



Dominique Cardon, Corinne Debaine-Francfort, Abduressul Idriss, Khasim Anwar and Hu Xingjun

Bronze Age Textiles of the North Cemetery

Discoveries made by the Franco-Chinese Archaeological Mission in the Taklamakan desert, Xinjiang, China

This paper is dedicated to Martin Ciszuk

Abstract

A cemetery dated to the Middle to Late Bronze Age (c. 1700 BC and earlier), recently excavated by the Franco-Chinese Archaeological Mission in the Taklamakan desert, Xinjiang, north-west China, is the source of more than one hundred different textiles. The background to the North Cemetery excavation and its context within a survey of ancient sites among the dried-up deltas of the Keriya River are described here by the directors of the Mission, Corinne Debaine-Francfort and Abduressul Idriss. The second part of the article is a catalogue by Dominique Cardon et al. of all the artefacts found in one of only two intact burials found by the Mission which had been left undisturbed by looters. This complete assemblage gives a very good idea of the range of textiles originally present across the cemetery. It also provides a striking comparison with the textiles found at another Bronze Age site, Xiaohe or Small River, near to Lopnor and about 600 km to the east of the North Cemetery (Xiaohe, has recently been re-excavated by Abduressul Idriss; the textiles from the Folke Bergman's original excavation were published in 1941 by Vivi Sylwan but at that time were undated).

Key Words: *Bronze Age textiles, archaeological excavation, Xinjiang, Keriya, red wool, cloak-blanket, fringed girdle / corded skirt, felt hat, necklace, basket*

Introduction

The Franco-Chinese Archaeological Mission is a close collaboration between the "Archaeology of Central Asia" team of the National Centre for Scientific Research (CNRS, UMR 7041), France, and the Xinjiang Institute of Cultural Relics and Archaeology, China. The Mission has been working since 1991 on an extended exploration of the dried-up branches of the Keriya River (Fig. 1). The Keriya River, one of a number of rivers flowing northwards from the southern edge of the Tarim Basin, now extends as a single channel into the centre of Taklamakan desert where it peters

out at about 200 km to the north of Keriya Town. But satellite images and the geomorphology of the desert show that, in earlier times, the Keriya had reached further north and had been characterised by branches and deltas, these deltas succeeding each other as the river gradually retreated. The hypothesis on which we have based our project is that ancient agricultural settlements once existed among these deltas; if the opportunities for irrigation had been exploited, whole tracts of land could have been cultivated here, from protohistoric times until the flow of water ceased to be sufficient.

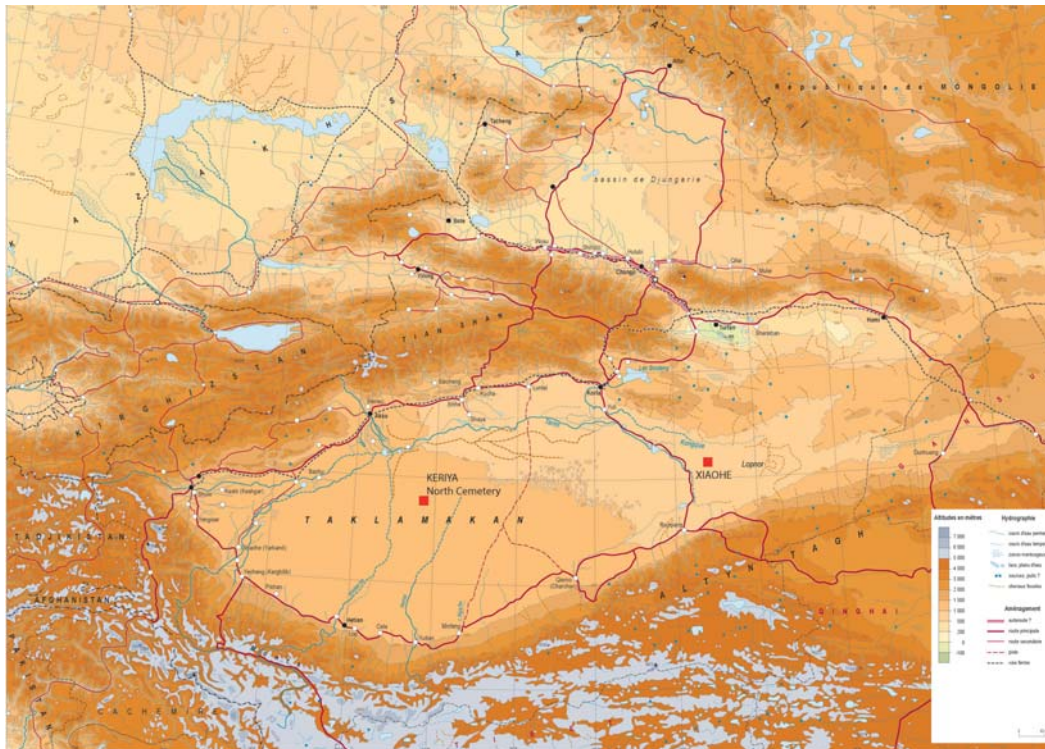


Fig. 1. Map of the Keriya valley with the North Cemetery. Southern Xinjiang, Khotan (Hetian) region, Yutian district, China (© Mission archéologique franco-chinoise au Xinjiang, MAFCX).

These areas at the centre of the Taklamakan desert are even in modern times very difficult to reach but nevertheless, guided by satellite photographs, we have undertaken a survey of the Keriya River, following it on the ground from its present course to the outer extent of its dried-up deltas. This gradual progression backwards through time, towards the heart of this immense sand desert, has allowed us to validate our hypothesis. We have plotted nearly 600 sites and find-spots and, in this process, have discovered evidence of previously-unknown cultures. The study of the finds has allowed us to propose a chronology for the settlement of the successive deltas of the Keriya, going back in time as follows: Antiquity (3rd-4th century AD), Iron Age (1st millennium BC) and Bronze Age (3rd -2nd millennium BC). For each of these periods we have identified a repeating settlement pattern consisting of an oasis with a principal dwelling place at its centre (Debaine-Francfort and Idriss 2001; Debaine-Francfort et al. 2009).

The first signs of an occupation earlier than the Iron Age appeared in 2005, in the form of surface features discovered during surveying: the remains of enclosures, of cattle-sheds, and of a dwelling site with various stages of occupation, all attributable to the 3rd and 2nd millenniums BC. These remains proved that this delta, both the northernmost and the earliest in geographic terms among the Keriya

deltas we had surveyed, had like the other deltas also been settled and irrigated. The discovery of this very early occupation provided the final proof for the archaeological model which we had been building. We are now in the process of studying and describing these remains.

