189-93, pls. 129, 131; Yun and Chang 2011, pp. 265-67; Miller 2012; Jacobson-Tepfer 2012; Kost 2014, pl. 106; Jacobson-Tepfer 2015, pp. 191-201. Excavations of Xiongnu elite tombs continue to uncover Chinese chariots interred with the deceased. For a recent example, with remarkably well preserved remains, see Polos'mak et al. 2011, esp. Ch. 3, pp. 77-89. Excavations carried out by the Hermitage Museum in 2016, reported by Nikolai Nikolaev and Sergei Miniaev in a separate article in this volume of *The Silk Road*, pp. 166-67, provide yet another example.

Women's Status in the Iron Age Based on Ethno-archaeological Studies of the West Central Zagros Nomads

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In the western part of the central Zagros Mountains, archaeologists have discovered numerous Iron Age cemeteries. Often excavated in haste as rescue operations, many of the graves have been identified as belonging to women, but analysis of the material has been confined to description of the burial goods and the manner of their burial. While one explanation is the absence of written sources such as the inscriptions found in the repository of Takht-i Jamshid, more generally, studies on the position of women have only recently become an important subject in the archaeology of the region (see Niknāmi et al. 2011, pp. 5-17).

As a step toward remedying this problem, this article first will summarize for a number of cemeteries the evidence attesting to female burials. In only a few instances have skeletons been preserved. So the attribution must be based on the grave goods that may be considered gender specific. The assumption is that burials with weapons are male and that burials containing wristlets or anklets most likely are female. Other goods, such as pottery generally cannot be considered gender-specific. By themselves though, the burial goods do not provide us with sufficient information on the position of the buried women in their lives. Nor can the material be juxtaposed with that of settlements, since none from the Iron Age have been excavated in this region in the vicinity of the cemeteries. In fact, scholars have asserted that these cemeteries are those of semi-nomadic societies, presumed to have had no fixed settlements (Godard 1931, p. 21; vanden Berghe 1982, p. 14; 1987, p. 203).

A semi-nomadic way of life in fact has been the dominant one in this area down to the present, allowing us to hypothesize that there may have been long-term continuity among the ethnic groups of the region. Hence, the second part of this essay, which is an ethnographic study of these groups in the present in order to see whether their traditions can shed light on what has been found by archaeologists with regard to the lives of women.

The area embraced by this research encompasses the western central Zagros which includes Dyala Province (Pārezgay Diyāla in Iraqi Kurdistān), the south and west of Kermānshāh, southwestern Hamadan and the western and northwestern parts of Ilām Province in Iran, the territory of the Khezel, Malekshāhi, and part of the Kalhor tribes living in Aivān Township [Fig. 1]. These regions are known collectively as Posht-i-Kuh.[1] Data have been gathered through field investigation, especially by talking with tribal women. In addition, library studies have been used to complete the field research.

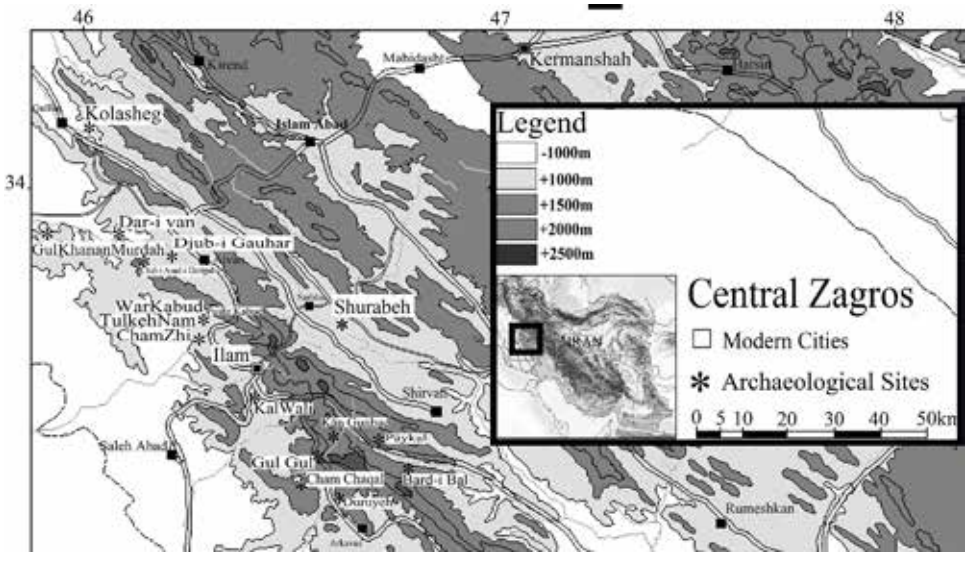


Fig. 1. Map showing archaeological sites in West Central Zagros. Adapted from Overlaet and Haerinck 1998, map 1.

The archaeological evidence

We begin by summarizing in tabular form the evidence from excavations of Iron Age cemeteries, the work for the most part carried out by the Belgian Archaeological Mission in Iran (BAMI) in 1965–1979. In the tabulation, we indicate the name, location and proposed date of the graves, the dating generally based on pottery typologies and stylistic similarities of other artifacts. In providing details about the graves, the focus is on those which may be identified as female burials. To provide some sense of the layout of the graves, we include a few illustrations from the excavation reports. A discussion of the archaeological evidence follows the table, beginning on p. 200..

Name of Cemetery	Location	Date	Descriptive details	Source citation
Tulkeh Nām Awazā	Chavār Township, close to Awazā Village, 10 km NW of Chavār	Iron Age IIB	One of three cemeteries in region. In *Grave 5*, female burial incl. stone tools, a plate and ewer of gray ceramic, an intact iron anklet, two bronze rings. In *Graves 1 & 2*, only ceramics.	vanden Berghe 1968; Overlaet 2003, p. 15.
Chāl-i Asad-i Derigeh	W of Aivān and W of nomad village Derigeh on bank of a seasonal branch of Gangir River	Iron Age I and II	Excavated August 1977. *Graves 1 and 3*: male burials, incl. dagger with rimmed handle, bronze arrows and fire-starter flint; *Grave 2*, without weapons, female burial.	Overlaet 2003, p. 305, Pl. 14. In reports of BAMI, village misnamed.
Dar-i wan B	W bank of Gangir River, SW of Paliyeh Village, Zarneh Township	Bronze to Iron Age III	Excavated 1970, 1977; incl. *Grave 3* [Fig. 2], female burial with 3 bronze rings, one bronze button, 9 iron anklets, one iron ring, one stone ring, and 22 stone, shell and glass paste beads, along with ceramics. *Graves 1, 4, 6, 7, 12, and 14* contained only ceramics.	Overlaet 2003, p. 279, Pl. 3.
Kan-i Gunbad	30 km SE of Ilām in Ilām Township, on rte. from to Arkāvaz-i Malikshāhi	Bronze to Iron Age, possibly 1st mill. BCE	*Grave 11*: walls of smooth-surfaced mountain stone 23-30 cm thick & measuring 150 x 125 x 56 cm, oriented 10° W of N. Contained disturbed remains of 4 bodies, many agate beads, a metal ring, and an 8 cm long piece of shell with square profile. No female burial objects (anklets) found in other graves.	Kābuli 1988.
Kalwāli Hill	30 km SE of Ilām, on right of road connecting Ilām, Sāleh Abād & Mihrān; 5 km. from Cheshmeh Kabud Village	late Iron Age II	21 graves excavated, none with goods associated with women.	Overlaet 2003, pp. 335, 340, 342; Pl. 23.
Cham-i Chakal	near Mohammad Abad Village, 1 km N of Ja'far Abād bridge of Mishkhās (Meyakhās) Valley between Kabir-Kuh and Chamangir mountains	Iron Age IA	Two excavated graves: in *Grave 1*, earthenware and stone tools; in *Grave 5*, some round beads of shell, earthen dishes, dagger blades and arrow heads, suggesting male burial.	Overlaet 2003, pp. 373-74, 376; Pl. 43.
Duruyeh	Arkavāz, 1 km W of Arkavāz-Ilām road, 2 km from Gul-Gul Village (Mishkhās region)	Iron Age I and II	Of 19 graves excavated, 4 contained decorative objects. In *Grave 1*: 1 bronze ring; in *Grave 4*: 2 bronze rings; most of objects in *Grave 5*: bronze wristlets, 2 bronze hair pins, 2 bronze perforated pins (bodkins); in *Grave 6*: 2 perforated pins (bodkins) with decorative carvings. Such objects could indicate male or female burial; there were no weapons.	Overlaet 2003, p. 493; Pls. 126-30.
Pāykal	48 km SE of Ilām, 6 km from Chiniār-Biāshi Village near Bard-i Bal graveyard next to Pāykal Village of Garab	Iron Age IB and II	In 1969 and 1970, 15 graves excavated, 7 containing burial goods. *Grave 5*, a female burial as indicated by two anklets (no skeleton remained). Also contained some tubular dishes, iron and bronze ornaments (rings, pins). Other graves contained earthen dishes, ornaments (pins, hairpins, rings, finger rings, wristlets) and some other bronze items [Fig. 3]	Overlaet 2003, pp. 517, 521.
Posht-i Kabud	5 km. NE of Chavār in Ilām Township near Goleh Jārr Village	late Iron Age II to early Iron Age III	5 graves excavated. *Grave 2*, female burial, with 1 teapot, bowls, ceramic ewers and 4 iron anklets. *Graves 3, 4, 5* contained a teapot, ewers, a dipper and a ceramic pyxis but no anklets indicating female burial; no weapons.	Overlaet 2003, pp. 323, 325; Pls. 18-20.

Bard-i Bal	Badreh Township in Ilām, in the basin of Garāb River, near Chinār-Bāshi Village, 45 km SE of Ilām	Iron Age I-II, with Nos. 10, 11 reused in Iron Age III	70 graves excavated in 30 x 23 m area, 15 looted; ones with female burials as follows: *Grave 3*: disturbed remains of two skeletons; goods include hollow pipe, teapot or tubular container, bronze ring, four shell rings and 57 stone and shell beads. *Grave 10* (Iron Age III-II): 4 skeletons, 3 female, 1 male; 130 artifacts incl. 25 iron rings, 1 iron anklet, 3 bronze anklets, 4 ceramic pyxis, 1 ceramic bonnet, 5 iron pins, 1 bronze wristlet, 187 stone and shell beads. Also arrowheads, a dagger, iron blades, plates, bowls and goblets, trays, teapot, etc. *Grave 11* (Iron Age II): on stone cover of Grave 10, hence later in date; incl. 1 iron anklet, tubular dishes and 2 stone wares. *Grave 17* (Iron Age IIA-IB): disturbed remains of 2 adult men and 1 woman; 2 bronze anklets on tibia bones; 87 objects incl. bronze wristlets, 3 iron wristlets, 6 iron rings, 5 pins of which 6 of bronze with acorn-like heads, 4 of iron and bronze and the others of iron, 2 bronze anklets, beads of stone ceramic and shell, a mug, a ewer and other tableware, a dagger and arrowheads, etc. *Grave 29*: Skull found near north (back) wall; 2 bronze anklets, 3 bronze and 1 iron wristlet, 1 bronze needle, 2 bronze-iron pins; various tableware; no weapons. *Grave 62* (Iron Age I A but re-used in Iran Age III) [Fig. 4]: E-W orientation, rectangular built of 3 slab walls, its entrance closed by boulders, without a cover; external measurement 3.45 x 1.90, internal 1.85 x 1.16 x 0.78 m. Intact skeleton of 20-yr-old girl in center in curved position; but also in corners other human bones and teeth from 25-yr-old man. Grave goods incl. spiral hairpin 2 cm dia. next to skeleton, a 1.5 cm ring, 14.8 cm bowl (6.5 cm high), iron pin with a tubular head, 2 ceramic seals 2 cm dia. with engraved pictures of ibex and sphinx, necklace with 43 beads, 24 of sardonyx and 4 of limestone. *Grave 68*: disturbed remains of two bodies in NW sector, probably a man (with bronze daggers, horn axes and a whetstone) and a woman (with 2 bronze and 1 iron anklet). *Grave 70* (Iron Age IA): two bronze anklets found side-by-side in SE corner, indicating female burial.	vanden Berghe 1973, 1987; Overlaet 2003.
War Kabud	25 km NE of Ilām in flat areas between mountains near Lashkān R., tributary of Chavar R.	Iron Age III	Large cemetery, over 1000 graves in central part looted; 203 graves studied. Graves 85 and 102 with female burials [Fig. 5]: *Grave 85*: 3 bronze anklets, 1 earring, another lunate earring, 9 necklace beads. *Grave 102*: necklaces, gold lunate and silver tasseled earrings, circlets, wristlets, bronze anklets; pins, buttons, etc. Vanden Berghe indicates (1987, Tab. 5) that *Graves 10 and 17* were female burials, even though no gender-specific objects found.	Fleming et al. 2006, p. 31; vanden Berghe 1968, esp. p. 165, Figs. 26-29; 1972, Fig. 2; 1987.
Cham-i zhi Mumeh	45 km SW of Ilām and 1 km from Moumeh village at bend of river	Iron Age III	Under 2 m layer of alluvial soil, cemetery discovered when river bank eroded. Women's Graves Nos. 3, 4, 5, 14, 16, 23, 28, 36, 37, 42, 43, 46b, 67, 72, 76 and 79 identified by objects such as anklets, necklaces, beds, wristlets and silver earrings, with men's burials containing weapons, shields, etc.. Both contain other metal and ceramic objects. Of particular interest the bronze engraved bucket found in *Grave 43* [Fig. 6], described below.	Motamedi 1989, p. 35; vanden Berghe 1977, p. 54; Haerinck and Overlaet 1998.
Kutal-i Gul-Gul	SE of Ilām in precinct of Arkāvaz-i Malikshāhi	Iron Age I and II	17 intact graves excavated in 1972 [Fig. 7] Women's burials in Graves 2A, 4 A, 6A, 9A, 10A, 13A, 2B and 3B. Graves 9A, 10A and 4A contained a man and a woman. *Grave 4A* goods incl.: ceramic pyxis, 2 bronze pins with swimming ducks on heads, 2 bronze wristlets, 4 bronze anklets, 2 shell finger rings, 2 carnelian beads; also a dagger and several ceramic wares. The 6 bronze anklets on one skeleton identified the female.	Medvedevskaia 2004, p. 99; Overlaet 2003, pp. 393-96, Pls. 49-57.

Shurābeh	in Shirvan-Chardāwol Village, on S bank of Chardāwol River	Iron Age I, re-used in Iron Age II	Only one grave not looted; with stone slab walls, oriented E-W, measuring 1.6 x 1.2 x 0.8 m. Contained two bronze pins with acorn-like heads, 2 bronze needles (bodkins), 2 bronze wristlets, 2 decorated rings of shell, 2 daggers, 34 ceramic wares and several stone tools.	Medvedevskaia 2004, p. 98; Overlaet 2003, pp. 211-12, 634.
Djub-Gavhar	in the Eivan Plain within agricultural fields by Cangir R., about 200 m SE of Djub-Gavhar Village	Iron Age III (600-750/800 BCE)	Most of graves plundered; in 1977, 56 with reveted walls covered with flat slabs and 9 with some stone, including a pithos grave (No. 21) were excavated. Most graves contained one burial, but some as many as 4. Due to good preservation, could link grave goods with gender of skeletons; 11 graves (1, 2, 6, 7, 21, 37, 39, 53, 60, 62 and 63) belonged to women and contained anklets and wristlets. In *Grave 53* there were two skeletons along with a mace and axe; the anklet indicating which skeleton was the woman.	Haerinck and Overlaet 1999, p. 11.
Golkhanān-Murdeh[2]	in Zarneh Precinct, a plain between the mountains in NW of Ilām province, NE of the Werāzāneh Mtns.	Iron Age III	80 graves excavated but difficult to determine gender, as skeletal remains poorly preserved and most goods not gender-specific. Only *Grave 59* identified as a female burial, with 10 anklets.	Nourollāhi 2005, p. 63; Haerinck and Overlaet 1999.
Kolāsheg in Gilān-i Gharb	6 km from S of Gilān-i Gharb, W of the central Zagros in Kermanshah Province, between the Miehkhesh Mountains and Taq-i Tuq on the bank of Kolāsheg River.	Iron Age II and III (New Assyrian Period)	Graves B1 and A4 were male burials. The intact grave of Trench C [Fig. 8] contained a skeleton oriented W to E, with 3 iron rings on fingers of left hand, a gold earring or eardrop near the neck, several anklets on the legs and several pottery wares. The ornaments and their position indicated a female burial.	Mohammadifar et al. 2014, pp. 32-33.

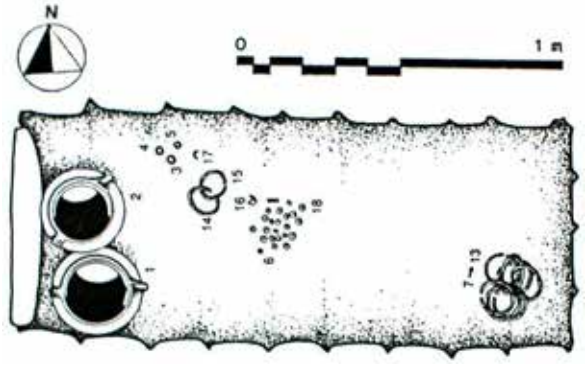


Fig. 2. Excavation plan of Grave 3 of Dar-i wan B. After: Overleat 2003.

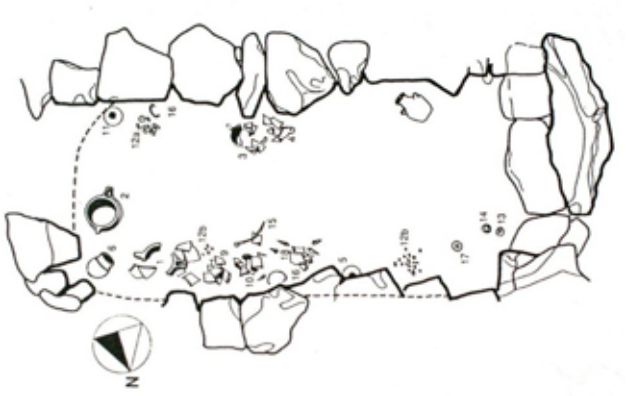


Fig. 3. Excavation plan of Grave 5 in Pāykal cemetery. After: Overlaet 2003.

Fig. 4. Excavation plan of Grave 62 in Bard-i Bal cemetery. After: Overlaet 2003.

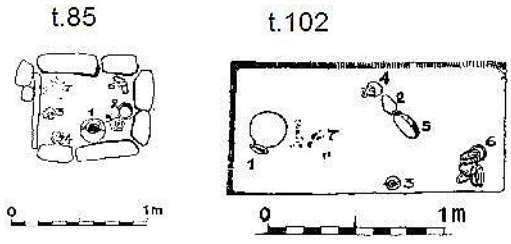


Fig. 5. Excavation plan of Graves 85 and 102 of War Kabud cemetery. After: vanden Berghe 1968.

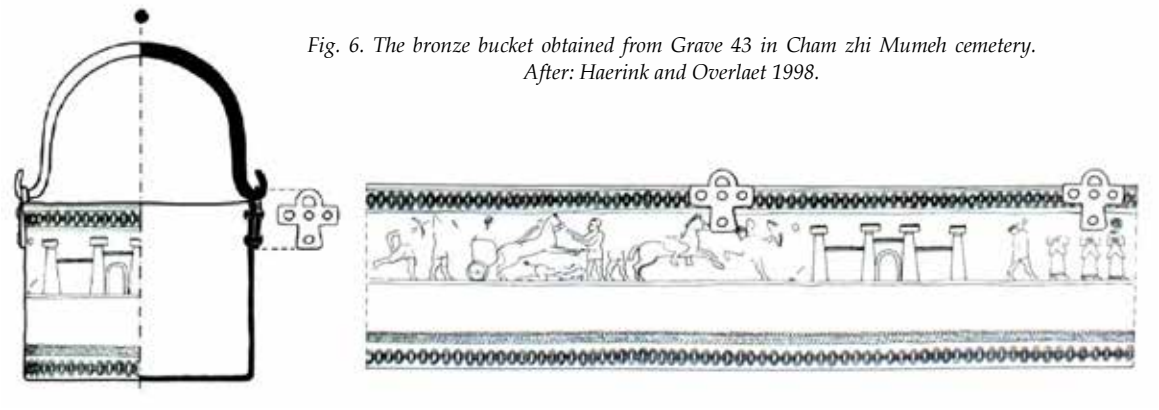


Fig. 6. The bronze bucket obtained from Grave 43 in Cham zhi Mumeh cemetery. After: Haerink and Overlaet 1998.

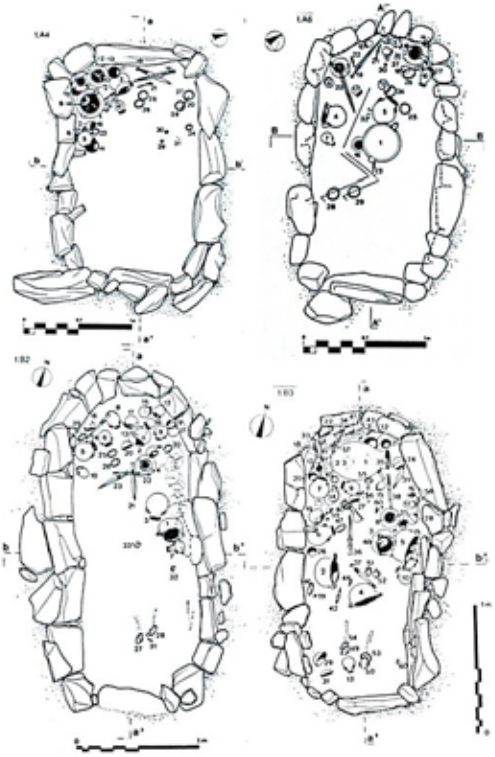
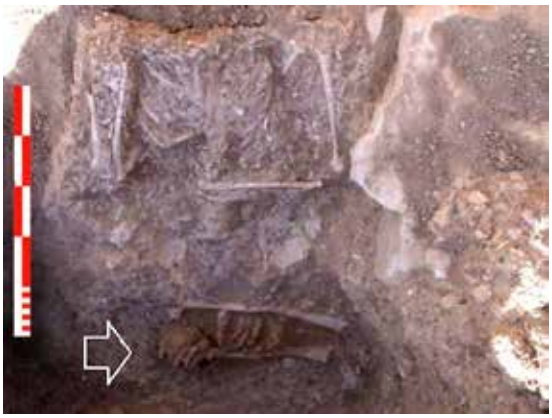


Fig. 7 (above). Excavation plans of Graves 2B, 3B, 6A, 4A in Kutal-i Gul-Gul cemetery. After: Overlaet 2003.

Fig. 8 (below). Grave 2 of Trench C1, Kolāsheg of Gilān-i Gharb. After: Mohammadifar et al. 2014.



The structure of the graves

Archeological excavation in the western central Zagros has shown that none of the cemeteries have any connection with residential areas or settlements dating to the same era. Based on grave structures, these cemeteries have been classified in the following groups: 1) cist graves with a boxlike shape; 2) cist graves with an oval shape; 3) hole graves; 4) circular groups; 5) pithos graves; 6) semi-circular or horseshoe-like graves; 7) square-shaped cemeteries; 8) mass graves (megalithic); 9) pit graves. There is nothing about the grave structure per se that informs us about the gender of those who were interred.

