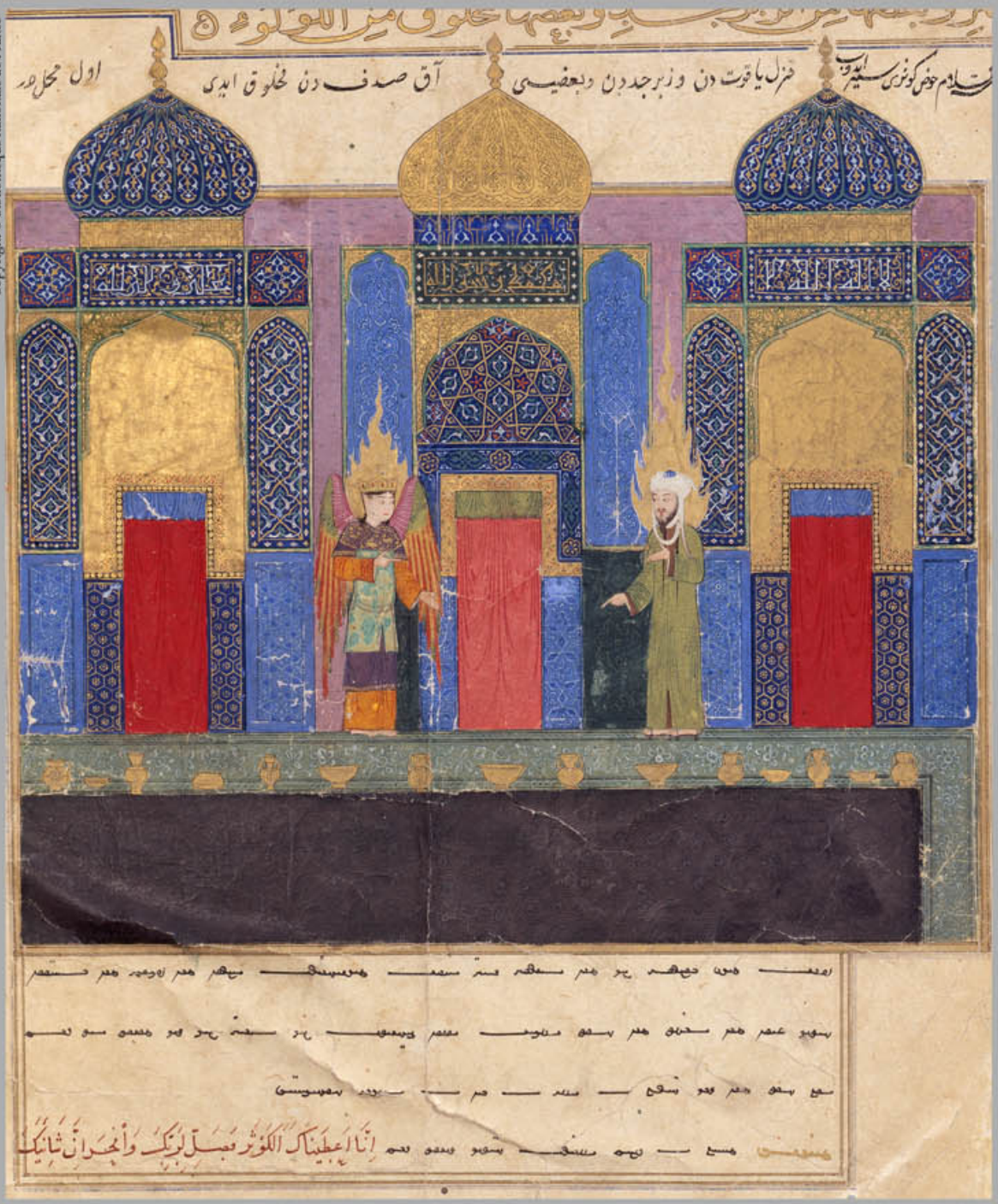
The Silk Road



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Contents

(continued)

Cover photo: The Prophet Muhammad arrives at the gates of Paradise, *Mi'rajnama*, Herat, 1436-37. BnF, Suppl. Turc 190, fol. 45v [cropped].

For Al Dien in celebration of his 85th year.

Stanford's Professor Emeritus Al Dien is a scholar of remarkable range and infectious curiosity. His lectures inspired the creation of the Silkroad Foundation, on whose board of advisers he still serves. At a stage in life when his contemporaries might be satisfied to sit on the porch in a rocking chair, Al continues to take his energies into the field, where he has been an active contributor to Silkroad Foundation education programs. At left you see him in 2009 studying the Liao Dynasty Yanbu Huayanjing pagoda near Hohhot, a subject no less imposing than the Silk Road itself. In 2005 he was an active participant in the excavation of Xiongnu graves in central Mongolia. You see him below sharing his knowledge of the early Turks at Khöshöö Tsaidam, a site in the Orkhon Valley famous for its 8th century runic inscriptions. We all continue to learn from him.

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.

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Editor: Daniel C. Waugh
dwaugh@u.washington.edu

All 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.

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The Image of the Wheeled Vehicle in the Mongolian Altai: Instability and Ambiguity

Esther Jacobson-Tepfer
University of Oregon

The representation of a wheeled vehicle — whether wagon, cart, or chariot — is one of the most widely found, ancient image types across Eurasia. It also refers to one of the most discussed and ambiguous visual signs in both Eurasian prehistory (Gening 1977; Piggott 1983; Pare 1992; Raulwing 2000; Anthony 2007) and the history of Eurasian rock art. Whether we look to Scandinavia, Armenia (Piggott 1983; Littauer 1977), Kazakhstan (Novozhenov 2012), or the Russian Altai and Sayan mountains, we find hundreds of images referred by a multitude of scholars to the archaeological contexts of those regions or to those of the Near East and even Egypt. Against this background, information regarding images of wheeled vehicles in the Mongolian Altai has, until recently, been scanty, even almost non-existent,[1] despite the fact that there are probably more such images in that region than have been documented for adjoining areas in the Altai and Sayan ranges. Moreover, the specific character of this material, examined in situ, challenges traditional interpretative strategies based on artificial notions of continuity of meaning across vast space and time. As an image it is unstable; as a sign it is ambiguous.

This paper proposes to examine petroglyphic images of wheeled vehicles from the Altai Mountains in the northwestern part of Mongolia with several questions in mind: How is the vehicle image indicated? With what material variations and styles? How is the charioteer handled? How do pictorial and physical contexts constrain possible meaning? And given those considerations, what signification is reasonable to assign to these images within the Altai? Wherever our inquiry leads us, we confront the certainty that any visual sign transmitted over thousands of kilometers, hundreds of years, and by an uncertain number of cultures necessarily shifts in signification, accruing new layers of meaning; this basic cultural principle must be applied to a consideration of the wheeled vehicle no less than to any other material sign. In other words, our inquiry here must address the inherent instability and ambiguity of meaning in any cultural artifact and, most particularly, in those that have undergone extensive cultural transmission.

Victor Novozhenov's recent publication (2012) of the Eurasian chariot covers a huge span of time, space, and material; it will henceforth be one of the indispensible resources for this subject.[2] Because the subject addressed here — like Novozhenov's study — is so embedded in complex archaeological and theoretical contexts distant from the Mongolian Altai, some preliminary comments are in order. Although details vary from scholar to scholar, this much seems certain: the four-wheeled wagon, seen in profile elevation, had appeared in the Ancient Near East by the fourth-third millennium (Francfort 2002). Terracotta and bronze figurines of two-wheeled carts indicate the existence of this mode of transport in the Harappan Culture (Novozhenov 2012, pp. 128-30). The two-wheeled vehicle appeared in the Near East by the early second millennium BCE, spread from there to the Hittites and Hurrites (seventeenth century BCE) and further down to Egypt (sixteenth century BCE) (Pare 1992) where it was perfected as a light (i.e. spoke-wheeled) vehicle for ritual and warfare. Wheeled vehicles appeared at the same time in Mycenea and perhaps earlier in burials of the Sintashta Culture of the northern Eurasian steppe (Gening 1977; Piggott 1983; Anthony 2007) from where they spread to Europe and Scandinavia by the middle Bronze Age.

As long as we are considering the actual vehicle, the historical background is relatively clear. When, however, we turn to the images of wheeled vehicles — four-wheeled wagons and two-wheeled carts as well as a large number of images of vehicles without horses or drivers — we begin to confront difficulties. Images of a great variety of wheeled vehicles have been recorded at Syunik, in western Armenia and dated to the second millennium BCE (Littauer 2002); but these images were curiously found at an elevation (approximately 3,300 m) where it is unlikely the real vehicle could ever have been used (Littauer 1977; Piggott 1983). Images of wheeled vehicles from Sweden and Italy (Val Comonica) date to the end of the second millennium and the beginning of the first millennium BCE (Piggott 1983); but again, it is the image that remains from those regions rather than any actual vehicles.

Within these extensive references to vehicles, both real and represented, those most central to the origins of chariot imagery are the actual vehicles, light in construction, characterized by two wheels with spokes, drawn by horses and found in burials of the Sintashta Culture (late third – early second millennia BCE) (Gening 1977). These are associated with male warriors and the emergence of warfare requiring movement in a steppe environment (Anthony and Vinogradov 1995; Anthony 2007); or, conversely, only with ritual needs (Littauer and Crouwel 1996; Jones-Bley 2000) including rituals relating to death and passage to the land of the dead (Kozhin 1968; Gening 1977). These vehicles have also been related directly to the spread of a Bronze Age cattle-herding culture, which moved east out of present-day Kazakhstan as far northeast as the Minusinsk Basin by the early second millennium BCE. Whether that particular culture was the Afanasiev Culture which reached the Minusinsk Basin via a route that went north of the Altai Mountains, or the later Andronovo Culture (Kuz'mina 1974, 1992; Anthony 2007), or its successor — the Begazy-Dandybai Culture (Molodin 2011) — remains a point of debate. However the vehicle image arrived in the Minusinsk Basin, it appeared first as a four-wheeled wagon preceded by two bovids on a large figurative stone from Znamenka, in present-day Khakassia. Most scholars date this image to the Okunev Period (early second millennium BCE) and associate it with other four-wheeled cart images found on Okunev stelae (Kyzlasov 1986; Savinov 1997b; Ozheredov 2006). These carts are distinctively heavy and shown in profile elevation rather than in the view typical of Central and North Asian vehicle images, "from above" or "split" (Francfort 2002). Regardless of who brought the vehicle image or artifact to the region, up to the present there have been no wheeled vehicles or any parts thereof found in burials of the Siberian manifestations of the Afanasiev, Okunev, or Andronov cultures.[3]

By contrast to the situation in the Early Bronze Age, there are hundreds of chariot images dating to the latter second millennium BCE from sites within present-day Kazakhstan, Russian Tuva, the Altai Republic,[4] Mongolia and North China. With the exception of a few images from Kyrgyzstan and Kazakhstan (Novozhenov 2012, Figs. 45, 46), these Bronze and Early Iron Age images are seen from above rather than in profile elevation. Paradoxically there have been no certain finds of actual vehicles within Bronze Age burials. Only in the frozen burial 5 from Pazyryk, dating to the Early Iron Age (fourth century BCE), have there been found the elaborate carriage and spoke wheels of a fine vehicle, but that object is likely to have been Chinese in make (Rudenko 1970). On the other hand, the most impressive array of wheeled vehicles from East Asia includes actual vehicles found in burials of the Shang, Zhou, and Ch'in dynasties (late second-early first millennia BCE) (Lu 1993; Novozhenov 2012). These were light bodied, spoke-wheeled, and drawn by horses and were thus status symbols intended for ritual use and warfare (Lu 1993). Whence the Chinese obtained knowledge of this technology and the desire to exploit it remains disputed, but this much is certain: a technology we know only visually from across Bronze Age Siberia and Mongolia was real and widespread in early dynastic China. However, if style sequences within the visual record can be tentatively relied on, then the earliest Chinese wheeled vehicles may have been later than the earliest representations of wheeled vehicles found to the north.

The images of wheeled vehicles in North Asia are puzzling. Whether four- or two-wheeled, the vehicle and its image in Eastern and Central Asia were certainly freighted with references to status (wealth, social status) and beliefs associated with death. In its manifestations in northern India and Iran, the chariot — together with the horse — may have carried references to Vedic and Avestan myths (Kuz'mina 1974, 1977). It was also the mark of human movement across the steppe. The images of carts on Okunev stones — certainly the work of an incoming, cattle herding population — may reflect all those references. By the time those images were carved, however, the actual vehicle was invisible within the archaeological record and would not reappear for at least 1000 years. Moreover, the image of the profile cart also disappeared; we see no more of it in North Asia until the Iron Age. On the other hand, by the latter second millennium BCE, the image of a two-wheeled vehicle, both solid- and spoke-wheeled and viewed from above, had spread across the Sayan, Altai, and Khangai regions; but what meaning they carried is uncertain.

The use of vehicle images from all the regions mentioned above has been problematic: almost invariably, researchers have recorded the images in terms of simple drawings devoid of any indication of pictorial context; nor do they note such related elements as stone patina, orientation or the elevation of the surfaces involved. Moreover, drawings are a notoriously imprecise way of reproducing images that are frequently over-pecked, overlaid, or of questionable clarity: drawings reduce all layers to a single layer or the recorder may misinterpret the chronology of layers or even the details of any part of a layer.[5] These limitations need to be considered when one addresses the variety of ways in which scholars have interpreted the vehicle motif. Prevailing interpretative approaches relate the images to solar cults, with the wheeled vehicle referring to the Vedic and Avestan/

Indo-European chariot of the sun and the movement of the sun through the heavens (e.g. Sher 1980; Kilunovskaia 2011; Novozhenov 2012); and to the invocation of ceremonies intended to secure to the deceased his or her journey to the land of the dead, an interpretation drawn from the chariot burials of Sintashta and ancient China but not necessarily sustained by the rock pecked images. The wheeled vehicle has been cited, by extension, to refer to cults of the male warrior (Anthony and Vinogradov 1995; Anthony 2007) — the charioteer par excellence, equipped with spear, bow, and a curious bronze object, frequently described as yoke-shaped and associated by several scholars with the driving of a chariot (Novgorodova 1984; Varenov 1984; Novozhenov 2012). Other scholars have argued that the steppe chariots found in Sintashta burials were not functional war chariots; they were rather related to the burial ritual (Littauer and Crouwel 1996; Jones-Bley 2000). Frachetti (2008) has suggested that vehicle imagery from the Tienshan Mountains in Kazakhstan may have functioned to indicate sources of political power beyond the region where the images appear; the image was thus a sign of significant political relationships.

Other approaches, rooted in analyses of economic, social, and cultural change, interpret the sign of the wheeled vehicle as an indicator of the emergence of cattle herding with the advent of a cooler, more arid climate in the Eurasian steppes after c. 2500 BCE (Anthony 2007). A number of scholars have seized on this approach to associate the actual vehicle with the movement of cattle herders across the Eurasian steppe into South Siberia where they merged with autochthonous Siberian peoples and cultures (cf. Kuzmina 1974, 1977). From that integration, some have postulated, a chariot-based culture emerged out of South Siberia and moved down into Mongolia and North China in the Late Bronze Age (cf. Novgorodova 1989, Novozhenov 2012). Among the Russian scholars who have been especially interested in the significance of the chariot, Novgorodova has argued most consistently that while wheeled vehicles were used for hunting and ritual processions, especially at the time of burial, they were above all intended for military purposes (Novgorodova 1989). The image functioned as the sign of a stratified society, at the pinnacle of which was the warrior-charioteer. A single image, from Chuluutyn Gol, of a charioteer driving a solid wheeled vehicle and seemingly confronted by a giant serpent (Fig. 29) encouraged her to overlay the Bronze Age wheeled vehicle with Indo-Iranian mythic traditions; in this case, the charioteer can be understood, she has argued, as an image of Indra in the Rigveda, particularly in his serpent-killing role (ibid., pp. 153-4). Her tendency to slip from image to imported myth and thence to expansive theories of cultural development has been seconded by many scholars, most recently by Victor Novozhenov (2012). For Novozhenov, however, the chariot image is overwhelmingly the sign of a pan-Eurasian information highway manifested through the pictorial indication of communication routes across the mountainous regions of Central and North Asia. Whatever the significance of the vehicle in antiquity, the culture most closely associated by Russian scholars with the expansion of the chariot out of Siberia and down into Mongolia and North China is the Late Bronze Age Karasuk Culture (Novgorodova, Novozhenov); but, as was noted above, no chariots or carts or parts thereof have been found in any Karasuk burial to date.