Discovery of the North Cemetery

In 2008, a discovery was made by some local people which was to lead to the completion of our project on the ground and to a greatly enhanced understanding of life in southern Xinjiang during the Bronze Age: this was a large burial site situated in the same area as the dwellings earlier surveyed by us in the northernmost delta of the Keriya (hence the name North Cemetery). An exploratory expedition undertaken by us in 2008 was able to identify the astonishing similarities between this cemetery and that at Xiaohe, a site which until then had been considered to be unique and which is more than 600 km away to the east. At the North Cemetery, we estimated the number of preserved graves to be about 50, including 20 undisturbed, representing at least two chronological levels.

Xiaohe, in the Lopnor desert, had originally been discovered in 1934 by the Swedish archaeologist Folke Bergman (Bergman 1939). The textiles recovered from the site were published by Vivi Sylwan (Sylwan 1941/2001), but at that point the very early date of the



Fig. 2. Map of the North Cemetery (Drawing: J. Suire © MAFCX).



burials was not recognised. Xiaohe was re-discovered and thoroughly excavated under the direction of Abduressul Idriss between 2002 and 2005. 167 burials were found there, arranged on five superimposed levels and corresponding to two burial phases dated between 2000 and 1500 BC. Xiaohe has produced the most ancient (and spectacular) archaeological remains discovered until now in southern Xinjiang. It has also become the reference site for the Bronze Age, still poorly known for this region (Xinjiang wenwu kaogu yanjiusuo 2003, 2007a, 2007b; Mair 2006; Li 2007).

The similarities with Xiaohe therefore enhance the significance of the North Cemetery on the Keriya. The Mission was allowed to start the thorough investigation of the North Cemetery only in spring 2011, and we then faced particularly difficult weather conditions. Since its discovery in 2008, the cemetery had been repeatedly plundered and, as a result, had regrettably become badly degraded. Our investigations were therefore limited to the topographical mapping of the site, to a salvage excavation and to a survey of the neighbouring areas, close to those that had already been surveyed in 2005 (Anwar 2012; Debaine-Francfort and Idriss 2013).

Now marooned in the middle of a dune field, the North Cemetery, measuring approximately 40 x 30 m, is smaller than the cemetery at Xiaohe. It was identified in the first place by the presence of many pieces of wood, still standing or scattered on the ground. But like the Xiaohe cemetery, it is also situated on a natural mound which originally would have allowed it to dominate the surrounding landscape.

By 2011, debris from looting had been scattered along the slopes of the mound. We opened two large trenches across the least disturbed areas. In them we discovered twenty burials *in situ* (all facing north-east), of which only two had been completely spared. These twenty burials all belong to the same stratigraphic level, which is the most ancient phase of the site. The upper levels observed in 2008 had been destroyed, and we cannot know how many graves there were originally. The first radiocarbon dates obtained (calibrated to c. 1900-1740 BC) revealed that the site is contemporary with Xiaohe. Since the North Cemetery has been found in conjunction with the remains of settlement, it is more than simply Xiaohe's "twin site". It allows us to begin to build up a picture of the culture of the period, something which was not possible with the evidence from Xiaohe alone, a site apparently isolated within its region of Lopnor. The growing evidence of the very close parallels between these two sites, though separated by a distance of more than 600 km, suggests that during the Bronze Age there was a population, unsuspected until now, which was scattered over a

vast territory, not only within the Tarim basin, but even further. Our task now is to look for archaeological evidence of contact between the two sites.

The identification and study of the archaeological material gathered in the North Cemetery is still in progress. It was only possible to start this in 2012 and many kinds of scientific analyses still need to be performed. In spite of all the damage done by the looting of the site, the comparison of the data provided by the excavation of the North Cemetery with those obtained from Xiaohe has given us an inspirational insight into this ancient culture. This article, on the artefacts from grave M3, is the first detailed publication dealing with finds from the North Cemetery and their relationship to the finds from Xiaohe.

We selected this grave, M3 and the textiles and other artefacts it contained firstly because the burial had been left unplundered and so offered the whole range of material usually found in the site of Xiaohe. Our second reason was that the principal textiles from this grave – the cloak-blanket and the fringed girdle – are comparatively well preserved here and, at the same time, are good representative examples of these garments, which stand out as the most typical among the range of textiles now emerging as characteristic of southern Xinjiang during the Bronze Age. Due to lack of space, we have not included in the present paper the textiles and other artefacts typical of men's graves, though these are also very interesting.

Grave M3 - a woman's burial (calibrated radiocarbon date 1890 to 1740 BC)

Preliminary remark: the anthropological study of the body in the grave has not yet been done; for the meantime the identification of the deceased's gender therefore rests on the study of her clothes and associated funerary objects, particularly the small wooden phallus (see below).

Length of grave: c. 190 cm; width: c. 32 cm (at the feet) to 40 cm (at the head).

Facing NE, like the other graves of the North Cemetery (and like the graves at Xiaohe), grave M3 was one of the only two burials found more-or-less intact after the looting of the site; the other was M2, next to it. But while relatively complete, these two graves were situated near the edge of the cemetery mound (see Fig. 2, square H11) and had therefore been exposed to dampness, resulting in the poor preservation of the wood and of the bodies, the latter being largely reduced to the state of skeletons. Both graves were both excavated in March 2011. Owing to particularly difficult weather conditions, the excavation was done in two stages: 1) removal of the lid, first examination of the deceased in her cloak, replacing the lid and protecting the grave



against the wind with an emergency foil blanket; 2) four days later, re-opening of the grave, cleaning, excavation and removal.

The coffin was composed of two curved wooden sides fixed at both ends by a standing plank. It was closed by seven wooden boards forming the lid. The lid was covered with three layers of hide, making it waterproof from above. Tamarix branches were placed on the lid and a round pole stripped of its bark was set up at the foot of the grave. Inside the coffin were found the remains of a woman lying on her back, wrapped in a cloak-blanket (see below 11KB/M3:1). At the level of her groin, a small basket had been placed on top of the cloak (11KB/M3:8). Only the deceased's head (damaged) and the ends of her shoes were protruding from the cloak (Fig. 3). The human remains and the artefacts have been brought back to the Xinjiang Institute of Cultural Relics and Archaeology, Urumqi, for thorough study.