The indications of gender in the cemeteries

Certainly there is a relationship between the dead and the buried objects in the graves which determines the dead's gender or profession, a matter that is especially important in the frequent instances in Iron Age III cemeteries were the skeleton has decayed and just some fragments of the bones remain. Among the burial goods, earthen wares do not indicate the gender of the dead, either technically or by shape and form. However, vanden Berghe indicates that animal statues (cows or dogs) are found only in male burials, whereas twin or triple containers are distinctively indicators of a female burial. Burial goods that include tools and weapons such as axes, mace heads, shields, quivers, arrows heads, and helmets logically point to a male burial; whereas decorative objects such as pins, hairpins and clothes, safety pins, nose rings (in Kurdish language *khizmeh*), anklets (*khalkhal*), and necklaces would seem to suggest a female burial. However, rings, earrings and wristlets have also been discovered in men's graves (vanden Berghe 1987, pp. 201-06).

The find which may speak most directly to the position of women is an image etched on a bronze bucket found in Cham-i zhi Mumeh Grave 43 [Fig. 6]. The scene on the body of this bucket depicts a battle with horse, cart and foot soldier, as on the Assyrian reliefs, a castle with a fortified gate, and another scene showing a fighter who is taking three captives with fringed

clothing hanging to the feet whose arms are crossed over their chests (Haerinck and Overlaet, 1998, p. 27). Comparing the clothes of two men hunting, depicted on the body of a ware discovered in Grave 37, it can be argued that that figures of the captives on the bucket in Grave 43 are women (Ibid., pp. 25, 29; Figs. 58-59).

In addition to the objects inside the graves, the builders of the graves placed emblems in the form of a standing stone or a bar on the ground to show their location and indicate the gender of the deceased. It seems that such stones are specific to the cemeteries of Iron Age I, II, and III, and can be seen in the cemetery of Kutal-i Gul-Gul (9 graves with 1 to 3 baculiform stones), Duruyeh (one grave with a baculiform stone), Pāykal (4 graves with 2 baculiform stones), Bard-bal (8 graves with 1 to 5 baculiform stones) (Overlaet 2003: Pls. 61, 71, 80-81, 157, 161, 175), Cham-i zhi Mumeh (Haerink and Overlaet 1998), and War Kabud (vanden Berghe 1968). Unaware of the roles of these stones, the excavators have not always mentioned them in their reports or drawn them in their plans. They have assumed that such stones were used to fasten something

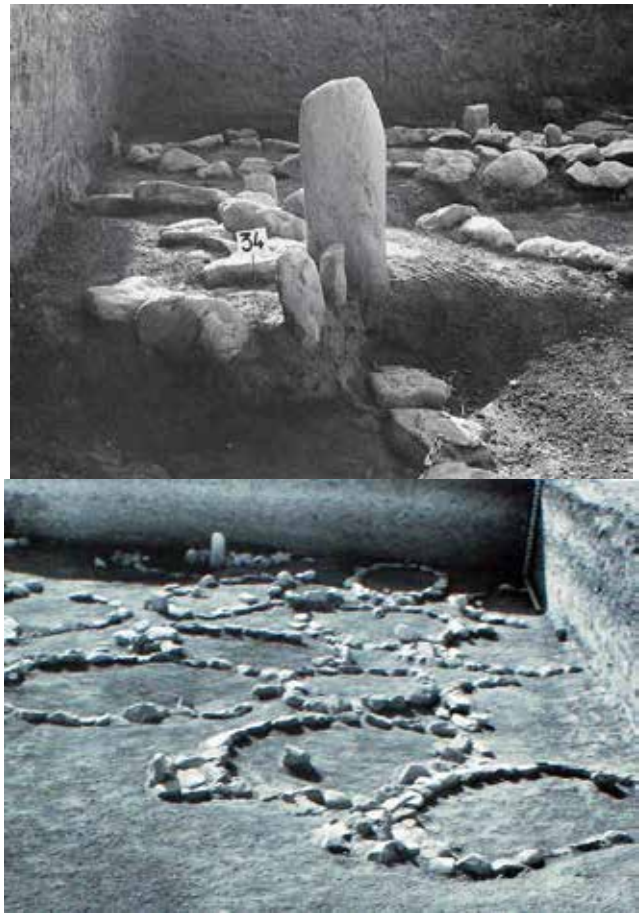


Fig. 9. The standing stone and the baculiform stone as the markers on graves of Cham-i zhi Mumeh cemetery. After: Haerink and Overlaet 1998, Pls. 9,10.

Fig. 10. A grave in the cemetery of Gadameh Village, with the standing stones indicating the burial is that of a woman. Photo by Ali Nourallāhi.

to the grave walls (Overlaet 2003, p. 66). However, through studying the type of the burial, the shape and the form of the nomad graves of this region, we have determined the function of these stones which the nomads set on the graves to be a signifier of the gender of the deceased. To show that the deceased was a man, one stone was set on the upper end (head) of the grave, and, for a woman, two stones, one at the head and the other at the foot of the grave [Figs. 9, 10].

Ethnographic observations on burial practices

The grave is dug on a piece of the land near the grave of the closest relative. The size of the graves differs according the whether the deceased is a man, woman, or a child. For the woman, the depth of the grave is up to the chest of the deceased, a measurement being taken from the body with a thread before digging begins. The length of the grave is usually between 180–200 cm and its width is 90 cm. The next stage is to dig a trench within the larger pit where the corpse will actually be buried. This "niche," termed *alhaee*, is usually 40 cm wide and located centrally at a distance of 20–25 cm from the longitudinal walls of the grave. The bottom of this trench is usually covered with a layer of soft soil and forms a kind of "coffin box" ready for the interment. Flat, wide stone slabs some 50 cm. wide are brought in to cover the burial niche. Some of the soil obtained from the grave will be screened, mixed with water and the mud formed into balls 25–30 cm in diameter. These muddy balls will be used to cover the slabs placed over the corpse after its burial in order to prevent mud resulting from rain or snow from entering the coffin box. These muddy balls are flattened by hand on the stones. After this the grave is filled with soil [Fig. 11, next page]. The grave is rectangular in the shape, banked with a mound of earth and marked. The stones showing the gender of the dead will be placed in this rectangle. Two oval or rectangular standing stones mark a woman's grave. The prepa-

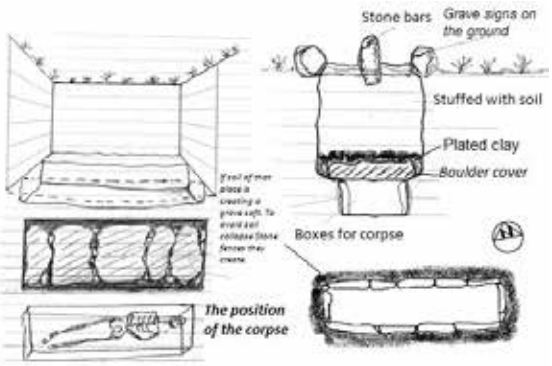
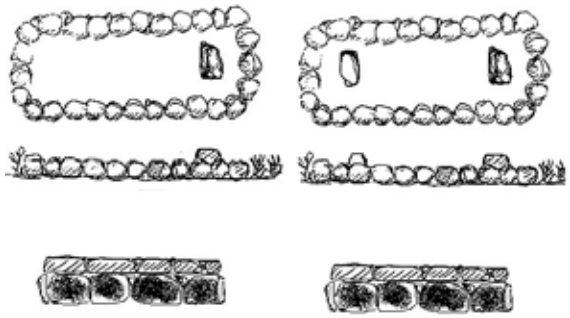


Fig. 11 (left). The stages of digging a grave by the tribes being studied.

Fig. 12 (right). A woman's grave (right) and a man's (left).

Plans by Ali Nourallāhi.



ration of the grave is supervised by a "specialist" who personally digs the internal "coffin box" [Fig. 12].

It is customary among the nomad tribes to kindle a fire on the deceased's tomb for a week. Fire is greatly revered in the culture of nomadic tribes. In addition to the importance of fire in everyday life to illuminate the dark and cold nights of the migration and make living in black tents tolerable, it is seen a guide for the return of the dead's souls to the world of the living, a belief which has its roots in ancient Aryan beliefs. The light and warmth of the fire keeps some animals like badgers away from the grave.[3] Another rite specific to the nomads of Zagros is that after the funeral and the burial of the dead, if the dead is a man, his wife or mother cuts her own tresses, ties them to a standing post and puts it on the grave as a sign of attachment and the wishes which vanished upon his death. When passing through the region in 1836 Rawlinson (1983) had noted this rite, and it was prevalent up to 1960s among the residents of Ilām province. This ritual was also recorded in the epics about Achilles (see Mokhtāryān 2008, p. 52) and Gilgamesh (2004, p. 130), and in the *Shāhnāmeh* of Firdawsi (verses 2296-2298), that is, cutting off tresses and scratching the face during the mourning for the husband:

From the house of Siavash, came the cry,
And the world became, with Gersiwaz, angry,
All the bondwoman opened their hair,
And Farangis too her long noos-like hair,
Cut it off and tied it to her waist
And scraped her roses with her hazel nails.

This custom of mourning, called *sheen* (yammer), is still prevalent in Ilām, Luristān, and Kermānshāh, where women gather to mourn the lost beloved scratch their faces while saying *Wa'e (ah)*:

The lasso like tresses of the pretty ones opened
They became dejected with faces scraped. (Ibid., 2299)

Today, nothing is buried with the dead save a shroud, but 50–60 years ago, a kind of special bread (*papigeh*) was also buried with the corpse. In addition to this, as archaeology has demonstrated, because many pre-historic societies believed in an afterlife, they secured the future for the deceased by including food and other necessities during special burial rituals (see Talā'i 2002, p. 177). In many cases, out of respect for the deceased (especially women), tribes buried personal decorative objects that were used during the woman's lifetime. Such tribal mortuary traditions continued to be popular in western Iran until recent decades and can be traced back to the traditions of the Bronze and Iron Ages and even earlier when the deceased were buried in four-layer graves with lined walls and covered with big rocks (see Haerinck and Overlaet 1996, 1998, 1999, 2002, 2004; Overlaet 2003). Studies show that the burial grounds of the Stone, Copper, Bronze, and Iron Ages in the west of central Zagros are not related to permanent settlements, but belong to semi-nomads. The traditions then seem to have been able to adapt to the particular environment and geography in the region, changing over time but retaining earlier elements (Nourallāhi 2005, p. 123).

The household

The study of nomadic tribes and the tribes living in west central Zagros shows that individuality is not as important as the position of individuals within an interwoven and integrated system (the house or household) in which the activity of one of the members complements the others' activities. In the hierarchy of power and the social system of the tribes of this region, the household (*māl*) is the smallest unit of society. The positions of its men or women will be determined by the position of their household in the tribal hierarchy of the system. Hence, in what follows, we will discuss tribal structure, the household system, the division of labor, and, in particular, issues pertaining to women in this region.

The social system, manner of living, and the economic structure of the nomads of west central Zagros depend on their geographical setting, that is, the specific social system is coterminous with a specific territory. This social system includes: 1) The tribe (*il*); 2) gens (*tireh*); 3) clan (*tāyefeh*); 4) house (*khil*, *tokhmeh*, *houz*, *benah-māl*); 5) household (*māl*). The hierarchy of power within these tribes is as follows: 1) *khan* (the chief of the tribe); 2) *toushmāl* (the chief of a clan or some-

Fig. 13. Malekshāhi woman filling the koneh *with drinking water.*

times of a tribe); 3) *kādkhodā* or *kokhā* (the chief of the house); 4) The father, the head man or the caretaker of the household. The structure and the social system of nomadic tribes in Iran in general and the tribes of west central Zagros, in particular, is based on a kinship system and patriarchy. In fact, the household (*māl*) is the foundation stone of tribal society, and plays the greatest role in the hierarchy of social concentration and the relationships between relative consanguine groups. In addition to its generic function—maintaining society and ensuring its continuation—it plays a major role in economic production, as a kind of self-contained unit within which economic and the other activities (religious and social) of the members are performed (see Tabibi 2001, p. 196).

The household and the kinship system in Iran over the centuries have evolved through stages concerning which, unfortunately, detailed information is not available (see Tabibi 2001, p. 204). In this basic social

Fig. 14. Weaving on a ground loom the fabric for a black tent.

Fig. 15. Making hizah*, the leather bottles for carrying fat.*

unit and unit of production and consumption, members of the household act under the control of a supervisor, and have a shared economic, political, and social goal (see Bāhārvand 2005, p. 129). The supervisor or the care-taker is either a man or a woman,[4] who is responsible for harmonization among other members. Also, he/she is known as the head or the representative of the household who has the duty of performing the jobs related to transactions and participating in social-political activities. With regard to the combination of the members, Bāhārvand (2005, p. 129) has delineated five types of households in this region, viz.: 1) core; 2) polygamous; 3) open; 4) allied; 5) imperfect. As the Kurds' kinship system is based on patriarchal families, the households with which we are concerned here are either of the allied or open type.[5]

The division of labor within the households of this region's tribes and clans is by age and gender. Some of the duties are specific to women and some are common between men and women. The duties specific to women comprise a long list[6]: rearing children; providing water; cooking; cleaning the house; making clothing; spinning; dying; weaving (the black tent, *chit* [a type of cover which is like a wall for the black tents], saddle bag, and the other necessities of nomadic life) [Figs. 13, 14]; making ceramics (until recent decades this was done within the tribes of this region in a limited manner, but it is now a forgotten skill); making leather bottles — *hizah* (for carrying fat), *koneh* (for carrying water) — out of goat-, lamb-, and calf-skin [Fig. 15]; processing dairy products [Figs. 16a,b, next page]; collecting edible plants (acanthus, goosefoot); midwifery; medical treatment (using traditional medicine[7]); transferring traditions; choosing spouses for the young; and entertaining guests. Work shared with the men includes milking, shearing (washing and preparing the wool to be woven), and cultivation (collecting lentils and cereals).

Figs. 16a,b. Milking at a nomad camp (Photo courtesy of Frank Hole); preparation of milk products by a Kalhor woman in Aivān.

The burden of all these tasks does not mean that women are merely relegated to a supporting role in household decisions. Among the majority of the region's tribes, the woman is responsible for managing the family's money and property. Women in fact have substantial influence beyond the nuclear family; in many cases they settle inter-familial and tribal disputes. Such women are called *gissdār* (a woman who is greatly respected). Moreover, within the Khezel, Malekshāhi, and Kalhor tribes and their clans, women have a special position, which may involve their taking on the duty of the chief of their tribes. Notable examples are Halimeh Xānom, the chief of Hakari; Adilah Khānom, the chief of Halabcheh; and the Headman Narges Shewan (see Tabibi 2001, p. 207). People of this region talk of the women who, in the absence of their husbands, have taken charge. For example, Shāparwar, the wife of Khan Mansur, managed the affairs of the Kalhor tribe during the years when her husband was accompanying Nāder Shāh of Afshār in the Qandhār War (see Ghāsemi and Khāni 2000, p. 26). Some of the clans here are known by the name of a specific woman and have taken their name and familial name from the woman who has been the head of the clan for a while.[8]

When women mediate in disputes and intercede, they may rescue the life and properties of one who is in danger. An individual guilty of a misdeed usually grasps the hem of the skirt of a woman (*dāwān*, the lower part of the attire of Kurdish women) and asks for forgiveness, an act which is the called *Dast wa Dāwān Boun* (resort to a skirt). Another example is when a woman asks for forgiveness for one of her children or relatives, and removes her headscarf while presenting her appeal. In such situations, the guilty is rescued, on account of the respect in which that woman is held.

Since a household has numerous functions (see Bahārvānd 2005), depending on the type of the household in which they live, women's position may be very different. In the past, for example, there was a tradition maintained by the *khun solh* (a meeting of people to make peace between two families) whereby a girl from the family of a murderer was required to marry a member of the family of the victim. Indeed, most of the time these women were deprived of any social and even human rights and had to cope with the difficult conditions of such a marriage. Nowadays though, this tradition has disappeared among the tribes examined in this study (the Khezel, Malikshāhi, and Kalhor). Another of the issues which bears on the position of women is the question of monogamy and polygamy. In this region, the dominant practice is monogamy, but, among tribal chiefs, headman, and great herdsmen polygamy has also been common frequently for its political role in strengthening the relationships among the tribes and the clans. In cases where the woman is barren or does not breed a son, their husbands will marry again, and the woman will become a co-wife. Among these tribes, divorce is frowned upon and thus very rare. So the position of women in tribal systems and among the nomadic tribes we have studied is very complicated and subject to considerable variation.

Clothing as the symbol of the woman's position and individual status

In tribal culture generally and specifically in the culture of the tribes of west central Zagros, clothing is

Fig. 17. Girls dancing at a wedding

seen as part of the body, and as such, is an important symbol of one's status. Unlike that of men, women's clothing varies in terms of color, reflecting in each period of their lives their status and age. There are some exceptions in cases where a woman may wear men's clothes and perform a man's job. In general though, there is a progression as the girl grows, marries, becomes a mother and a grandmother. Young girls wear colorful clothes with bright and cheerful colors [Fig. 17; Color Plate IX]. Adult girls may wear similar clothes with pictures of large flowers [Figs. 18, 19]. After marriage and before giving birth, women wear clothes with light colors and scarves with bright floral designs (*golvani*); After giving birth women wear still wear clothes with a floral design, but in darker tones. From ages 30 to 50, they wear clothes with a black, dark green, or brown background with little flowers [Figs. 20, 21; Color Plate IX]; old women wear entirely dark, navy blue clothes and a black headband which is called *ghatra* [Fig. 22]. All of the clothes may be decorated with silver and, sometimes, with gold coins, both as a way of keeping cash and as a symbol of honor and wealth. In special cases where a woman is famous, she may wear a silk headband (*sarvan*) called *tākāri* with a long ribbon that extends to the ground.

Fig. 18. A young nomad woman near Bistun.

Fig. 19. Nomad women at Asman Abad. Photos by Ali Nourallāhi.

Fig. 20 (below). A woman in a black tent in Palayeh of Aivān.

Fig. 21 (right). A middle-aged woman baking bread.

Fig. 22. One of the old women of the Kalhor tribe.

Conclusion

As Willeke Wendrich and Hans Barnard have warned us (2008, pp. 13-14),

> The direct historical approach, where present-day populations are considered a continuation or 'survival' of ancient inhabitants of the same area or region, is indeed a dangerous bedfellow for archaeology because it limits the explanatory power of research and denies ancient populations the ability to change… But analogical reasoning, when done correctly, is not only extremely useful but a method we simply cannot do without.[9]

Analysis of the data we have presented here is but in its beginning stages and still needs to be informed by methodological and comparative studies, many of which have as yet been unavailable to the author. Among the approaches needing still to be developed for the region of our study, if we wish to reconstruct the earlier history of nomadic or semi-nomadic societies, will be to examine closely the evidence of what today's nomads leave behind from their camps, which may then help to interpret the archaeological data.[10] However, in the absence of comparative Iron Age settlement data, for now that may prove to be of little use.

We have the evidence from the cemeteries, which may suggest women had high status in those societies when buried with a full array of artifacts alongside men or in individual graves. Some of this evidence, where there are group burials, may point to polygamy. In the absence of skeletons though, the gender-specific artifacts are few, and there is a large body of grave goods which seem to have been shared by both sexes. While modern burials may have clear indicators of the gender of the deceased (the placement of head- or foot-stones) similar to what can be documented in ancient burials, the absence of artifacts in the modern burials then limits any comparison we might wish to make. The status of Iron Age women might be indicated by the extent to which they were accompanied into the afterlife by a rich array of decorative objects, but the analogies we would wish to draw with the present for the most part need to be based on the clothing and decorations of the living, separated by two or more millennia during which a great deal may have changed. Except in one case where we have an incised depiction on a vessel, we have nothing to provide details of the Iron Age dress from this particular group of graves. It is rare to find, as in grave 62 of Bard-i Bal, seals, an indication of ownership, but does that then suggest but limited rights of women to ownership in a way that is analogous to the traditions of modern times?

Of particular interest is what the modern ethnographic studies have documented about the impressive extent to which women have shared responsibility and even acted in positions of power in their households and tribes. It is easy enough to find analogies from other nomadic societies (for example, in the Mongol Empire). Whether evidence can be found in the archaeological record to demonstrate that such was the case in the region we have studied in earlier centuries remains to be seen. So we may, at best, have to fall back on suggestive analogy and hypothesis in order to fill in the details of any picture we might wish to paint of the position of women in Iron Age west central Zagros. So far, the artifact data do correlate with what we can document about "women's work" today amongst the nomads, but even in such matters, some of the most important functions cannot be expected to leave behind any material evidence. Literature (in the broad sense) may be of some help here, but like the evidence from ethnographic observation, it always must be used with caution, when trying to extrapolate for life in pre-literate societies of a much earlier time.

About the author

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NOTES

1. Geographers have divided the regions of Ilām and Luristan, separated by Kabir-Kuh Mountains, in two parts which are called Posht-kuh and Pish-kuh, respectively.

2. Golkhanān was one of the pretty girls of the Kalhor Tribe in Aivān who died in this place; her name has remained in this area. Poems describing the beauty of this girl were composed by Khān Mansour and Shākeh, two of the famous poets of Aivān in Nādir Shāh's time (see Ghāsemi and Khāni 2000, p. 61).

3. This tradition is prevalent among the tribes of west central Zagros, that is, Khezel, Malikshāhi, Kalhor and other Kurdish tribes of Ilām Province and its adjoining regions, and even rural and urban societies, including Shirwān-Chardāwel, Aivān, Ilām, and other towns of Ilām Province.

4. Among the nomads and tribes of the other regions such as the Bakhtiyari, after the death of the head of the family or his becoming incapacitated, this responsibility-caretaking is transferred to the eldest son or the family's uncle. However, among the tribes being studied here, the responsibility is taken by his wife and it is she who harmonizes the members.

5- Sometimes core and open households have been observed here. This is generally the result of the children's education, familial disputes, socio-economic problems, and the conditions of the new era. This does not mean that all the families and their children live together in a black tent (*dawār*): after marriage they separate from the family and live in a separate tent but in other affairs are governed by their household.

6. The woman of the family usually has had a paid servant with the responsibility for most of these duties. The engagement in political issues is mostly effected through the intervention of such servants.

7. Treating headaches (*Sar aw gerten*), stomachaches (*nawk aw gerten*), children's diseases, and also treating the diseases among livestock has been done mostly by women. In spite of availability of medicines, today these therapies are mostly done by women. The late Dawlat-I Nāseri, Nāzok-I Nāseri, Touty-i Takesh, and Ezat-i Sayedi-Nejād, all from Gadameh Village of Gholiwand Clan of Khezel Tribe are women known for their ability to heal just by the touch of their fingertips. Unfortunately, such traditional therapies are now being forgotten.

8. Such as Nargesi, Gawhar, and Zoleikhā villages in Aivān Township, Golzar in Ilām, Farkhinawand in Shirwan-Chardawel, and Narges in Sāleh-Abad, all of which no longer migrate.

9. They cite here Nicholas David and Carol Kramer, *Ethnoarchaeology in Action* (Cambridge: Cambridge Univ. Pr., 2001), and Alison Wylie, "The Reaction Against Analogy," in Michael B. Schiffer, ed., *Advances in Archaeological Method and Theory*, Vol. 8 (New York: Academic Pr. 1985), 63-111, work which we will need to consult as we continue to study our material.

10. This is the approach outlined by Roger Cribb in his much-cited *Nomads in Archaeology* (Cambridge: Cambridge Univ. Pr., 1991). For a brief introduction to what is involved, see Colin Renfrew and Paul Bahn, *Archaeology: Theories, Methods and Practice*, 4th ed. (London, Thames & Hudson, 2004): 190-92.