In effect, too many of these approaches have blurred the line between archaeological fact and pecked or engraved image. They seize on meaning, oblivious of the certain mutability of transmitted signs and without reference to critical pictorial and physical contexts. But are any of these interpretations actually supported by the hundreds of vehicle images already identified in North Asia? If they are so supported, which are the most likely to have real significance for that region? And if they are not supported, what is their validity in a discussion of North Asian traditions? At this time, our awareness of vehicle imagery from the Sayan and Khangai mountain ranges is, at best, fragmentary but we do have a significant subset of vehicle imagery from the northern Mongolian Altai. This body of material is drawn from two large rock art complexes: that known as the Upper Tsagaan Gol (Shiveet Khairkhan) (Jacobson-Tepfer et al. 2006) and that referred to as Tsagaan Salaa-Baga Oigor (hereafter: TS-BO) (Jacobson et al. 2001). Both complexes are among the largest yet identified in North Asia; in both cases, site documentation is virtually complete. The result is an impressive number of relevant images: within the Upper Tsagaan Gol complex we have documented more than 78 images where vehicles are represented in whole or in part; within the Tsagaan Salaa-Baga Oigor complex, we have documented more than 54 images (in whole or in part).[6] The total subset to be used here is approximately 132 images, including a wide range of specific formulations, which can be described as follows:[7]

Group A: *Complete vehicle image (vehicle, driver, horses)*
- Vehicles with two wheels expressed as solid or empty circles, two horses, and a driver — 24
- Vehicles with two spoke wheels, two horses, and a driver — 65

Group B: *Subset of A*
- Vehicle imagery where the driver is clearly using reins — 23

- Vehicle imagery where the driver appears not to be using reins — 34
- Vehicle imagery with a third, outlier horse — 6
- Vehicles with stacked or inverted (rather than opposing) horses — 6
- Vehicle, complete, with driver/hunter (archer) — 20
- Vehicle, complete, with adjacent archer — 5
- Vehicle, complete, with two drivers — 3

Group C: *Incomplete (but not necessarily unfinished) imagery*

- Vehicle image where there is a driver but no horses — 2
- Vehicle image in which there are horses but no driver — 1
- Paired horses, only — 8
- Schematic, partial vehicles (wheels alone, wheels plus axle, etc.) — 31

Group D: *Eccentric imagery*

- Vehicles with four horses — 1
- Vehicles with four wheels, with horses or bovids — 3
- Vehicles viewed in elevation — 1

When these images are examined — individually, within their pictorial contexts, and in groups — there emerge a number of paradoxes. There is no necessary relationship between the completeness of the representation (vehicle, driver, and horses) and the quality of its execution (compare Fig. 1i and Fig. 2a, f with Fig. 1b, c, d). Occasionally the harnessing of the horses is so detailed that the image seems to offer a visual diagram on how to hitch the animals to a vehicle (Fig. 2f, Fig. 12), in other cases the harnessing is only schematic although the image itself is finely executed (Fig. 13). In some well-executed images including vehicle, driver, and horses, there is no attempt to render reins at all: the drivers stand stiffly and without any physical connection to their steeds (Fig. 1h). A number of images show us the full vehicle — wheels, axle, basket and pole — but in other cases the basket is barely indicated or is altogether missing (Fig. 1d, e); or the driver appears to be standing precariously on the axle (Fig. 2a). Sometimes the horses are represented as if at full gallop, their bodies and heads stretched out (Fig. 5a); but such "fast horses" may be hitched, paradoxically, to heavy carts (solid wheels) (Fig. 2b) as well as to chariots (spoke wheels). There are cases of well-represented chariots where the horses appear to be moving at a walk or standing still. A significant number of images are simply incomplete: lacking driver or horses or major parts of the vehicle structure itself (Fig. 3). Adjacent to the large and complex vehicle represented in Fig. 2f is a rudimentary vehicle with small, solid wheels. And so it goes: when we look at the full panoply of vehicle imagery from these two complexes, there is no consistent relationship between the image typology, the accuracy of the representation and the quality of its execution. Moreover, there seems to have been little interest in imparting to the vehicle image the same kind of detail one so often finds, for example, with representations of loaded yaks. For some reason, the wheeled vehicle could be reduced to a simplified sign and still carry meaning.[8]

It may not be possible to say what the Mongolian vehicles represent, but on the basis of the images themselves and their pictorial contexts it is not difficult to say what meanings could not have been intended. Within the whole corpus of our material, there are absolutely no combat scenes and no scenes of vehicles associated with humans in combat. There are no drivers carrying spears.[9] There are no scenes in which huge serpents appear to menace the driver and vehicle. With the exception of a single vehicle drawn by bovids (Fig. 4b) and most certainly no earlier than the Iron Age, there is no indication that vehicles were intended to carry loads. And although a single, standing figure in TS IV carrying a dagger of Karasuk form is surmounted by the image of a "model yoke,"[10] this object appears nowhere in connection with a vehicle or its driver. So if there are no drivers carrying model yokes or spears, no combat scenes, no serpents, and no loads, we clearly have to do with an image type that — at least within the Mongolian Altai — cannot be interpreted as indicative of a warrior cult, warfare, Avestan myth, or the aggressive movement of populations.[11]

The great majority of the Mongolian images are solitary, without an intended pictorial context. There are, however, a few significant exceptions. In one scene (Fig. 10), located on a boulder set high above the valley floor, a hunter on foot is juxtaposed with two horseless vehicles, possibly suggesting an association between the act of hunting and the vehicles; but in that case, the absence of horses is curious. On several surfaces, vehicles are embedded in actual scenes of hunting where the hunters are on foot. One of the finest such scenes is found on a darkly polished and scraped boulder in TS IV (Fig. 16). In this composition, referred to here as the "Great Hunt," eleven hunters on foot aim their drawn bows at wild goats or elk. The figures all carry *daluur*[12] at their waists and wear a distinctive large hat, frequently described as mushroom-shaped and suggestive of one made from fur. At the top of the scene is a charioteer driving his horses after a large elk. In the published drawing of this scene, the driver seems quite different from the archers; but a close photograph of the section indicates that he, also, wears a large hat, but he does not carry a bow. The pecking of all the elements is identical, indicating that one hand was responsible for the

whole composition. The relationship of the driver to the fleeing elk suggests that he, also, is a hunter but without a bow; or perhaps he is driving the wild animals closer to the hunters on foot. Or perhaps there is another explanation.

In fact, representations of hunting with chariots are both intriguing and problematic. Just as the territory where these images are found is far too rocky and uneven to permit the use of light, wooden vehicles, so the notion of driving a chariot after fleet animals, particularly as they dash up a steep and boulder strewn slope, is ludicrous. Nonetheless, such scenes occur. On a broad outcrop (the "Large Panel") overlooking the Tsagaan Gol, there are more than 740 individual images, representing several cultural layers from the Bronze Age through the Turkic Period. Within the earlier cultural layers there are at least eleven images of vehicles, several juxtaposed with wild, sometimes dashing animals. At least three of these vehicles are sufficiently clearly preserved to indicate that their drivers are hunting wild animals (Fig. 9). In a fourth, finely executed image (Fig. 11), the driver of the vehicle carries on his shoulder a gorytus with bow—weaponry datable to the Late Bronze or Early Iron Age. In this complex, there is only one other image that could be dated to that period.[13] The Great Hunt and the images on the Large Panel support what we see elsewhere, within both complexes: chariots are frequently associated with dashing wild animals, whether or not the driver carries a weapon and whether or not there are adjacent hunting scenes.[14]

The number of vehicles on the Large Panel is exceptional: vehicles more typically appear on a single surface alone or in fewer numbers. This is certainly the case in TS-BO, where, for example, a fine image occurs alone on a beautifully scraped boulder in TS V (Fig. 1h), or, in TS I, where a dimly visible chariot drawn by four fleet horses is the sole image on a broad, horizontal outcrop.[15] In the Upper Tsagaan Gol, a well-executed vehicle from the Khar Salaa section (Fig. 1i, Fig. 12) is the only such image on a broad outcrop on which there are many (unrelated?) images from the Bronze Age, Late Bronze Age, and Turkic Period. However, on another large surface from the upper Shiveet Khairkhan section and one of the highest concentrations of imagery in the Upper Tsagaan Gol complex, there are at least six vehicle images, all different[16]: one image includes only the wheels and axle and one vehicle carries two figures, of different size (Fig. 14); a third image is partially pecked and partially gouged, and the "driver" stands on a circle-basket, his shoulders raised like the wings of a bat (Fig. 15); a fourth image is completely engraved. Two finely pecked images are joined to an equally finely pecked elk, but neither driver carries any weapons (Fig. 8). It is noteworthy that paired drivers do not commonly occur; in the Upper Tsagaan Gol, we have documented two cases (e.g., Fig. 14), in both of which the figures are of markedly different size. Within the TS-BO complex we have documented just one, in BO IV (Fig. 5b), where the figures are only marginally different in size.[17]

The most unusual instance of multiple vehicles is found on a single boulder we dubbed "Vokzal" ("the bus or train station") — for obvious reasons. The boulder is located on a high slope under the abrupt south-facing rise of Shiveet Khairkhan in the Upper Tsagaan Gol complex (Fig. 17).[18] On this surface there are ten images, ranging from a small pair of wheels to vehicles with circles for wheels to fully finished chariots with large, spoke wheels, and elaborate harnessing. The vehicles are directed from right to left and the reverse, the whole surface suggesting a scene from some busy, urban boulevard. Almost all the vehicles have recognizable drivers, and they all reflect a specifically full Bronze Age date. They are tall and thin, they wear mushroom-shaped hats, carry *daluur* at their waists, and several appear to have quivers across their lower backs. The drivers may be compared with several panels[19] in which the activities of the figures, their appearance, and their spears and long bows confirm a Bronze Age date — a period earlier than the adoption of horse riding but contemporary with the appearance of caravan scenes with loaded yaks. Across this remarkable panel there are no indications of combat or load carrying; and since the vehicles are moving in at least two different directions, it is hardly a scene indicative of either chariots of the sun or the movement of populations. There are neither spears nor yoke-shaped objects, and no sign of actual hunting even though there are a number of wild animals scattered across the surface, most standing quietly. Clearly the Vokzal images carry some significance other than what we find in traditional interpretations of the vehicle image.

The Bronze Age date of the Vokzal panel helps us to date many of the other vehicle images from both Mongolian complexes. Not all drivers are equally elegant, but many have the same kind of headdresses and *daluur* and carry the typical Bronze Age quivers across their lower back. This is visible in the fine image from Fig. 12, where the style in which the horses are rendered is similar to that of several horses in Vokzal.

Domestic scenes involving people, domestic animals, domestic activities and, sometimes, wild animals recur frequently in rock art of the two complexes, but vehicles are rarely included. In one composition from TS IV covering a large boulder on which there are many wild animals,[20] is represented a strange object reminiscent of a cart with solid wheels. The "large"

style with which the animals are rendered indicates a date in the Late Bronze Age. A somewhat similar scene, but certainly earlier and far more elegant in its composition and rendition, is from BO III; it includes wild animals, birds, domesticated animals, and a man, a woman leading a yak and two small girls (Figs. 18, 19). In this case, a spoke-wheeled chariot drawn by two horses is found on the left side of Fig. 19. While the published drawing suggests that there may have been a driver standing in the basket, a photograph of the same section (Fig. 19 — photo detail) does not reveal that detail. Assuming that the photograph is more accurate, this seems to be a representation of a vehicle with harnessed horses as part of an idealized family setting, where the transition between the wild and domesticated worlds is seamless. I know of only one other, parallel instance from the Bronze Age: that represented by the large caravan scene from Kalbak-Tash in which a man accompanying a loaded yak seems to be pulling a small cart, as if it were part of the family belongings (Kubarev and Jacobson 1996, Fig. 449).[21]

There is a curious, recurring motif in our complexes in which two horses are shown back to back, posed as if they were hitched to a chariot but are not. A good example is offered by Fig. 26, on a high outcrop above the Tsagaan Gol. In this case, the horses are completely finished, but there is not even the beginning element of a chariot or cart. In TS IV, there is at least one example of a crude pair of horses, but without any indication of a vehicle (Jacobson et al. 2001, Vol. I, Fig. 443). The intentionality behind these pairs of horses — that is, the intention that they stand in for a vehicle — seems confirmed by a small composition from Yelangash (Fig. 27). In that case, a man leads two horses, seen in modified back-to-back position, toward a small spoke-wheeled vehicle. We might assume, quite simply, that the paired horse motif is either the beginning of an unfinished image of a vehicle or a schematic stand-in for the entire vehicle.

There are three compositions from BO III that suggest that the motif of paired horses is more complicated in meaning. The compositions are all found on the same outcrop; all were clearly done by the same skillful artist responsible for the idealized rendition of a family scene with wild and domesticated animals and a chariot (Figs. 18, 19). In all three compositions, the style of the images and the absence of weapon types associated with the Late Bronze or Early Iron Ages, allow us to speak confidently of the whole group as dating to a period earlier than the advent of riding. Taken together, the compositions on the outcrop[22] suggest a complex narrative lying behind the image of a chariot and the principle, applied there, of *pars pro toto*.

The first scene (Figs. 20a, b) includes a curious combination of elements. On the far left and within a square enclosure sits a small figure with legs drawn up. He holds the leads of two horses posed back to back, as if hitched to a chariot. To the right of this enclosure is a partially surrounded area in which stands, closest to the enclosure, a woman identifiable as such by her frontal position, her long gown and her plaited hair. To her left stand horses alternating with strange, partially human figures. Below this group is yet another figure, horned, and with large *daluur*; he holds the lead of a single horse.

Slightly to the northwest of this composition and on the same broad outcrop is a second composition (Figs. 21, 23a and b, 24), related to the first by style, subject matter, and execution. In this case, a pair of back-to-back horses is being led to the right by a strange, partially human figure; behind the horses are three similar creatures. Like two of the figures in the first composition, the treatment of their heads, their long thin legs, and their curious tailed shapes suggest figures half human, half bird. The first birdman is facing an unclear frontal figure guarding the entrance to a large, squared enclosure. Within that enclosure, in turn, we see another pair of back-to-back horses, held (by a lead) by another figure, also with legs drawn up. The third composition (Figs. 21, 22) is located just below the second on the same large outcrop. In this case, two figures, seemingly of the birdman type, lead two horses to the right; they are followed by a third birdman. This procession is directed to a square enclosure within which stands a large female figure — frontal, dressed in a robe, and with long plaits on either side of her head.

While the horses in the third composition are not arranged back-to-back, they are of the same slender type we see in the other two compositions. In all three compositions, horses are being led towards an enclosure, in two of which crouch figures holding the leads of other horses. In the third composition, the enclosure is dominated by a woman and in the first composition a similar woman stands as if guarding the enclosure on the left. In the second composition, the figure guarding the entrance to the enclosure is difficult to identify, but fully frontal positions are almost always reserved for female figures. All these compositions, like that of the idealized family scene on the same outcrop, impress one not only by the beauty of their execution but also by the confidence with which the artist appears to have represented an established narrative. But what would this narrative be and how does it help us to understand the motif of the chariot in the Mongolian Altai?

The compositions are located on a very high terrace

in BO III, and on an elegantly scraped and darkened outcrop well out of range of any travelers going up or down the valley. The location is, indeed, a place that would have been difficult to access with a light wheeled vehicle. This is also true of many of the outcrops on which we find chariot images, whether in the TS-BO complex or in that of the Upper Tsagaan Gol. The images might have been seen by herders following their flocks up the mountain slopes or by hunters stalking prey, but they could not have served as way markers for travelers. It follows that their isolated, high locations would have rendered them ineffective as indicators of distant power relationships, as others have argued (Frachetti 2008). As much as any images we find in the corpus of Altai petroglyphs, these appear to be highly personal notations, not intended to address an extensive community.

Another but related issue is the character of the stone outcrops on which so many of the vehicle images appear. The drawings traditionally used to record petroglyphic imagery in the Altai-Sayan regions (and, of course, elsewhere) offer no indication whatsoever of the stone's larger context; and the texts indicate next to nothing about such issues as the orientation of the surface, its elevation, or its view shed. When we consider the materials from the two large sites in Bayan Ölgiy, we find that those issues may be relevant to our discussion. Many of the images — and especially those of particular refinement — are found on horizontal surfaces that are of an unusual beauty in terms of the coloration of the patina, the quality of the scraped texture, and in terms of view shed. It becomes clear to any careful observer that the stone surface itself and its location were significant factors in the inscription of most of the images involving vehicles, and that within the valleys, those places were off the beaten track. The compositions high in BO III (Figs. 18–24) or those on the Large Panel of the Upper Tsagaan Gol are a case in point.

When we consider the corpus of vehicle imagery we have documented in the two high valleys of the Mongolian Altai, we have to conclude that the image of a light vehicle with spoke wheels must have come into this region as a cultural sign but not as a practical vehicle. We have to imagine, also, that the frequent substitution of solid wheels for spoke wheels, even when the vehicle body is light and drawn by fast horses, further points to its virtual character. Altai herders may have known a heavy wheeled vehicle, but their pictorial memory translated it into something finer — a light and elegant vehicle known only through myth and lore.