The cloak-blanket, made of undyed off-white wool, was held closed by a badly-preserved wooden pin over the chest; the cloak-blanket is without fringes and is decorated with a group of four coloured bands, in dark brown and pink. Towards one of its upper corners the fabric has been gathered into a little pocket, tied up by turns of a wool thread; when the coffin was opened this pocket was visible over the deceased's chest, to the proper left of a selvedge which ran down the centre of the body. As it was intact, the pocket was left unopened but its contents can be guessed by comparison with similar pockets on or from other cloak-blankets, from the North Cemetery and from Xiaohe; some of these were poorly preserved allowing their contents to be seen, some had been torn off by looters, and some (from Xiaohe), were deliberately opened. These other pockets usually contained grains (wheat and millet) and twigs of different species of

Ephedra (medicinal plants with a sympathomimetic effect).

The small basket placed over the cloak, approximately conical above a round base, is decorated with a band of lozenges along the rim, partly painted red, and two rows of stepped lozenges further down. It has a beige felt lid and a handle of wool cord. It contained a little cake and probably also the millet grains that were found scattered nearby, on the deceased's belly.

Under the cloak-blanket, the woman's clothing just consisted of a narrow girdle with well-spaced hanging cords, its ends tied in a knot in front of the body (11KB/M3:2). Her head and the upper part of her long brown hair were covered by a beige-coloured felt hat (11KB/M3:3), poorly preserved. This was decorated on the left side with two hatpins ending in feathers (11KB/M3:4) and was tied under the chin by an off-white woollen cord. Her footwear, also poorly preserved, can be seen by its surviving fragments to have consisted of leather ankle boots of the type most common both in the North cemetery and at Xiaohe, with soles made of fur, worn with the fur on the outside, and decorated with a red painted line, feathers and red wool threads. Well-preserved examples of such boots have been described and published by Vivi Sylwan (Sylwan 1941/2001, 42-44).

The deceased's personal ornaments consisted of a necklace made of red wool threads embellished with beads and feathers (11KB/M3:5) and a matching red wool bracelet (11KB/M3:6). She also wore earrings: two blackened metal rings provisionally identified as silver (11KB/M3:9) (Fig. 4). A little wooden object in the shape of a phallus wrapped with red wool threads (11KB/M3:7), typical of women's burials in Xiaohe, was placed on her chest, under the little pocket tied with wool thread, formed near one of the selvedges of the cloak (Fig. 5).



Fig. 3. Tomb M3 - a woman's tomb (Cal BC 1890 to 1740), one of only two tombs left untouched by looters. She is wrapped in her mantle, with a basket on her lap (© MAFCX).



Fig. 4. The lady in the tomb, with the remains of her felt cap with tying cord, silver ear rings, and a red wool necklace (© MAFCX).



Fig. 5. Wooden object in the shape of a phallus wrapped with red wool threads (11KB/M3:7), typical of women's burials (© MAFCX).

Textiles and funeral items from grave 3

1. Cloak-blanket

11KB/M3:1 A + B (Figs 6-7). Rectangular cloak-blanket in off-white undyed wool decorated on each side of its lower half by four tapestry bands, starting at or near the side selvages but discontinued across the centre, in pink and dark brown wool; further decoration in the form of many irregular self-bands, starting all along the selvages but again discontinuous across the centre of the textile; the selvages each have a twisted cord as their outer element, the upper horizontal edge of the textile is finished with a border of twined warp loops and the lower horizontal edge with a closing cord; close to the corner where one side selvedge meets the end of the twined loop border, a little filled pocket made by gathering up the textile and tying it up with a thick wool yarn.



Fig. 6. 11KB/M3:1. Mantle/shroud, decorated with four tapestry bands in dark brown and pale red (© MAFCX).

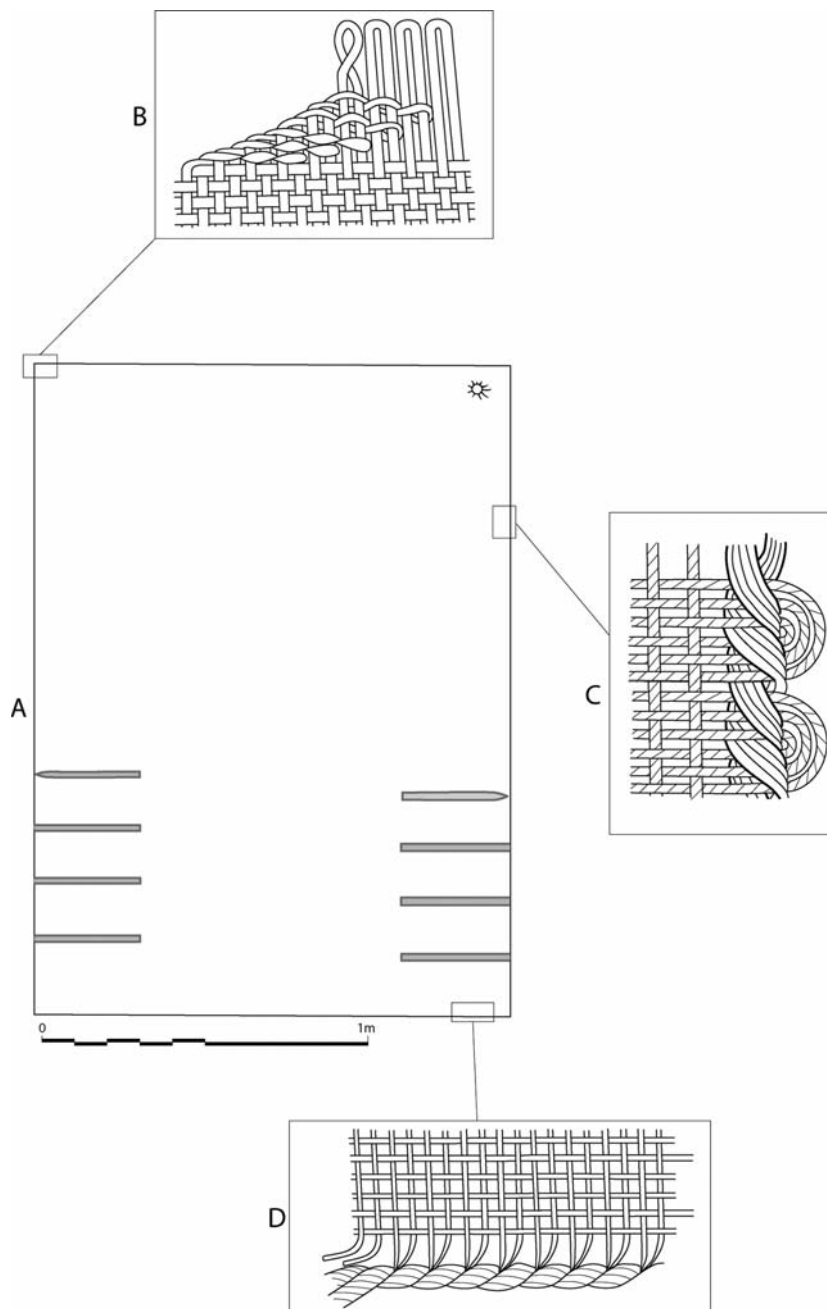


Fig. 7. Diagram of mantle-shroud 11KB/M3:1 to scale (A), with details of the edges:

B: chaining of warp loops;

C: structure of decorative side selvedge;

D: finishing cord (Drawing: J. Suire, © MAFCX).