Game Pieces of Knucklebones: Evidence about the Continuation of Local Games in Khorasan, Iran

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Ethnoarchaeological studies in today's rural societies may reveal truths which are rooted in the history of earlier millennia. These facts and traditions constitute the cultural identity of a people which has maintained its existence over thousands of years. Bone pieces uncovered in archaeological contexts suggest that the game called "Bojul" which is still played in rural Khorasan (northeastern Iran) may be traced back centuries. Knucklebones, objects crafted from a specific ankle bone (the astragalus) of particular species of artiodactyla (cattle, goats, sheep, deer, and others), are evident in the archaeological record from as early as the Neolithic in the Near East and have been found in many other locations around the world. Many historical and ethnographic parallels support the identification of the majority of these objects as gaming pieces. The number of knucklebones found in single deposits may be substantial, sometimes reaching the hundreds. Large deposits of knucklebones are found not only in domestic contexts, but also in contexts interpreted as having public, cultic, or funerary functions. The present brief communication discusses the natural and cultural context of this phenomenon in the region of Khorasan, the vast territory between the eastern terminus of the Alborz mountains and western end of the Hindu Kush range [Fig.1].

Fig. 1. The location of the study region: Khorasan in northeastern Iran.

The astragalus is a bone located at the lower (distal) end of the tibia where it connects to the tarsus. This skeletal feature in artiodactyls allows for the great flexibility of the ankle (metatarsus), something important for animals that run over uneven terrain [Fig. 3, next page]. Artiodactyls, or toed ungulates, include species such as cattle, sheep, goats, gazelle, deer, and pigs. The majority of astragali which have been found in archaeological contexts seem to come from domesticated animals (Gilmour 1997, p. 168). "Bojul" is the name given to one of the seven pieces of goat and sheep ankle bones [Fig. 2]. These bone pieces may also be called

*Fig. 2. Knucklebones (*Bojul*) found in the Khorasan sites. Photo and drawings by authors.*

called Qab or Ashiq. They are roughly similar to a cube, averaging in size 15-18 (L) x 19-23 (W) x 25-38 (H) mm. with four faces and notch and projection on different surfaces.

Given the enormous geo-temporal range of the knucklebone culture, it is not surprising that interpretations of how knucklebones functioned are varied and often widely divergent. Often these interpretations are influenced primarily by evidence from the largest collections of knucklebones. They are considered to have been used: as game pieces (Piccione 1980, p. 1; Decker 1992, pp. 128-31; Dandoy 2006, p. 131); in ritual activity (Minniti and Peyronel 2005; Lapp 1964; Gilmour 1997, p. 173); as tools (Koerper and Whitney-Desautels 1999, p. 74; Finklestein et al. 2006, pp. 395-96); and as a medium of exchange or tokens for the exchange of certain goods (Holmgren 2002, p. 212; Sasson 2007, p. 179). While most archaeological contexts do not offer any obvious evidence for the function of small collections of knucklebones, there is abundant historical and ethnographic information documenting a long tradition of using knucklebones as game pieces in cultures all over the world (Dandoy 2006, p. 131).

The shape of an unmodified astragalus is roughly rectilinear with the cranial and caudal ends rounded. Without any modifications, an astragalus is naturally suited to functiion as a foursided die. Because of irregularities in the shapes of each side of the bone, the probabilities of any particular side landing upward are not equal. Thus, differential probability is reflected in the rules of many of the games using knucklebones as dice, where sides are assigned particular values corresponding to their probability of landing upward (Koerper 2008, p. 11).

Although people could use astragali as knucklebones without any modifications, they frequently applied a wide variety of modifications which can be divided into two main categories. Both types of modifications have important implications when interpreting knucklebones found in archaeological contexts. Some alterations are not intentional such as the smoothing of prominent features of the bones due to repeated use and handling (Minniti and Peyronel 2005, p. 8).

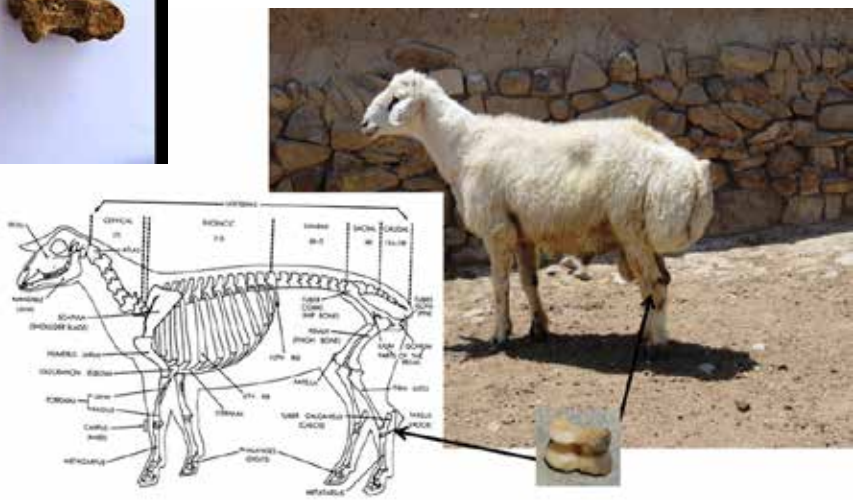

Fig. 3. Anatomy of a sheep showing the location of the knucklebone in its lower rear leg.

Intentional modifications may involve polishing or flattening of the lateral and medial sides (evidently to improve their function as dice) (Gilmour 1997, p. 171); scoring (Ibid.); drilling (Holmgren 2002, p. 213); burning; incising (Bar-Oz 2001, p. 215). Some are filled with metals to alter their weighting. In addition, there are skeuomorphs, fabrications of knucklebones from a variety of materials. An example, currently held at the Louvre, is a bronze knucklebone replica weight with a handle, weighing approximately ninety-three kilograms. This skeuomorph was recovered from the acropolis at Susa (Iran) and dates to the sixth century BCE (Perrot 2013, p. 362).

Knucklebones as game pieces in Khorasan

Excavations and archaeological surveys in the prehistoric and historical period sites of Khorasan frequently uncover astragali both as chance finds and in documentable contexts such as residences, pits, and burials (Basafa, 2009, 2011, 2013, 2014) [Fig. 4]. There are several reasons for arguing that the astragali so discovered were primarily used as knucklebones in games:

Fig. 4. Knucklebones in excavations of archaeological sites in Khorasan. Photos by authors.

- The astragali were found separately from other animal bone fragments in situ. Unlike other pieces of bone, the astragali show little evidence of burning.
- Since it is not easy to separate this bone from the joint of the leg, it seems likely that the separation of the astragalus was done for a particular application.
- The astragali show intentional modifications.
- Abrasion and corrosion on various aspects of these pieces suggests their continuous use.
- Ethnoarchaeological reports from villages of Khorasan attest to the use of goat and sheep astragali as "dice" in group games today, each with its own rules [Fig. 5]. Today, the game of Bojul is quite common, played by children and even adults in many villages of Khorasan. Each of the four faces of a knucklebone has a name: Chik, Pik, Khar (donkey) and Asb (horse) [Fig. 6]. The local residents acknowledged the long history of such games.

We conclude then that the Bojul (knucklebone) game in Khorasan may date to remote antiquity in that region. The continuation of such a tradition indicates the importance of research into societies and today's context to interpret the evidence from past.

Fig. 5. Children playing the traditional Bojul *game in the villages of Khorasan. Photos by authors.*

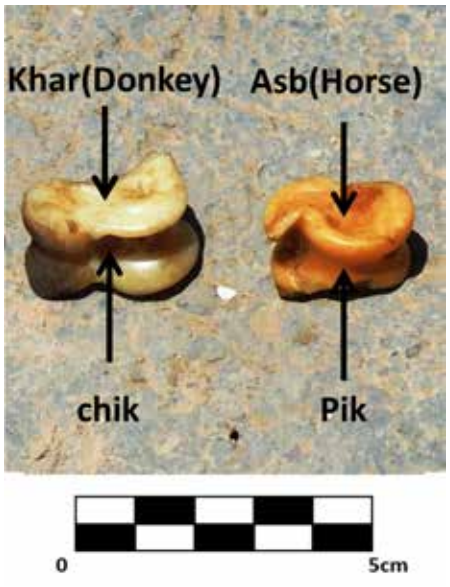

Fig. 6. Names of the four faces of Bojul*. Photo by authors.*

Acknowledgments

We thank the Department of Archaeology, University of Neyshabur, and its undergraduate students who were active in excavation of the archaeological site of Shahrak Firuzeh in 2014. Special thanks for their assistance go as well to M. R. Babaei, M. A. Chobdar, H. Yousefi and A. Babaei, the head of Haji Abad village in Khorasan Razvi.

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"Zandanījī Silks": The Story of a Myth

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For over fifty years the concept of "Zandanījī silks" set forth by Dorothy Shepherd, a textile historian, in her 1959 article "Zandanījī Identified?" published together with linguist Walter Henning (Shepherd and Henning 1959) has directed the study of medieval silk textiles. A series of silks from European churches and rock graves in the North Caucasus thus have been identified as zandanījī. Localization of the place of those textiles' manufacture and their dating served as the basis for far-reaching historical conclusions: an uninterrupted development of silk weaving in Sogdiana from pre-Islamic times; an existence of a Sogdian school of silk weaving as early as the 6th century CE; production of "zandanījī silks" in China, etc. Even though it has now been proven that the original reasons for defining "Zandanījī silks" were erroneous (Sims-Williams and Khan 2008), a number of scholars still maintain the idea that zandanījī described by medieval authors as cotton fabrics were in fact silks. Meanwhile, the analysis of the way Shepherd supported her concept shows that it was initially built on rejection of the original written evidence about the cotton nature of zandanījī. The main goal of this article is to outline how a misleading chain of argument was created. To do so requires looking in detail at the story of the non-existent "Zandanījī silks" in order to stress the importance that there be a new comparative analysis of all sources for the study of silks identified as zandanījī.

The story began when Shepherd discovered an ink inscription on a silk piece at Huy cathedral (Belgium). Henning's decipherment of this inscription, which he claimed was in Sogdian, revealed the word "Zandanījī" – the well-known medieval textile named after a village in the vicinity of Bukhara. Based on this context, Shepherd attributed the Huy silk and textiles from the treasuries of European churches similar to it by technique and design (and previously considered to be the works of Eastern Iranian workshops) to "Zandanījī silks". She divided them into two groups, Zandanījī I and Zandanījī II, and believed that they were manufactured in the same center near the city of Bukhara in the 7th century. One of her supporting arguments for naming this place was the absence of relevant information: "We do not have evidence of a comparable weaving industry in the other regions of Central Asia and we can only infer from the silence of the sources that it did not exist." The dating was based on an assumption that "in Islamic times, weaving, including silk weaving, was an important industry in Sogdiana, especially in the region of Bukhara, and there is every reason to believe that it had enjoyed an uninterrupted development from pre-Islamic times" (Shepherd and Henning 1959, p. 20).

These conclusions of Shepherd's on the nature of zandanījī textiles, their early date, and the place of their manufacture were supported by Anna A. Ierusalimskaia and received further development in her work where she proclaimed that there was "a school of artistic silk weaving in Sogdiana" and identified a new group of silks, "Zandanījī III," among its products. Ierusalimaskaia included a large number of silk pieces found at the medieval rock cemeteries in the North Caucasus (Ierusalimskaia 1972, pp. 6, 7, Appendix 1; Ierusalimskaia 1992, p. 13).[1] Following Shepherd, Ierusalimskaia suggested that the Sogdian center of silk weaving appeared later than the other major Near Eastern and Byzantine centers, "whereas the first records about it are dated only to the 6th century" (Ierusalimskaia 1972, p. 5). She dated the main body of the North Caucasian "Zandanījī silks" within the range of the second half of the 7th to first half of the 9th centuries (Ierusalimskaia 1972, p. 7) or the second half of the 7th – 9th centuries (Ierusalimskaia 2012, p. 100). Ieruslamskaia considered silks from the rock graves at Moshchevaia Balka to be essential for determining the chronology of that site and for the dating of textiles found at similar cemeteries (Ierusalimskaia 2012, pp. 96-97).

Despite its being repeated and still accepted today as an indisputable truth, the statement about the production of silks in pre-Islamic Sogdiana is not supported by any convincing evidence. "Every

reason" that allowed Shepherd to talk about the appearance of silk weaving in Bukhara in that period, and Ierusalimskaia to suggest the 6th century for the functioning of the silk weaving center in the area remained outside of the framework of their studies. In fact, the earliest source mentioning silks from Bukhara cites a work written in the 9th century by the Arab historian al-Balādhurī; the rest of the medieval texts containing evidence on the weaving industry and its production (mainly of cotton) from Transoxiana are dated to the 10th century and later (Serjeant 1946, p. 121-27). Regarding specifically zandanījī, all 10th-century sources describe it as a cotton fabric, not a silk one. Notwithstanding all the known evidence from the medieval texts, the deciphered inscription was given precedence, and scholars either rejected the cotton nature of zandanījī textile, offered various explanations for such a discrepancy, or did not discuss it at all.

From the very beginning, Shepherd herself chose to avoid this issue. Summarizing the evidence from the medieval texts, she concluded that none of them talks about the nature of zandanījī fabric, "Nowhere do we find a clue to the kind of cloth that Zandanījī was" (Shepherd and Henning 1959, p. 16).

However, this conclusion contradicted an account given by Narshakhi, the 10th-century author who in his work, "The History of Bukhara," described zandanījī as a cotton cloth. Shepherd's desire to explain this discrepancy resulted in her tendentious selection of English translations of the medieval sources. While she cited excerpts from works of Nizam al-Mulk, Yāqūt al-Hamawi, and Atâ-Malik Juvayni in Robert B. Sergeant's translation, she conveniently quoted a passage from "The History of Bukhara" (the earliest and, as Shepherd herself pointed out, the "main source" on zandanījī) in Richard N. Frye's translation (Shepherd and Henning 1959, p. 15). Describing zandanījī, Frye chose to use the word "cloth": "Zandana has a great citadel, a large market place, and a grand mosque. Every Friday the prayers are performed there, and there is trading (the same day). The specialty of the place is Zandanījī, which is *a kind of cloth* made in Zandana [my emphasis – Z.D.]. It is fine cloth and is made in large quantities. Much of that cloth is woven in other villages of Bukhara, but it is also called Zandanījī because it first appeared in this village. That cloth is exported to all countries such as Irāq, Fārs, Kirmān, Hindūstān and elsewhere. All of the nobles and rulers make garment of it, and they buy it at the same price as brocade" (Shepherd 1959, p. 16). Using the general term in the description of zandanījī that does not clarify the nature of textiles, Frye nevertheless noted in comments that most New Persian "dictionaries describe it as a coarse white cloth usually made of cotton" (Narshakhi 1954, p. 115).

Serjeant offered a different version of zandanījī's description, but it was not discussed by Shepherd, who merely commented in a footnote: "Serjeant, op. cit., p. 123, translates this passage with slight variations" (Shepherd and Henning, 1959, p. 16). Such a wording left the impression that differences were so small that they were not even worth mentioning. In reality, Serjeant indicated that zandanījī was a fabric made of cotton. In his translation, textile from the village of Zandana was "called zandanījī, which is to say muslin (kirbās)" (Serjeant 1946, p. 123).[2] Thus, for the word describing zandanījī Serjeant chose "muslin" but he also included transliteration of the Persian term, where the Persian text of "The History of Bukhara" that served as the only source for English translations uses the word "kirbās" (کربا س) (Nerchakhy 1892, p. 14).[3]

Thanks to Serjeant, who thoroughly analyzed medieval written sources mentioning Islamic textiles, it is known that karbās (kirbās) was woven from cotton: Ibn Isfandiyār (12th century) wrote that bales of silk "were sold in Baghdad and the money spent on cotton cloth (kirbās) which was divided among the poor"; an anonymous author of "Hudūd al-Alam" (compiled at the end of the 10th century based on writings of the 9th century) mentioned "cotton textiles (kirbās)" manufactured in the cities of Rayy, Kāth, and Bust (Serjeant 1946, p. 103, 106, 129, 134).

Early religious Islamic texts also provide evidence that karbās was made of cotton yarn. A hadith of the 10th century compiled by ash-Shaykh al-Kulayni describes the biography of Alī ibn al-Hasan ibn Muhammad, called at-Tāturī, "He was called at-Tāturī because he sold a cloth known as at-Tāturī. In Misr [Egypt] and Damascus they called someone who sold *karb*ās (a fine cotton cloth) and white cloth at-Tāturī" (Al-Kāfī 2007, p. 48). As is well established, the term "karbās" itself is connected with the widespread usage of the word *karpasi*, the Indian name for cotton clothes, a word that is traced back to the Sanskrit root "karpasa", i.e. "cotton" that was passed into many languages with the same meaning (Pelliot 1959, I, pp. 433, 435; Mazzaoui 1981, pp. 9-10).[4] Obviously, the term "*kirbās*" that identified zandanījī as cotton textiles rejected the definition of zandanījī as silk ones.[5] For centuries, zandanījī preserved its association with cotton. J. A. Vullers' *Lexicon Persico-Latinum Etymologicum* described "zandapīčī," a variant of zandanījī, as "a wide robe of white cotton" (Serjeant 1946, p. 124). But Shepherd, unable to prove that zandanījī were silk textiles, doubted both Vullers' explanation and Frye's comment. She wrote: "These definitions seem not to

be supported by the evidence in the texts and perhaps are derived, by inference, from the reference in the *Siyāsat-Nāme*" where it said that zandanījī was "used for the clothing of slaves of the lowest rank at the Samanid court." She suggested that over time, from Narshakhi, when "Zandanījī was an important and valuable fabric – fit for a king" to Nizām al-Mulk (his *Siyāsat-Nāme* was written at the end of the 11th century), fashion could have changed or the quality of this fabric diminished, because *Siyāsat-Nāme* describes zandanījī as being "used for the clothing of slaves of the lowest rank at the Samanid court" (Shepherd and Henning 1959, p. 16). At the same time, Shepherd ignored the clear indication of the cotton nature of zandanījī provided by Narshakhi, and she based her conclusion on the alleged poor quality of zandanījī mentioned in *Siyāsat-Nāme* on an incorrect interpretation of the social status of people who wore clothes made from it. Slaves who wore zandanījī robes were the ghulām, the soldiers who served as caliphs' guards and who were directly subordinate to them. Caliphs paid attention to clothes for the ghulām no less than they did for the mufrid; the ghulām, not the slaves of the low rank, as stressed by Shepherd, were eligible for zandanījī robes (*Siaset-name* 1949, pp. 99-100). From the text of *Siyāsat-Nāme* it follows that zandanījī was less prestigious than other textiles which were used to make clothing for the ghulām. "There was a rule that was followed from the days of the Samanids: the ghulām were promoted in ranks gradually, according to the years of service, achievements, and merits"; the ghulam of the first year of service "wore garments of Zandani cloth," and after a while received richer and more luxurious dresses (*Siaset-name* 1949, pp. 110-11). Also, according to Nizām al-Mulk, this rule was already in force at the time when Narshakhi wrote "The History of Bukhara."

Trying to prove the silk nature of zandanījī, Shepherd appeals to Narshakhi's evidence that this fabric was bought to make clothes for the rulers and nobility, and that "they paid as much for it as for brocade." However, his text tells us only that the cost of zandanījī competed with gold-woven textiles, while the fact that they were in demand by the privileged strata of the population confirms their high quality. The cost comparison of the two types of textiles, the cotton and brocade, is understandable: the processing of raw materials and manufacturing of cotton fabrics was time-consuming, and for this reason labor costs for the manufacturing of cotton textile justified its high price. As is known from the medieval texts, Central Asian workshops produced rather a wide assortment of cotton fabrics. Some of them were not inferior to silks in quality or price. Perhaps, this explains why Shepherd disregarded an excerpt cited by Serjeant from a work of the Arab geographer of the 12th century al-Idrīsī, where the description of zandanījī echoed the one given by Narshakhi. In it, the author tells about splendid cotton textiles manufactured in the village of Widhār near Samarkand that were very popular among the elite of Khurāsān: "They make there (in Widhār) stuffs called Widhāri, woven of cotton, and made with an astonishing art; they are employed raw and without being cut. There is not a prince, minister, or cadi in the whole of Khurāsān who does not wear one in winter over his clothes. The beauty of these stuffs is evident and their splendor is famous. They are of color approaching yellow saffron, soft and light to the touch, but nevertheless very thick, excellent in their wearing qualities, and durable. The price of a robe varies from three to twenty dinars according to the quality. In short, it is impossible to find anything better, whether as regards beauty, whether as regards solidity" (Serjeant 1946, pp.125-26). Earlier than this account, Narshakhi wrote that zandanījī of good quality was exported from the village of Vardāna (Narshakhi 1897, p. 24). He also noted that zandanījī was more popular than similar textiles produced in Khurāsān workshops: "It is surprising that weavers from Bukhara left for Khurāsān, took with them all necessary staff for weaving these fabrics, set up workshops there and produced textiles, but in both appearance and quality they were far inferior to those woven in Bukhara. There was no tsar, amir, rais, or official who would not wear clothes made out of this fabric. It was made in red, white, and green colors. Presently, zandanījī is more famous in all regions than these textiles" (Narshakhi 1897, p. 30). It seems from the evidence of contemporaries that zandanījī fabrics indeed were so popular and well known that none of the authors considered it necessary to describe them in detail, though the color range of Khurāsān textiles woven by the Bukhara craftsman was indicated by Narshakhi, and al-Idrīsī left the detailed description of Widhāri cotton fabrics.

Soon after Shepherd and Henning published their article, Russian scholars Aleksandr M. Belenitskii and Ilona B. Bentovich, generally accepting their conclusions, drew the readers' attention to the fact that the definition of zandanījī as a silk fabric contradicts the evidence of written sources, where it is described as a cotton one. They suggested the following explanation: "As it is obvious from the cited descriptions ["The History of Bukhara" – Z.D.], at least from the end of the 10th century zandanījī was a cotton fabric. Meanwhile, they inform us that it was valued highly. Unfortunately, the texts known to us do not provide a reason for changing the raw material or any indication when it could happen. We assume that delivery of the raw silk from China, if did not stop completely, cer-

tainly decreased significantly. It is very possible that it was a reason for the switching the mass weaving to cotton" (Belenitskii and Bentovich 1961, p. 77).

The problem brought out by the Russian scholars made Shepherd admit twenty years later, in her article "Zandanījī revisited," that the word "zandanījī" in Narshakhi's work "specifically refers to cotton" but with a question, "whether the term had been applied to silks before the tenth century and only later transferred to cottons from the same region, or if the author of the inscription on the Huy silk used the term in error." However, this consideration did not change Shepherd's conclusions about the dating of the Huy silk to the 7th century and its Sogdian origin (Shepherd 1981, p. 109). Defending the usage of the term "zandanījī" she wrote: "Whether right or wrong, the adoption of this term in the extensive Russian literature on this group of silks since the publication of my article in 1959 has by now firmly established it as a pseudonym, at least, which may serve as a convenient designation for this particular group of silks from Sogdia" (Shepherd 1981, p.109).

Up to 1981, when Shepherd published this article, "the extensive Russian literature" consisted only of several articles authored by Ierusalimskaia and few other Russian scholars, who relied on her studies. Shepherd herself continued to refer to the medieval silks as zandanījī textiles, without any explanation of how this term should be treated, as a pseudonym or as a real identity. Anyway, she had no doubt that she and Ierusalimskaia had identified a special group of silks from Sogdiana, as Shepherd continued to insist some two decades after her initial article: "The original bases for attributing these silks to Sogdia were the presence of a Sogdian inscription on one of them and the fact they had been found both to the east and west of Sogdia and would seem logically to have been exported from there. The large number of these textiles now recorded as having been found in the graves of Alan tribesmen in the northern Caucasus, directly astride the northern silk route between Sogdia and Byzantium, would seem to provide conclusive proof" (Shepherd 1981, p.108).