With that in mind, it is difficult to support the application of most traditional interpretations to the chariot image as it appeared within the Altai-Sayan regions. A consideration of all the images, as a group, indicates that the vehicle was clearly not intended to symbolize a chariot of the sun, or to indicate combat, warriors, heroic ancestors, population movements, or power relationships; clearly there must be another, larger narrative that allowed the sign to retain a cultural vitality at least through the Late Bronze Age, but not later. As we have seen, the visual image varies radically in all its details, from fairly complete, straightforward representations to deliberate reversions to the principle of *pars pro toto* (Fig. 3) — a way of rendering the chariot as a sign that was quite sufficient to artists and to contemporary viewers even if to modern viewers those bits and pieces seem awkward or inadequate. Similarly, the charioteer varies between what might be called, on the one hand, an engaged driver and, on the other, a figure that seems hardly alive, planted stiffly on the axle, with arms and hands rigid, with little or no indication of the act of driving. As has been said above, the images of hunters shooting at animals from chariots also defy reality: imagining such a scene and one in which the skilled driver actually drops his reins to draw his bow (e.g., Fig. 5b, c, d) leads one to glimpses of immanent self-destruction — of both the vehicle and the driver. In other words, the hunting scenes are drawn from an imaginative re-creation just as are the images of chariots on high, isolated outcrops and just as are the scenes from the high outcrop of BO III.

At the beginning of this discussion I asserted that an inquiry such as this confirms the fact that any visual sign transmitted over vast space, extended time, and many cultures necessarily becomes enwrapped in shifting meaning. The further the sign is distanced from its source, the more forgotten becomes its original reference. The image and its permutations serve, in effect, as indicators of modified cultural contexts and regional environmental constraints. With that in mind, a consideration of the image *as it occurs* within the Mongolian Altai, and *where it occurs*, may allow us to identify the underlying trope. Whether we speak of wheels and other parts of the vehicle, of pairs of horses, of drivers (many seemingly inert), or of the impossible hunting drivers, that basic trope revolves around death: the death of an individual, the removal of the dead to the cliffs above the high valleys, and the transport of the dead to another, parallel world.

It is curious that in the high valleys of the petroglyphic complexes to which I have referred, there are relatively few monuments that could be burials datable to a period earlier than the Iron Age. We find scattered mounds, often muted in contour, on high terraces; these are generally uninvestigated structures but have been tentatively assigned to the Bronze Age (Volkov

1967; Jacobson-Tepfer et al. 2010). There are also a small number of "four-cornered" mounds that have been shown to contain simple Bronze Age burials (Aseev 1985; http://mongolianaltai.uoregon.edu/arch_mounds.php). By contrast to the limited numbers of four-cornered mounds and a small assortment of other as yet undated structures, on the floors of the valleys are found large clusters of surface monuments we call "dwellings"; excavations have indicated that they were not burials, but their house-like organization suggests they were intended to be virtual burials, predicting the dwellings of the dead in the next world (http://mongolianaltai.uoregon.edu/arch_dwellines.php). In fact, the relatively small number of burial monuments within either the Upper Tsagaan Gol valley or the Tsagaan Salaa-Baga Oigor valley is completely disproportionate to the very large number of Bronze Age images found in both complexes. Either the herders of those valleys were constantly making rock art (!), or most of their burials are unrecognizable.

Where, then, did they place their dead? Perhaps there were a number of ways in which the dead were consigned to another world. Some may have been placed under the simple mounds that border terraces overlooking the rivers, others were buried in the four cornered mounds or — in acknowledgment of the stubbornly rocky and often frozen ground of that region — they were given sky burials on the high terraces, just as is still done in many of the high Altai valleys today by Uriankhai and other Mongol groups.[23] The ritual structures we have termed "dwellings" and the long rows of stones that so frequently connect them to ridges and to rivers reflect the absence of true burials and the probable placement of the dead on the terraces and cliffs above. Among North Asian vehicle images, there are some that clearly point to the idea of conveying a dead body in a wheeled vehicle: in one case from Wulunchabu, North China (Fig. 28), the "driver" is lying in the basket in an inverted position; and in another case from Chuluutyn Gol, in Mongolia (Fig. 30), the "driver" lies sideways in the basket. The image of the cart or chariot could have been pecked to memorialize one who had died, or groups or families who had died, their bodies carried — at least ideally — into the mountains on carts. This would help to explain why so often the vehicle images appear on high outcrops or boulders and why they often appear to be the only or the earliest of the images on a particular surface.

But, of course, carts or chariots would never have been driven up to those high places. All our knowledge indicates that the idea of the wheeled vehicle came into North Asia from present-day Kazakhstan associated with the transportation of the dead to the other world. In the beginning of that association — exemplified in the Sintashta burials — the chariot was actually interred with the body. By the time that association reached Siberia, however, it had undergone radical change: there is no evidence from Bronze Age burials in Siberia or Mongolia that any vehicles or their parts were interred with the dead. Within the lower, less rocky valleys of the Mongolian Altai, wheeled vehicles may certainly have been used to transport the body to a sacred place, just as seems still to be the case among some Mongol groups.[24] In the high valleys, however, it is more probable that the body was draped over a horse and thereby transported to the terrace or cliff where it would be laid. The representation of pairs of horses (Figs. 25, 26) and the horses led by bird-figures or held by crouched figures in the BO III compositions (Figs. 20–24) suggest that before sacrificed horses began to be included in burials in the Late Bronze Age, they were nonetheless associated with the idea of transport to the land of the dead. The narrative animating the panels from BO III intimates that the dead (the crouched figures) were carried up to high places by horses, but the transport of the dead further to the next world was somehow associated with birds, and the entrance to the land of the dead was understood to be guarded by a female deity of the type we find embedded in archaic Siberian mythic traditions (cf. Jacobson 1993, pp. 179-204).

With this narrative in mind, the lovely panel from BO III (Figs. 18, 19) — where we see a quiet domestic scene framed by the wings of flying birds, in which wild animals are intermingled with domesticated flocks, and where two vehicles stand at the side of the scene — may offer a glimpse into the realm of the dead where life was understood to continue with abundance and well-being. The images of archer hunters, driving at full speed after fleeing horses or elk or hunting on foot beside their chariots (Fig. 16) — all refer to the hunts the dead would undertake in the next, parallel world. This might explain the curious appearance of so many representations of vehicles, in whole or in part, on high, even inaccessible ridges. As for the outcrops or boulders with multiple images of wheeled vehicles, they may have functioned for a community to memorialize the dead placed on the cliffs or terraces above. In the case of a boulder such as the Vokzal (Fig. 17), we may see the record of a number of deaths, as through disease or another natural catastrophe.

By the Early Iron Age, when images of chariots and carts disappeared and scenes of riding indicate that the horse was a preferred mode of transport, the sacrifice of horses became a regular part of the burial ritual regardless of the wealth, gender, or age of the dead (Rudenko 1970; Griaznov 1980; Kubarev 1991); and so they remained through the Turkic Period as is attested by the interment of sacrificed horses with the

dead or by the mounting of dead horses on tall poles outside the burials.[25] These horses were intended as steeds, but their role emerged from a more ancient understanding that horses were attached to wheeled vehicles and that the dead had to be transported to the next world by a chariot. Although this was a conception that came into North Asia from the west, within the Altai and Sayan regions it became grafted onto autochthonous beliefs and shaped by the physical realities of a rugged and stony world. The conception famously and literally manifested itself within the burials of ancient China; but within the Mongolian Altai, it seems that the vehicle was a virtual chariot, a sign of the sky burial. Eventually even that sign was discarded and the horse alone was attached permanently to the body of the dead.

About the Author

Esther Jacobson-Tepfer is Kerns Professor Emeritus in the Department of Art History, University of Oregon. Her twenty years of fieldwork in the Mongolian and Russian Altai have resulted in seven books (individually authored and co-authored) and many refereed articles. Jacobson-Tepfer has worked closely with Mongolian authorities on the creation of three World Heritage Sites in the Mongolian Altai and has served as a consultant on a number of UNESCO World Heritage Centre projects. She has an Honorary Doctorate from the Institute of Archaeology, Mongolian Academy of Sciences (2003). In 2010, she and her colleagues were honored with the Association of American Geographers Globe Book Prize for their publication, *Archaeology and Landscape in the Mongolian Altai: an Atlas* (2010). Jacobson-Tepfer is currently working on a revision of her first book, *The Deer Goddess of Ancient Siberia*. E-mail: <ejacobs@uoregon.edu>.

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<http://boundless.uoregon.edu/digcol/maic/> Mongolian Altai Inventory Image Collection.

Notes

1. E. A. Novgorodova (1978, 1984) has published a few images from western Mongolia, but the materials she draws on are primarily from central Mongolia. In his publication on wheeled vehicles (1994, 2012) Novozhenov relies on Novgorodova and, for vehicle images from the Russian Altai, on drawings from the publications of A. P. Okladnikov and colleagues.

2. Unfortunately, the book is in Russian and hence not accessible to many readers. It is also rather difficult to use because of the author's idiosyncratic naming of types and subtypes. Other indispensible sources include: Littauer and Crouwel 1979; Anthony 2007; Piggott 1983; and articles by V. F. Gening, and E. E. Kuz'mina.

3. Regarding the considerable problems of distinguishing the origins and development of the Okunev Culture, see Savinov 1997a, 1997b.

4. Referred to in scholarly literature, also, as the Russian Altai and Gornyi Altai.

5. One of the best examples of the recording of rock art can be found in the joint Korean-Mongolian publication, Northeast Foundation 2008.

6. These numbers do not account for all the vehicles images we have documented at these sites: many were too fragmentary or obscured to record meaningfully.

7. Note that many vehicle images can be counted within several different typologies, e.g. images with archer-drivers may also appear in the category of complete images. The typologies identified here were developed independently of those used by Novozhenov (2012, pp. 94–118); his tend to refer primarily to vehicle construction and harnessing.

8. The same appears to be true of all the regions in which there are significant numbers of vehicle images: Armenia, Kazakhstan, Tuva, Russian Altai and North China.

9. Note that the same exclusion applies with regard to vehicles documented in the Russian Altai, but with one putative exception from Yelangash. Novozhenov (1994, Fig. 23) reproduces a panel from Okladnikov (1979) where a spear (?) stands upright on the axle and beside the driver of a schematic chariot. However, the images taken from Okladnikov's publications of Yelangash are too unreliable to allow any certainty in the identification of either details or of the scene as a whole.

10. <http://boundless.uoregon.edu/digcol/maic/>. Search: RA_PETR_OI_0138. Jacobson et al. 2001, Vol. II, Pl. 157),

11. The above observations hold true, also, for a conveniently located control group: the images of vehicles documented at the Altai Republic site of Kalbak–Tash. Although increasingly worn by human impact, this small site is one of the most important in the Altai region and has been well documented (Kubarev and Jacobson 1996). There are twenty-one recorded images of vehicles there; in several cases, the representation is complete. In other cases, however, the driver stands without reins in the basket of the vehicle. In the case of sixteen images, the vehicles are seen among wild animals but none of the drivers appear to be armed as hunters. One elaborate panel (Kubarev and Jacobson 1996, Fig. 449) includes a caravan scene in which a man seems to be pulling a small cart; and another scene (ibid., Fig. 510) shows a driver leading a horse while close by a similar figure on foot leads a large yak.

12. An object usually made of yak hair or foxtail mounted on a stick and used in hunting small animals to distract the intended prey. It is still in use today in many parts of Mongolia and is worn precisely as we see in Bronze Age rock art.

13. The other vehicle image is from the Khar Salaa section of the Upper Tsagaan Gol (<http://boundless.uoregon.edu/digcol/maic/>. Search: RA_PETR_TG_0374). A few vehicles from both complexes can be dated to the Iron Age by reference to such stylistic aspects as the stacking of the horses.

14. In the material from Yelangash, there are many panels in which chariots are surrounded by or juxtaposed with wild animals, but in none of these cases do the drivers carry bows and arrows. This absence, however, may be due to the schematic quality of the drawings.

15. <http://boundless.uoregon.edu/digcol/maic/>. Search: RA_PETR_OI_0022; Jacobson et al. 2001, Vol. II, Pl. 36

16. <http://boundless.uoregon.edu/digcol/maic/>. Search: SK_D1.

17. Within the corpus from Kalbak–Tash, there are no double drivers. Within a group of panels from Yelangash (1979)

reprinted by Novozhenov (1994, Fig. 24), there are two instances of double drivers.

18. <http://boundless.uoregon.edu/digcol/maic/>. Search: RA_PETR_TG_0591

19. See, e.g., Jacobson et al. 2001, Vol. II, Pls. XXVII, XXVIII, 72.

20. <http://boundless.uoregon.edu/digcol/maic/>. Search: PETR_00195_OI; Jacobson et al. 2001, Vol. II, Pl. 188.

21. There are several panels from Yelangash where vehicles are juxtaposed with loaded yaks or herding scenes. Given the quality of the drawings, however, it is not possible to say that these various elements were executed as parts of one scene. See, e.g., Okladnikov 1979, Pl. 32, part 3; and Pl. 34, part 3.

22. This includes the family scene, the three compositions being discussed, a hunting scene and a sixth scene involving a figure and several cervids; see Jacobson et al. 2001, Vol. 1, Figs. 981, 982; Vol. 2, Pl. 329.

23. Personal observation. Note, also, the continuation of a kind of sky burial in the case of ancient Türks in Mongolia: where the body of an individual warrior or hunter was placed in a natural cist or small cave, usually high on a ridge. This is well demonstrated by the burials represented by the recent exhibition of finds from Mongolia, in Bonn, Germany. See the accompanying catalogue, *Steppenkrieger* 2012.

24. See the description of sky burials still practiced among the herders of Inner Mongolia: Jiang 2009, pp. 62–4.

25. This tradition apparently survived into the ethnographic period among Altai Turkic peoples (Kubarev 1984). In the Mongolian Altai, we have recorded a few Turkic burials that had the remnants of cedar logs projecting from the mound (see Jacobson-Tepfer et al. 2010, Fig. 2.29).

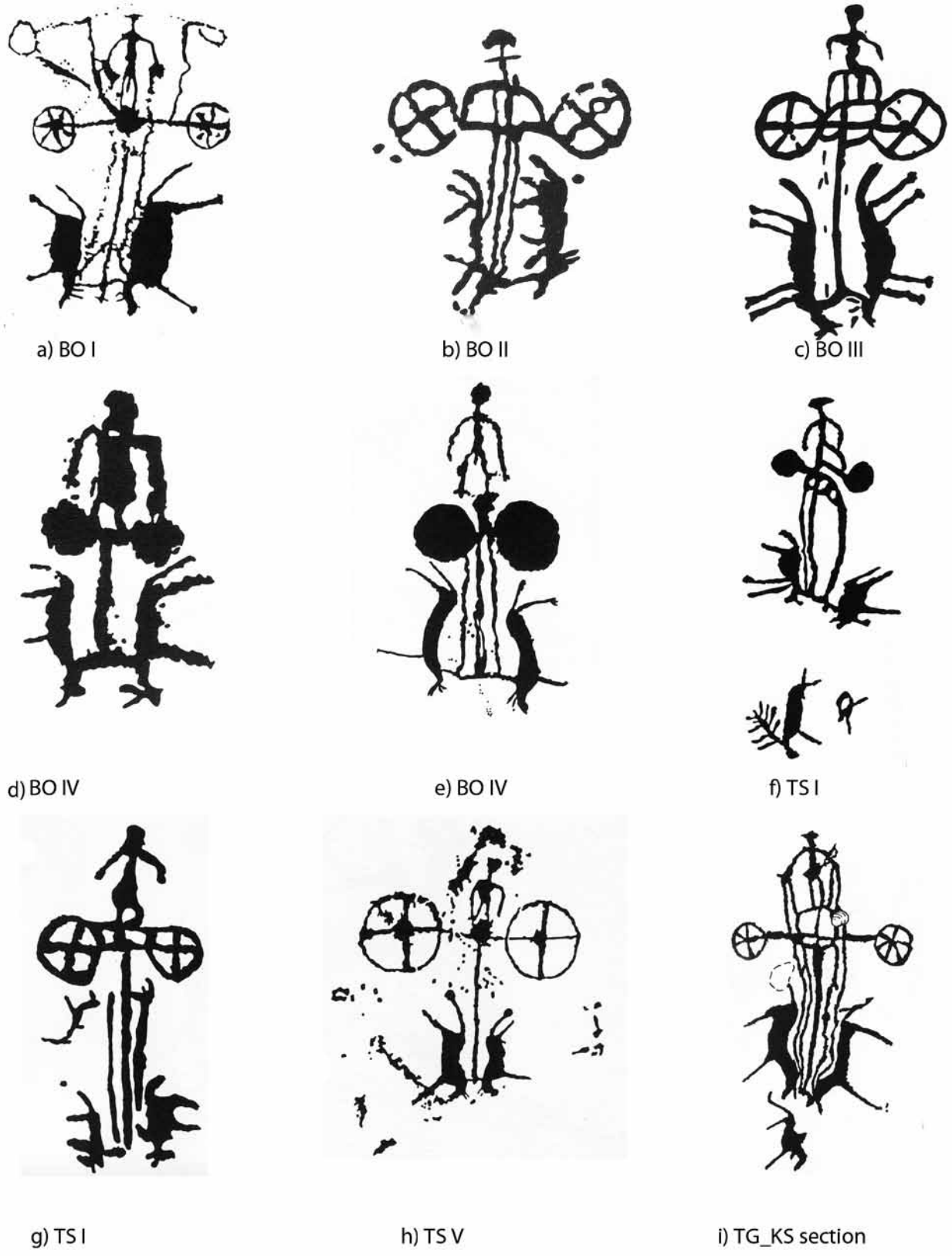


Fig. 1. Images with full wheeled (spoke and solid) vehicles, driver and horses. In some cases, the images indicate reins and full harness, in others those elements are missing. From a variety of locations in Tsagaan Salaa–Baga Oigor and Upper Tsagaan Gol.