Dimensions and preservation

Fragment A. Length: c. 134 cm; width: c. 131 cm

Fragment B. Length: c. 66 cm; width: c. 146 cm

Length of complete textile: c. 200 cm

Width of complete textile: c. 146 cm

Distance from bottom of cloak (as "worn" in the coffin) to start of 1st tapestry band: c. 22.5 cm on the left side, c.16 cm on the right side; distance between first and second bands: c. 16 cm on the left, c. 15 cm on the right; distance between second and third bands: c. 14.8 cm on the left, c. 14.5 cm on the right; distance between

third and fourth bands: c. 14.5 cm on the left, c. 14.5 cm on the right; depth of tapestry bands: c. 2 cm; length of tapestry bands, starting from side selvages : c. 32.5 cm on the left side, c. 34 cm on the right.

The two fragments, A and B, together correspond to the whole cloak with its four original edges (two side selvages and two different finishing borders parallel to the weft). The two fragments were found next to each other *in situ* but had become separated because of an area of decay. Preservation is least good towards the middle and upper part of the cloak, where



Fig. 8. Tapestry band in mantle-shroud 11KB/M3:1, with inclusion of thicker irregular ground wefts (© MAFCX).



Fig. 9. Mantle-shroud 11KB/M3:1: bottom left corner, closing cord tied with the two last warp threads into a knot (© MAFCX).

the body was lying directly against it: in other areas, the wool is still clean and white but quite worn and fragile, the fragility probably at least partly due to the extreme dryness of the environment; in the tapestry bands, preservation of the wool and of the dyed colour is good. The twisted cord incorporated into each side selvedge is very worn and has not been preserved along the whole of the textile's length.

Technical characteristics

Wool, tabby weave, weft-faced, with two types of decoration.

First decorative technique: reaching inwards from the selvages, self-bands within the ground weave and of the same colour as the ground - in places the weft yarn grows thicker or thinner or even becomes doubled, after which it reverts to its previous regular diameter; in these self-bands there is no detectable change of weft yarn or turning back of the weft threads and the impression given is that the yarn was spun deliberately with these variations directly before weaving. (Another possibility is that the thicker parts of the yarn represent splices; note, however, that splices were carefully looked for but could not be observed). The visual effect is a succession of flame-like bands in relief, starting from the selvages and pointing towards the centre of the cloak. These self-bands are situated along the whole length of the textile and are not symmetrical.

Second decorative technique: curvilinear tapestry and interlocking tapestry weaves. A group of four

discontinuous tapestry bands in two colours, dark brown above and below and pink in the middle, decorate each side of the lower half of the textile: they start at the selvages (except the last bands from the bottom on either side) and continue into the web for about one quarter of the textile's width (Fig. 7). The last tapestry bands from the bottom on either side do not start from the selvages: in these places, a succession of thicker and irregular ground wefts are woven into the outer few warp threads and some picks of this ground weft encroach into the start of the tapestry bands themselves, requiring the coloured weft threads to curve around the thicker undyed white weft threads (Fig. 8).

The second to lowest bands are a little different from the others, extending by four warp threads/ends closer to the centre of the textile. For the duration of the tapestry bands, the warp threads are paired or, exceptionally in the case of lowest left-hand band, are grouped into three. At the vertical junctions at the inner ends of the bands, ground and contrasting weft are interlocked between two adjacent warp threads. After each band, the contrasting weft threads are wrapped around the outermost selvedge warp thread for a short distance.

At the upper edge of the textile, loops of warp thread remaining after weaving have been twined across their neighbours to the right to form a neat firm border of slanting elements (Fig. 7B). At the lower edge, a fringe of cut warps thread has been twisted together to form a S-twisted closing cord, with groups of warp thread



Fig. 10. Mantle-shroud 11KB/M3:1: upper right corner shaped into a little bag, filled up with herbs and grains and tied with several turns of a thick wool yarn (© MAFCX).



Fig. 11. 11KB/M3:2. Fragments of a woman's sash/loin-cloth/corded skirt (© MAFCX).

added gradually as the cord was worked from right to left (c. 1,5 S-twists in 1 cm). At the lower left corner, the closing cord is tied with the outer two warp threads into a knot (Fig. 9).

The left selvedge is without warp or weft grouping but the outer element is formed by an S-twisted cord which is twisted through the individual loops of returning weft.

The right selvedge is in principle like the left selvedge but the weft loops of weft threads are grouped in threes as the cord is twisted through them (Fig. 7C)

Warp, wool, off-white, undyed and unpigmented; relatively fine, fairly tight Z-spin, 3.5 epcm.

Ground weft, wool, colour as warp; fairly loose S-spin, 10 ppcm.

Contrasting weft: 1) wool, undyed, dark-brown pigmented, fairly loose S-spin, 5 picks in 0.5cm; 2) wool salmon pink, fairly loose S-spin, 5 picks in 0.5 cm.

Cords in the selvedges composed of two groups of threads similar to warp yarn; fewer threads in the cord in the left selvedge than in the right one.

Adaptation/Use

Close to the upper right corner of the textile, a little pocket was created by gathering up the fabric; once filled, this was tied closed with several turns of a thick wool yarn, undyed white, S-spin (Fig. 10). For the manner in which the cloak was pinned, see the description of the complete grave above.

Wool type

Samples for analysis have been taken but the work has not been done yet.

Dye analysis

Samples of the dyed pink yarn have been taken but results are not available yet.

Discussion

Large rectangular textiles similar to this were found in all the undisturbed graves so far excavated, both in the North Cemetery and at Xiaohe. Used to wrap the bodies in the coffins, they could be considered to be shrouds. Prior to deposition they may well have been used at night as blankets. But the way they are arranged in the burials, pinned in one or several places over the chest, without covering the deceased's face, indicates that their principal function was as a piece of protective clothing, more precisely a cloak.