I would emphasize here that an ink inscription, given its possible chance appearance on any stuff, is a weak argument for the attribution of a single textile piece, much less for the attribution of a large group of silks. The argument for the localization of a textile manufacturing center based on the places of the pieces' discovery also sounds more than strange. It is not clear at all how silks found in the North Caucasus defined by Shepherd and Ierusalimskaia as zandanījī "would seem to provide conclusive proof" of their weaving in Sogdiana.

In her writings Ierusalimsakaia does not discuss the issue of the inconsistency between "zandanījī silks" and the written sources. She states that Narshakhi in "The History of Bukhara" related that "at the same price as brocade" zandanījī textiles were bought at European courts (Ierusalimskaia 1972, p. 6). Though Ierusalimskaia claims that she quotes Narshakhi's work in the translation done by Serjeant (Ierusalimskaia 1972, p. 44, endnote 17), she uses Frye's version of the text that was obviously borrowed from Shepherd's article. Moreover, these quotes are distorted: Narshakhi did not specify the nationality of nobles who bought zandanījī, but said that "All of the nobles and rulers make garments of it, and they buy it at the same price as brocade." As already mentioned, Frye and Serjeant translated the second part of this sentence slightly differently (cf. Shepherd and Henning 1959, p. 16 with Serjeant 1946, p.123). Obviously, she read neither the original work of Serjeant on Islamic textiles, nor the Russian translation of "The History of Bukhara" done in the late 19th century where zandanījī are described as cotton textiles.

Scholars who recognized the conflict between the texts describing zandanījī as cotton textiles and identified medieval silks also tried to find evidence on the silk nature of zandanījī textiles in medieval sources. Thus James C.Y. Watt and Anne E. Wardwell quoted the evidence left by the 13th-century Persian historian Ata-Malik Juvaini in his story about three persons who went to the Mongols with "gold-embroidered fabrics, cottons, zandanichi and whatever else they thought suitable" (Juvaini/Boyle 1958, p. 77). When one of these persons tried to defraud Genghis Khan with overpricing, he was detained but later he was let go, and "for each piece of gold-embroidered fabric they should be paid a *balish* of gold and for every two pieces of cotton or *zandanichi* a *balish* of silver (Ibid.). According to Watt and Wardwell, Juvaini's descriptions confirms that zandanījī were not cotton textiles, for the reason that "Juvaini mentions Zandaniji along with gold-embroidered textiles and cotton," and the amount Genghis Khan "was willing to pay for the merchants' textiles. Clearly, Zandaniji textiles were valuable and, by implication in Juvaini's text, were not cotton" (Watt and Wardwell 1997, p. 28). Later, the same conclusion was reached by the Chinese scholar Shang Gang. He pointed out that Juvaini and Rashid al-Din (who retold this story after Juvaini), by naming zandanījī individually in the same list with other cotton textiles, provide evidence that zandanījī was not woven from cotton: "In this case, cotton fabrics are mentioned alongside Zandaniji, which clearly shows that these are different cloths" (Shang Gang 2007, p. 35).

However, the fact that zandanījī are mentioned separately from other cotton textiles in fact does not prove that they were other than cotton.[6] Zandanījī textiles deserved a special mention for their special qualities that distinguished them from other cotton fabrics. As pointed out by Yāqūt al-Hamawi in the first half of the 13th century, zandanījī were well known (Serjeant 1946, p. 124). Moreover, the argument of Watt and Wardwell that the price paid for zandanījī distinguished it from cotton fabrics simply contradicts Juvaini's account. The Mongol ruler ordered to pay the same price for zandanījī and cotton textile, but this price was less than for gold-embroidered fabrics. Besides that, the price, which would be paid by Genghis Khan to merchants, should not be treated as a fact. In Juvaini's story the amount that was many times higher than the real cost of the fabrics emphasized the generosity of the Mongol ruler.

In their attempt to support the existence of zandanījī silks, Watt and Wardwell combine two opposite statements: "Assuming that in the beginning zandanījī textiles were silks," "Zandaniji may eventually have come to designate cotton cloth (Belenitskii and Bentovich, 1961, c. 77-78), but that does not seem to have happened until after the Mongol period" (Watt and Wardwell, 1997, p. 28). Not doubting Narshakhi's evidence, they nevertheless question his work written in the 10th century.

Watt and Wardwell's technical analysis of silks revealed significant differences in groups classified as zandanījī. However, their acceptance of the inscription on the Huy silk as documented evidence prevented them, despite their own observations (see below), from rejecting the existing classification of the early medieval silks. They continued to treat zandanījī textiles as silks woven in Sogdiana, and even considered *sa-da-la-qi* fabric mentioned in the *Yuanshi* to be a transliteration of the word "zandanījī." This, despite the fact, as they stressed, that there is no information on *sa-da-la-qi* in other Chinese sources, and there is "no means of telling whether it is anything like the Sogdian silks which have been called *zandaniji*" (Watt and Wardwell 1997, p. 140). Faced with the apparent inconsistency between the identified "zandanījī silks" and the evidence of medieval authors, rather than undertaking critical analysis of Shepherd's "discovery," these scholars fell back on rather shaky arguments and explained the issue by the specificity of translation of the written sources. They noted: "The earliest historical reference to Zandaniji textiles occurs in al-Narshakhi's history of Bukhara, which dates from the tenth century (al-Narshakhi, 1954, p. 15-16). Narshakhi's use of the word *kirbās* in reference to Zandaniji textiles has sometimes been translated as 'muslin' (e.g., Serjeant 1972, p. 99), leading some scholars to conclude that by the tenth century, at least, Zandaniji was a type of cotton (Belenitskii and Bentovich 1961, c. 77; Shepherd 1981, p. 108). This, however, may be too specific a translation of the term *kirbās,* which Richard Frye translates more generically as 'cloth' (al-Narshakhi 1954, pp. 15, 16)" (Watt and Wardwell, 1997, p. 28).

There is no question that Richard Frye is right in understanding *karbās* as cloth. However, the term "cloth" by itself does not indicate a raw material and therefore cannot attest to either the cotton or the silk nature of zandanījī. This should be obvious for specialists in textiles. The preference for the general term instead of the specific name of the fabric, the raw material for which is well known, is a deliberate denial of the cotton nature of zandanījī, and contradicts the evidence of the source.

The artificial concept of "Zananījī silks" skewed the direction of their study. Arguments based on secondary sources and speculative conclusions "materialized" the non-existent textiles. As a result, the myth about zandanījī silks produced new versions of itself. For example, Remo Faccani extrapolated the definition "zandaniji silks" on "Tartar cloth" from papal inventory books. He states that silk "turcheschi" cloths or hangings brought to the West in the late Middle Ages, were characterized as zandaniji, as though Wardwell had indicated as much (Faccani, 1995, p.155). However, Wardwell, who compiled the list of records regarding textiles from these books, nowhere in her publication identifies them as zandanījī and does not indicate "Tartar cloth" is a synonym for it.

In the last decade, some Chinese scholars have tried to find information on zandanījī in Chinese sources from different periods and looked for names of textiles that, in their opinion, are transliterations of the word "zandanījī". So, Shang Gang suggested that such could be "*sa-da-la-qi*" and "*zan-tan-ning*" (Shang Gang 2007, pp. 26, 30, 34), even though nothing could be said about them except that these cloths are mentioned in written sources.[7] Shang Gang also widened the chronological span and geographic areas of manufacture of "zandanījī silks" beyond medieval Sogdiana. He attributed to zandanījī silks textiles with different weaving technique and stylistic elements of décor, and came to the conclusion that "zandanījī production lasted nearly 800 years in Central Asia as well as in China. Over such a long period of time and across such vast spaces in its development, design elements as well as techniques changed from time to time and place to place" (Shang Gang 2007, p. 33). This statement is based solely on "circumstantial evidence"

consisting of an unproven assumption based only on another unproven assumption (Shang Gang 2007, p. 34). Since Shang Gang discusses only silk textiles that, as now has been proven, cannot be treated as zandanījī textiles, there is no need to comment on his reasoning.

Feng Zhao, the specialist in the history of Chinese textiles, maintains that documents he discovered at Dunhuang from the late Tang period to the era of the Five Dynasties include the word *sha-sha-na-jin* (沙沙那锦) and suggests that it represents the transliterated word "Zandana." Another term for zandanījī, *zan-dan-ning* (贊丹寧), also the transliterated form of zandanījī, appears in the Chinese historical sources from the Liao dynasty (Zhao 2012, p. 300).

Since the documents are not published, it is as yet unclear what was the context in which the terms *sha-sha-na-jin* and *zan-dan-ning* were used and whether there is any real basis for seeing them as equivalents for zandanījī. But while Feng Zhao admits the strictly hypothetical character of his suggestion for these two names, he has no doubt that *sa-da-la-qi* is zandanījī: "With the beginning of the Yuan period, Chinese historical sources especially note a type of textiles called *sa-da-la-qi*. It is generally accepted that this is zandanījī" (Zhao, 2012, p. 300).

It is hard to agree with such an argument. The use of terms *sa-da-la-qi* and *zandanījī* as synonyms by some specialists is not a proof of the identity of these two textiles known from the medieval texts. As Watt and Wardwell noted (1997, p. 140), "According to the *Yuanshi*, in the year 1287 a Jamal al-Din (Zha-ma-la-ding) directed (or arrived with) artisans to weave *sa-da-la-qi* in the same workshops as those for silks. A separate superintendency was subsequently established for the production of *sa-da-la-qi*." This information, even indirectly, does not connect Chinese textiles with zandanījī. And there are no grounds to discuss the similarity of weaving techniques of these textiles, since there is no information about *sa-da-la-qi* and about zandanījī.

In sum then, this brief outline shows that the artificially created myth on the existence of zandanījī silk weaving in early medieval Sogdiana was built upon biased interpretations of the historical evidence with the aim of buttressing a refusal to recognize that zandanījī textiles were originally made of cotton.[8] That said, a majority of scholars recognized the work of Shepherd on zandanījī as her great achievement, at the same time that her conclusions (and those of Ierusalimsakaia) were already beginning to be met with some criticism from specialists in historic textiles.

The critiques paid less attention to the contradiction between the attribution of the Huy silk and evidence of the written sources, but focused instead on dating of silks, their classification, and localization of the centers of their manufacture. Soon after the publication of "Zandanījī Identified?" Donald King rejected the dating of the Huy silk based on the character of the inscription. He noted that the early date (7th century) is at odds with other features of the silk, and dated it to the 8th–9th centuries, the same as other similar textiles in the groups of Central Asian silks he discussed (King 1966, p. 48-49). While accepting the name of zandanījī for a group of the early medieval silks, Anna Muthesius doubted there was justification for defining a separate group Zandanījī III, which in fact was not significantly different from Zandaniji II. Also, she considered them as products of several Central Asian workshops, not one (Muthesius 1997, pp. 94-98). Citing numerous differences in technical and stylistic features of silks Sherpherd believed had come from the same workshop, Hero Granger-Taylor argued that they were manufactured in different weaving centers. She also challenged Shepherd's dating of the silks in question (Granger-Taylor 2002, pp. 314-16).

Watt and Wardwell indicated there are serious distinctions between the groups defined by Shepherd and Ierusalimskaia, which might be explained by the latters' different approaches to the analysis of these silks: Shepherd had based her study of silk textiles on technical characteristics, while Ierusalimskaia considered the silks' style and dating. Admitting that both approaches are not free of controversy, Watt and Wardwell demonstrated significant discrepancies in their classification of the silks. One of them is that Shepherd and Ierusalimskaia included in the same group textiles of different weaving traditions, with z-twisted warps and untwisted warps: "z-twisted warps are characteristic of weft-faced compound twills produced in Iran and Byzantium, while lighter fabrics woven with untwisted warps occur in silks of the same structure produced in China" (Watt and Wardwell 1997, p. 22). This fact puts into question not only systematization of silk textiles offered by Shepherd and Ierusalimskaia, but their attribution as well.

In 2006 Boris I. Marshak and Valentina I. Raspopova published their thorough analysis of Sogdian art in regard to "Zandanījī silks," in which they demonstrated that the proclaimed style and iconography of "zandanījī textiles" are completely alien to the Sogdian cultural tradition (Marshak 2006; Raspopova 2006). In his article, Marshak also expressed the possibility of a different reading of the ink inscription on the Huy silk.

Despite the conclusive results presented by Marshak and Raspopova, there have been attempts, based solely on assumptions, to explain the discrepancy between

the written sources (where zandanījī are described as cotton fabrics) and the speculative concept of "Zandaniji silks." In attempting this, Richard Frye listed several hypotheses. The term "zandanījī" could be applied to different fabrics woven in similar techniques or to fabrics with similar design or coloring. In order to explain the absence of zandanījī silks on the territory of Sogdiana and lack of any information about them in the medieval texts where zandanījī is described as cotton textiles, Frye suggested that "the silk cloths of Zandanījī were generally sent abroad from Sogdiana, while the fine cotton and other textiles were the Zandanījī of the home population" (Frye 2006, p. 80). Other scholars still accepted the attribution of the Huy silk as zandanījī, though they also suggested a possibility of Central Asian and Eastern Iranian centers where zandanījī and similar silks could be manufactured (Otavský 2011, pp. 15, 327). Ierusalimskaia completely disregarded the results presented by Marshak and Raspopova in her monograph whose analysis of medieval silks from the North Caucasus constitutes the core of her discussion of the artifacts found there (Ierusalimskaia 2012).

One would think that the last nail in the coffin of Shepherd's erroneous conclusion was driven when, finally, the Huy inscription received a correct reading. This was the work of Nicholas Sims-Williams and Geoffrey Khan, who established beyond any doubt that the inscription on the silk piece is written in Arabic, it does not contain the word "Zandanījī", and in fact has a very different meaning, It translates: "Belonging to 'Abd al-Rahman, the commander, (acquired) for thirty-eight dinars less a third" (Sims-Williams and Khan 2012, p. 210). The style of script allowed them to date the inscription to the 9th century, which lies within the range obtained by the radiocarbon analysis, 780–980 CE (Sims-Williams and Khan 2012, pp. 209 – 11). This incontrovertible evidence notwithstanding, the term zandanījī continues to be applied to the early medieval textiles found at sites along the Silk Road (Zhao and Wang, 2013; Rtveladze 2015, p. 357). Even in cases when the initial erroneous reading of the inscriptions has been admitted, researchers continue to follow the classification of "Zandanījī silks" (Schorta 2016, p. 59, 62; Muthesius 2015, p. 78; Muthesius 2016, p. 59-63) or attempt to tie both cotton and hypothetical silk production to the same workshops (Compareti 2015, p. 40).

Conclusion

Critical observations and conclusions made by Watt and Wardwell, Marshak and Raspopova attest to the fallacy of the classification of "Zandanījī silks." It is now firmly established that the silk piece from Huy has no relation to zandanījī textiles and was produced in the 9th century in a workshop at a not yet determined location, more likely than not, as suggested years ago by Otto von Falke, in one of the Eastern Iranian workshops (Falke, 1936, p. 20; fig. 110). The systematization of silk textiles offered by Shepherd and Ierusalimskaia – already subjected to well-grounded criticism by specialists from various angles – is mistaken and requires re-evaluation. The cultural and chronological attribution of silks discussed by Shepherd and Ierusalimskaia has turned out to be baseless as well. An analysis of artistic and technical characteristics of silk textiles included in groups of Zandanījī I, II, and III has revealed that they were woven in different workshops. The detailed localization of these workshops should be a topic of future investigations (Mackie 2015, p. 64).

The story about zandanījī silks shows how inaccurate conclusions, accepted and used by scholars without any critical reasoning, created a myth that dominated despite their iincompatibility with the historical evidence. It is not Shepherd's fault that her "discovery" of "Zandanījī silks" was based on Henning's mistaken deciphering of the inscription. But from the very beginning she preferred to circumvent the problematic issue by using Frye's loose translation of the description of zandanījī in "The History of Bukhara" and persisted with her idea of zandanījī silks, which was unconditionally supported and developed by Ierusalimskaia. The myth about the existence of zandanījī silks thrived due the tendentious interpretation of written sources in order to reject the fact that zandanījī fabrics were made of cotton. This fact had been established in the 10th century by Narshakhi, who lived in Bukhara and provided a firsthand account about these textiles. The adherence to the fictitious conclusions about zandanījī textiles led to the erroneous attribution of the numerous silks found at the North Caucasian archaeological sites and in medieval European churches, textiles whose place and time of manufacture in fact has yet to be determined. Besides the wrong attribution of this significantly large collection of silks, an acceptance of the idea about the existence of an established school of art weaving in medieval Sogdiana led to the false belief about the production of zandanījī silks in China as well. In order to correct all these inconsistencies and errors, characteristics of medieval cotton textiles, the zandanījī mentioned in the medieval sources, should be freed from any mythological identification with silk textiles, and the cultural and chronological attribution of "Zandanījī silks" re-considered.

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NOTES

1. Kept in the collections of the State Hermitage Museum in St Petersburg and the State Historical Museum in Moscow.

2. "That which comes from it is called zandanīḏjī, which is to say muslin (kirbās) from the village of Zandana, which is both good and plentiful, but many of the villages of Bokhara weave better cloth, and they call it zandanīdji because it first made its appearance in that town. This cloth is exported to all the provinces such as Iraq, Fars, Kerman, and Hindustan. All the nobles and kings make robes (ḏjāma) of it and buy its brocade at a high price" (Serjeant 1946, p.123). The last part of the sentence in Serjeant's translation differs from the version done by Lykoshin and Frye. Dr. Maya Petrovich, whom I asked for consultation, confirmed the correctness of the latter authors,, i.e.: "and buy it at the same price as brocade".

3. I would like to thank Dr. Maya Petrovich and Dr. George Malagaris for checking the textile terms used in the Persian version of Narshakhi's work.

4. According to Serjeant, karbās was equated with muslin (Serjeant 1943, pp. 91, 88, 89; Serjeant 1946, pp. 119, 121, 123, 124, 139; Serjeant 1951, p. 83). These cotton muslins should be distinguished from "mosulins" made from silk and gold manufactured in Mosule that was mentioned in "The Travels of Marco Polo" (Polo 1824, p. 20); I.M. Minaev suggested that those mosulins were named after the city but that the term did not always refer to the same textile (Polo 1955, p. 253).

5. In the more detailed Russian translation done by Nil Lykoshin, zandanījī has been described precisely as a fabric made of cotton: "From there, the so-called 'zandanījī', i.e. cotton textiles called so because they are made in this village, are exported … Cotton textiles are exported from there to all regions" (Narshakhi 1897, pp. 23-4)

6. There are similar cases, when textiles of the same nature recorded in the same list could be found in medieval sources as well. For example, treatise "Hudud al-'Alam" recorded "cotton stuff (kirbās)" and "cotton" (Serjeant 1946, p. 106).

7. The article "Zandaniji in China" by Shang Gang is published in the catalog of the exhibition "Road of Silk. 5000 years of the Art of Silk" in Chinese, English, and Russian. The English and Russian versions of the catalog use the word zandanījī. The Chinese version of the catalog uses the word *sa-da-la-qi*. The sentence, "It is generally believed that zandanījī textiles had already been transformed to cotton products before the arrival of the Mongol empire" (Shang Gang, 2007, p. 35) clearly shows the extrapolation of Narshakhi's information about zandanījī textiles on sa-da-la-qi textiles, though there is no evidence about the latter but for its being named in *Yuanshi* and the above-mentioned baseless assumptions.

8. It should be mentioned that as early as the beginning of the 20th century Russian scholars identified zandanījī with *zenden'* of historical texts. In his work on some historical textiles, Konstantin A. Inostrantsev expressed an idea about the similarity of *zenden'* of the late medieval sources with *zandanījī* mentioned in Narshakhi's work. Though Inostrantsev was aware that Narshakhi described zandanījī as a cotton fabric, he considered a possibility that Old Russian *zenden'* could be silk. He borrowed this notion from P. I. Savvaitov, though the latter did not provide any proof for it, as Inostrantsev noted (Inostrantsev 1901, p. 84). Meanwhile, Vladimir K. Klein, who examined clothes kept in the Kremlin Armoury and inventory books which describe the textiles of these clothes as *zenden'*, was able to prove that *zenden'* was cotton (Klein 1925, p. 69). Also, Artemii V. Artsikhovskii stated that the word *zenden'* in a birch bark document (found in a layer of the late 14th - early 15th century in Novgorod) meant the cotton fabric. He concluded that this fact supported Narshakhi's evidence on the cotton nature of zandanījī textiles (Artsikhovskii and Borkovskii 1958, p. 60). All these scholars used the Russian version of "The History of Bukhara" where, as mentioned above, Lykoshin had translated *karbās* as cotton textiles. However, the idea that zenden'/zandaniji were silk textiles has been revived by Remo Faccani (Faccani 1995, p. 156). In his opinion, the usage of "cloth" chosen by Frye is more correct than Lykoshin's "cotton," and cast doubt on the quality of the latter's work. He cited Frye's opinion that the Russian translation "leaves much to be desired" and (again with reference to Frye) the opinion of Nikolai Veselovskii, who, in his review written soon after the publication of Lykoshin's translation, warned readers to be cautious in using this work (Faccani 1995, p. 154). Probably Faccani did not check the text of Narshakhi in Persian, and also did not read Veselovskii's review, which in fact expressed a positive opinion of Lykoshin's work. Commenting on some incorrectly understood words in a story about the coinage in Bukhara, Veselovskii wrote: "We believe, however, that one can find few such examples; on a whole, we must recognize the work as conscientious, and comments placed in footnotes as extremely useful for understanding Narshakhi's story" (Veselovskii 1897, p. 468). In its turn, the English version of "The History of Bukhara" done by Frye has been somewhat criticized. In his review, Arthur J. Arberry wrote: "Unhappily Dr. Frye's knowledge of Persian is not always as impressive as his bibliographical erudition and the version is marred by some inaccuracies" (Arberry 1955, p. 605). It is obvious that the evaluation of translations of ancient texts is not a way to clarify some questionable places in these translations, for which one should address the original sources.

Discoveries from the Sinan Shipwreck

*Sinan haejŏsŏn esŏ ch'ajanaen kŏttŭl: palgul 40-chunyŏn kinyŏm t'ŭkpyŏlchŏn*신안 해저선에서 찾아낸 것들: 발굴 40주년 기념 특별전 / *Discoveries from the Sinan Shipwreck: Special Exhibition on the 40th Anniversary of the Excavation*. Seoul: Kungnip Chungang Pangmulgwan/National Museum of Korea, 2016. 366 pp. ISBN: 978-89-92788-82-3. [The catalogue includes captions in English, but its text otherwise is entirely in Korean.]

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The Special Exhibition of "Discoveries from the Sinan Shipwreck" was held from 26 July to 4 September 2016. The exhibition was organized by the National Museum of Korea in commemoration of the 40th anniversary of the discovery of the Sinan shipwreck 新安船. Excavated objects from the shipwreck had been shown previously on permanent and/or special exhibitions held in various museums. However, these objects merely accounted for only 1,000-some pieces out of 26,000-some pieces retrieved in total. In organizing the Special Exhibition, the National Museum aimed to re-illuminate the significance of the Sinan shipwreck excavation by showing all displayable objects in their entirety.

The discovery and excavation of the Sinan shipwreck

The Sinan ship is identified as a Yuan Chinese trade vessel that departed from Ningbo 寧波 (known today as Qingyuan 慶元) in 1323 and sank in the waters near South Jeolla Province on its way to Japan. The excavation of the shipwreck began when a Korean fisherman found six ceramic pieces caught in his fishing net in August 1975, near the coastal area of Sinan, Bangchuk-ri, Jeungdo Island of South Jeolla Province. The finds were reported to the Sinan County Office in 1976 and the excavation commenced in October of the same year by the Cultural Properties Administration (today's Cultural Heritage Administration). More than 26,000 objects were retrieved from the excavation, which continued for 9 years until 1984. The objects include more than 20,000 pieces of Chinese ceramic, coins, metal wares, lacquerware, herbs, and aromatic wood. The excavation of the Sinan shipwreck marked the first underwater excavation project ever conducted in Korea and paved the foundation of underwater archaeology in Korea.