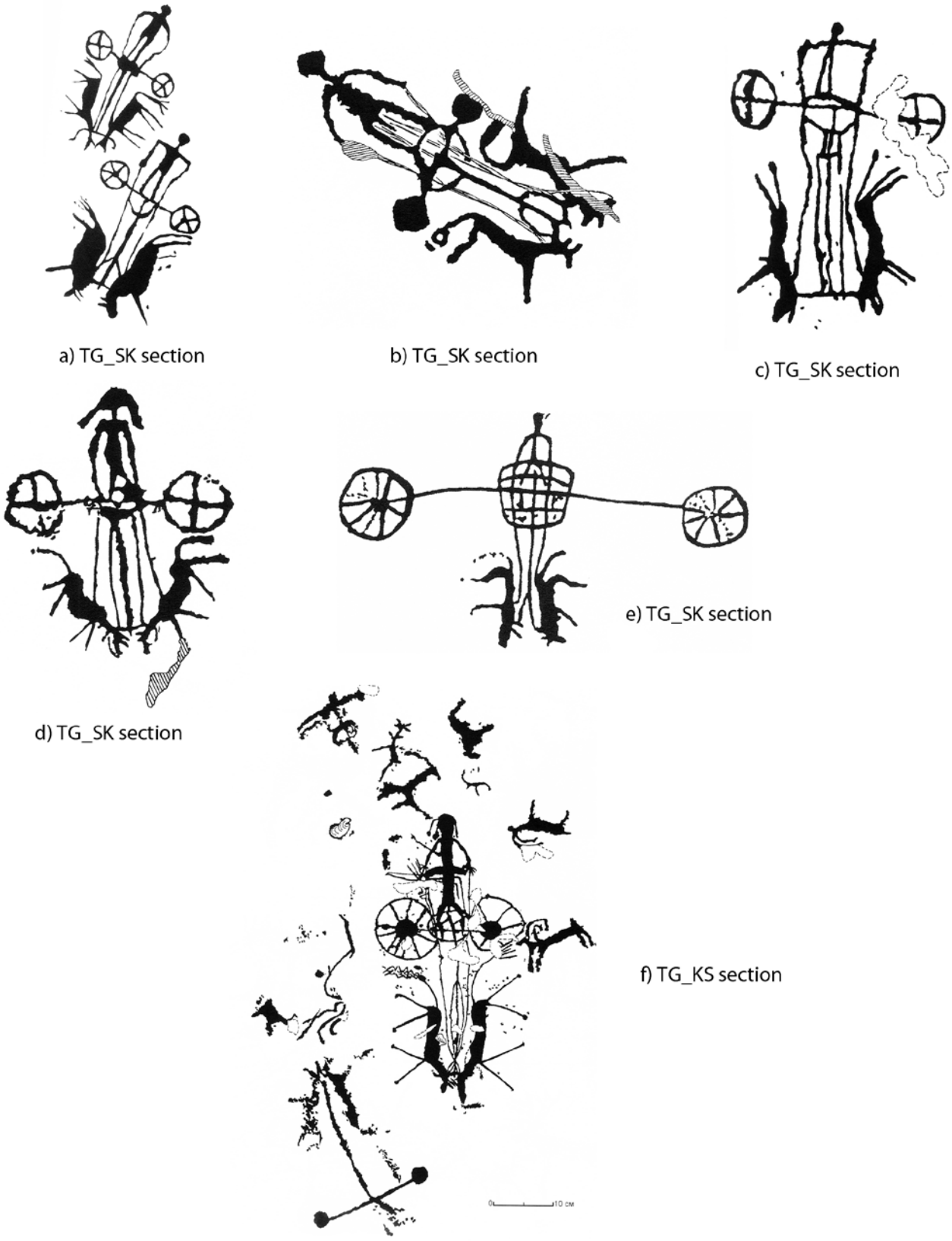


Fig. 2. Images of wheeled (spoke and solid) vehicles, drivers and horses. In all cases the drivers hold reins and the horse harness is indicated. From a variety of locations in Upper Tsagaan Gol.

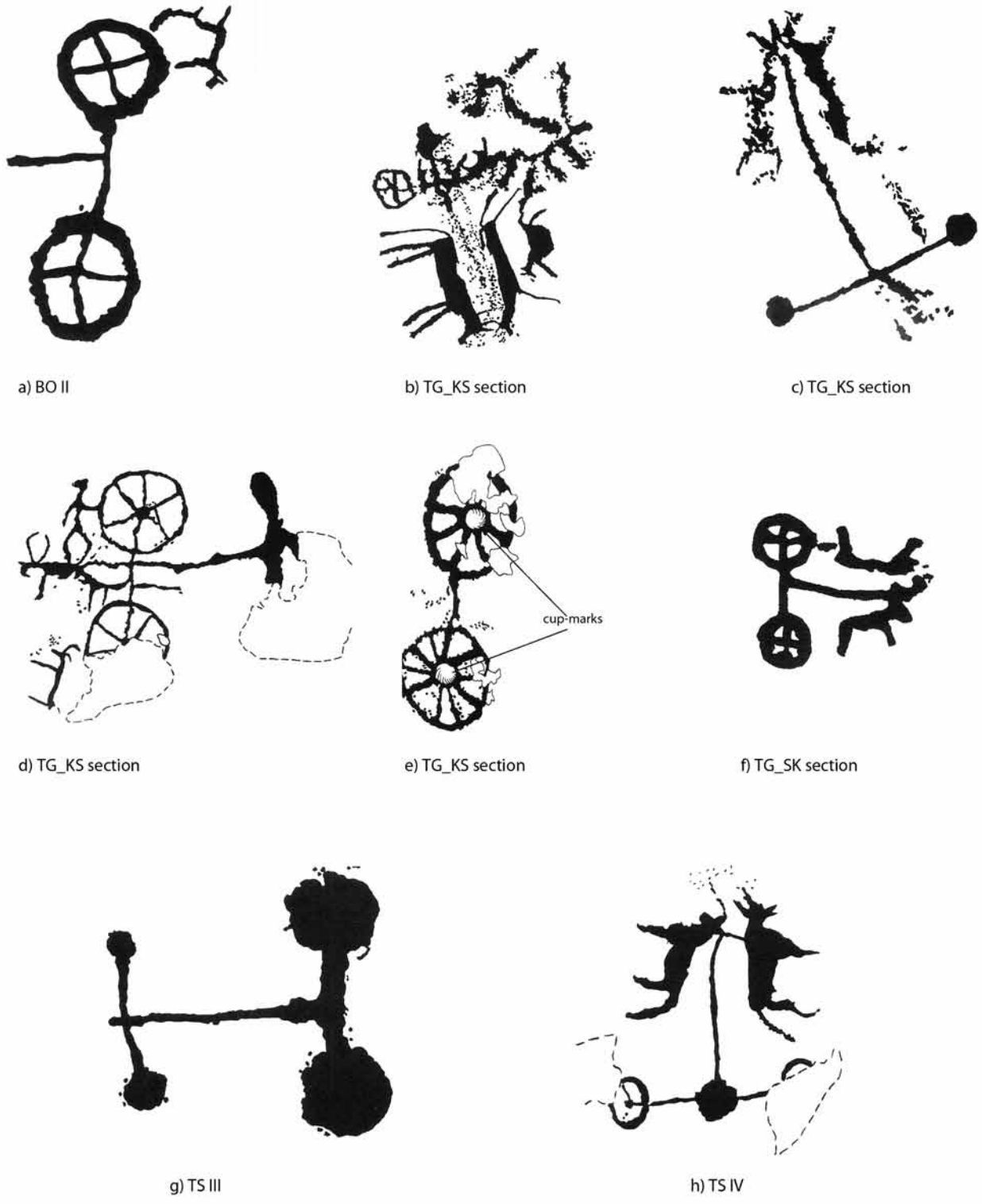


Fig. 3. Images of partial vehicles. From a variety of locations in Tsagaan Salaa–Baga Oigor and Upper Tsagaan Gol.

Fig. 4. Eccentric vehicle images: one vehicle with horses in a facing position and three four-wheeled vehicles, one seen in elevation and drawn by a bovid. From a variety of locations in Tsagaan Salaa–Baga Oigor and Upper Tsagaan Gol.

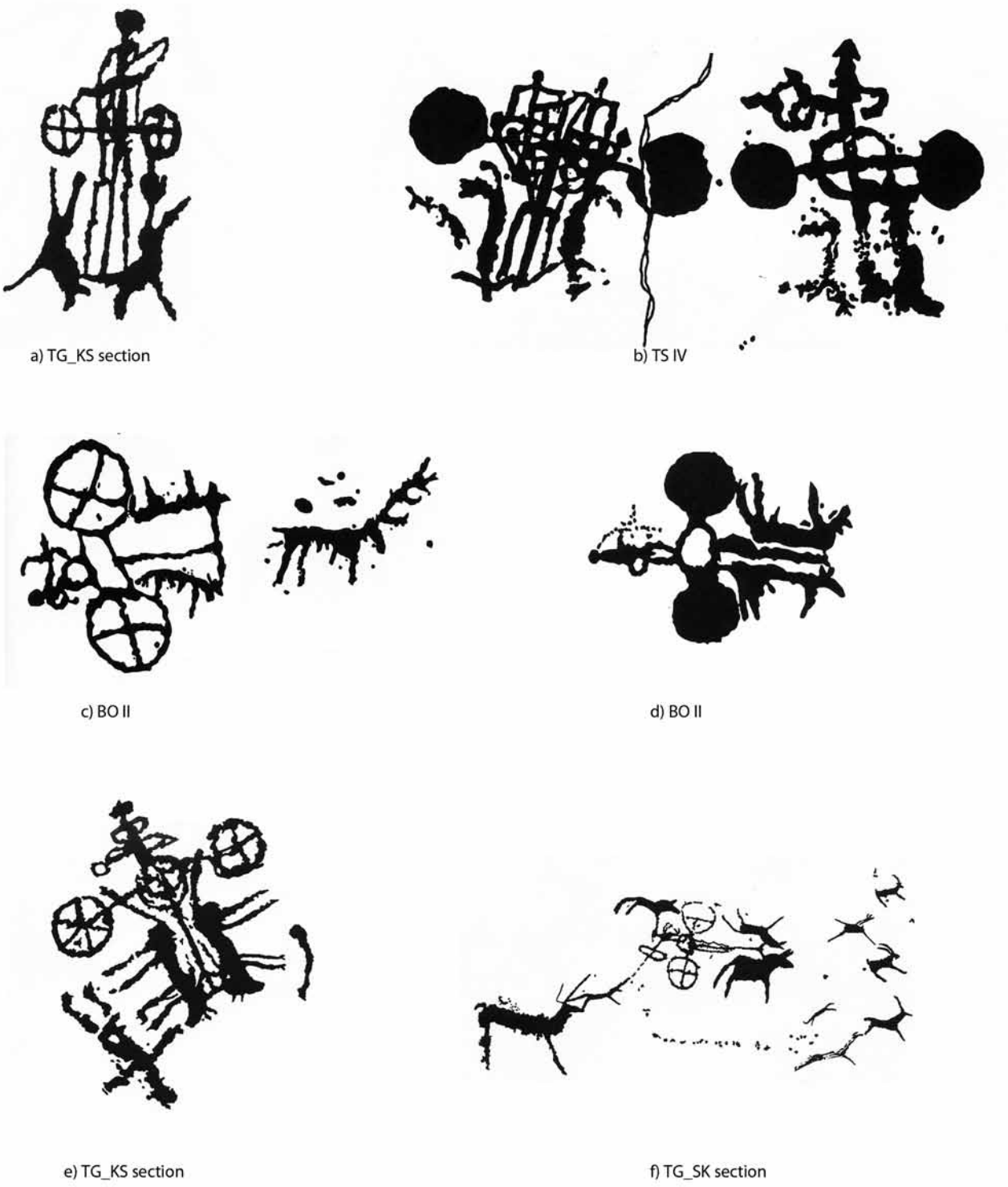


Fig. 5. Vehicles with archer–drivers, archers at the side, and wild animals suggesting a hunt. Note that some of the vehicles are solid wheeled. From a variety of locations in Tsagaan Salaa–Baga Oigor and Upper Tsagaan Gol.

Fig. 6. Two partial vehicles, one with driver standing on the axle and without reins. On flat outcrop. BO II.

Fig. 7. Archer-driver standing in an elaborate basket; large spoke wheels, no reins or horses. On flat outcrop. BO IV.

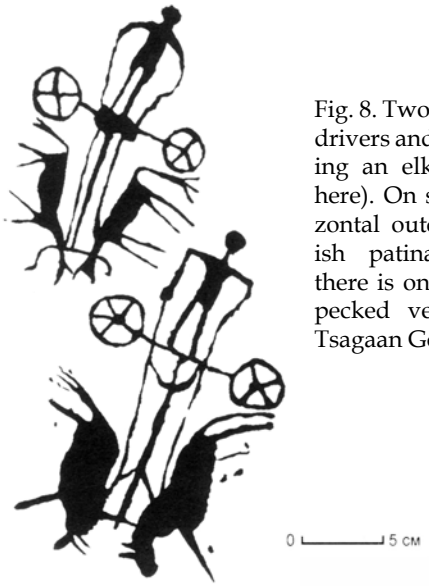


Fig. 8. Two vehicles with drivers and horses, chasing an elk (not shown here). On scraped, horizontal outcrop of pinkish patina on which there is one other finely pecked vehicle. Upper Tsagaan Gol_SK section.

Fig. 9. Archer-driver shooting at small animal (horse?), with two hitched horses and larger horse above. On a large, scraped horizontal outcrop on which there are eleven images of vehicles, whole and partial. Upper Tsagaan Gol_SK section.

Fig. 10. Hunter on foot beside two vehicles, neither with horses. On broad, pink horizontal surface of a boulder high on the east face of Shiveet Khairkhan. Upper Tsagaan Gol_SK section.

Fig. 11. Driver carrying a gorytus with bow and driving two fully harnessed horses. On the right is a partial vehicle with spoke wheels, axle, and basket. On the same horizontal outcrop as Figure 23. Upper Tsagaan Gol_SK section.

Fig. 12. Driver carrying a quiver, standing in the basket of a spoke wheeled vehicle with two horses and full harness visible. Deeply pecked and engraved on a horizontal outcrop distinguished by a fine blue patina with stripes of mineral variation. Upper Tsagaan Gol_KS section.

Fig. 13. Figure standing in a low basket of a light vehicle with no visible reins. Two elegant horses attached to the pole. Lightly pecked on broad, horizontal outcrop on which there is one other finely pecked vehicle image. Upper Tsagaan Gol_SK section.

Fig. 14. Two figures of unequal sizes in the basket of a spoke wheeled vehicle; two horses. Unclear reins may have been added later. On a large horizontal outcrop on which there are five other vehicle images. Upper Tsagaan Gol_SK section.