According to Abduressul Idriss' observations, the decoration of this cloak has no exact parallel in Xiaohe, where cloaks-blankets are more commonly decorated with three tapestry bands at most, of one colour only.

Fig. 12. 11KB/M3:2. Detail of the tapestry weave, with last pick of dyed weft threads extending into the next step block of same colour (© MAFCX).



A woman's cloak-blanket from Xiaohe (grave M4, no. 6) is decorated with three pink tapestry bands, and the warp is paired in the bands as here, but the Xiaohe cloak differs from the North Cemetery cloak in several aspects: the ground is in different shades of brown pigmented wool, there are no self bands and the pink tapestry bands all end in curvilinear shapes rather than neat vertical junctions (Xinjiang wenwu kaogu yanjiusuo 2003, 23-25, pl. 5, this cloak is currently exhibited in the Archaeological Museum in Urumqi). Another cloak from Xiaohe (grave M28, no. 18) is not decorated with formal tapestry bands or with dyed weft yarn but can be compared to the North Cemetery textile because it has a very striking arrangement of flame-like tapestry motifs in different shades of pigmented brown wool; in the ground, this cloak also has inwards-pointing insertions of white wool yarn of irregular thickness that produce a similar effect to the self-bands in the present cloak (Zhongguo Sichou bowuguan 2013, 11). It is not to be excluded that such series of irregular lines and flame-like motifs may have carried some symbolic message and indeed, may have been some kind of notation system

2. Fringed girdle / corded skirt

11KB/M3:2 A + B + C (Fig. 11). Fragments of a woman's wool fringed girdle/corded skirt in tapestry weave, design of a repeating stepped block motif in red, brown and yellow (or white turned yellow); at the one original end still visible, weft-faced bands in the same colour as the stepped design and, beyond these, a fringe of looped warp threads; two side selvages, one plain and the other with a well-spaced fringe of inserted hanging cords.

Dimensions and preservation

Fragment A. Length (warp direction): c. 35 cm; width (weft direction): c. 2 cm; maximum length of fringe elements: c. 33 cm; depth of group of coloured bands at visible end: c. 2.1 cm; depth of stepped motif repeat: c. 3.5 cm; distance between fringe elements: c. 5 cm.

Fragment B. Length (warp direction): c. 9 cm; width (weft direction): c. 2 cm; maximum preserved length of fringe elements: c. 7 cm; depth of stepped motif repeat: c. 3.5 cm; distance between fringe elements: c. 5 cm.

Fragment C. Length (warp direction): c. 6 cm; width (weft direction): c. 2 cm; preserved length of fringe: c. 4 cm; depth of stepped motif repeat: c. 3.5 cm; distance between fringe elements: c. 3.5 cm.

Preservation rather poor. The girdle is torn in several places in the warp direction and along the selvedge adorned with inserted fringes. The wool yarns are encrusted with earth (alkaline?) or dirt, and in places the girdle has darkened and become very brittle (due to contact with the body?); in other parts, both wool and colours are fairly well preserved.

The lower parts of the fringe elements have been worn away or torn off on fragments B and C and on all three fragments some of these fringe elements appear to be missing altogether.

Technical characteristics

Wool, tapestry weave with some weft-faced tabby, regular close texture.

Weft-faced bands at visible end composed of 10 picks of each colour: red, brown, yellow (or yellowed undyed wool), brown, red, yellow/yellowed. Stepped block motif in interlocked tapestry weave (Fig. 12): 9



warp ends across width of girdle, each colour block composed of 3 warp ends and 16 weft picks, the last of which extends into the next block of the same colour (Fig. 12). Two side selvages, plain apart from inserted fringe. At visible end, fringe of warp loops. Second end hidden inside knot and structure uncertain (but comparison with fringed girdles from other graves suggests that it also finished in a fringe of warp loops). Hanging fringe elements made of a singles thread inserted between 2nd and 3rd warp end from selvage, doubled over and twisted on itself; loose ends.

Warp, undyed pigmented brown wool,, fairly tight Z-spin, medium 2 S-ply, c. 4.5 epcm.

Weft, wool in three colours , 1) undyed, pigmented brown, 2) red and 3) yellow or undyed white now yellowed; all medium Z-spin, , medium 2 S-ply, c. 15 ppcm.

Red fringe elements, wool, medium Z-spin, S-plied after insertion into girdle; yellow/yellowed fringe elements, wool, medium S-spin, Z-plied after insertion into girdle.

Adaptation/Use

The two ends of the band are tied together by a reef knot SZ (Fig. 13). One of the original ends of the girdle is hidden inside the knot. As found, this knot was at the front of the woman's waist.

Wool type

Samples for analysis have been taken but the work has not been done yet.

Dye analysis

Samples of the red and the yellow yarns have been taken but results are not available yet.

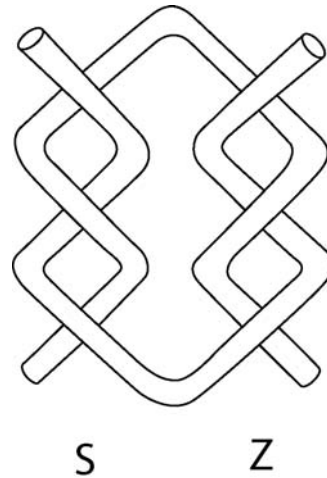


Fig. 13. 11KB/M3:2. Reef knot closing fringed sash in the front part of the body

(Drawing: J. Suire, © MAFCX).