Contents of the exhibition and the catalogue

The Special Exhibition catalogue from the exhibition records the massive quantity of export goods that were on board on the Sinan vessel that was one of the biggest of its kind from its time. The catalogue also explains what we can learn from the excavated objects such as the ship's ports of embankment and destination; its structure and origin; traces of sailors' lives on board; and the ship's condition from the time of its sinking to the day of its discovery. The Sinan cargo contained over 20,000 pieces of ceramic; over 1,000 pieces of metal objects; over 1,000 pieces of red sandalwood 紫檀木 from southern China; and spices and medicinal herbs such as pepper, cinnamon, gingko nuts, and cloves. Ceramic cargo included a variety of Chinese ceramics produced in various regions such as Longquan 龍泉 celadons from Zhejiang Province 浙江省; porcelain and Qingbai ware from Jingdezhen 景德鎮; black-glazed stoneware, celadons, and porcelains from Jianyao 建窯, Fujian Province 福建省; and other varieties produced in Hebei, Guangdong, Jiangsu Provinces. Among the ceramic pieces, over 12,000 pieces of Longquan celadons accounted for the majority, comprising more than sixty-percent of the total ceramic findings, indicating the scale of demands for such ware from China. Metal objects from the Sinan cargo included tableware, incense burners, Buddhist ceremonial objects, cosmetic goods, kitchen utensils, weaponry, and tin spirit. 28 tons or 8

million pieces of silver coins were also found, most of which were Song Chinese coins. Seven pieces of Goryeo celadon and two Japanese Seto-yaki 瀬戸焼 meipings revealed another aspect of ceramic trade in East Asia. Once favored in China for their fine quality, Goryeo celadons found in the wreckage evinced the inflow of fine Goryeo celadons into China, as it could be speculated that they were loaded on board at the Chinese port of Qingyuan. Chinese objects, on the other hand, revealed cultural practices and trends among the Japanese nobility and Buddhist monasteries at the time that involved tea ceremony, incense burning, and flower offering. They also reflected the Japanese appreciation for art as well as their admiration and desire for Chinese culture and China-made goods.

Significance of the exhibition and the publication

During the last four decades since the discovery, only a small portion of the Sinan objects has been disclosed to the public. The recent Special Exhibition made most of the objects available for public access, providing scholars with abundant new, authentic source materials. One such example is Chinese carved lacquerware put on exhibition for the first time. The carved lacquerware displays a distinctive technique developed in China which required repetitive coating and drying of expensive lacquer before carving lacquer layers off into delicate patterns. The Chinese lacquerware found in the Sinan shipwreck is valuable evidence which allow us to better understand lacquer-carving techniques and styles of the Song and Yuan dynasties.

The Special Exhibition catalogue also introduced new research findings from the arduous scholarly investigation. For example, the catalogue included an analysis on the origins of the types of the Chinese ceramics found in the shipwreck which suggests that some of the objects on board included antique objects made during the Southern Song and Jin dynastic periods.

The display section from the exhibition that drew my attention most was the thematic section entitled "The Treasure Chest is Now Open" which presented all types of objects that were loaded on the ship in a single space. The catalogue, with its detailed descriptions on each object, is a paper version of this display that will provide readers with the sense that they are walking inside the ship loaded with colossal amount of export cargo.

About the author

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— *translated by Ji-Hyun Lee and Boram Shin*

The mounted remains of the ship's timbers (p. 144).

Black glazed jars contained cloves (Inv. no. sin 6090 etc., p. 271; the cargo also included peppercorns (Inv. no. sin 7229, p. 272 and cinnamon (not shown here).

Display of recovered artifacts with the original packing boxes that contained the ceramics (p. 213).

A Yuan period celadon dish with chrysanthemum, cloud and phoenix deisgn. Inv. no. sin 20811 (p. 167).

Yuan period brass bottle. Inv. no. sin 7319 (p. 56).

Yuan period Longquan celadon vase. Inv. no. sin 6558 (p. 62).

The Silk Roads at The National Museum of Korea: a Visual Introduction

Photo source: https://www.museum.go.kr/uploadfile/ecms/visual/159929.jpg.
All other photos by Daniel C. Waugh

This is quite simply one of the great museums in the world, worth a visit to Seoul, where there is so much else to see too…. The museum's web site (which I have consulted only in English, at <https://www.museum.go.kr/site/eng/home>) has a nice interactive guide to all the galleries with selective highlights of what they contain, part of a larger collections database. The photographs are excellent, the captioning often frustratingly cryptic but obviously a work in progress.

The somewhat intimidating modern building with its open central corridor accommodates one of the first important indications that Korea indeed belongs on any map of the Silk Roads: the ten-storey pagoda erected in the 14th century on whose lower tiers are scenes from the Chinese *Journey to the West*, an account based on the travels of Xuanzang in the 7th century. Of course it would be possible never to make it beyond the first floor, where there is a chronologically arranged sequence of galleries, many of the objects classified as national treasures including rich finds from the 5th-6th century Silla Dynasty tombs in Gyeongju. Dazzled by the gold, one might easily

(right) Pagoda erected at Gyeongcheonsa Temple in 1348. National Treasure № 86. Inv. № Bon 6753.

(left) Gold crown, 5th – 6th century. Treasure № 338. Inv. № Bon 9663.

(below right) Ceramic vessel in shape of horse and rider, 6th century. National treasure № 91. Inv. № Bon 9705. Both excavated from excavated from Geumnyeongchong tomb in Gyeongju.

Mural fragment, from Ssangyeongchong Tomb in Nampo (North Korea), 5th century (Three Dynasties Period--Goguryeo).

(right) Phoenix-shaped glass ewer, from Hwangnamdaechong Tomb (South Mound of Tomb № 98), Gyeongju, 5th century. Probably an import from Western Asia. National Treasure № 193. Inv. № Hwangnam 3321.

miss such treasures as a mural fragment of a mounted warrior, who, one might imagine, could have passed along the roads leading west in the 5th century. If you finally make it to the third floor, there are dazzling displays of Buddhist plastic arts such as the inspiring "Pensive Bodhisattva," which merits its own quiet room. One of the stunning displays is the 13 m high hanging scroll from the Bukjangsa Temple which was created in 1688, so large that (as is evident here), it is difficult to photograph decently. The subtleties and elegance of Korean celadons are also difficult to replicate on these pages; so I have settled for another of the national treasures, a remarkable, complex "fish-dragon."

(left to right) The "Pensive Bodhisattva" (Avalokiteśvara). Gilt bronze. Three Kingdoms period, early 7th century. National Treasure № 83. Inv. № Deoksu 3312.

Buddha and disciples on Vulture Peak, hanging scroll from Bukjangsa Temple, painted in 1688.

Celadon fish-dragon shaped pitcher, Goryeo period, 12th century. National Treasure № 61. Inv. № gae 2.

On my recent visit in September 2016, just in time to miss the Sinan Shipwreck exhibtion described above (!), the gallery that is to house the permanent display was close for remounting of the artifacts. Next to it though is a Central Asia gallery, the focus of our attention here, artifacts from the "Western Regions" along the Silk Roads. Much of this material was collected there by Otani Kozui (1876-1948), with a portion of what he accumulated remaining in Korea after the end of the Japanese occupation. So one can see here a representative sample of material from some of the most famous sites along the silk roads. Additional images are in Color Plates X-XIV at the end of this volume.

– *Daniel C. Waugh*

Masks and baskets from Loulan. Bronze Age, analogous examples known from the Little River (Xiaohe) cemetery, dated late 3rd–2nd century BCE.

Terracottas from Yotkan, the ancient site on the outskirts of Khotan, ca. 3rd–5th centuries. Such items are very common, with many examples in the British Museum, the Ethnographic Museum in Stockholm and in other collections. Figurines of monkeys, playing instruments or in erotic poses are among the most commonly found.

(right) Terracotta of Serapis and Harpocrates, Khotan, 2nd–3rd centuries CE, presumably transmitted from the Hellenisitic or Roman East. Inv. № Bon 3901.

(left) Bronze seal and its impression, Qumtura, 1st – 4th century CE

(above, left and center). Vase, Khotan, 3rd–5th century. Inv. № 3899.

(above, right). Bird-headed ewer, Karakhoja, Turfan, 7th–8th century. Inv. № Bon 4034.

(below, left). A Devata, from Murtuk (Turfan), 6th–7th century.

(below, right). Head of a Buddha, Khotan, 4th–5th century. Inv. № Bon 4163.



Heads of Buddhist deities, 6th–7th century, Turfan. Analogous examples were collected at Tumshuq by the Pelliot expedition at the beginning of the 20th century; now in the Musée Guimet, Paris.



Terracotta appliques from Buddhist sites, the elephants, presumably representing the Indian deity Ganesh, from Qumtura, 8th century; the others somewhat earlier from Khotan. Some of these probably were attached to mandorlas behind sculptures.

Mural fragments: (left) from Turfan (Bezeklik?), 10th century (Inv. № Bon 4096) and (right) from Bezeklik Cave 18, 6th–7th century (Bon 4054).

(below) Moulded plaques of meditating monks from Dunhuang, 10th century (Bon 4037), analogous examples in, e.g., National Museum, New Delhi.

(bottom and right) Thousand Buddha mural fragments, Qumtura, Cave 16, 8th–9th century (Bon 4069).

(top left) Mural fragment, hand of Buddhist devotee holding flower, from a Pranidhi scene, Bezeklik, Cave 15, 10th–12th century.

(right) Mural fragments with Uighur inscriptions, Bezeklik, 10th century (Bon 4071-80).

(left) Silk banners depicting Bodhisattvas, from Dunhuang, Tang Dynasty (Inv. №№ Bon 4020, 4022).

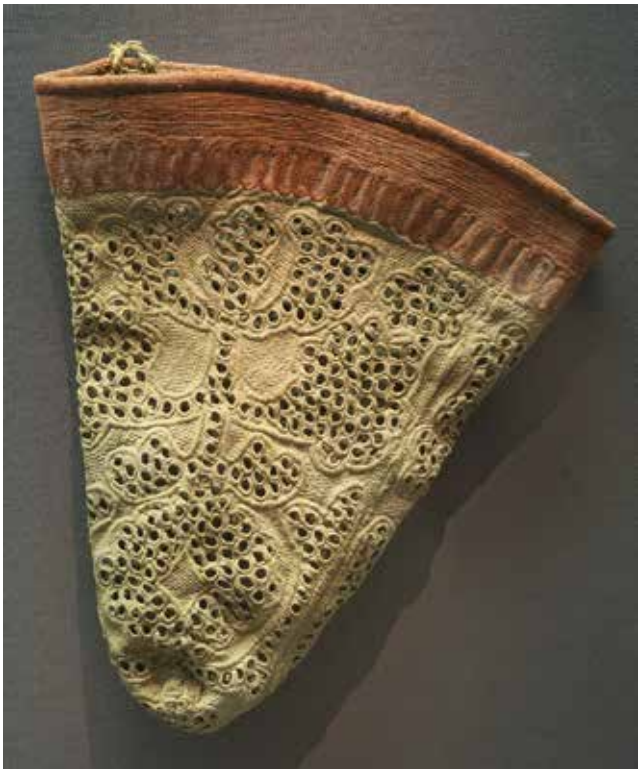
(bottom right) Decorative curtains, mural fragment, Bezeklik Cave 15, 10th–12th century.

Artifacts from the Astana cemetery and Karakhoja, Turfan, 7th–8th century: (top left) Head of a guardian figure; (top right) guardian beast; (bottom left) figurine of a eunuch; (right) figurines of women. These mingqi are abundant, exhibited in various collections [e.g., a very large array in the Uighur Augonomous Region Museum (Urumqi); others in the Musée Guimet (Paris), the British Museum (London), and the National Museum, (New Delhi)].

(top left and right) More tomb finigurines (on right, Inv. № Bon 4142).

(right) Painted pots from Astana.

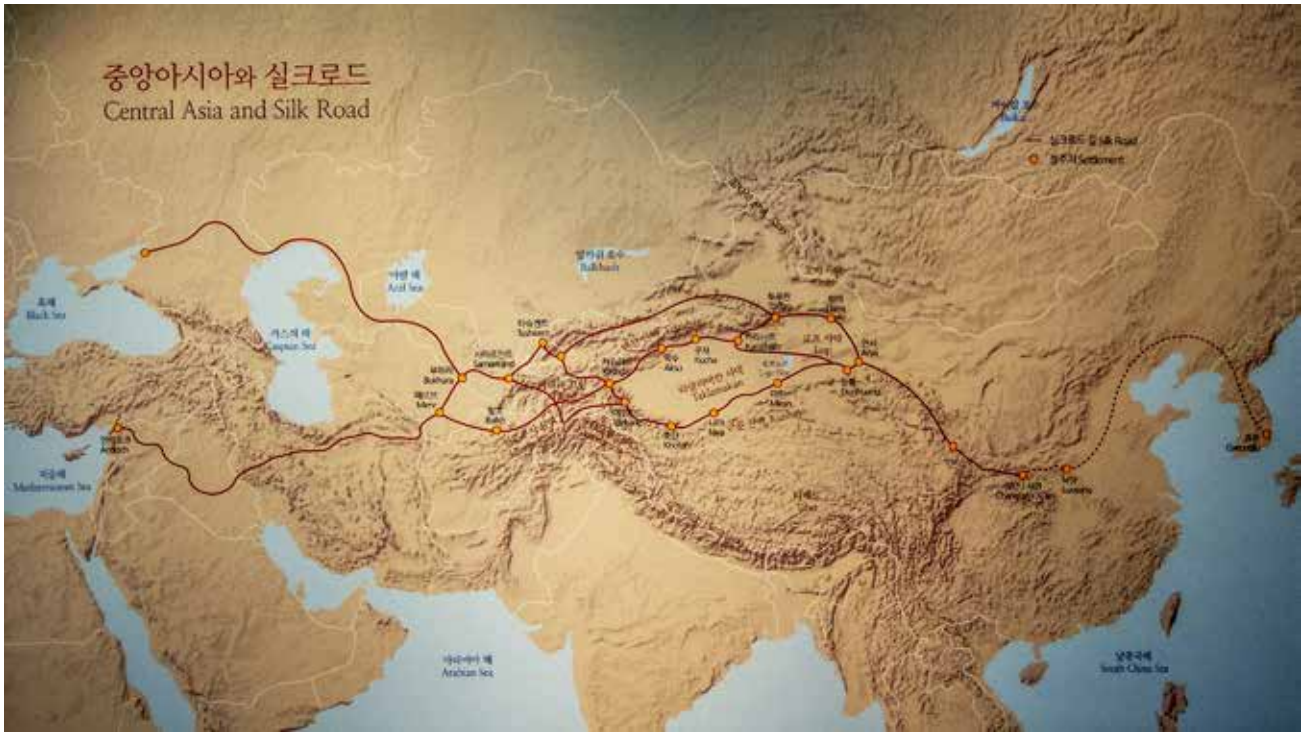
(below) Silk pouch, Karakhoja, 13th–14th century (Inv. № Bon 4013).



(right) Bronze mirror, Turfan, 7th–8th century (Inv № Bon 3890), illustrating the story of Xu You, a man of virtue who declined the throne.

Lamp, Khotan.

Wooden shoes, Turfan, 6th–7th century (Inv. № Bon 4122).



As the map at the entrance to the Central Asia gallery reminds visitors, in the east, the Silk Roads did not stop in Chang'an but reached as far as Gyeongju. In another context, it would be reasonable to extend the route beyond to Japan, as the Sinan shipwreck itself suggests.

Caren Dreyer. *Abenteuer Seidenstraße: die Berliner Turfan-Expeditionen 1902–1914* / mit einem Geleitwort von Hermann Parzinger; Museum für Asiatische Kunst, Staatliche Museen zu Berlin. Leipzig: E. A. Seemann, 2015. 271 pages. ISBN 978-3-86502-366-7.

The purpose of this book is to give future visitors to the new Humboldt-Forum in Berlin, which will exhibit the collection of the Museum of Asian Art, background information about how the world famous murals and all the other splendid artifacts came from Xinjiang to Berlin. The opening of the Humboldt-Forum in the rebuilt Castle of Berlin in the center of the city is scheduled for 2019.

From 1902 to 1914 four expeditions traveled from Berlin via Russia to the Turfan region and explored ruins along the northern rim of the Taklamakan Desert, that is, the northern part of the Silk Road. Caren Dreyer, an Indologist, who is staff member of the Museum of Asian Art in Berlin since 2001, had full access to the archives of the expeditions and also to some private archives. She uses these rich sources to describe the itinerary and to illustrate the ancient sites, to introduce the people living in the Turfan area, to document the activities of the expedition members, to portray the towns and oases, the local partners and their families and the living conditions of the expedition members in local houses. Quotations from letters send home by the leaders of the expeditions Albert Grünwedel (1856–1935) and Albert von Le Coq (1860–1930) draw a vivid picture of the exertion of work and travel. All I miss is a modern map of the region with all the place names. It would make it a lot easier to follow the route of the researchers. This book is not an analysis of the Buddhist paintings or the manuscripts unearthed in the Turfan region.

The first expedition started in Berlin, 11 August 1902, led by Albert Grünwedel, accompanied by the Indologist Georg Huth (1867–1906) and Theodor Bartus (1858–1941), a former captain and now handyman in the Museum of Ethnology in Berlin. The expedition ended 5 July 1903 in Berlin. They needed about 15 weeks to get to the Turfan region. This and the following journeys were supported by Wilhelm Radloff and the Russian Academy of Sciences in St. Petersburg, who bought the tickets, organized all necessary permissions, provided a letter of protection (*Otkrytyi list*), and arranged for the luggage to be sent custom-free. The Russian researchers had difficulties in getting an expedition of their own funded and were very keen to obtain more information about this region. The Berlin and the St. Petersburg researchers agreed to respect each other's area of interest.

The second and the third expedition belong together. They are only counted as two expeditions because the first one was led by Albert von Le Coq and the third by Albert Grünwedel, who wanted to publish the results of his expedition first before starting a new one (!). Therefore Albert von Le Coq was charged with the second expedition, which started in Berlin 12 September 1904; Grünwedel followed him one year later, 17 September 17 1905, after his book was in print. Le Coq returned to Berlin via India on 7 December 1906 and Grünwedel on 9 June 1907.

The last expedition started in Berlin 31 March 31 1913, but Albert von Le Coq and Theodor Bartus had to travel at their own risk, since otherwise the foreign ministry would not sanction the trip. After the revolution in China in 1911 the region was still in uproar, old hosts and friends were killed, and during the stay in Turfan Albert von Le Coq realized that foreigners hunting for antiquities were no longer welcome by the new government. Le Coq used this expedition to ship as many murals as possible to Berlin, and the harvest of murals was much larger than before. They returned to Berlin on 13 March 1914, about four months before the start of World War I. But it was during World War II that parts of the collection suffered from bombing and looting with the result that very large murals in particular were destroyed forever, and other pieces are on display or in the storage of the Hermitage in St. Petersburg.

The two main actors were of quite different character. Following the arguments of Caren Dreyer one gets the impression that Albert Grünwedel was more a responsible scholar interested in research and rescued only threatened murals, whereas Albert von Le Coq behaved more like an explorer and trophy hunter seeking fame.

Caren Dreyer's lavishly illustrated book makes a lot of sources available in excellent printing quality. For readers or visitors to the upcoming exhibition who are interested in more, there is a complete database of the 1188 expedition photos available online (<http://www.smb-digital.de/eMuseumPlus>, Museum für Asiatische Kunst, Fotoarchiv) and the same is true for the discovered manuscripts, more than 44.000 pieces in more than 20 scripts and languages, the world's most comprehensive and varied collection (<turfan.bbaw.de/dta/>). The Museum of Asian Art has done an outstanding job of opening their collections to scholars and enthusiasts of the Silk Road.

The idea behind the book is quite similar to the one published for the new China exhibition in the Museum of Far Eastern Antiquities in Stockholm (Magnus Fiskesjö and Chen Xingcan. *China before China*. Stockholm: Östasiatiska museet Corporation, 2004) with one important difference: our colleagues in Sweden published one book in their native language and a second one in English and Chinese. The Humboldt-Forum will be a major tourist attraction, and the shop in the museum should offer this useful guidebook in English and Chinese too.

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Esther Jacobson-Tepfer. *The Hunter, the Stag, and the Mother of Animals. Image, Monument, and Landscape in Ancient North Asia.* Oxford: Oxford University Press, 2015. 413 pp. ISBN 978-0-19-020236-1.

The most recent book by Esther Jacobson-Tepfer is a definitive work that culminates from a long career of devising productive analytical paradigms for studying the often-assumed straightforward art of the Eurasian steppe. In this magnum opus, she considers artistic images and motifs as contributing to and constituting "signifying structures" of beliefs among early herders and hunter-gatherers. The accompanying narrative of centuries of changes in artistic vocabulary, execution, and context aims to elucidate shifts in beliefs amidst the *longue durée* of social and economic transitions from the Neolithic through Bronze Ages. Although the narrative extends, within the late chapters, into the upheavals of the Early Iron Age, the main emphases and strengths of this book lie in the novel analytical approaches applied to the earlier eras for which current archaeological remains are relatively scarce and for which plausible explanations of the seemingly enigmatic and changing artistic traditions are equally few.

The book focuses on the Siberian taiga and Altai mountain regions of North Asia, where forest-steppe meets grassland-steppe. The swathe of examined rock art includes findings from the corners of the converging countries of Russia, China, Mongolia, and even Kazakhstan, though the majority of data for this book come first from decades of previous scholarly documentation in Russia and second the author's own extensive fieldwork in the Mongolian Altai (Jacobson-Tepfer et al. 2010). In her comprehensive engagements with the large corpus of data, Jacobson-Tepfer couches the extant information exceptionally well within the history of Russian scholarly practice. She deftly demonstrates the effects of contemporary politics throughout the Soviet and post-Soviet eras on survey agendas and methods to document rock art, on human-induced destruction of art in the landscape, and on interpretive approaches to the art produced by pre-historic hunters and herders.

That said, one of the largest obstacles in modern scholarly pursuits of prehistoric art and its meanings, she argues, is the seeming fixation on ethnographically documented shamanic traditions that have "claimed the passionate attention of modern scholars" (p. 318; cf. Price 2001). In contrast to traditional approaches to early rock art, which seek to explain the images and settings through a framework structured by ethnographic records of shamanistic logics and practices, Jacobson-Tepfer employs ethnographic studies at the end of analyses as one of many possible sources for assisting in interpretation. This tactic allows greater rational room for more subtle patterns or alternative symbolic structures that might guide interpretation (p. 314); in many ways, it lets the art speak for itself. In this same vein, Jacobson-Tepfer places her theoretical considerations of an "archaeology of belief" at the end of the book, again allowing the rock art to breathe, so to speak, and letting the data and its many patterns guide our study of past beliefs and the societies that engendered them.

In regard to the recurrent proclivities toward ethnography-derived shamanistic explanations of prehistoric art, Jacobson-Tepfer maintains that much of this art is characteristically *pre*-shamanic. Rather than seeing shamanism as a natural and innate belief of steppe peoples, much less the foundational belief system of Siberian prehistoric groups, she argues through her presentation of prehistoric developments that "drawing on the archaic roots of myth and clan cults, shamanism was in some sense a late-comer, the last layer of belief within the deep sedimentation of time" (p. 351). Her overarching narrative is thus not one of timeless traditions but rather of continual transitions – in subsistence regimes, in social practices, and in beliefs and their artistic renditions. Her careful considerations of the long and fluid time frames of rock art present the shift from hunting to herding not as a watershed event but as a long transformative process. Most notably, there appears a significant delay between evidence in the archaeological record for pastoral lifeways and the appearance of herding motifs in rock art (p. 159). These shifting lifeways are presented as closely related to shifts in beliefs, and as demonstrable through changes in styles, themes, and contexts of rock art.