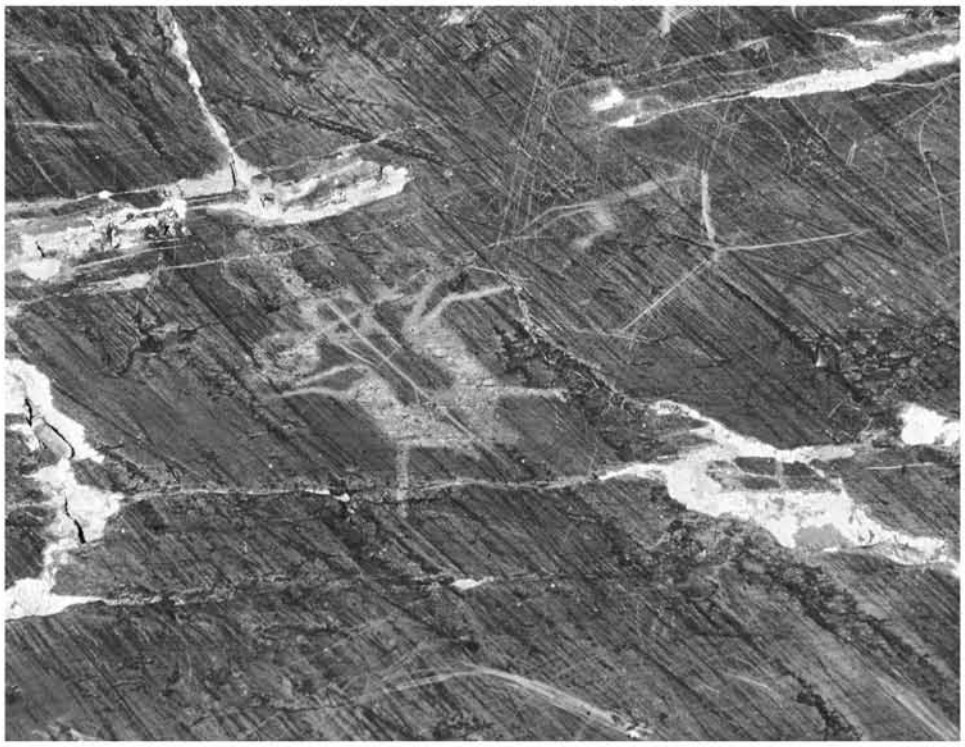


Fig. 15. Vehicle with figure standing in the basket with raised shoulders, no reins. On same surface as Figure 14. Upper Tsagaan Gol_SK section.

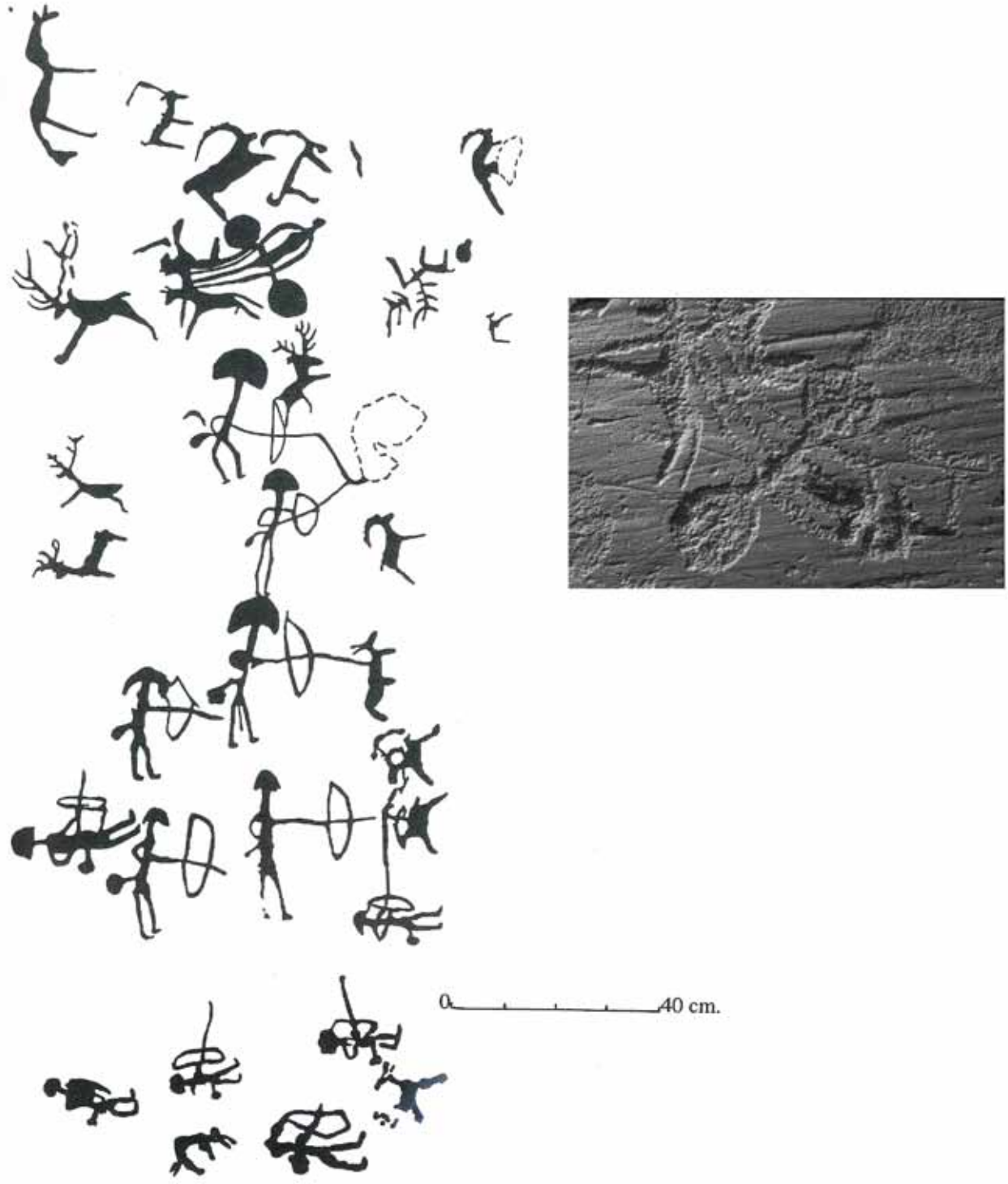


Fig. 16. Large hunting scene ("Great Hunt") with archers on foot shooting at wild animals. In the upper section (photo detail) is a vehicle with solid wheels, driver, and two fleet horses chasing an elk. Pecked on a finely scraped, dark horizontal surface of a large boulder. TS IV.

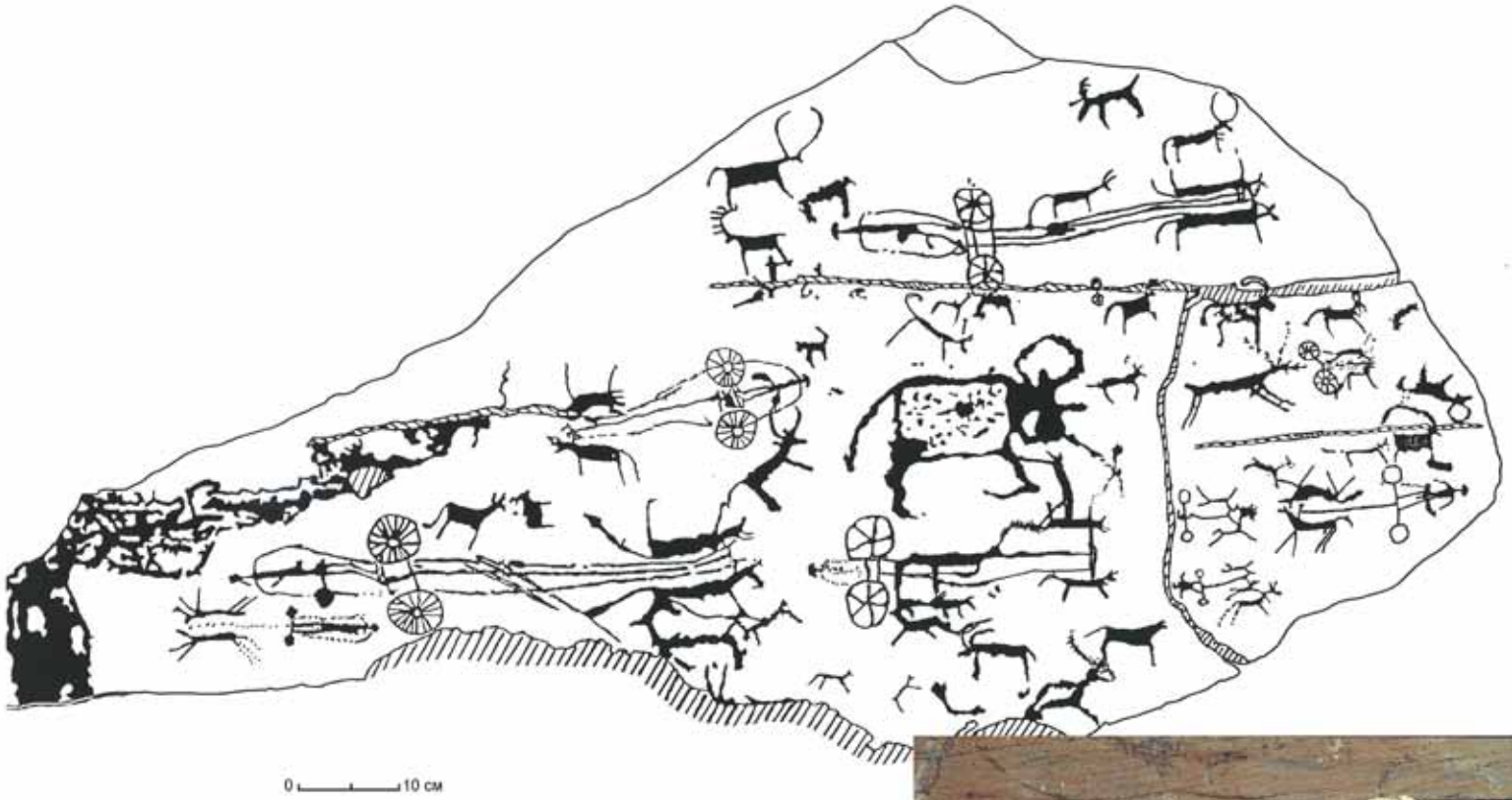


Fig. 17. Scene ("Vokzal") with ten vehicles, whole and partial, with variety of wheels, drivers and horses, all finely pecked on a reddish, vertical surface. On the right is a detail from the far right end of the stone. Upper Tsagaan Gol SK section.

Fig. 18. Upper section of the large composition including Figure 19, below. Here wild animals, walking birds, a man, a woman holding the lead of a loaded yak, and a vehicle with horses and, possibly, driver on the left. Figures finely pecked on a sloping outcrop. BO III.

Fig. 19. Lower section of a large composition including Figure 18, above, with wild and domesticated animals, flying birds, two frontal female figures, and a vehicle (photo detail, lower left) with two horses and, possibly, a driver. Figures finely pecked on a sloping outcrop. BO III.

a

b

Fig. 20. Drawing (a) and photograph (b) of a composition including an enclosure on the left with crouching figure and paired horses. To the right of the enclosure stands a frontal woman, two bird figures leading horses on a trail, and, below, a horned figure leading another horse. Figures finely pecked on a large outcrop. BO III.

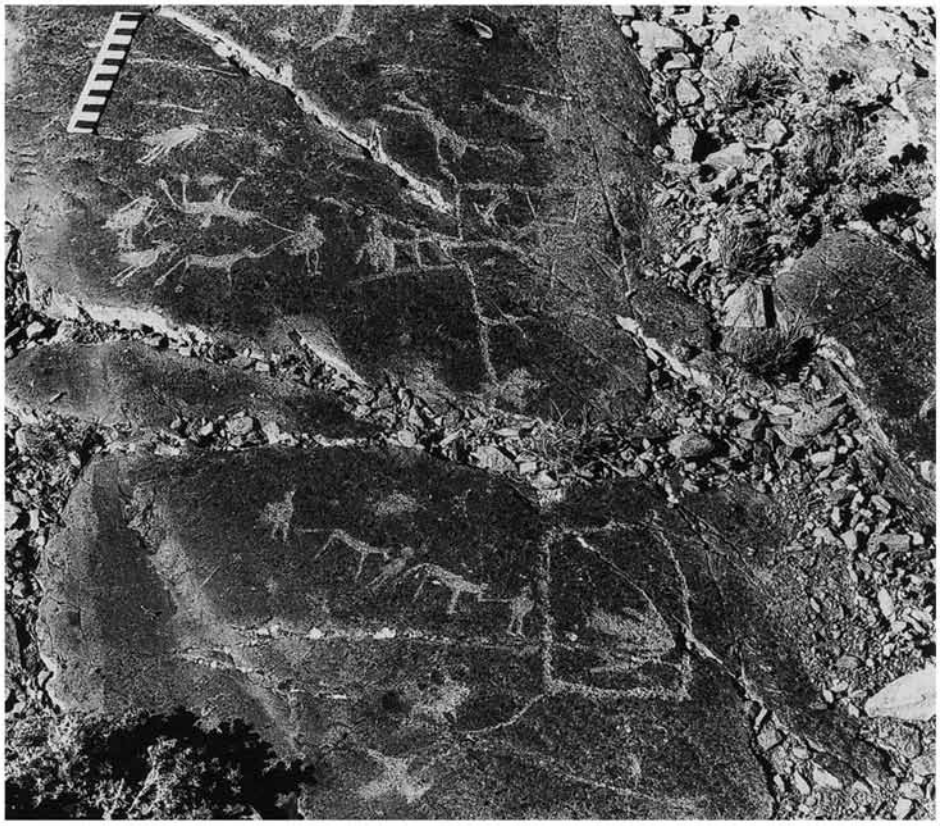


Fig. 21. Two compositions with enclosures, frontal figures, bird men, and horses, all finely pecked on broad, horizontal outcrop. BO III.

Fig. 22. Lower composition in Figure 21: bird men leading horses to an enclosure in which stands a large, frontal woman with long hair. BO III.

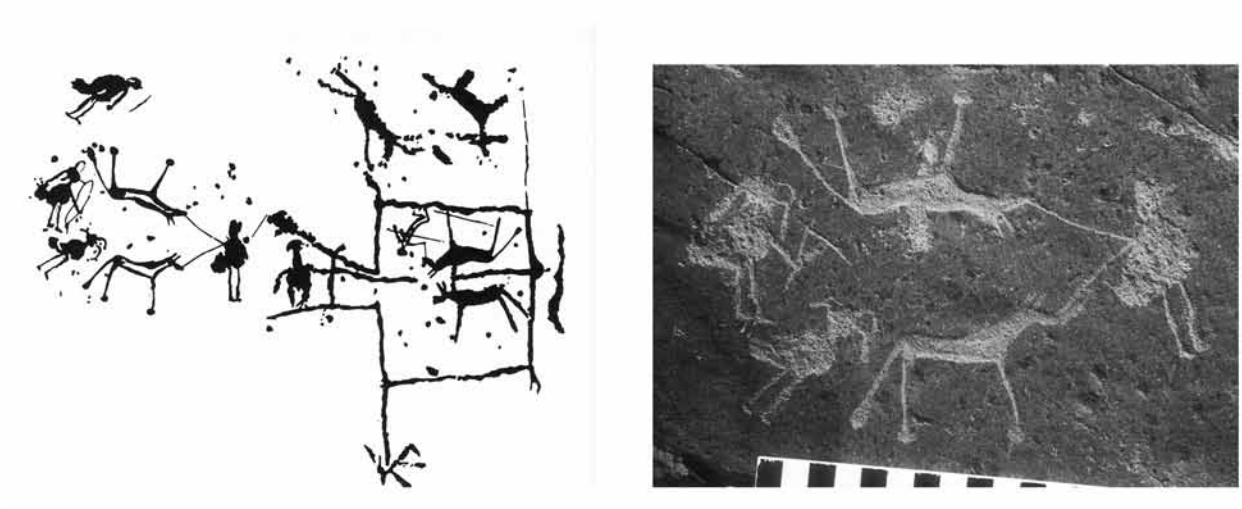


Fig. 23. Drawing (a) and photograph (b) of details of upper composition in Figure 21: bird men leading paired horses to a narrow opening guarded by a frontal figure. Within the enclosure to the right is a crouching figure holding paired horses. BO III.

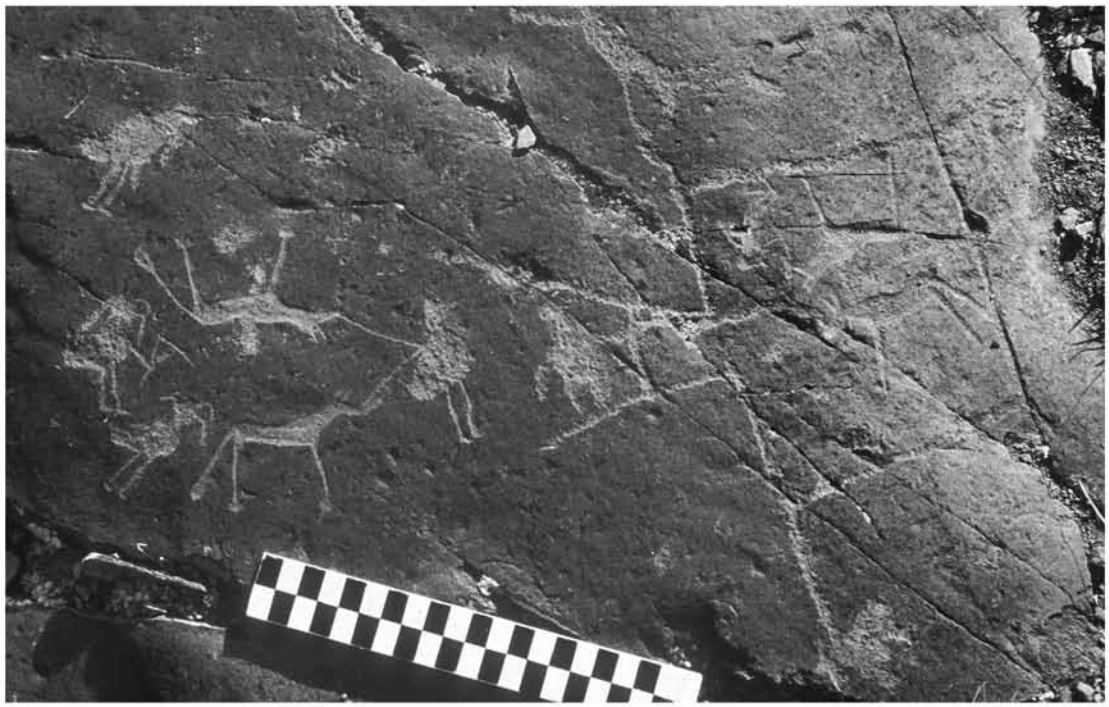


Fig. 24. Whole scene with horses, bird men and enclosure with crouching figures, seen in upper section of Figure 21. BO III.