Discussion

This textile is representative of one of a number of types of fringed girdles/corded skirts found on the site. Such "skirts" are present in all women's graves but the present type, with a narrow woven band and thin fringe elements made of only one plied thread, inserted at some distance from each other, is the version that is hardest to reconcile with the modern concept of a skirt. It may be a late style, or a kind of symbolic version of a corded skirt. Several corded skirts looking much more like the Bronze Age examples known from Denmark were also found, both in the North Cemetery and at Xiaohe. Unlike these, most of the narrow girdles, of which this is an example, are beautifully decorated with tapestry motifs of stepped blocks in two or three different colours. The opposed spinning and plying directions in the red and in the yellow hanging elements of this



Fig. 14. 11KB/M3:3. Fragments of off-white undyed felt cap (© MAFCX).



belt provide a beautiful example of the combination of “sunwise” and “withershins” spinning in the same textile and, if we follow Lise Bender Jørgensen’s suggestions about the symbolic importance of spinning direction, are doubtless meaningful (Bender Jørgensen 2012). Two similar fringed girdles/corded skirts from Xiaohe, the contemporary site in Xinjiang with the best range of comparative archaeological material, have been published. One was described by Vivi Sylwan (“loin-cloth” 5.B:1, Sylwan 1941/2001, 77-8, pl. XIV.3-4). It has a stepped block tapestry motif, reversing halfway through the weaving of the band, but in only two shades of undyed wool, light and dark brown. Spin and ply directions are the same as in the present fragments, for both warp and weft, but the warp in Xiaohe 5.B:1 is paired and the tapestry pattern less regular. Warp and weft counts are not recorded. The other comparable item is no. 19 from Xiaohe grave 13 but this has not yet been published with all the technical details that would allow a really close comparison: it also has a stepped block motif, reversing halfway through the weaving of the band, and bands of alternate colours at both ends, in pinkish red and old gold. It is further decorated with a row of small copper rings strung on the warp thread which runs along the centre line of the girdle (Xinjiang wenwu kaogu yanjiusuo 2007a, 15-16; Zhongguo Sichou bowuguan 2013, 20-21). Similar copper rings have been found in the North Cemetery, but loose, none being still attached to a textile. Interestingly, contemporary Bronze Age corded skirts from burials in Denmark often are decorated with small bronze tubes, covering different parts of the corded fringes (Fossøy and Bergerbrant 2013, 27).

Cap

11KB/M3:3 A + B (Fig. 14). Fragments of off-white undyed felt cap with tying cords.

Dimensions and preservation

Fragment A. Length: c. 11.5 cm; width: c. 13 cm

Fragment B. Length: c. 9.5 cm; width: c. 8 cm

Preservation generally poor, due to contact with the back of the deceased’s head. The back of the cap has not survived but on the left side the wool is fairly well preserved and only slightly discoloured.

Technical characteristics

Wool, undyed off-white, shaped into felt cap.

Tying cords: wool, undyed white, 3-strand braid; each strand composed of a pair of S-spun threads; at the end of the braid, each pair of S-spun threads is Z-plied together.

In order to fix them to the cap, prior to felting, the

tying cords were incorporated into the edges of the mass of wool due to form each side of the cap.

Adaptation/Use

The two cords are tied together with a reef knot SZ, one part of which includes a loop.

Discussion

In the North Cemetery as at Xiaohe, men, women and children alike were buried with felt caps on their heads, most of these approximately conical in shape but some rounded, of different natural colours of pigmented or white wool. Since only parts of this cap are preserved it is difficult to be certain which of the two shapes it had, possibly the rounded type. Both shapes of cap are often but not always decorated, more or less richly. The rounded type usually only has wooden hatpins ending in feathers. Some conical caps also have rows of red wool stitched to the felt, hatpins with feathers, and weasel pelts stitched around the crown so that the head and forelegs of the animal extend over the front of the cap (Xinjiang wenwu kaogu yanjiusuo 2003,



Fig. 15. 11KB/M3:4. Fragments of two wooden hat pins decorated with feathers (© MAFCX).



Fig. 16. 11KB/M3:5. Fragments of necklace of red wool with a jade bead (© MAFCX).

17-19, 22-25, 32-33, Pl. 4-5, 8; Xinjiang wenwu kaogu yanjiusuo 2007a, 6-8, 13-15, 24, 26-27, 35-36, 38, 41-44, Pl. 1-3, 4; Xinjiang wenwu kaogu yanjiusuo 2007b, 10-12, 14-15, 17-18, 21-22, 27-30, 34-38; Zhongguo Sichou bowuguan 2013, 30-33).

Hatpins

11KB/M3:4 A + B (Fig. 15). Fragments of two wooden hatpins decorated with feathers.

Dimensions and preservation

Fragment A. Length: 8 cm; diameter of pin: 0.4 cm; length of feather: 5 cm

Fragment B. Length: 8 cm; diameter of pin: 0.4 cm; height of feather: 4.5 cm

The ends of the wooden pins are broken; the feathers are incrustated with earth.

Technical characteristics

The quills of the feathers are fixed to the wooden pins by means of a wrapped red wool thread Z-spin, 2 S-ply.

Adaptation/Use

The hatpins were stuck into the left side of the cap.

Discussion

In the North Cemetery as in Xiaohe, men's caps are more richly decorated than women's, especially in respect of the number of feathered hat pins.



Fig. 17. 11KB/M3:6. Fragment of red wool bracelet (© MAFCX).

Necklace

11KB/M3:5 A + B (Fig. 16). Fragments from the central part of a necklace of red wool embellished with a jade bead, two small bone beads and two feathers.

Dimensions and preservation

Fragment A. Length: 52 cm

Fragment B. Length: 7 cm

Preservation poor, due to contact with the back of the deceased's neck. The wool is brittle and discoloured in places.

Technical characteristics

Wool, dyed red, principally a group of 6 threads, each Z-spun, 3 S-ply, plus fragments of 3 wool threads, beige, Z-spun, 3 S-ply.

Adaptation/Use

The core of the necklace, the group of six red 3-ply threads, is wrapped around at intervals by thinner red threads. On the larger of the two fragments, the additional wrapped threads attach embellishments: at about 8 cm in from left broken end a wrapped red thread, Z-spun, 2 S-ply, has strung on to it, from left to right, an oval translucent green jade bead (1.5 x 0.7 cm) and two bone beads, one shorter (0.35 cm), the other longer (0.9 cm); close to left broken end, a wrapped red thread, Z-spun, attaches a feather by its quill – this feather points towards the beads; at about 6 cm to the right of the beads, a wrapped red thread, Z-spun, attaches a second feather in the same way – this feather points away from the beads.



Discussion

In the North Cemetery as well as at Xiaohe, similar necklaces are worn both by men and women, but they are not found in all graves. Examples from North Cemetery are: 08KLY. ML. 09.11, 11KLY. ML. 23 bis, 11KLY. ML. 35; two further necklaces, derived from the looting of the site, are exhibited, one in the Western Region Culture Museum of the Tarim University in Alar, the other at the Cultural Activities Centre in Yutian. Similar examples from Xiaohe are published (Zhongguo Sichou bowuguan 2013, 47; 2003.2, 25-26. Xinjiang wenwu kaogu yanjiusuo 2007a, 15, 17; Xinjiang wenwu kaogu yanjiusuo 2007b, 19, 23).

Bracelet

11KB/M3:6 (Fig. 17). Fragment of red wool bracelet.