Jacobson-Tepfer purports an archaeology of belief as the most apt paradigm for studying the range of art on stone. She presents it as an alternative to an archaeology of structured religion, and an approach that seeks not concrete meanings as a way of understanding past societies and their art. Although in several instances her explanations of the art appear to fall into the attractive traps of determining specific beliefs and ideas, her overall model for an archaeology of belief provides a way of exploring ancient art and structures free of articulated or systematic constructs of religion (cf. Rowan 2011). The components and settings of these images intimate a structure of underlying beliefs, even if we may, as Jacobson-Tepfer rightly does, only pose conjectures of the specific ancient beliefs.

It is within such a paradigm of belief that Jacobson-Tepfer constructs her model of signifying structures. The first chapter, in which she outlines her approach, confirms the tightly interwoven and structured relationship between myth and art upon which "signifying structures" are fabricated. Each of these artistic structures, she argues, is "composed of *image/object* + *pictorial context* + *physical context*…its effect shifting depending on the physical context" (p. 11). In the variable of *image*, she closely considers specific elements and their often modified appearances from so-called natural conditions. In the case of animals, images are often "evocative" of actual creatures rather than realistic depictions of them (p. 39), and even animals or people that may have been attempts at realistic renderings often occur within compositions that are themselves unrealistic. Jacobson-Tepfer repeatedly provides explanations, couched within logics of structured belief systems, as to how seemingly conflicting images, such as the hunting of wild

animals and couples in sexual embrace (pp. 136-43), may in fact be seen as complementary components of a narrative trope.

The subsequent variable of *pictorial context* unpacks the complex palates only to reassemble them via a logic of belief that makes sense of the seeming enigmatic configurations. Pictures are compositions alloyed from real beings and experiences but meant to form *displaced* rather than *direct* narratives (pp. 168-69) of a mythic world. The scenes and their components should thus not be taken as unadultered reflections of the contemporaneous society. The collective components are seen not as totemistic motifs of a systemic shamanistic pantheon but as beings and actions that only together reflect mythic tropes of pre-shamanism beliefs. The even broader variable of *physical context* addresses rock art as contextualized within both *place* (ritual or habitation) and *path* (hunting or herding migration routes) of the ancient and changing landscapes. The larger geographical context of these composite pictures relate to a destination, embedded with both practical and ritual significance, of thoroughfare as well as habitation for the hunters and herders.

For example, the combined consideration of image element, total picture, and physical context is especially important for the interpretation of figures of the so-called chariots of the steppe. Their placement, as images etched onto high hilltops reaching for the sky or even as objects placed within burials, suggests a ritual significance of the journey of deceased to the afterlife. The notion of a swift vehicle speeding across the rugged, even if "open," steppe is markedly displaced from reality and meant to reflect more mythic narratives (p. 205; Figs. 6.1-6.2).

Yet while the *physical context* for art etched onto rock outcrops and hilltops of the various valleys is given due consideration, the additional *archaeological context*, whether for rock art found on stones within burials or the comparable elements of material culture and ritual practice evident in the archaeological record, is not fully addressed with the same degree of attention. Jacobson-Tepfer implicitly relies on, rather than explicitly draws upon, the complete array of ritual monuments – their complex features or their patterns in the landscape – and the archaeological remains unearthed from them. The three analytical components of the book title – *image*, *monument* and *landscape* – seem at first to echo Jacobson-Tepfer's three aspects of signifying structures, but in this case a consideration of the pictorial palate appears to have replaced empirical considerations of the array of corresponding monuments that occur in an array of carved stone stele, stone mounds, and accompanying ritual features (Allard and Erdenebaatar 2005; Wright 2007; 2012; Pan 2008; Baiarsaikhan 2009; Houle 2009; Fitzhugh and Bayarsaikhan 2011).

This may be due to the majority of contexts for known rock art occurring not on human constructs but on natural outcrops. Jacobson-Tepfer is correct to call out the overwhelming bias among researchers of Bronze Age etched art toward stone stelae (e.g. Volkov 2002). But just as the monumental stelae should not "steal the show" from the more numerous depictions of stags and other animals on rock outcrops (pp. 232-33), so should the magnificent images carved (or sometimes painted) on stone palates not detract us from a consideration of the equally important and robust archaeological record of ritual constructions (with or without rock art), faunal remains, human remains, tools and weaponry (sometimes with corollary artistic renderings), and mortuary structures, all of which constitute data and contexts that must be considered if we are to fully address the beliefs and social practices of peoples in ancient North Asia.

What remains then is a further and equally thorough comparison of the rock art components of the ritual landscape with the monumental components, as well as contents, that pertain to ritual practices and beliefs. These include many features mentioned in the chapters such as the depictions of so-called masks carved on stone stelae or painted on stone slabs (Figs. 2.9, 2.11). What are researchers to make of the purported correlations of these masks to actual masks elsewhere, like those found in the Taklamakan desert at the site of Xiaohe (Guo 2012)? What are the relationships between artistic renditions of masks and liminal beings and the sizes, structures, features, and animal and human remains found in some of their monumental contexts? How might we compare the patterns of rock art placement in the landscape, addressed in this book, with patterns of contemporaneous monument placement in the landscape, a topic opened for discussion by the data compilations on local compendiums (e.g. Törbat et al. 2009) as well as Jacobson-Tepfer's own work (Jacobson-Tepfer et al. 2010)? Virtually all known rock art and monument sites for the Bayan-Ölgii region of northern Mongolian Altai have been comprehensively documented and are even available on-line from Jacobson-Tepfer's project webpage (<https://mongolianaltai.uoregon.edu/theproject.php>). Any reader of this book who knows of these extensive mapping efforts certainly eagerly awaits Jacobson-Tepfer's next study that will hopefully combine these etched/painted *pictorial* signifying structures of the ritual landscape with the analyses of the built *monumental* signifying structures into a master study of ancient beliefs and ritual practices – a call for multi-variate studies echoed even within the opening and closing pages of this book (pp. 12, 359-60).

In addition to the novel "structured" analyses presented in this book, the accompanying appendix – "The Dating of Rock Art" (pp. 371-84) – bestows a methodology, which echoes throughout the text, that further benefits the study of prehistoric art. Jacobson-Tepfer likens her approach to an "archaeology" of art that delves into layers of composition, even within a singular panel of rock art. This emphasis on chronology further highlights dynamic phases of imagery with distinct changes. Jacobson-Tepfer skilfully argues that variables of *patina* and *overlay/juxtaposition* present the most concrete approaches via physical versus conceptual analyses. Considerations of the reuse of rock planes with overlapping images and the reuse of stones, both re-illustrating their surfaces and replacing them within new appropriative contexts, give a temporal and spatial depth to the pecked and painted images. Yet the art found on rock outcrops across the landscape, save for the occasional overlapping engravings, is less like an excavation pit with stratigraphic layers and more often like a collection of archaeological artifacts recovered from a surface scatter survey devoid of layered deposition. Across the landscape

are spread elements clearly from different periods but without the benefit of separate depositional layers and often devoid of firmly datable materials, thus making it harder to devise a clear chronology. What could be distinct phases blend together into uncertainties, and only a consideration of the full corpus of art in every context can bring us closer to a periodization of rock art.

This book synthesizes just such a comprehensive corpus, rendered through the aid of ample photographs (Gary Tepfer) and rich drawings (Lynn-Marie Kara), that may be employed as a useful reference guide to the art of the prehistoric Eurasian steppe. The utility of the beautifully drawn renderings by Kara of actual stelae, artifacts, and etched art is especially apparent when photography, no matter how high the quality, is unable to fully present the details of the art as it is seen with the naked eye by a viewer in person. Compare, for example the photo of Fig. 4.29 with the corresponding drawings of Figs. 6.1 and 6.2. Herein lies the admirable nature of Jacobson-Tepfer's integration of photos and drawings with detailed descriptions and often in-person analyses of the rock art within its natural setting.

The last of several major contributions of this book is Jacobson-Tepfer's call to engage in an archaeology of *belief* rather than pursue an archaeology of *religion* for the study of prehistoric societies such as those in North Asia. Her stated goal is "to identify significant signs and symbolic structures that might guide an exploration" into, rather than a codified *explanation* of, past rituals and symbolic art (p. 314). This outlook underscores the pitfalls not only of letting modern ethnographies of contemporary shamanic practices frame our understanding of archaic beliefs and their artistic renderings, but also of the frequent pursuit by archaeologists to reconstruct whole belief systems, or even impress an "articulated theological system" when none may have existed, and to determine the exact meanings of motifs and practices (p. 353). Nevertheless, Jacobson-Tepfer's caution purports neither a lack of any manner of belief systems among prehistoric groups nor a futility in exploring signifying images and monuments. Instead, she maintains a positive outlook on the possibilities for artistic analyses to reveal "persistent understandings regarding orientation and significant space" (p. 355).

Recent archaeological approaches to similar art and structures have placed equivalent emphases on ritual practices and experiences, rather than exact symbolisms or meanings, arguing that comparable ritual expressions may exist without a conformed set of practices (Fogelin 2007; Kyriakidis 2007; Insoll 2011). And although reaching "beyond belief" into an archaeology of religion may in many instances be a plausible and valid pursuit (cf. Rowan 2011), Jacobson-Tepfer clearly demonstrates that the case of prehistoric North Asia, by the availability and nature of its remaining record, is best suited to a more accommodating archaeology of belief.

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Exhibitions in Retrospect

Joachim Meyer and Peter Wandel. *Shahnama: The Colorful Epic about Iran's Past*. Copenhagen: The David Collection, 2016. 210 pp. ISBN 978-87-88464-15-3.

Zhao Feng, ed. *Silks from the Silk Road: Origin, Transmission and Exchange*. Zhejiang: Zhejiang University Press, [vii] + 231 pp. ISBN978-7-308-15089-7.

Neville Agnew, Marcia Reed, and Tevvy Ball. *Cave Temples of Dunhuang: Buddhist Art on China's Silk Road*. Los Angeles: The Getty Conservation Institute, 2016. xvi +292 pp. ISBN 978-1-60606-489-4.

Since all three of the exhibitions presented in these fine volumes are now history, it is impossible to review them except retrospectively through the lens of the books and whatever auxiliary materials may be available on the websites of the hosting institutions. I would be the first to advocate actually seeing the material in person, in part because the way it is presented when expertly curated adds immensely to the understanding of any individual object when seen by itself, in a different context or through some print or digital lens. Yet exhibitions do live on through their catalogs, and those catalogs in themselves may provide much which would not have come from what tends, in such museum exhibitions, to be a too brief and one-time walk through the galleries. What then can we who were not privileged to visit the exhibitions learn from these books? I will take them in sequence, saving the Dunhuang exhibition for last, for reasons that should become apparent.

The David Collection in Copenhagen houses one of the best collections of Islamic art anywhere in the world. Here in the *Shahnama*, the curators present the largest special exhibition the museum has mounted to date, drawn, with one exception, from the museum's own holdings. The purpose here is to introduce one of the great classics of world literature, Firdawsi's poetic rendering of Iran's national epic completed in the year 1010, a work too little known outside Iran but which can be brought to life via the vivid illustrations of the text which occupy such an important place in the history of Islamic miniature painting. The David Collection is fortunate to own a representative group of those illustrations, ranging in date from the early 14th century down into modern times and produced across a broad expanse of the Islamic world. Presented here in exquisite color photographs (the work of Pernille Klemp), often with closeup details, the manuscript leaves in may cases may be viewed in or close to their actual size. Facing each of the 55 full-page album leaves is a page with descriptive and analytical text. The catalog is prefaced by several essays, all very clearly written for a general audience. Peter Wandel writes about "The Poem, the Poet and the Work's Lasting Relevance." Joachim Meyer's essay is on the imagery, Claus Valling Pedersen's subject is the place of the text in the literary and political landscape, and lastly, Emil Madsen Brandt contextualizes it in "The Art of Storytelling, and the Iranian Coffeehouse."

As Meyer and Wandel warn us, they have taken some liberties with the text, in that for clarity of exposition they have rearranged some of the original order and focused on a few of the key characters, thus allowing the uninitiated to obtain a kind of sequential narrative that progresses more or less chronologically from the early kings to the era of the Sasanians. A major section deals with the heroics of Rustam, who fought Iran's enemies and various monsters. One of the important themes, represented in various battle scenes, is the conflict between Iran and Turan, the world of the Turks. Later we meet Iskandar, better known from the Western perspective as Alexander the Great.

For any exhibition, one might reasonably ask to what extent is what it contained still available to view after its doors have closed. In the intimate confines of the David Collection, one would now not be able to see the same sequence all in a single location, since they had to move out temporarily a portion of the museum's also significant collection of modern Danish art to create enough space. (For some photos of the original installation, along with an overview essay and a selected group of the miniatures, go to <http://www.davidmus.dk/en/current_events/tidligere_saerudstilling/special-exhibition-shahnama>.) However, presumably some of the miniatures still can be seen in the museum's chronologically arranged galleries presenting different periods and regions of Islamic art. For the entire collection, visit the museum's website (https://www.davidmus.dk/en/collections/islamic/materials/miniatures/art), where each miniature can be viewed in Pernille Klemp's beautiful photographs and enlarged so as to see even the smallest details. The descriptive texts on the web pages do not replicate those which were written for the exhibition, but they are quite adequate to inform about the significance of each image. Thus, since almost the entire exhibition was from in-house resources, it can be re-assembled after the fact. By presenting its collection in such high resolution images (the website also has accompanying information on dynasties, periods and cultural context), the David Collection is a model for what one hopes, increasingly, other museums will emulate.

The inspiration for mounting an exhibition may vary, with contemporary geo-political and economic concerns sometimes providing impetus and making possible the necessary funding and institutional support. Such seems to have been the case with *Silks from the Silk Road*, mounted in 2015 in Zhejiang (and apparently, repeated later in Qatar), where credit is given at the outset to the Chinese government's initiative of creating a "Silk Road Economic Belt" and promoting the "21st Century Maritime Silk Road." One has been reminded very recently of this initiative by

news reports of the first Chinese train arriving in London after having traversed this new "road." The underlying idea in the exhibit then was to use the example of textiles to illustrate the historic interactions between China and the West and to mark in addition the inscription of the Silk Road on UNESCO's World Heritage list. There have been Silk Road exhibitions aplenty over the years, but this one indeed had as its specific focus silk, starting with the evidence for the domestication of silk production in China some 5000 years ago and proceeding (with but a brief modern coda) down through the Tang Dynasty.

The book opens with essays by Rong Xinjiang, "The Silk Road is a Road of 'Silk'," in which he deliberately pushes back against alternative designations that emphasize other products as the focus of Eurasian exchange, and by Zhao Feng on the origins of domesticated silk and the development processing and weaving. Rong is one of the most respected historians of the Inner Asian silk roads, and Zhao Feng, who heads China's National Silk Museum, is generally acknowledged as the leading expert on Chinese silk.

The catalog is loosely organized geographically, moving east to west, but with chronological arrangement of entries within each major section. So we begin with "Origins in the East," which I found to be of particular interest for its inclusion of some of the earliest archaeological evidence about the domestication of silk production in China, before moving on to examples of silk and Tang Dynasty *mingqi* which show us the clothing made from it. The following section "Opening to the World" introduces exchanges with the "Western Regions" where of particular interest for me are bamboo slips (the Chinese texts translated here) listing post-house distances along the way from Chang'an to Dunhuang. The evidence of the silks themselves indicates that exchange of techniques and styles moved in both directions. The next section focuses specifically on evidence from those "Western Regions" of Inner Asia, many of the excavated examples from well-known sites such as Niya and the Astana Cemetery. We find here our old friend Yingpan Man, and silks from the probably less familiar Dulan cemeteries on the Tibetan plateau. While the Central Asian origin of many of the silks is posited, exactly what that may mean concerning their provenience is left rather vague, and there is practically no suggestion here of there having been a specifically Sogdian silk industry. The final section, "Localization and Diversity" explores further the developing sophistication and integration of different weaving techniques. Much of the material is from documented excavations, about which the individual essays generally tell us quite a bit for context. While many of the examples have been presented in generally accessible previous publications for English-speaking audiences, there is also a lot which may be new to most readers. The exhibition drew on several major collections across China.

The book can stand by itself as an introduction to the subject of Chinese silks. The illustrations are high quality, often with drawings to clarify patterns that may not come across clearly from the photos. The English of the texts is generally very good, occasional lapses being easy enough to decipher. There are good maps on which one can locate all the archaeological sites, and a chronological table of dynasties and periods. A glossary explains technical terms, with closeup pictures so one can see the weaves and the few examples of the plants which produced the most common dyes.

Those who would wish for more though might consult the encyclopedic *Chinese Silks* (Yale Univ. Pr., 2012), to which Zhao Feng 赵丰 was a major contributor, his earlier *Treasures in Silk* (Hong Kong, 1999), which is organized chronologically and, like the Yale volume, covers additional centuries, and his *Legacy of the Desert King: Textiles and Treasures Excavated at Niya on the Silk Road* (Urumqi and Hangzhou, 2000) with its abundant illustration of the artifacts which were found along with one of the most important collections of well-preserved silk textiles from the Western Regions. As near as I can tell, the exhibition in 2015 has not left a significant presence on the Internet.

My initial immersion in the history of the eastern part of the Silk Roads came not from a focus on silk but rather through the study of Buddhist art at the Mogao Caves outside of Dunhuang, which is located at the far western end of Gansu Province on the edge of the desert. Committed to teaching a course about the silk roads during the following academic year, I took a leap into the unknown and enrolled in a six-week summer institute in 1998 co-sponsored by the Silkroad Foundation and the Dunhuang Academy at Mogao. We had unparalleled opportunities to visit the caves (entering more than 100 of the painted ones and also getting to visit the northern grottoes which apprently had been used as simple residences) and explore the surrounding landscapes, wandering the hills south of the caves and even spending a night at the Guanyin temple atop Sanwei Mountain to their east. A decade later, I was able to spend another few weeks at Mogao in a follow-up program. So the exhibition mounted at the Getty last year naturally was of huge interest to me even though I was unable to attend it.

Given its long association with the Dunhuang Academy in conservation projects and the other resources it has, the Getty was uniquely positioned to be able to mount the first major exhibition specifically focused on Dunhuang (that is, not just treating it as part of the larger Silk Road).[1] Understandably, the emphasis here was not simply on the art of the caves and the artifacts taken away (mostly to Europe) from the "Library Cave" back at the beginning of the 20th century. In fact, artifacts as such, were a relatively small, if essential, part of the exhibition, all of them carefully selected to reveal a great deal about not only Buddhist art, but Buddhist belief and practice. The emphasis on belief and practice is at the forefront of the catalog essay by Hseuh-Man Shen and Mimi Gardner Gates ("The Buddhist Cave Temples of Dunhuang: Art, Spirituality, Cultural Heritage") which is a model for what catalog essays should do to integrate meaningfully into a coherent introduction key items from the exhibit itself.[2] I was particularly struck by the inclusion among the objects of two ink altar drawings, one a kind of idealized scheme somewhat resembling a mandala and the other a diagram which indicates the actual placement of ritual objects on and around the altar. What is too often missed when we see images of the caves as they are today is any sense of the ritual context(s) (more than one "functional" designation might have been envisaged by the creators). Some of the earliest photographs of the cave interiors show the altars

still in use, structures, hangings and implements in place, all of which is today gone. Including such a photo here would have complemented nicely the discussion of the 10th-entury diagrams. Assuming that the painted banners were often displayed and not merely locked away after acquiring merit for those who sponsored their creation, it also would have been of interest, to have had a reconstruction of how in fact they might have been displayed either within the caves or hanging from their façades.

The individual item descriptions in the catalog (the work of Michelle McCoy) are substantial essays on their own. I had seen some of these items before (see the accompanying page of images). It is impressive that the British Library loaned one of its greatest treasures, the printed copy of the Diamond Sutra, made in the year 868, the earliest complete printed book known (for a photo reproduction of the entire scroll, enlargeable, go to <http://www.bl.uk/turning-the-pages/?id=1c92bc7e-8acc-49b3-9a27-b5ad8f44230a&type=sd_planar>). A small selection displayed in the British Museum in 2007 in conjunction with a conference sponsored by the International Dunhuang Project included the remarkable embroidered 8th-century image of the "Fanhe Buddha" (Cat. № 10, pp. 204-206) (MAS.o.1129 [Ch.00260]), the scroll with the remarkable landscape paintings that form the backdrop to scenes from the life of the Buddha (Cat. № 13, pp. 210-211) (1919,0101,0.97 [Ch.lv.0012]), the Vajrapani banner (Cat. No. 42, p. 270) (1919,0101,0.132 [Ch.xxiv.002]), the Buddha names sutra (Cat. № 28, pp. 244-245) (BL, OR.8210/S.253), and the banner depicting Avalokiteśvara as Guide to Souls (1919,0101,o.46 [Ch.lvii.oo3]), analogous to the one loaned for to the Getty (see p. 217). My appreciation of all these has been considerably enhanced now by reading the Getty catalog entries. Would that the Getty post this part of the book in its entirety to its website.

One goal of the exhibition was to provide a meaningful sense of the iconographic context for the drawings, manuscripts and banner paintings. One way to do this is through photography, where the catalog includes abundant high-quality illustrations of cave interiors and details from many of their murals, though unfortunately not always juxtaposed where one might wish to find them next to the manuscript material (for example, Fig. 6, p. 145, a peasant plowing depicted in Cave 85, and the preparatory sketch, on Cat. № 38, p. 267; or Guanyin saving those in danger from perils, Cat. № 16, pp. 218-221, and the small portion of the wall-size depiction in Cave 45 on p. 63, where it would have been wonderful to have more of that wall).

What the visitor to this material (now that the exhibition has closed) cannot adequately apprehend is the way in which three full-scale replicas of caves (two produced specifically for the exhibition) offered the next best thing to visiting Mogao. Yes, viewing replicas hardly can re-create the experience of actually visiting the caves themselves, but as the exhibition materials make clear, in many ways this can make it possible to see and understand more than one might do in what are inevitably the all too brief visits allowed in any one cave. One of the essays in the catalog, by Lou Jie, provides fascinating insights into how the accomplished painters of the Academy in copying the originals learned from the process about the techniques in the production of the murals. A section of the catalog explains how the replica caves were made, and a short video (one of many on the Getty website which relate directly to the exhibition) shows that process happening. For the users of the catalog though, more could have been done to provide a sense of what those replicas revealed. The fascinating Cave 285 probably is best served in this regard, but the very early Cave 275 is somewhat ill served. Even if one goes to the internet to view the caves through video or stitched images that allow one to move the viewpoint and zoom in on detail, at least so far that technology is no substitute for obtaining the sense of space and context one obtains by actually being there. I cannot judge the effectiveness of the "multimedia immersive experience" employing "experimental 3D technologies" (p. 145) mounted in the exhibtion that introduced visitors to the stunning Tang Cave 45.