Fig. 25. Paired horses, possibly with an obscure chariot pole between them, and several other horses. Deeply pecked images on a small boulder. Upper Tsagaan Gol_TG section.

Fig. 26. Paired horses without any sign of a vehicle, on a horizontal surface of bedrock high above the valley floor. Upper Tsagaan Gol_TG section.

Fig. 27. Man leading two horses toward a vehicle. Yelangash Valley, Altai Republic. *After:* Okladnikov 1979.

Fig. 28. Vehicle drawn by two horses and a man lying in the basket in inverse position; at the side of the vehicle, a stag. Wulanchabu, North China. *After:* Gai 1989.

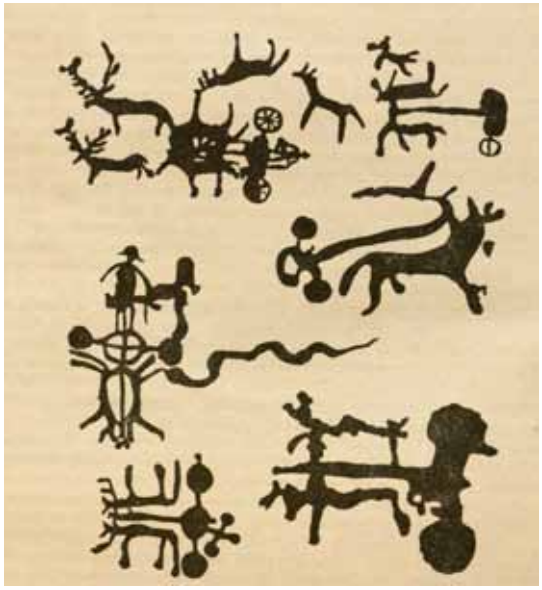


Fig. 29. Vehicles from different sites along the Chuluutyn Gol, northern Mongolia. *After: Novgorodova 1984.*

Fig. 30. Composition with two stags, a vehicle drawn by two horses, and a man lying in the basket. Said to be from Bichigtin-am, Mongolia. *After:* Novgorodova 1984: 60.

Vehicles of the Steppe Elite: Chariots and Carts in Xiongnu Tombs[1]

Bryan K. Miller
Alexander von Humboldt Fellow, Universität Bonn, Germany

Exquisite Chinese chariots of the Han empire have been found overtop many of the chambers of lavishly furnished aristocratic tombs of the Xiongnu empire (Yerööl-Erdene and Gantulga 2007). Archaeologists have equated their interment to an adoption of Chinese funerary traditions (Polosmak et al. 2008, p. 69), and historians have lumped the remains of these chariots with other luxuries from China as evidence of the "Sinicization" of the Xiongnu elite (Yü 1967, p. 209). However, evidence from some of the more well-preserved standard tombs of the Xiongnu clearly demonstrates an existing practice of interring the remains of wooden vehicles overtop the containment of the deceased — a practice into which the Chinese chariots were likely incorporated. In this paper, I present both historical and archaeological evidence for established vehicle traditions among the Xiongnu, most especially their interment in graves, that exotic Chinese chariots augmented and elaborated without necessarily altering the practices with which they were associated.

Vehicles of the Xiongnu

Ample evidence exists in stone carved art of Mongolia from the preceding Bronze Age for the use of chariots in the steppes (Volkov 1967; Jacobson-Tepfer 2012), but horse drawn two-wheeled vehicles were certainly not the only vehicle employed by steppe peoples. Artistic renderings and historical narratives illustrate a variety of vehicles and wooden structures used by the Xiongnu nomads. The Chinese depiction of steppe vehicles not surprisingly paints an unsophisticated picture. "Xiongnu vehicles are without silver, gold, threads or lacquer ornamentation; simple [so as] to be practical and strong" (匈奴車器無銀黃絲漆之飾素成而務堅) (*Yantie lun* 52). Drawings of two-wheeled vehicles on birch-bark containers of the Xiongnu show covered vehicles with a structure mounted on the wheels and yoke apparatus (Fig. 1). While these may be representations of the more elaborate vehicles, as opposed to the "practical" carts for everyday hauling or seasonal migrations, they nonetheless attest to something a bit more complex than what is described by the Chinese chroniclers.

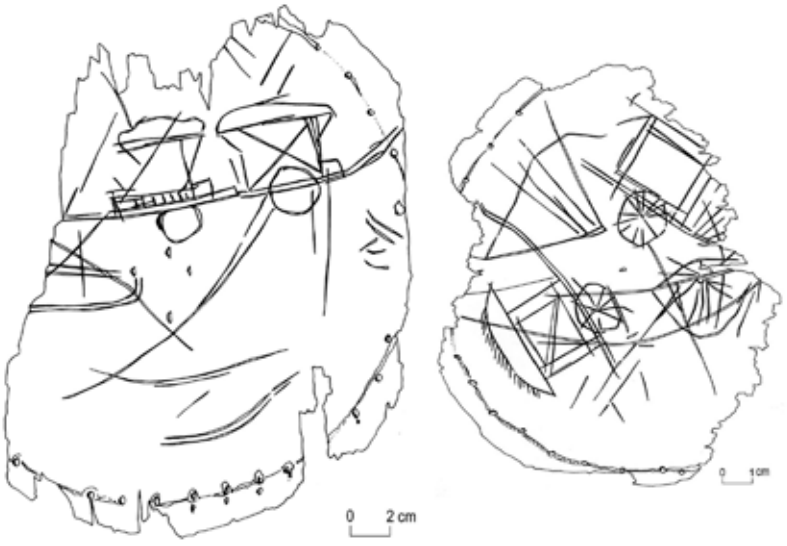


Fig. 1. Etched drawings of covered carts on birch-bark containers from graves 79 and 51, Burkhan Tolgoi (After: Törbat et al. 2003).

Fig. 2. Tents and carts on birch-bark container, Tomb 7, Tsaram (After: Miniaev and Sakharovskaia 2007b, Fig.11).

The Xiongnu also had "domed huts for homes" (穹廬為家室) (*Yantie lun* 38) and "woven branches to make houses" (織柳為室) (*Yantie lun* 52). Such trellised structures are depicted as well by drawings etched on birch-bark containers, and are even shown mounted on wheels as a sort of tent-cart with waving banners (Fig. 2). It is thus clear that a variety of vehicles were used by the Xiongnu, only some of which were simple carts while others were more complex covered wagons or moveable houses. In addition to this collection of artistic and historical evidence for vehicle traditions of the Xiongnu, recent archaeological excava-

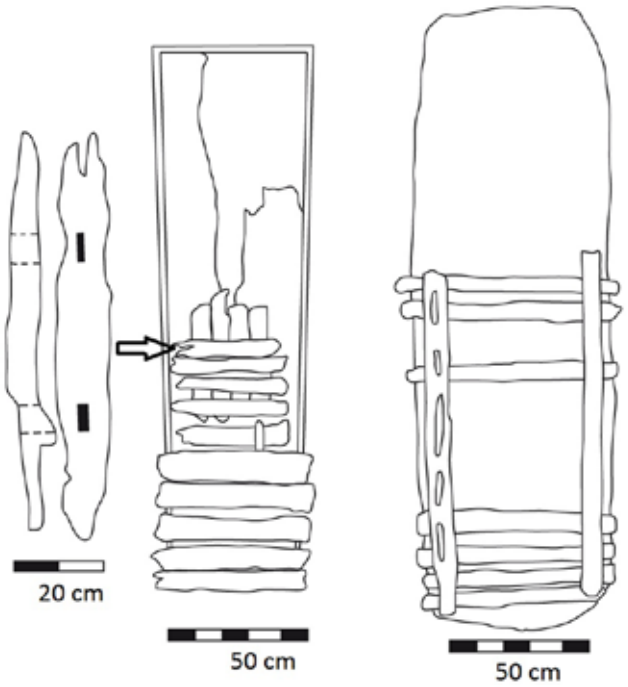


Fig. 3. Wood beams over coffins of graves 3,8,1 at Tevsh Uul (After: Tseveendorj 1985, figs.15,4,11).

tions provide data for the incorporation of vehicles in mortuary rites.[2]

Wooden Carts in Standard Xiongnu Graves

Broken wooden beams laid overtop the coffins of standard Xiongnu graves were first recognized as cart pieces by archaeologists working at the site of Tevsh Uul, Bogd sum, Övörkhangai aimag in the Gobi regions of southwestern Mongolia (Tseveendorj 1985).[3] Seven graves in the cemetery contained an array of wooden beams — laid length-wise, width-wise, or both — overtop wood plank coffins (Fig. 3). Many of the wood pieces had rectangular holes carved through them, but their broken condition, placement over the coffin, and lack of accompanying wood pieces slotted into the holes indicated that the beams were most likely not made for structural fittings of a burial chamber. Several beams in these graves had holes through two directions, further indicating the use of these beams in a construction previous to the burial. Archaeologists working at Tevsh Uul reconstructed the beams over the coffin in grave 2 as a simple framework of short planks between two longer planks (Fig. 4). This framework resembles the flat bed portion of two wheeled carts still used by herders in Mongolia (Fig. 5). In addition, some of the pieces found with holes in two directions through wooden beams (Figs. 3, 7) appear analogous to certain portions of more recent wooden carts (Fig. 6a, b).

Fig. 4. Wood beams over coffin of grave 2 at Tevsh Uul, and reconstruction of cart (After: Tseveendorj 1985, fig.13).

Broken wood beams found in six out of fifteen burials recently excavated at the hinterland cemetery of Shombuuzyn Belchir (SBR) have further confirmed the presence of cart pieces in standard Xiongnu graves (Miller et al. 2009, 2011). Similar to the high degree of preservation at Tevsh Uul, the organic remains at Shombuuzyn Belchir, in the southern Altai Mountains of western Mongolia, provide rare possibilities for discerning particular characteristics of wood pieces in Xiongnu burials and hence understanding specific aspects of coffin construction and burial furnishings which archaeologists have been unable to perceive at most Xiongnu cemeteries.

Fig. 5. Wooden cart, 19th century (National Museum of Mongolia).

Fig. 6a. Wood beams and wheel (detail): wooden cart, 19th century (National Museum of Mongolia).

Fig. 6b. Wood beam joins (detail): wooden cart, 19th century (National Museum of Mongolia).

Numerous wooden beams found in these graves have particular features that are not facets of chamber construction and may be seen as indicative of previous constructions. These features include rounded ends with notches, oval ends with holes that resemble the ends of yoke beams, beams with holes through in both directions, sometimes even meeting at the center of a beam, and beams with holes still filled with the pegs of tenons (Figs. 7, 10). Comparisons to present-day lattice constructions of ger tents (similar to those depicted in Xiongnu etched drawings) and to joined beams of carts suggest a structure similar to such wooden vehicles (Figs. 5, 6a, b). While one should refrain from reconstructing the excavated beams as exact replicas of present carts, the presence of certain facets like yoke beams and the similarities between many elements of these ancient beams and portions of recent carts undeniably link these wooden pieces in the graves to some comparable type of wooden vehicles.

In addition to confirming the use of carts in burials, the findings at SBR demonstrate the inclusion of cart pieces not only in the larger standard graves —with deep pits and decorated wooden coffins — but even in the most meager of interments — stone cists in shallow pits. Although wooden carts therefore appear to permeate interments of all social levels, detailed documentation of the burials at this cemetery shows slight differences in the manners of deposition of cart remains between the simpler and more elaborate graves.

Three of the eight stone cist graves found at SBR contained adult interments, and two of them included wood beams attributable to carts: graves 12 and 13 (Fig. 8). Unlike standard Xiongnu burials marked by large stone rings, these graves were marked on the surface only by small clusters of stones a couple meters in diameter. The stone cists within were constructed less than a meter and a half beneath the ground surface and were only slightly larger than the bodies they contained. In both graves a few beams were set across the tops of the stone slabs that served as the walls of the cists. Then, stone slabs that served as lids of the cists were placed overtop the wooden beams. These beams clearly did not function as the lids to these cists, yet

Fig. 7. Wooden beam with slot holes and peg, and wooden yoke end, grave 12, Shombuuzyn Belchir.

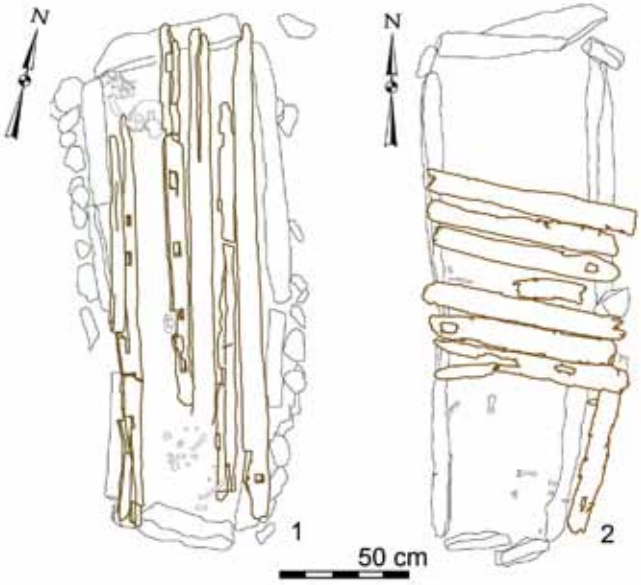
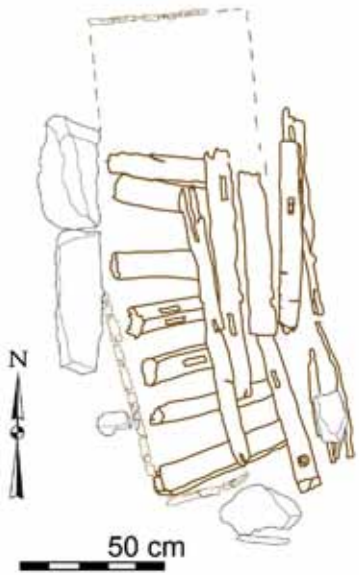


Fig. 8. Graves 12 and 13, Shombuuzyn Belchir.

Fig. 9. Grave 20, Shombuuzyn Belchir.

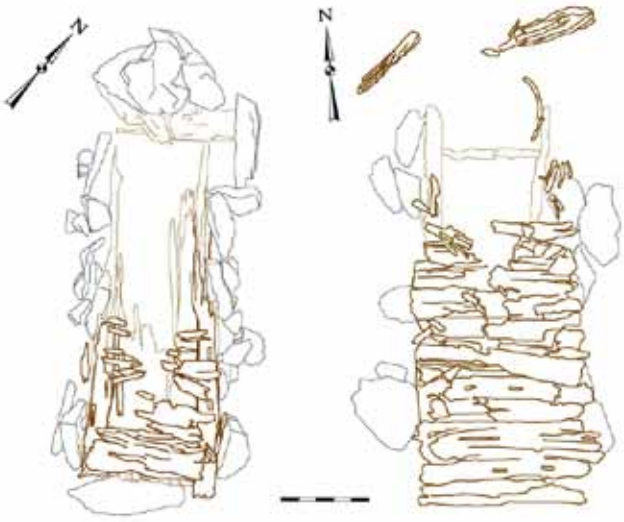


they were incorporated in the burial furnishings. The number of beams included in these graves, especially in grave 12, do not represent all pieces necessary for constructing wooden vehicles. In addition, since neither of these graves were looted, it is clear that only portions of deconstructed wooden vehicles were included in these burials.

More numerous pieces of wooden vehicles appear to have been placed in the deeper ring graves overtop the wooden coffins. Grave 20 contained a coffin built from small wooden slats and twigs placed almost two and a half meters below the surface. A total of fourteen wooden beams were placed overtop this coffin (Fig. 9). Although they number more than the handful of beams set in graves 12 and 13, they were laid overtop the containment of the deceased in a similar manner, with none of the beams fitted together. These wooden pieces also had holes indicative of their use in a previous construction — one beam with slots carved at both sides so that the holes met in the middle, and another beam with one rounded end and a notch cut into it (Fig. 10). Although it is difficult to affirm the exact position of these beams in their previous construction, or the complete form of their previous structure, the close parallel to joints, notches and fittings in present-day wooden carts is strongly suggestive of vehicle construction (see Fig. 5).