Dimensions and preservation

Length: c. 7 cm; diameter: c. 0.35 cm

Preservation poor, due to contact with the body.

Technical characteristics

Wool, dyed red, Z-spun, 3 S-plied.

Adaptation/Use

This short length of yarn is the only preserved fragment.

Discussion

In the North Cemetery as well as at Xiaohe, bracelets of similar red wool yarn are worn by men, women and children but do not occur in every grave. Other examples from the North Cemetery are 11KLY. ML.36 (surface find) and 11KB.M4.1 (grave of an infant wearing a bracelet made of plaited red wool thread); two further bracelets, derived from the looting of the site, are exhibited in the Museum of the Tarim University in Alar - they are made of red wool threads onto which a jade bead is strung. Some bracelets of red wool from Xiaohe have been published (Zhongguo Sichou bowuguan 2013, 46, 48; Xinjiang wenwu kaogu yanjiusuo 2003, 23-28, pl. 5-6; Xinjiang wenwu kaogu yanjiusuo 2007a, 7-8, 14-17, 24-27 (grave 24, a man's grave, n° 20), 41-44, pl. 2-3; Xinjiang wenwu kaogu yanjiusuo 2007b, 10, 13, 23, 29, 37).

Wooden phallus

11KB/M3:7 (Figs 5 and 18). Wooden object in the shape of a phallus made of two matching halves bound together with red wool thread.

Dimensions and preservation

The two halves have a semi-circular outline in cross section and a rounded upper end. One half is slightly

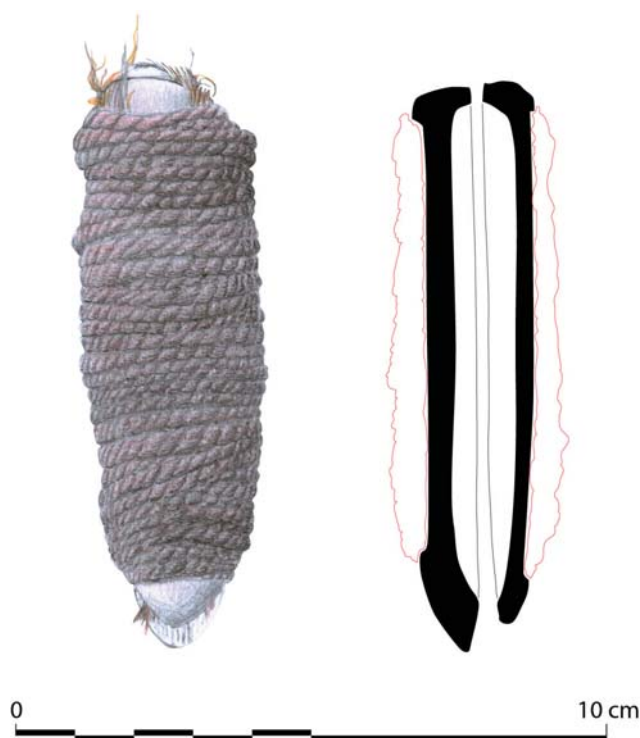


Fig. 18. Construction of wooden object in the shape of a phallus wrapped with red wool threads (11KB/M3:7) (Drawing J. Suire, © MAFCX).

longer than the other.

Half 1, length: c. 10.1 cm; half 2, length: c. 9.5 cm

Width: c. 1.2 cm unwrapped, c. 3.5 cm with wrapped threads. Depth: c. 0.4 cm unwrapped, c. 3 cm with wrapping. Preservation fair.

Technical characteristics of wool yarn

Binding thread, wool, dyed red, Z-spun, 2 S-plied.

Construction

The two halves of the object enclose an offering which, judging by the parts that are visible (at both ends and under the red wrapping thread), includes hair and/or feathers. The start of the wrapping thread is held in place by the first turns of the thread; the end is tucked back under the last turns.

Discussion

At the North Cemetery, a similar object was found in grave M12 and others, mostly incomplete, among the scattered remains left behind by the looters. Examples derived from the looting are exhibited in the Museum of Tarim University in Alar. The inside face of each wooden half was hollowed out, to receive small organic items such as lizards, feathers or animal hair,



and some are decorated with carved lines or zig zags. Similar objects were also found in Xiaohe, where they all come from women's graves (Xinjiang wenwu kaogu yanjiusuo 2003, 39, Fig. 54 and pl. 6; Xinjiang wenwu kaogu yanjiusuo 2007a, 9, Fig. 10/6, 19 Fig. 18/2 and col. photo no. 22; Xinjiang wenwu kaogu yanjiusuo 2007b, 24 and 14, Fig. 25; Wieczorek and Lind 2007 no. 27; Zhongguo Sichou bowuguan 2013, 51). These little objects in the shape of a phallus are manifestations of a crossed sexual symbolism characteristic of both sites. Other evidence is provided by the poles that are erected near the graves: some, oblong and painted red, are interpreted as phallic symbols - they are systematically associated with women's graves. The others, paddle-shaped and painted black, symbolise the female sex - they are systematically associated with men's graves.

Basket

11KB/M3:8 (Figs 19-20). Conical basket of plant stems with felt lid and wool cord handle, sides decorated with two interlocking rows of large lozenges built up from stepped block motifs woven with active elements of a contrasting shade; the rim has a smaller row of smaller lozenges and, below this, a band of waling with traces of red paint.



Fig. 19. 11KB/M3:8. Basket with felt lid and wool cord handle (© MAFCX).



Fig. 20. 11KB/M3:8. Base of basket (© MAFCX).



Dimensions and preservation

Height: c. 18 cm; diameter at brim: c. 16.3 cm; rectangular base: c. 3.1 x 2.1 cm; diameter of waling around edge of base: c. 4.8 cm; distance from upper edge of this waling to 1st addition of passive elements: c. 1.3 cm; distance between 1st and 2nd second additions of passive elements: c. 2.7 cm; distance between 2nd and 3rd addition of passive elements: c. 6.2 cm; distance between 3rd addition of passive elements and lower edge of waling around rim: c. 4.9 cm; depth of band of waling around rim: c. 0.8 cm; depth of row of lozenges around rim: c. 2.2 cm.

Length of wool cord handle: c. 30 cm; thickness/diameter: c. 0.9 cm.

Preservation fair but the basket, although semi-flexible, has been crushed (by the lid of the coffin?) and flattened: one side has more or less retained its convex shape but the opposite side has become concave. The convex side is broken with a small hole in its lower part and is incrustated with earth and a fragment of skin with hair. The epidermis/cortical layer of the grass used for the lozenge motifs has been very poorly preserved, making the motif barely legible. When the basket was crushed the major part of the felt lid was pushed into the opening of the basket. The wool parts are well preserved.