Among the essays in the book is one co-authored by the recently retired Director of the Dunhuang Academy, Fan Jinshi, introducing clearly the process of construction, the cave architecture, and how it changed over time. Director Fan also co-authored an essay reflecting on the recent history of the site and the serious challenges it faces in the future, the latter subject also the focus of an essay by Neville Agnew and Wang Xudong. Addressing those challenges is one of the main themes of the exhibition, which explained in some detail the decade-long restoration and conservation project of the Getty and the Academy in the late Tang Cave 85 that has served as a test bed and model for what needs to be done for almost all the other caves to ward off decay and destruction (see the essay by Lori Wong and Su Bomin). One of the most serious problems now is the exponential growth of tourism to Mogao, which is overwhelming any reasonable program to allow controlled access to the caves themselves, each visit marked by a sharp spike in temperature and humidity that damages the paintings. The Mogao Caves were aniong the first sites in China to receive World Heritage designation by UNESCO, but that can be a mixed blessing in its promotion of tourism. The surge in Chinese economic growth and consequent social changes has led to an explosion of domestic tourism. Even without this human impact, there are threats of the painted layers peeling off the walls on their own, the potential for serious destruction by an earthquake and more. Increasingly then, those who come to Mogao will have to experience the caves virtually in the new visitor center at Dunhuang. Access to the caves themselves has for some time been limited, in part by a sliding scale of entry fees which makes many of the more interesting (and fragile) ones too expensive for ordinary mortals. Developments outside the control of the Academy based on commercial calculation constitute another threat to the integrity of the site, one such being a plan to create a kind of Disneylandish tourist complex not far from the caves.

Among the important collaborators in the exhibition were the British Library and British Museum, which provided the majority of the manuscripts and banner paintings from the trove removed from Dunhuang in 1907 by Aurel Stein. Another of the most significant collections, in France, taken there by Paul Pelliot's expedition the year after Stein visited Mogao, also loaned material. While Neville Agnew, who has headed the Getty's conservation program at

Dunhuang since its inception, characterized this removal of Dunhuang treasures as "deplorable," he also makes clear in his introductory essay (co-authored with Marcia Reed) that the availability of the Dunhuang material in Western repositories helped to produce a whole new field of scholarship and appreciation for the history and culture of the silk Rroads. The International Dunhuang Project (IDP) at the British library (idp.bl.uk) has been bringing together in digital form the scattered treasures from the Library Cave and other materials from the various expeditions along the eastern silk roads so that they can be freely accessible anywhere. Thus it was appropriate that one of the contributors to the catalog and the events coordinated with the exhibtiion was IDP's director, Susan Whitfield, who has written prolifically on the site's history. Her essay here is of interest for its emphasis on the key role of Dunhuang as a major center for long-distance exchange, without which the Mogao caves as we know them probably could not have come into being. Some of the objects in the exhibit were selected specifically to highlight how Dunhuang was an international crossroads—manuscripts with texts in Turkic runes (Cat. № 2), others with interlined Tibetan and Chinese (№ 6) or interlined Sogdian and Sanskrit (№ 5), prayers in Hebrew (No. 3), a Chinese translation of Christian texts (№ 4). At least in part Whitfield is responding here to Valerie Hansen's skeptical take (in her *The Silk Road: A New History*) on whether the "Silk Road" ever involved significant long-distance trade. Of course one has to recognize that the two scholars may be focusing on different parts of the same beast, where in fact, some reasonable middle ground can accommodate both long-distance and shorter, localized networks and interactions as well as differences in the scale of what it all may have meant in economic terms.

I am not sure how I would have responded to the exhibition at the Getty after the experience of my first encounter at Mogao itself. I can recall the cramped conditions within many of the caves, where one had to be careful not to brush against the walls, where a thin film of the ever present desert dust often obscured colors, where the dim lighting behind a pillar or the distance separating the viewer from a high ceiling might obscure details even if one came equipped with a good flashlight and binoculars. The complexity of the imagery in itself was overwhelming for the novice; by the time one had figured out two or three of the scenes, the allotted half hour was up. After two or three dozen of the caves over a period of a couple of weeks, the details began to blur. On my second visit in 2008, through no fault of our own, we experienced first-hand how the caves are under threat of self-destruction, when some pieces of ceiling murals detached and showered us with debris. At the same time though, we had a chance to see the conservation work underway in Cave 85, with its hope for the future.

My description of the cave visits may make them sound like a miserable experience. On the contrary, it was profoundly inspiring, a huge privilege to be there, and provided the impetus to keep returning to the material, if not the site, in order to learn more. One is exposed to both the intimacy of small spaces and the grandeur of the larger caves, even if so many of them no longer contain the original sculpture. The artistry inspired by religious devotion is extraordinary. Apart from visits to the caves themselves, we had unrestricted access to the replicas in the then visitor center; that did in fact offer the opportunity to explore and learn in depth. One can only hope that the virtual Mogao experience will make learning about this unique site that is so central to Silk Road studies easier and even more satisfying.

Beyond this book, which offers a great deal to introduce the caves and also to inform those who may already know something about them, there is much to be found on the Getty's website (<http://www.getty.edu/research/exhibitions_events/exhibitions/cave_temples_dunhuang/index.html>): lectures which were sponsored in conjunction with the exhibition (one by Victor Mair, another by Valerie Hansen), video footage of all the presentations at the accompanying symposium that honored Fan Jinshi, and several different videos on conservation issues. There is a link to the Dunhuang Academy's website, which promises more of the virtual experience beyond what, at least on first glance so far, is quite limited. One can follow a link to the IDP website for high resolution images of the manuscripts and banners which were in the exhibition, providing one can obtain a list of the inventory numbers to search them out. The IDP also is posting collections of the historic photos, a selection of which is reproduced in this book. For those who would want a slim, inexpensive and still excellent introduction to the caves, I would recommend Rorderick Whitfield, Susan Whitfield and Neville Agnew, *Mogao at Dunhuang: Art and History on the Silk Road*, the second edition (2105) of the book first published by the Getty in 2000.

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NOTES

1. Back in 2002, as part of a series of Silk Road events co-sponsored by the Silkroad Foundation and the Simpson Humanities Center at the University of Washington (Seattle), we explored seriously the possibility of mounting one of the Mogao Cave replicas in the university's art museum. However, problems of space, time and other logistical challenges prevented that from happening. We did display in the gallery of the university's school of art a selection of the superb photos by the lead photographer at the caves, Wu Jian, an exhibition which shared space with the equally fine photos of the Mongolian Altai taken by Gary Tepfer. I wrote a gallery guide for the photo exhibit, providing details of the several caves depicted in Wu Jian's photos.

In 2016, the Seattle Asian Art Museum mounted a small but beautifully conceived Dunhuang exhibit, featuring the photographs, mural reproductions and some artifacts from the collection of James and Lucy Lo, now housed at Princeton University (see the brief overview of the exhibit, <http://www.seattleartmuseum.org/exhibitions/dunhuang>). The Lo collection of photos taken during an extended stay at the caves in 1943-44 is one of the most important sets of images documenting them on the eve of the preservation and conservation work now supervised by the Dunhuang Academy.

2. In his introduction to the symposium in Los Angeles at the Getty honoring the recently retired Director of the Dunhuang Academy, Fan Jinshi, Neville Agnew took special note of the role played by Director Fan and Mimi Gates in helping to organize the Getty exhibition. Gates is the Director emerita of the Seattle Art Museum and chairs the Dunhuang Foundation (<http://dunhuangfoundation.us/>), which is raising funds to support the work of the Academy and conservation at the caves.

The Mogao Oasis from the east

All photos by Daniel C. Waugh

Silk banner depicting Vajrapani, ca. 851–900 (Cat. № 42). Photo taken in British Museum, Inv. № 1919,0101,0.132 (Ch.xxiv.002).

Lokopala (guardian figure), ca. 8th century, from Mogao grottoes (Cat. No. 36). Photo taken in Musée Guimet, Paris, Inv. № MG 17761.

Lokopala (guardian figure), ca. 8th century, from Mogao grottoes (Cat. No. 37). Photo taken in Musée Guimet, Paris, Inv. № MG 17762.

Tribute horse and camels, probable piece from scroll of Cat. № 7, ca 10th century. Photo taken in National Museum, New Delhi.

Silk banner with scenes from the life of the Buddha, ca. 8th-9th century (Cat. № 13). Photo taken in British Museum, Inv. № 1919,0101,0.97 (Ch.. lv.0012).

Embroidered silk banner on hemp backing depicting Miraculous Image of Liangzhou (Fanhe Buddha), ca. 8th century Cat. № 10). Detail. Photo taken in British Museum, Inv. № MAS,0.1129 (Ch.00260).

Buddha Names Sutra, ca. 9th-10th century (Cat. № 28). Photo taken in British Museum, BL shelf mark Or.8210/S.253).

Michael Shenkar. *Intangible Spirits and Graven Images. The Iconography of Deities in the Pre-Islamic Iranian World*. Leiden and Boston: Brill, 2014. xxii + 392 pp., 189 figures, 32 color plates. ISBN13: 9789004281486; E-ISBN: 9789004281493.

Michael Shenkar's book, based on his doctoral dissertation, is a much-needed survey of Iranian pre-Islamic divine iconographies. It is the most complete publication about Mazdean (or Zoroastrian) divinities, which he considers from the point of view of both the written sources and, primarily, the figurative arts. The book can be divided into three main parts. The opening section discuss in general terms the aim of the book and the traces of Iranian (Zoroastrian or Mazdean) deities in written sources (pp. 1-45). The latter section is particularly interesting and exhaustive since the author includes the Chinese sources that are rich in information especially for Sogdian pre-Islamic religion. The core of the book is the second part, on the "iconographical pantheon" of Iranian deities (pp. 47-174). In this clearly organized treatment, he takes up every deity in alphabetical order according to his/her presence in a western or eastern Iranian context, the emphasis being on the depictions in the figurative arts. The third and concluding part mainly focuses on the presumed "Sasanian iconoclastic attitude" that has been connected with "Iranian anthropomorphism" but, as he convincingly explains, has been based on wrong premises (pp. 175-90).

Shenkar's book will be a standard reference work for every student of Iranian iconographies on account of its completeness and the range of its bibliographical references, including work on Mesopotamian parallels and the often neglected publications in Russian, a language many scholars who work on Iranian materials do not read.

As Shenkar himself recognizes, there is much still needing to be done on this material. I expect to propose some additional considerations eventually in a separate treatment.

—Matteo Compareti
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[*The following are all written/compiled by Daniel C. Waugh.*]

Alii I[vanovich] Kolesnikov. *Sasanidskii Iran. Istoriia i kul'tura / Sasanian Iran. History and Culture.* Sankt-Peterburg: Nestor-Istoriia, 2012. 520 pp. ISBN 978-5-90598-710-6.

This book has been out for some years now, but, prodded by Matteo Compareti's commendation of Michael Shenkar for using the "often neglected publications in Russian," I decided to see to what extent anyone has paid attention to the work of Kolesnikov, arguably one of the most accomplished and prolific of those contributing to that Russian-language scholarship. The results of this admittedly quick search turned up little. Two libraries in the U.S. are recorded as owning this book; I came across no reviews of it outside Russia. Three recent volumes on Sasanian history published in English by prominent scholars do not cite any of his work, at least some of which arguably might have been relevant to their own studies. Granted, these impressions are but superficial, and, not being an expert on Sasanian history, I may not be the best judge as to the merits of Kolesnikov's work.

In any event, what we have in this volume is the substantially reworked re-publicatioin of two sizeable Russian-language monographs by the author, *Iran at the Beginning of the 7th Century* (first published in 1970) and *The Conquest of Iran by the Arabs* (first published in 1982), plus a number of shorter pieces, some first published in very small editions and possibly obscure places. Nicely printed, the book has a bibliography and indexes of personal names, toponyms and ethnonyms. Only a second title page and a Table of Contents are in English.

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Igor' V[asil'evich] P'iankov. *Sredniaia Aziia i Evraziiskaia step' v drevnosti /Middle Asia and the Eurasian Steppes in Antiquity*. Sankt-Peterburg: Peterburgskoe lingvisticheskoe obshchestvo, 2013. 736 pp. ISBN 978-5-4318-0014-6.

Despite its different imprint, this volume in all appearances is a companion one to the collection of Kolesnikov's scholarship noted above. Here we have the major works of P'iankov, whose argument about the location of Ptolemy's "Stone Tower" on the silk roads will be familiar to readers of the previous volume of this journal. His monographs and various articles, some of which have appeared outside of Russia in other languages, constitute one of the most important bodies of scholarship on the evidence in Classical texts about Central Asia. To have them here in one place is certainly useful; the work that had appeared in other languages has all been translated into Russian. The long appendix, which contains one of his most recent separate publications that is not even listed as such in the blbliography of his work contained in this volume will be of particular interest: his detailed study of "The Great Silk Road: The Itinerary of Maes Titianus." Supplementing his detailed analysis of the texts here are a dozen nicely produced maps, copying the originals published in separate works by Bernard and Baumann, but with P'iankov's version of the routes overlaid on them. The volume has indexes of personal names, toponyms and ethnonyms as given in the ancient texts, a brief summary in English, and the bonus of a short tribute to P'iankov originally published in *Vestnik drevnei istorii* in 1996 on the occasion of his 60th birthday. Of particular interest to me was the longer, warm and personal essay on him by his daughter, Tat'iana, recounting, inter alia, how after establishing his career in Tajikistan, the family managed to escape the civil strife that began there on the dissolution of the Soviet Union in the early 1990s and move to Novgorod, where he is a distinguished professor at the university.

WorldCat indicates that a good many libraries own this book, as well as several of the author's other monographs. One can only hope they are being used.

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Marianne Vedeler. *Silk for the Vikings*. Ancient Textiles Series, Vol. 15. Oxford and Philadelphia: Oxbow books, 2014 (reprinted 2015). x + 125 pp. ISBN 978-1-78297-215-0.

This elegantly printed volume by a textile expert at the University of Oslo will open the eyes of those who may think the silk roads terminated somewhere on the eastern shores of the Mediterranean. The author's strengths are evident in her careful exposition of what we know from Viking burials in Scandinavia, starting with the important collection of silk fragments found in the famous Oseberg Ship burial. One of the virtues of this treatment is her use (and reproduction of examples) of the color drawings made by Sofie Krafft at the time of the discovery, important now that the colors of the original silks have faded often to the point where the designs are almost invisible to the naked eye. Ultra-violet photography has confirmed the accuracy of Krafft's work. The book provides technical details of weaves, information (still only partial) about the dyes, and includes nicely drawn maps showing the locations of the Viking burials with silk scattered across Scandinavia, one notably near the Arctic circle in Norway at Ness; a major group found in the graveyards at Birka in Lake Mälaren in Sweden.

Vedeler raises interesting questions about how the silks may have been perceived by those who acquired them in Scandinavia, in contrast to how they may have been perceived by those who made them at their places of origin. Importantly, what we have here are primarily fragments cut from larger pieces and then sewn as decorative strips onto garments made of different textiles, with no regard for preservation of woven designs intact, and even in some cases, where the silks had suffered from wear on their obverse, shinier side, reversed so that the duller side was visible. Her speculative answer to the question of perception and significance involves the use of such silks as expressions of elite status, where in fact, one might imagine, there could be some overlap in the way the producing and recipient cultures employed the fabrics.

There are some things which might have been done better here. For one, the book might have been organized more logically for the non-specialist in textiles, who probably should want to turn to Chapter 3 on techniques first, and supplement it with the explanatory drawings on p. 85 toward the end of the book, in order to understand better the terminology. While the author does pay attention to archaeological context, her strengths lie in the region of Scandinavia. As she pursues the routes which may have brought the silk there (most likely through what is now Russia), she tends to conflate what may be a more distinguishable shift of trade patterns over time in the way that many do who buy too readily into the problematic stories in the Russian *Primary Chronicle* about the rise of Kiev. While she explicitly and correctly admits that sorting out the information in Arabic and Persian sources is difficult, given the way one author borrows from another, she nonetheless stops short of providing the kind of critique which would enable us to see why we might in fact prefer one account over another. And, despite the fact that she recognizes how one of the key sources referring to the fabric known as *zandaniji* specificies that it was cotton, not silk, she nonetheless accepts without question ideas about a flourishing silk industry in Sogdiana. Of course in saying this, I may be slightly unfair, having in mind Zvezdana Dode's article in the current volume of *The Silk Road*, but Vedeler's citations suggest she knows some of the evidence that might have given her pause.

In general, while she is cautious at every step to recognize there are uncertainties concerning the provenience of silks that may, if ever, be established only by much more extensive technical analyses than have been done to date, she also has a tendency not to risk taking sides when confronted with opposing interpretations. An example of this is in her paragraph (p. 59) juxtaposing the view of Agnes Geijer, who asserted the Birka silks most likely came from Byzantium, with the more recent reassessment by Annika Larsson, who argues for an Eastern origin via the Volga route.

Such criticisms aside, there is much here to stimulate and inform. The bibliography contains many leads to important sources for further information on a subject that merits our attention.

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Patrick Wertmann. *Sogdians in China. Archaeological and art historical analyses of tombs and texts from the 3rd to the 10th century AD*. Archaeology in China and East Asia, Vol. 5. Darmstadt: Verlag Philipp von Zabern, 2015. xiv + 336 pp. ISBN978-3-8053-4985-7.

Published in a series under the auspices of the German Archaeological Institute's Eurasian Division office in Beijing, this is a revision of the author's Ph.D. dissertation defended in 2013 at the Institute of East Asian History in the Free University of Berlin. It will be the starting point for any who wish to learn about Sogdian remains in China, more of which keep coming to light. The book is especially valuable for those who cannot read the original Chinese excavation reports and sources, since it provides both translations of excerpts from historical texts (epitaph inscriptions are summarized in detail but not translated) and extensive inventories and descriptions of both the excavated and unprovenanced Sogdian finds from China. In some cases there still is no full excavation report available. He has records here for 29 tombs, four ossuary burials and four objects in foreign collections assumed to have come from China. As the author indicates, his descriptions of the tombs and their contents follow closely what is in the Chinese reports that we have, although he also stands back in each case and draws conclusions about the significance of the finds. He has a particular interest in what the tombs reveal about religious belief and mortuary ritual, but also assesses the material from the art historical standpoint, placing it in a comparative framework of Sogdian materials from Central Asia in a substantial syncretic discussion on pp. 127-66. The book contains tabular summaries of tomb measurements and contents which make for easy comparison. There are 116 high quality plates with drawings of tombs and their inventories and photographs that include tomb inscriptions, the images on the slabs of funeral couches, murals, etc. With only the rarest exceptions where the images are somewhat small or lacking in contrast, will there be any difficulty in deciphering the iconography or inscriptions. The broad coverage of the material enables him to posit regional variation and change over time; in general he supports the

conclusions of others about the multi-ethnicity and multi-cultural character of the areas in northern China where most of the Sogdians and other non-Han settled and worked. I look forward to reading this book closely and will keep it close at hand for future reference.

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A[leksandr] A[bakarovich] Kudriavtsev and E[vgenii] A[leksandrovich] Kudriavtsev. *Feodal'nyi gorod Severnogo Kavkaza (srednevekovyi Derbent v VI-XIII vv.)* [A feudal city of the North Caucasus (medieval Derbent in the 6th-13th centuries)]. Stavropol': Izd-vo. Severo-kavkazskogo federal'nogo universiteta, 2015. 307 pp. ISBN 978-5-9296-0719-6.

One opens this nicely printed volume, with its substantial section of color photos, historic pictures and archaeological drawings of artifacts, with some anticipation. Ostensibly the work of father and son archaeologists, in fact, the author seems to be mainly the senior Kudriavtsev, who headed archaeological work on the hugely important city of Derbent starting back in the 1970s and has published extensively on the history of the town and the region. Derbent, located on the Caspian shore of the Eastern Caucasus, controlled north-south movement along that narrow strip between the water and the mountains. On closer examination, what we find here seems to be largely a condensation, cutting and splicing, from that earlier work, with, it seems nothing really new past the early 1980s, despite the fact that the excavations in which A. A. Kudriavtsev was involved continued into the mid-1990s. The conceptual framework here is redolent of old Soviet Marxist approaches regarding feudalism, class struggle, etc.; in one section there are even citations to the wisdom of Engels and Lenin.

This is not to say the book has no value, since presumably a lot of the early publications by Kudriavtsev *père* are not easy to come by, and it does seem that in that earlier work he did a serious job of trying to mine the often rich evidence of medieval texts to complement the archaeology. The book provides a chronological overview of the political history, and, preserving the same chronological divisions starting with the Sasanian period and coming down to the Mongol invasion, discusses changes in the fortifi cations and topography of urban development before moving on to an extended treatment of various crafts: architecture and its decoration, ceramics, metalwork, glass. There is a brief section summarizing information on trade routes. Readers interested in the impact of the Mongols will note that there is little evidence in the archaeological record that they destroyed the city, even if then, we are told, it began to decline subsequently as a result of the wars between the Golden Horde and the Ilkhanids.

Unfortunately, there is no bibliography—one must comb back through the notes in the hope of finding full citations, not all of which seem to be there. And the plates at the back are not cross-referenced in any way in the text.

The history of Derbent certainly merits the attention of any student of the silk roads; in fact the fortress and older remains have been awarded World Heritage listing by UNESCO, given how well preserved they are.

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E[vgenii] P[avlovich] Mys'kov. *Kochevniki Volgo-Donskoi stepei v epokhu Zolotoi Ordy* [Nomads of the Volga-Don Steppes in the Golden Horde Period]. Volgograd: Izd-vo. Volgogradskogo filiala FGBOU VO RANXiGC, 2015. 484 pp. ISBN 978-5-7786-0581-7.

Analysis of this imposing, large-format study of more than 1000 burials in the Volga-Don steppes dating from the 13th into the 15th centuries will take some time. I can but indicate that, if the author is right, his work will force us to abandon ideas well established in the literature (and originally most forcefully argued by the distinguished archaeologist G. A. Fedorov-Davydov) about the impact of the Mongols on the composition of the population in the region. The conventional wisdom is that ethnic Mongols in the Golden Horde were few, and the local Polovtsian population remained the dominant one, even if significantly conscripted and absorbed into the urban culture of the Golden Horde cities. Some have doubted that it is in fact possible to distinguish ethnicity of the population based on burials (a significant question that can be raised about many other regions and periods). Mys'kov argues that careful analysis of all aspects of the burials does allow one to come up with meaningful statistics and distinguish several groups among them. Comparative analysis then permits one to identify what must be Polovtsian ones and what are Mongol ones, in the first instance no more than 15 % and in the second some 20% of the total. The rest are "Turkic" and probably are evidence of other ethnic groups that came into the region with the Mongols from Central Asia.

Obviously the author's methodological assumptions will need to be tested. He provides here descriptions of the burials, 96 plates with drawings of the graves and their inventories, and separate analysis, with an additional 42 plates, of artifact types, including mirrors, coins, textiles, etc.

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Krisztina Teleki. *Introduction to the Study of Urga's Heritage*. Ulaanbaatar: "Admon-Print", 2015, 496 pp. ISBN 978-99973-0-748-4.

Readers of *The Silk Road* may recall the reports by Krisztina Teleki and her colleague Zsuzsa Majer on their important work to preserve and recover as much as possible of Mongolia's Buddhist heritage (Vols. 7 [2009]; 10 [2013]). This book by Teleki, following upon several other substantial publictions by her, is hugely important. Even from a cursory acquaintance with it, the reader has to be impressed by the depth of her work in providing what will be an essential guide for any future study of the history of Urga (today's Ulaanbaatar) and in particular its Buddhist heritage. Her introduction summarizes the history; she then moves on to the specific history of its monasteries and includes a section summarizing the interviews she and her colleague did with the few old monks who survived the Communist persecution and destruction of much of that heritage. The largest part of the book is a careful inventory and description of holdings of major cultural institutions—the art, collections of sutras, other documents. The illustrations of important art works are small but excellent photographs, which sample the riches that in most cases may be more fully viewed in other books. Of particular interest here for me is the section of the book

analyzing and describing in detail what is on the numerous "birds-eye" views of the town and its environs produced by artists in the early 20th century. There also are translations of some of the important monastic rules. Teleki brings to the task serious training in Buddhism and an excellent knowledge of both Tibetan and Mongolian, without which work on this material would be impossible. Titles and captions for various objects and texts then are given in proper transcription as well as translated. As she indicates, there is still much to be done, not only in studying the works she so carefully has catalogued and described here but also in various archival collections that include documentation for the political history of Mongolia when the Communist regime undertook to extirpate the Buddhism that was so central to the country's history starting centuries earlier. What we have from Urga to reconstruct that history and culture is richer than for locations in the provinces. Now, at least, thanks to Teleki's prodigious labor, we have a guide to be able to access everything relevant to such an enterprise. Anyone interested in Mongolia and the history of Buddhism in Asia will long be in her debt.