Fig. 10. Wooden beams with notches and slot holes (marked by arrows) laid over coffin, grave 20, Shombuuzyn Belchir.

Fig. 11. Graves 15 and 16, Shombuuzyn Belchir.



The resemblance of the frame from pieces in Tevsh Uul grave 2 (Fig. 4) to the bed of a present-day wooden cart (Fig. 5) may also be seen in the complex frameworks surrounding wooden coffins in the larger of the three graves with wooden beams at SBR. These were all stone ring graves with decorated wood plank coffins made by mortis and tenon construction: grave 15 was painted with lattice patterns, grave 16 was ornamented with iron quatrefoils, and a gold foil pair of crescent moon and disc sun had been mounted to the coffin in grave 7. The former two graves had both been heavily looted, but the southern ends of the chambers contained numerous beams placed in a layer over the coffins (Fig. 11). Close analysis of the wood pieces and their positions revealed that the numerous transverse beams, some of which had rectangular holes in them, rested across longer beams alongside the east and west walls of the coffins

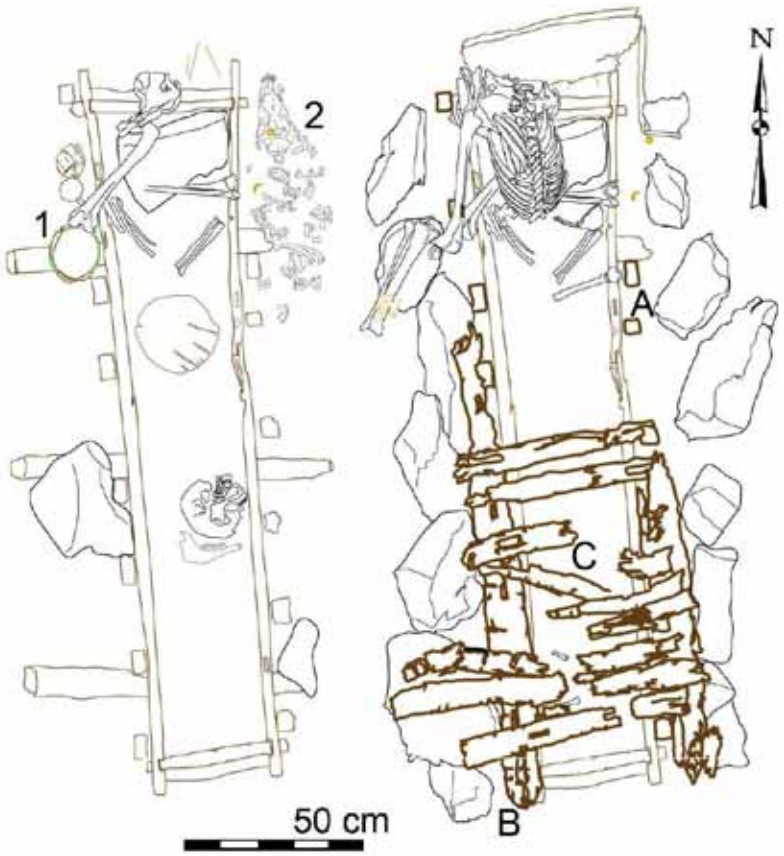


Fig. 12. Grave 7, Shombuuzyn Belchir: (1) Bronze cauldron containing sheep/goat vertebrae, (2) sheep/goat skull, ribs, vertebrae and phalanges; (A) wooden posts, (B) wooden side beams, (C) wooden cross beams.

rather than directly overtop the plank lids of the coffins. A series of slots in the long side beams showed remains of small wooden posts that fitted in these holes and held the long beams up along either side of the coffins.

The best example of this skeleton structure of recycled cart pieces was found in grave 7 (Fig. 12). Despite the interior of the coffin having been mostly emptied by robbers, the coffin structure and the materials around it remained undisturbed. Careful excavation documented three basic components of the structure that surrounded the coffin of the deceased and the offerings laid beside it: (a) wooden support posts, (b) wooden side beams, and (c) wooden cross beams. In addition to numerous artifacts that would have adorned the deceased and been placed within the coffin, some offerings were placed directly against the coffin walls on either side. These included animal parts representing the offering of at least one caprid (sheep/goat) placed outside the northern end of the east wall, as well as a round birch-bark container with two sheep/goat vertebrae, a wooden ladle, and a bronze cauldron covered with animal skin that contained additional sheep/goat vertebrae all against the northern end of the west wall. These animal remains and accoutrements were interred as part of the funeral ceremonies, for which the cart would have been dismantled and rebuilt overtop the coffin.

Fig. 13. Wood posts next to coffin: west side, south end of grave 7, Shombuuzyn Belchir.

The posts, numbering eight on each side, were set approximately 15–20 cm apart and measured about 6 cm wide (Fig. 13). The post at the southeast corner of the grave, though, was larger than the others and had two holes similar to cross beams found in many burials. The two long beams were fitted onto the posts through a series of holes (Fig. 14), creating a structure resembling an open slat bed of a basic cart (see Fig.

Fig. 14. Wood posts and side beam next to coffin: east side, south end of grave 7, Shombuuzyn Belchir.

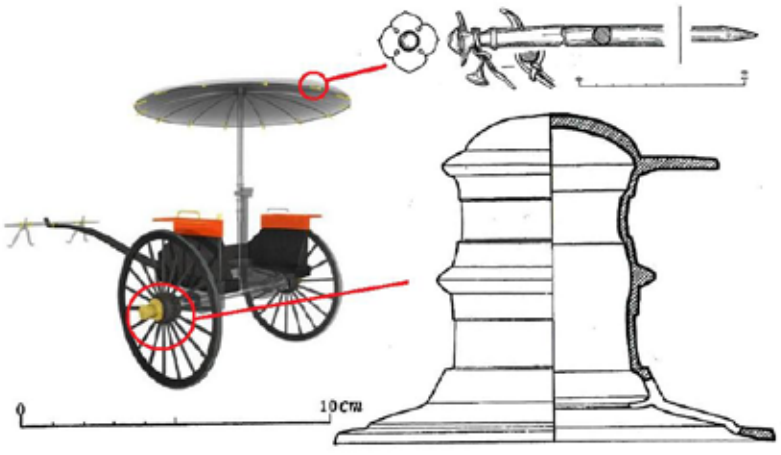
Fig. 15. Wood side beams and cross beams over coffin: south view of grave 7, Shombuuzyn Belchir.

5). The numerous broken beams, some with holes from their previous contexts, rested overtop the long side beams without being fitted together in any way. Once the cart pieces were set in place, the offerings were then set between the wooden posts erected along the eastern and western sides of the coffin, and stones were packed into the burial pit around the coffin, the offerings, and the wooden outer structure (Fig. 15).

The well-preserved wooden furnishings in grave 7 verify the details of the structures in graves 15 and 16, and the remains at SBR may collectively also help clarify fragments of wood and stains in the dirt found in more deteriorated Xiongnu graves elsewhere. Long beams to the east and west of the coffins in some of the graves at Tevsh Uul (Figs. 3, 4) and Holtost Nug (Törbat et al. 2003) may correspond to side beams of such skeleton structures as those found at SBR. The smeared outline of a wooden coffin in a satellite grave (GM2-1-19) at the Gol Mod 2 Xiongnu necropolis was flanked by a series of evenly spaced circular stains of decayed wood pieces a few centimeters thick and approximately the same height of the coffin (Miller et al. 2006). With the knowledge of wood posts surrounding the graves at SBR, we may hypothesize that the poorly preserved remains of small wood fragments on either side of the coffin in this satellite grave were part of a similar outer structure of recycled cart pieces.

In sum, sufficient findings at well-preserved sites exist for us to deduce a custom among the Xiongnu of using wood pieces from dismantled vehicles as part of the ritual deposits along with animal parts and feasting accoutrements. The surfaces of most of the wood pieces were severely flaking, but since some pieces showed fresh, sharp carving marks and other beams with holes were still covered in bark, we may deduce that some vehicles were made specifically for the burial rites rather than interred after a life of usage. We should also note differences in the manners of vehicle deposition within the spectrum of graves. While simple stone cists contained only a few pieces of wooden vehicles, the larger interments, especially those with decorated coffins, included numerous broken wooden pieces from disassembled carts that were reassembled into complex structures that set the vehicle fragments overtop the containment of the deceased. These wooden pieces may or may not have been from vehicles that transported the deceased to the grave, but their presence in Xiongnu burials clearly demonstrates the importance of vehicles in mortuary practices and beliefs of the steppe nomads.

Fig. 16. Bronze axle cap and umbrella finial of Han chariot (Umehara 1960, 87; 91) and reconstruction of Chinese chariot from Gol Mod cemetery (After: Desroches and André 2007, p. 75).



Chinese Chariots in Monumental Xiongnu Tombs

Pieces of ornate chariots have been found in large tombs of the Xiongnu ruling elite all over Mongolia and southern Siberia. Comparisons with small chariots with large wheels found in tombs of the Han empire (see Sun 2001) demonstrate that the chariots in Xiongnu tombs were indeed manufactured in China (Fig. 16), and numerous examples of Han chariots gifted to the Xiongnu rulers appear throughout the Chinese histories. Specific mentions are given of "magnificently dressed chariots" (盛服車乘) (*Han shu* 48: 2265 n. 3) as well as "silver ornamented chariots" (*yinche* 銀車) that were decorated with embroidery, brocade tapestries, and carvings that made them equivalent to "imperial carriages" (*yucancheng* 御驂乘) (*Xin shu* 4.1).

Fig. 17. Han chariot pieces: (1) gilded bronze umbrella finial (After: Polosmak et al. 2008, Fig.3); (2) bronze monster-face fitting (After: Desroches and André 2007, p. 76); (3) lacquered seat box with cloud design and Chinese characters (After: Erdenebaatar 2012, p. 163).

Chariots from the Han amidst the Xiongnu constituted a radically different style of vehicle with colored silks, ornate bronze fittings, and painted lacquered seat boxes (Fig. 17), which would have exuded exoticism and prestige for those steppe rulers who rode in them. Yet despite the drastically different form of the Chinese-style chariots interred in the large tombs of the Xiongnu, we may interpret them as exotic transports incorporated into well-established vehicle traditions of the steppe nomads. In particular, the interment of Han chariots overtop the chambers of large Xiongnu tombs does not reflect an adherence to Chinese customs but instead may be deemed in accordance with steppe traditions.

Some of the well-documented tombs show them set between or above layers of stones overtop the burial chamber (Fig. 18), and the chariots are often dismantled, whether simply by removing the wheels (Polosmak et al. 2008, p. 69) or completely breaking apart the vehicle (Mission 2003, pp. 124-36). The position and treatment of Han chariots is thus clearly analogous to the placement of vehicle parts in standard and lesser Xiongnu graves.

Han chariots were often interred in tombs that also contained ornate precious metal horse ornaments depicting mythical beasts (Yerööl-Erdene 2011), and were part of composite retinues of prestige goods acquired by the uppermost echelon of the Xiongnu aristocracy. Even from the first Han tribute missions sent to placate the founding Xiongnu ruler Modun 冒頓 (*Han shu* 94A: 3754-5), chariots are mentioned in the Chinese histories as gifts to the Xiongnu rulers. A "leisure chariot" (*anche* 安車) and 15 horses are mentioned in the list of gifts to the later Xiongnu ruler Huhanye 呼韓邪, who capitulated to the Chinese in order to garner support for regaining power in the steppes (*Han shu* 94B: 3798). Decades afterward, when the Chinese usurper ruler Wang Mang 王莽 attempted to encourage splintering among the northern nomads by giving out the Xiongnu title of "chanyu" to any steppe leaders who would take it, the court of the "New" (yet short–lived) Chinese dynasty gave an assemblage of gifts that intentionally imitated the gifts given to Huhanye. These included "a leisure chariot and a war chariot" (*anche guche* 安車鼓車) (*Han shu* 94B: 3823).

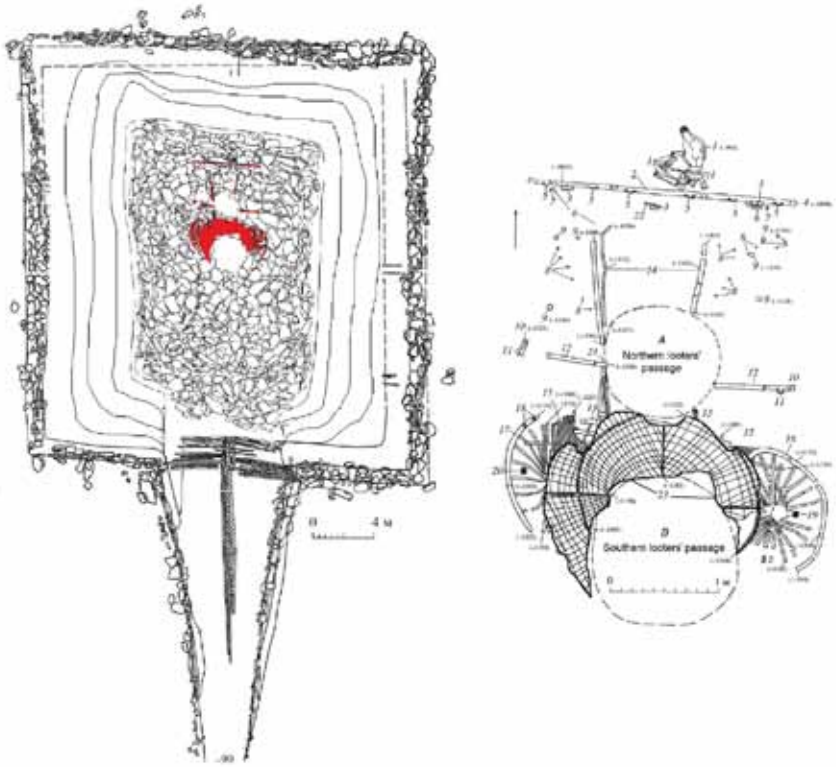


Fig. 18. Chariot over stone covering of chamber, tomb 7, Tsaram (After: Miniaev and Sakharovskaia 2007b, Figs.5–6).

Since chariots have been found only in the large ramped square tombs, and never the standard graves of the Xiongnu, we may deduce proscriptions of their distribution among those elite who were interred in the most elaborate tombs. These exotic vehicles, along with other imports, may have been items of relative inalienability (Lesure 1999) that, through their restrictions to members of the uppermost echelon, would have helped to distinguish the imperial aristocracy from the other elites buried within standard graves.

Conclusions

With full knowledge of the importance of vehicles among the Xiongnu, the Chinese purposefully sent chariots that would cater to the tastes of the steppe leaders. The Five Baits (*wu'er* 五餌) proposal of the Chinese minister Jia Yi 賈誼 suggested giving various meats, entertaining ladies, and stores of food, as well as adorned chariots and horses, that would adhere to the desires of the nomadic elite. Yet despite any attempts mentioned in the histories of the Chinese to "bait" the Xiongnu into submission, Han imports were not part of an acculturative process. They occurred alongside steppe-style ornaments, felt garments, and typical Xiongnu burial goods and burial styles that continued to dominate mortuary arenas in the steppes. The well-preserved remains of wooden beams and posts found in standard graves of western Mongolia attest to customs of vehicle interment practiced by all level of Xiongnu society. Archaeological evidence for such vehicle traditions presents a new context for interpreting the deposits of Chinese chariots in the tombs of the Xiongnu rulers. They may therefore be seen as exotic vehicles incorporated into local traditions.

About the Author

Bryan K. Miller received his Ph.D. in East Asian Languages and Civilizations from the University of Pennsylvania and his M.A. in Archaeology from the Cotsen Institute of Archaeology at UCLA. He has conducted surveys and excavations of Xiongnu remains in Mongolia since 2001, and has focused on historical and archaeological investigations of early empires in East Asia. He is presently on a Research Fellowship from the Alexander von Humboldt Foundation and is hosted by the Pre- and Early Historical Archaeology Department at Bonn University in Germany. His current research addresses modeling of Inner Asian states and issues of connectivity and cohesion in polities formed by nomadic groups.

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Notes

1. A previous version of this article was printed in Mongolian for a special volume of the journal of the National Museum of Mongolia (*Nüüdelchdiin öv sudlal* vol. 11) on the occasion of the 2,220–year anniversary of the Xiongnu Empire.

2. Wuhuan tribes of southern Manchuria, who neighbored the Xiongnu, are recorded by the Chinese as having used carriages and horses to bear the deceased to their graves (*Hou Han shu*: 2980). Although no mention is given for carts regarding funerary rites of the Xiongnu (see *Shiji*: 2982), general similarities between these "nomadic" cultures are acknowledged by Chinese chroniclers. Furthermore, one must concede the distinct possibility that not all materials and practices of the Northerners were properly recorded by the Chinese.