Technical characteristics

Basket:

Passive elements or stakes: plant stems possibly grass (no identification available yet), without twist, 4 stakes/cm in the sides of the basket.

Active elements or weavers: two different species of grass or reed, or same species differently prepared, with and without the cortical layer (no identification available yet);

- "ground" active element: grass or reed stems, beige, not shiny, without twist, 10-11 weavers/cm in under one / over one ground weaving.

- contrasting active element: buff-coloured stems with fibrous, shiny cortical layer, without twist, 8.5 weavers/cm in stepped motifs.

Base of basket (Fig. 21): 9 stakes cross 7 stakes perpendicularly; they are held together by alternate rows of twining and waling: across the centre of the base, one row of twining (paired weavers worked in Z direction), alternates with one row of waling (three weavers worked in S or Z direction) making up a total of nine parallel rows. From this point on the rows are circular and worked anticlockwise if viewed from outside the basket: 3 rows of twining, Z, including some additions of stakes; 3 rows of waling, Z, also including additional stakes (altogether 15 stakes are added to the base during weaving).

Sides of basket:

Ground woven in under 1 / over 1 using only one weaver; decorative lozenges (built up from stepped blocks reversing in both vertical and horizontal directions) are created with a second weaver of a different shade and thickness from the ground weaver. Three successive additions of stakes are made during the weaving of the sides.

Just before the rows of waling marking the beginning of rim, a float of the ground weaver over 4 contiguous stakes on each side of the basket serves to fix the wool cord handle.

Rim of basket:

Three rows of waling (3 weavers in Z direction) followed by 16 rows of weft twining (paired weavers in Z direction), the pattern of lozenges created by floats in two successive rows of the pair of weavers over two stakes.

No finishing structure around edge of basket.

Handle

Wool, undyed white, Z-spin, 9 threads tied in a knot and S-twisted together.

Lid

Wool, undyed, white and beige, lightly felted, shaped into a circular lid.

The lid is held down by a thick wool thread, white and beige, S-spin, wrapped twice around the rim of the basket.

Discussion

In the North Cemetery, men, women and children alike were buried with such baskets. Eleven complete baskets and numerous basket fragments were found by us either at the survey stage or during the excavation. Additionally 21 complete baskets derive from the looting of the site; three of these are exhibited in the Museum of Tarim University and a further 18 are stored in the Cultural Activities Centre in Yutian. Most of the complete baskets cannot be opened without damaging the felt lids. Where the contents could be studied, these were found to mostly consist of little cakes, grains including millet, and/or twigs of *Ephedra* spp. *Ephedra* bushes are typical of the Taklamakan desert environment and are also known to have had very early medicinal applications in Asia. For the presence of this plant in the North Cemetery, see Anwar 2012; Debaine-Francfort and Idriss 2014 forthcoming. For Xiaohe, see Xinjiang wenwu kaogu yanjiusuo 2003, 20, 27, 34-35, pl. 9; Xinjiang wenwu kaogu yanjiusuo 2007a, 9, 13, 17, 23, 25, 34, 40, 44, pl. 1; Xinjiang wenwu kaogu yanjiusuo 2007b, 11-12, 19, 23, 26, 28, 38; Wieczorek and Lind 2007 no. 5, 12; Zhongguo Sichou bowuguan 2013, 39-41.

The very thin, soft texture of the felt lid, common to



all these baskets, was obviously intended to serve as a filter, letting the air pass but protecting the contents of the basket from the sand that certainly used to blow across the Taklamakan desert in ancient times as it still does nowadays, penetrating everywhere.

Ear-rings

11KBM3:9 (Fig. 4). Silver ear-rings in the form of complete rings.

Dimensions and preservation

Diameter of rings: c. 2.1 cm; thickness of metal: c. 0.3 cm.

Both ear-rings are complete closed rings; oxidation has made them look black. Thicker zones (4 on each ring), fairly regularly spaced, may correspond to a decorative pattern, illegible in the present state of preservation.

Metal analysis

A preliminary identification of the metal as silver was obtained in Urumqi in October 2012 by Mei Jianjun (Institute of Historical Metallurgy and Materials, University of Science and Technology, Beijing) using a portable XRF machine. Definitive results are forthcoming.

Discussion

Similar ear-rings, with open or closed rings, have been found elsewhere on the site, for instance in grave M20 (the ring is smaller) and scattered on the ground (08KLY:18). At Xiaohe, ear-rings of silver, copper or gold were found both in men's and women's graves.

Concluding remarks on the textiles from grave M3

In a recent paper, Sølvi Helene Fossøy and Sophie Bergerbrant have discussed the scope for creativity available to textile producers in Bronze Age Scandinavia; more particularly, they have shown the

different ways in which a person's creativity could be expressed in the conception and making of a corded skirt (Fossøy and Bergerbrant 2013). It is not only because a number of fringed girdles/corded skirts have also been discovered in the North Cemetery – among them some examples quite similar to the Scandinavian finds – that this point is relevant here. When we publish the complete corpus of textile finds from the North Cemetery it will be possible fully to explore this theme of creativity. But as a conclusion to the present short study, we can already offer our finding that the people of the North Cemetery had established in their culture an interesting balance between a marked homogeneity in their overall appearance – with a limited range of items of dress and personal adornments – and a surprising variety in the technical details of their clothing and in the arrangement of motifs and colours on it. No two textiles are identical among the more than one hundred discovered by our mission, a source of great interest and satisfaction for a textile researcher. Our finding also serves as a warning: if we had had access to only a few textiles from the site, and especially if these had been separated from their archaeological context, it would have been tempting to present as a general rule some of the sorts of detail which were actually played with by the textile artists and colourists of the time to give variety and distinction to their artefacts.

Acknowledgements

We are very grateful to our colleagues at the Institute of Archaeology and Heritage of Xinjiang and to its Director, Professor Yu Zhiyong, for their warm welcome and for their help in finding practical solutions to the problems of studying such large and dirty textiles as the cloaks from the North Cemetery. Many thanks also to Hero Granger-Taylor for improving the fluency of the text and for her suggestions.



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Authors:

Dominique Cardon: cardon.dominique@wanadoo.fr
Corinne Debaine-Francfort: corinne.debaine@mae.cnrs.fr
Abduressul Idriss: yidilisi@hotmail.com
Khasim Anwar: anwarsaga@yahoo.com.cn