***

Zsuzsa Majer and Krisztina Teleki. *Reviving the Cam Dance Tradition in Mongolia*. Traditional Mongolian Culture II. Budapest: Eötvös Loránd University, Department of Inner Asian Studies, 2014. ISBN 978-963-284-512-8. DVD (functions on Windows XP/Vista/7/8/10).

This remarkable disc has its roots in Zsuzsa Majer's doctoral dissertation, defended in 2008, in which she provided a survey of Mongolian Cam (Tsam) based on her research there in 2004 and 2005. She continued the work in 2009, when she made the 76-min. video of the ceremony in Ulaanbaatar which is included here. The work was further supplemented by Krisztina Teleki in subsequent years, including filming the ceremony in 2010 at a monastery in Selenge aimag, that 65 min. video also included here. The disk contains text and captioning in both English and Hungarian, with a clear narrative about the history and importance of the dance ceremony and individual paragraphs on its component parts and participants. The essays are all provided with references to any existing scholarship. There are numerous photographs, and, in addition to the full videos, short clips attached to each separate dexcriptive section to illustrate the individual parts and actors. For visitors to Buddhist sites whose rituals embody the Tibetan Tantric traditions, the Cam Dance is perhaps the most vivid of all the ritual practices. Even if not present for such ceremonies, one always has to be struck by the exquisitely crafted masks and costumes (for example, those exhibited in the Choijin Lama Museum in Ulaanbaatar). Here now we have an excellent guide to what they mean and how they are used.

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Bulletin of the Asia Institute. N.S./ Vol. 26 (2012) [2016]. Ed. by Carol Altman Bromberg. vi +198 pp. ISSN 0890-4464.

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Plate I

Stepanova, "Reconstruction," pp. 6, 11, 15.

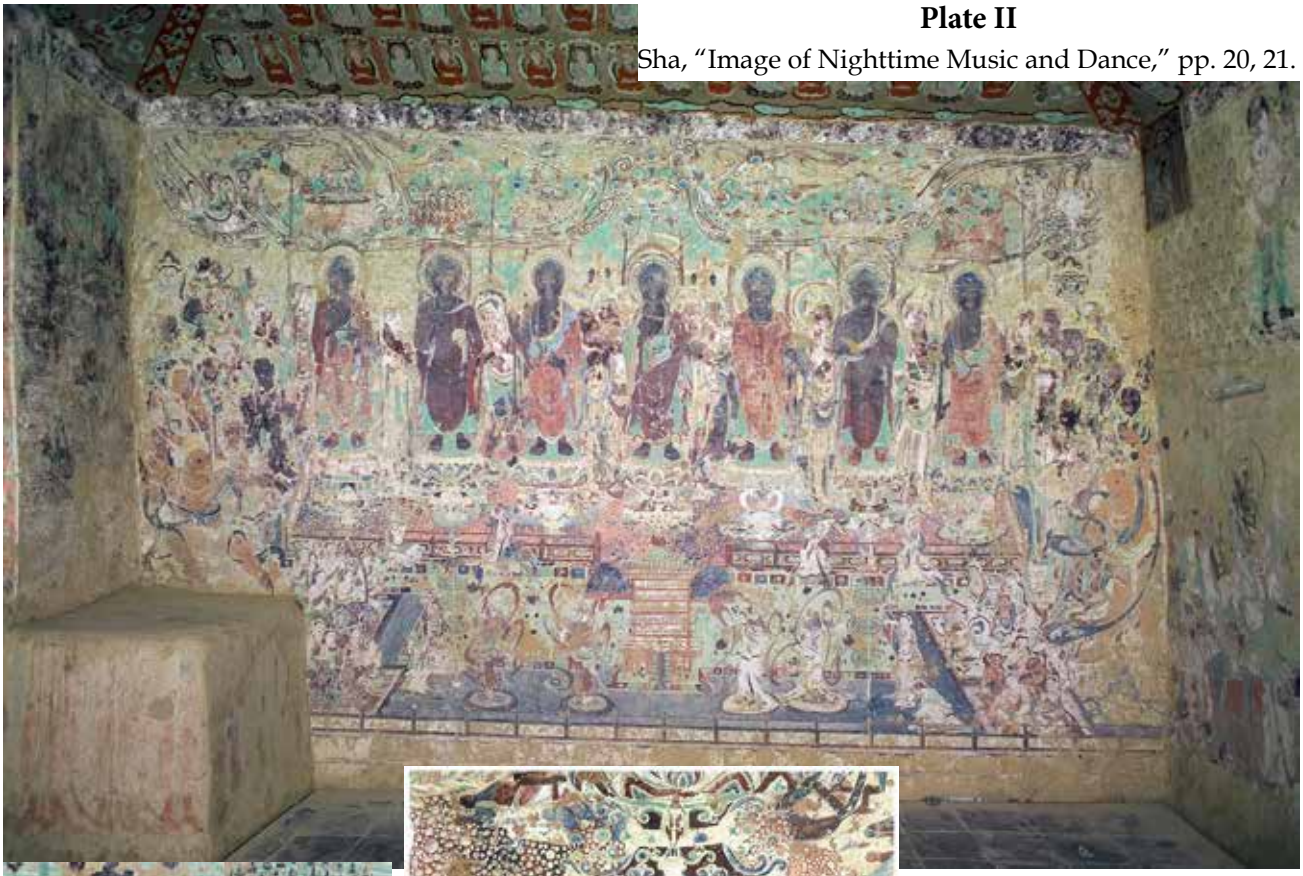
(above) Reconstructed saddle from Pazyryk Barrow № 3 (view from side, without the cover).

(right) Reconstructed saddle from Pazyryk Barrow № 3 with cover, on a horse.

(below) Saddle cover with fringe from Pazyryk Barrow № 2 (inv. № 1684/139).

Plate II

Sha, "Image of Nighttime Music and Dance," pp. 20, 21.



(above and left) Tableau of the Seven Medicine Buddhas, main chamber, north wall, Mogao Cave 220, Early Tang (mid-7th century). Dunhuang.
Courtesy of the Dunhuang Academy.

(below) Music and dance scenes from the Tableau of the Seven Medicine Buddhas, main chamber, north wall, Mogao Cave 220. Replica painted by Shi Weixiang.
Courtesy of the Dunhuang Academy.

Plate III

Sha, "Image of Nighttime Music and Dance," pp. 31, 32.

(above) Music and dance, stone screen on funeral couch, Tomb of An Jia, Northern Zhou (collection of the Shaanxi History Museum). Courtesy of the Shaanxi Archaeology Institute.

(below) Music and dance, mural painting, Tomb of Han Xiu, Tang dynasty (collection of the Shaanxi History Museum). Courtesy of the Shaanxi History Museum.

Plate IV

Chen et al., "Yihe-Nur Cemetery," pp. 46, 47.

(above) Painting on the head panel of the wooden coffin of M3.

(below) The gilt bronze ring handles from Tomb M1.

Plate V

Chen et al., "Yihe-Nur Cemetery," p. 48.

Gold chin strap from Tomb M1.

Plate VI

Chen et al., "Yihe-Nur Cemetery," pp. 49, 51.

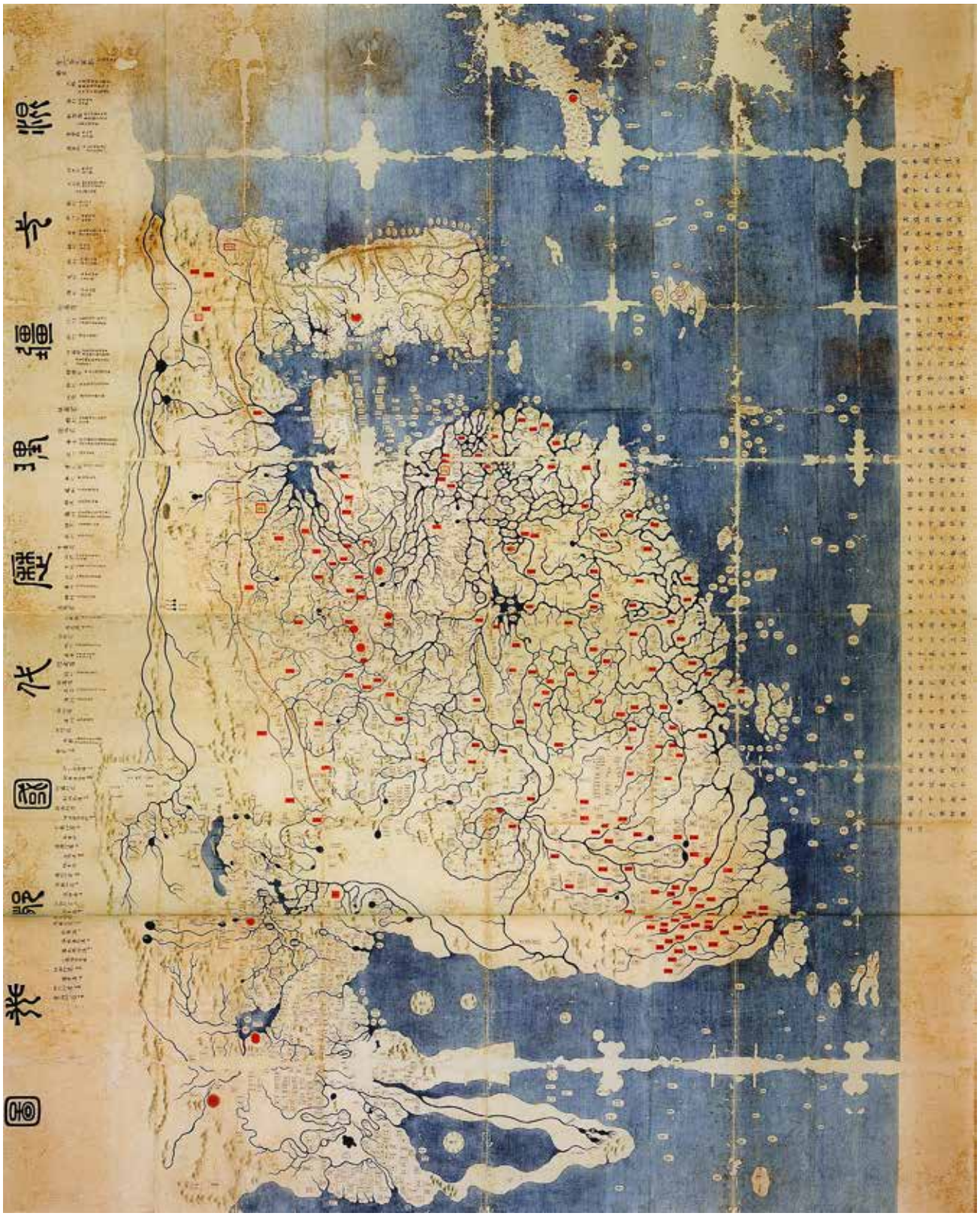
(above) Gold Diexie belt from Tomb M3.

(below) Gilt silver bowl from Tomb M1.

Plate VII

Kenzheakhmet, "*Kangnido*," p. 106.

The Honkōji Kangnido, kept in the Honkōji Temple 本光寺 in the city of Shimabara, Nagasaki prefecture.

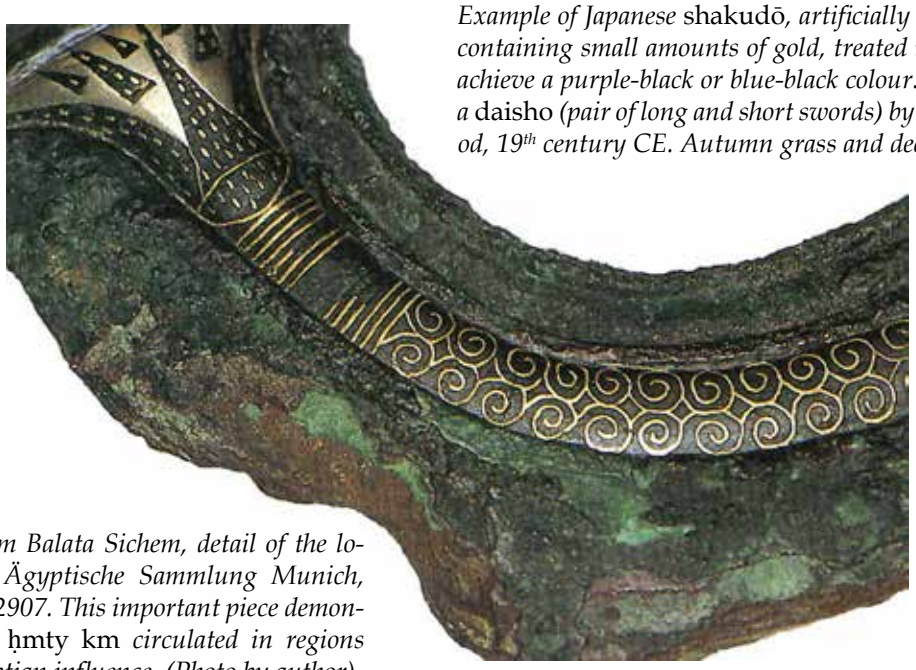


Picture source:<https://upload.wikimedia.org/wikipedia/commons/1/1d/GeneralMapOfDistancesAndHistoricCapitals.jpg>.

Plate VIII

Giumlia-Mair, "Technology Transfer," pp. 127, 129.

Example of Japanese shakudō*, artificially black patinated alloy containing small amounts of gold, treated in a chemical bath to achieve a purple-black or blue-black colour.* Tsuba *belonging to a* daisho *(pair of long and short swords) by Kazutomo, Edo period, 19th century CE. Autumn grass and deer. (Photo by author)*



Khepesh from Balata Sichem, detail of the lotus flower. Ägyptische Sammlung Munich, Inv. № ÄS 2907. This important piece demonstrates that ḫmty km *circulated in regions under Egyptian influence. (Photo by author)*

Plate IX

Nourallahi, "Women's Status," p. 205.

(top right) A middle-aged woman baking bread.

(middle right) A woman in a black tent in Palayeh of Aivān.

(below) Nomad women in the West-Central Zagros.

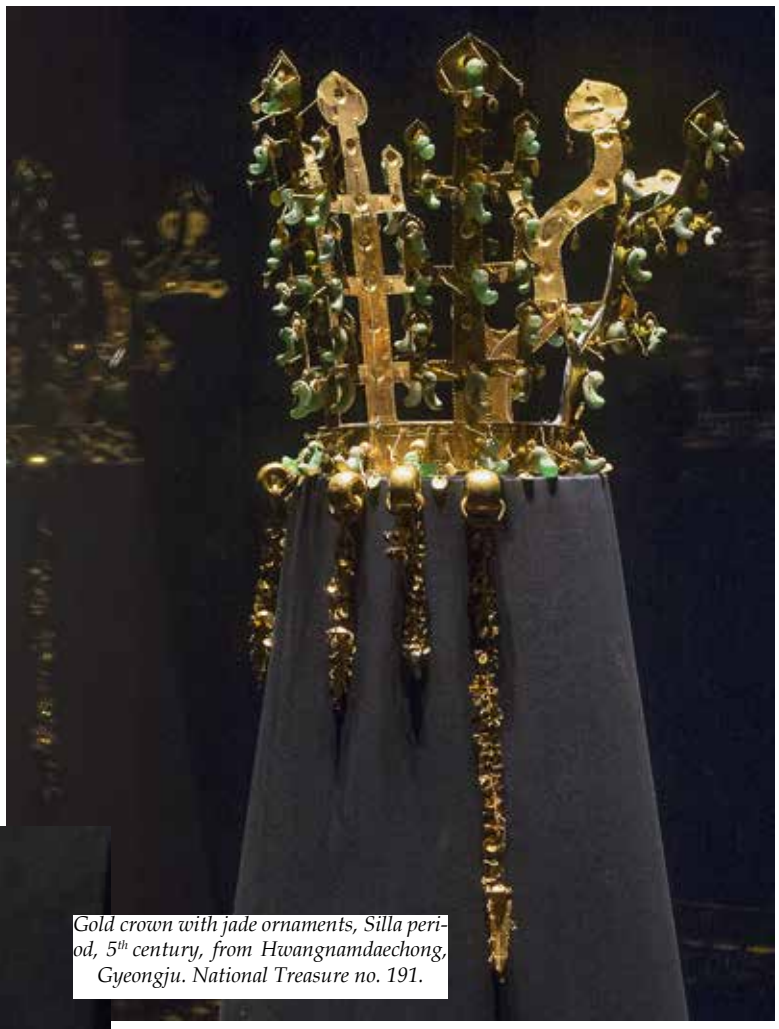
All photos by Ali Nourallahi

Girls dancing at a wedding.

Plate X

National Museum of Korea, pp. 226-35.

All photos by Daniel C. Waugh.



Gold crown with jade ornaments, Silla period, 5th century, from Hwangnamdaechong, Gyeongju. National Treasure no. 191.

(top left) Gold crown, 5th – 6th century. Treasure № 338. Inv. № Bon 9663.

(bottom left) Gilt-bronze cap. Three Kingdoms period (Baekje), 5th century. Gongju, Chungcheongnam-do

(bottom right) The queen's gold diadem ornaments. 3 Kingdoms period (Baekje), 6th century. Gongju, Songsan-ri complex, Tomb of King Muryeong (r. 501-523), Chungcheong-do. National Treasure No. 155.

Note: The captioning is drawn from that in the museum itself.

Plate XI

National Museum of Korea, pp. 226-35.

Gilt silver cup and stand, Goryeo dynasty, 12th century (Inv. duk 130). Of type used to serve drinks to foreign envoys.

(below) Gold Belt buckle. Seogam-ri tomb №. 9, Pyeongyang. Excavated in 1916. National Treasure № 89.

Gilt bronze belt, Goryeo dynasty (Inv. duk 2982).

Plate XII

National Museum of Korea, pp. 226-35.

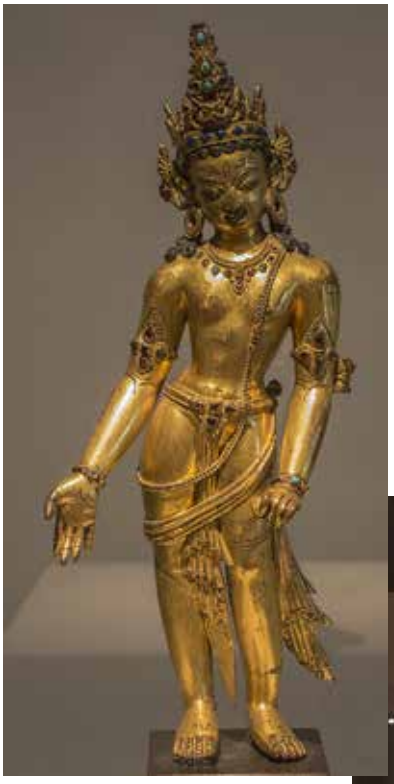
(top) Sarira reliquary (outer and inner ccompartments). North and South Kingdoms period (Unified Silla, ca. 682), from Gameunsa temple site. Treasure No. 1359. Inv. ssu 16424-16426.

(photo bottom left) Buddha statues: (left): Goryeo Dynasty, 10th century, from monastic site in Hasachang-dong, Hanam, Gyeongji-do. Iron, with traces of varnish. Treasure № 332. Inv. duk 2748;(right) Bhaishajyaguru Buddha. Unified Silla period, 9th century. From Samneunggok, Mt. Namsan, Gyeongju, Gyeongsangbuk-do. Inv Bon 1957.

The "Pensive Bodhisattva" (Avalokiteśvara). Gilt bronze. Three Kingdoms period, early 7th century. National Treasure № 83. Inv. № Deoksu 3312.

Plate XIII

National Museum of Korea, pp. 226-35.



(Clockwise from upper left) Moulded plaque of meditating monk from Mogao Caves, Dunhuang, 10th century (Inv. Bon 4037);

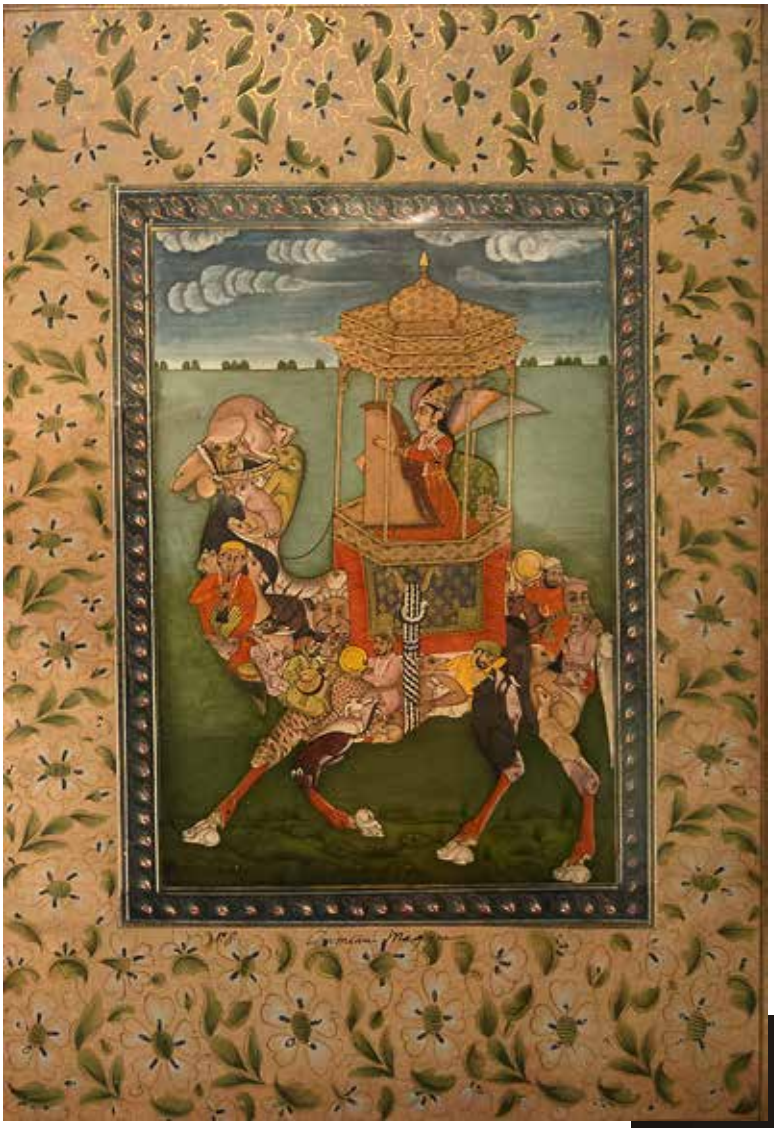
Avalokiteśvara, Nepal, 14th century (Inv koo 5261);

Bodhisattva. Song dynasty. Color on wood (Inv. Bon 8239);

Buddha and disciples on Vulture Peak, hanging scroll from Bukjangsa Temple, painted in 1688.

Plate XIV

National Museum of Korea, pp. 226-35.



"Magic camel," Oudh, ca. 1750 (Inv. koo 5743).

Celadon Maebyeong (= meiping) *vase with incised lotus scroll design. Goryeo dynasty, 12th century. National Treasure No. 97.*

"Horned" horse, tomb sculpture, Northern and Southern Dynasties (Inv. koo 4258).

Celadon ewer in dish, Goryeo dunasty, 12th century (Inv. duk 990). Inspired by Wudai period (Five Dynasties) or late Tang dynasty metal wares.