3. Excavations at Tevsh Uul site were carried out by N. Ser–Odjav, Vitalii V. Volkov, Dorjpagma Navaan, and Damdinsüren Tseveendorj between 1972 and 1977.

Yuezhi on Bactrian Embroidery from Textiles Found at Noyon uul, Mongolia

Sergey A. Yatsenko
Russian State University for the Humanities, Moscow

The interrelationships of the Xiongnu and Yuezhi nomads of Central Asia as early as the 4th–2nd centuries BCE were quite dramatic. They remained complex in subsequent centuries as well, judging from written sources and the nature of Bactian "imports" found in the Xiongnu tombs of Mongolia and the region of Lake Baikal. The dominance of one of these peoples twice (in the middle of the second century BCE and later, during Vima Takto's reign in the 80s–90s of the first century CE) gave way to the domination of the other, with fortune smiling on the Yuezhi at the beginning and end of the rivalry.

This short article will concern only one aspect of Bactrian Yuezhi imports to Mongolia, the embroideries on wool textiles made at the turn of the era which depict anthropomorphic images. More precisely, we will focus on those examples which have been best preserved or even in a quite fragmentary state contain a range of important elements of costume. Some scholars have thought these textiles were made in China (Lubo-Lesnichenko 1994)[1] or, alternatively, in Syria or Palestine.[2] Some time ago a third provenance for their production was suggested — Bactria (see, e.g., Trever 1940; Rudenko 1962; Elikhina 2010, p. 156).

My interest is not the centers of production of the fabrics (a subject which is still disputed) but the place where the embroidery on them was done, which was often later and in a different region. It is easy to see that the details of the appearance of people depicted on the embroidery (the characteristic features of their faces, the small details of costume, and also the composition itself of the embroidery, its style) are not characteristic for China or Syria but have direct parallels precisely amongst the Yuezhi/Kushans of Bactria, who lived there beginning around 120 BCE (see, e.g., Yatsenko 2006, pp. 171, 195). It seems unlikely that these are imitations of Bactrian subject matter: the themes of such embroideries, it seems, were a rare or unique phenomenon, ethnically entirely specific, and thus could not have inspired a large series of conscious imitations in leading textile regions of the world. One can suppose that the anthropomorphic depictions on the textiles for the most part were ones obtained by the Xiongnu elite precisely from Bactria, and there can be little doubt but that the Xiongnu, at least to a minimal degree, selected the subject matter. Nataliia V. Polos'mak believes that the embroidery on the fabrics made in the Near East was done on the territory of the Indo-Scythians in the Indus Valley (Polos'mak 2010). I have made a special study of the specific details of Indo-Scythian costume (Yatsenko 2001; 2006, pp. 192–97, Figs. 137–50) and the identification of Indo–Scythians on metalwork (Treister and Yatsenko 1998, pp. 61–66, Fig. 1). This comparative evidence shows that there is not a single detail of their costume which coincides with that known from the embroidery found at Noyon uul, the exception being a rare type of shoes [Fig. 4.11, p. 41 below].

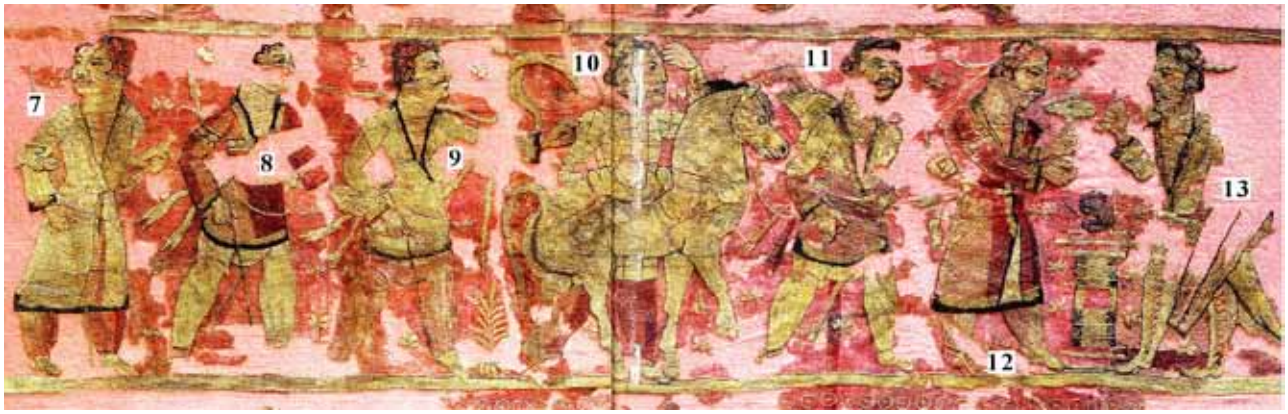
Of greatest interest for us are six fragments which come from only three barrows in Noyon uul cemeteries on the northeastern border of Mongolia (Batsumber somon, Tuv aimag). They were found there in various years by Russian scholars. The unique preservation of textiles in this cemetery opens correspondingly unique possibilities for the study of imported fabrics. The fragments are as follows:

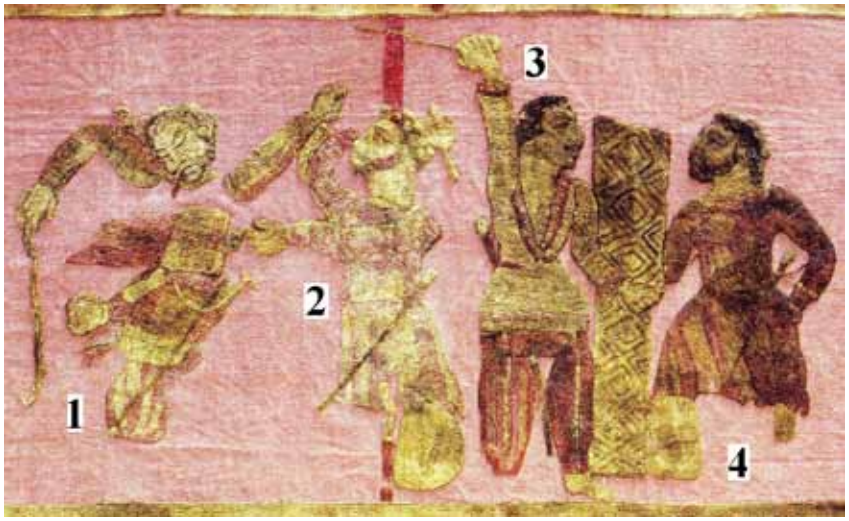
- 1–3) Three pieces of a carpet found recently in Barrow 31 by the expedition of N. V. Polos'mak (Polos'mak et al. 2009): a fabric 192 x 100 cm depicting a collective sacrificial ceremony and a fabric 133 x 100 cm. with a battle scene (Erdene-Ochir 2011, No. 386, pp. 256–9) [Figs. 1–3].[3]
- 4) A fragment 270 x 153 cm from the same Barrow 31 depicting ten individuals (Nos. 1–10), including a ruler sitting in an armchair (Erdene-Ochir 2011, No. 383)[4] [Fig. 5].
- Two fragments among the more than 100 examples of textiles from the early excavations in that necropolis during the Sixth Central Asian expedition of the famous Russian traveler and scientist, General Petr K. Kozlov (Rudenko 1962):

  5). A fragment of textile from Barrow 6 (1924) depicting three dismounted horsemen (Nos. 1–3) (Nowgorodowa 1980, Fig. 160; Erdene-Ochir 2011, No. 384) [Fig. 6.1];

  6) A fragment from Barrow 24 (1925) with a man's head (Erdene-Ochir 2011, No. 385) [Fig. 6.2].

In the decorative components of some textile fragments [Figs. 5 and 6.1] are obvious Hellenistic (Graeco-Bactrian) elements (vegetal and zoomorphic motifs of the borders below the given scenes, details of the poses





Figs. 1-3. Three textile fragments from Noyon uul Barrow 31. After: Erdene-Ochir 2011, pp. 256–59.

in the line of the individual figures, etc.). This should not surprise us, as at the beginning of the Common Era in Bactria, judging from coins, there were still local Greek rulers, vassals of the Yuezhi (Rtveladze 2002, p. 232), and in the middle of the first century CE some local Greek jewelers worked for the future occupants of the Tillya-tepe cemetery (Yatsenko 2003, pp. 171–2).

We will attempt to elucidate what is new in the external appearance of the pre-imperial Bactrian Yuezhi on the examples of textiles which have survived from Noyon uul. Unfortunately, everywhere in the embroidery are regrettable lacunae; almost all the figures have been incompletely preserved. The most fragmentary depictions must be excluded from our purview in order to avoid mistakes.

We begin with the recently restored fragments 1-2 depicting the scene of a sacrificial ceremony, which includes more than 13 male figures. The carpet on which it was embroidered was displayed for the first time after its restoration in an exhibition in Ulaanbaatar in August 2011. This single composition today consists of two large pieces. On the first of them are six individuals [Fig. 1], on the second are seven standing or walking figures [Fig. 2]. There appears to have been an attempt in every case here to convey the individuality of the faces of those depicted. The action takes place in the open air (on a meadow or in a garden), amid flowers and a great many fluttering butterflies and bees.

Let us look first at the second piece [Fig. 2], where the figures are better preserved. Here six of the seven men (Nos. 7–12) move toward a small altar with a fire, two of them looking back in the direction from which they came. On the other side of the altar they are met by one more individual (No. 13). Two of the participants in the ceremony lead toward the altar for consecration (?) a saddled horse, and the man walking at the head of this group holds over the altar a miniature footed vase.[5] In their external appearance the men share many features. They all have a large head, wide face (with a rounded or approximately rectangular form) and a massive neck, but narrow shoulders and waist. This last feature clearly reflects local aesthetic norms. In the later imperial period, waists of the Kushans are not stressed (Yatsenko 2006, p. 186). The nose is straight with wide wings; the arched eyebrows are large but drawn with fine lines.

The basic color gamma of the depictions is a combination of red/rose and white, which is characteristic for the Bactrian Yuezhi (Ibid., p. 184).[6] Furthermore, there is a definite symmetry of these two basic colors. Thus, if an individual has a red caftan, then his shoes are also red but he has white trousers and a white belt, and, on the other hand, if he has a white caftan and shoes, the trousers and belt are red. Individuals in a "civilian" costume (that is, not armor) alternate the color of the basic upper body clothing in a strict rhythm (first white, then red).

All the figures have the same hair style — short, curly reddish hair without a part, longer on the sides (the lock at the temples bends toward the cheek). In the absence of beards, thin moustaches are always emphasized (often slightly drooping, less frequently almost horizontal) [Fig. 4.1] All this is entirely typical for other depictions of Yuezhi. Beards (even short ones) were rare even among the later imperial Kushans (Ibid., p. 183). Moreover, in the scenes both of sacrificial offerings and battles on one and the same carpet, the Yuezhi are bareheaded (the first in the row of those participants in the ritual moving toward the altar has a decoration on his forehead — a narrow band or diadem), which underscores the special status of these situations. Understandably, in real life in hot Bactria it would be impossible to get by without covering one's head. The unusual situation in the given scene is emphasized as well by the special role of the left hand of many of the men (raised in the gesture of adoration by individual No. 5; extended forward with an open palm by Nos. 6 and 8; with a finger pointing forward by No. 9; raised and touching the lip of No. 10). It is precisely in this hand that No. 12 holds the sacrificial goblet before the altar. The belt is usually narrow, attached to the waist by a buckle in the shape of an elongated rectangle (gilded or made of gold?; cf. Hiers 1997, No. 63). At the left side hangs a sword, attached to the belt by a thin but clearly visible strap. Nos. 4, 8–9, and 11–12 have an additional ribbon hanging from the right side of the belt with two triangular projections on each of

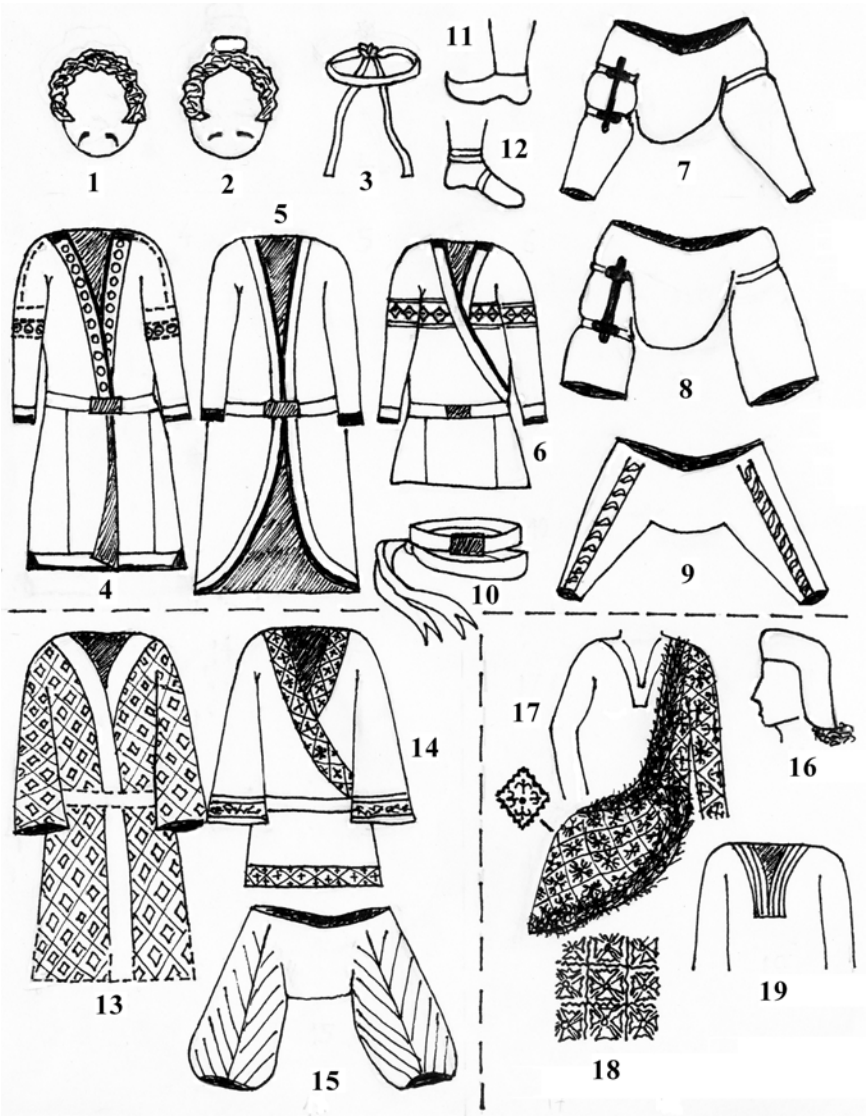


Fig. 4. Elements of costume of individuals on embroideries of Noyon uul: 1-12), sacrifice scene of Barrow 31 (2009); 13-15), scene with seated ruler, Barrow 31 (2009); 16-19), from Barrow 6 (1924).

the ends [Fig. 4.10]. Footwear (the exception being on No. 13) is entirely of one type — that is, shoes without a heel, with a rounded toe, fastened by a strap over the upper edge and passing under the arch of the sole (this is most clearly visible on No. 12) [Fig. 4.12]. The men (except for those who stand at the altar) are armed: usually with a short dagger, tied with a strap to the trousers at the right hip, and long narrow swords. In addition, the men numbered 4 and 7–9 hold spears in their hands or on the shoulder.

The clothes worn by the men include either short (above knee-height) caftans that open in the front but have a wide flap folded over to the left; or long coats (extending to the middle of the shins) with linings of a different color[7] and whose flaps are secured by a belt and, apparently, two buttons above and below the waist. Both the caftans and coats have long sleeves. Such upper garments in part reflect the distinctive features of Bactrian Yuezhi clothes of the pre-imperial period. A feature in all of the depictions which also relates to the earlier stage of the development of that people is the absence of undergarments (shirts)[8] — that is, the caftans and long coats were worn on the bare body (cf. Yatsenko 2006, pp. 178–9). This fact apparently is to be connected historically at that early stage amongst many nomads with a deficit in thin, high-quality fabrics for undergarments and at the same time the universality of thick basic clothing (which was worn in all seasons of the year either with its rough side out or inside out). A specific feature of the clothes of all the figures is the narrow black border along the edges of breast, hem and cuffs.[9] Among other things, both the long coats and caftans have on the hem at the sides short (about 5 cm) slits with the same border. In the crotch of all the trousers is a large inserted panel, which noticeably sags at the bottom of the pelvis. The legs are quite wide and always tucked into the shoes [Fig. 4.7].

Figure No. 7 (who faces left toward the person who is speaking with him and gesticulating) wears a white long-sleeved coat, with rose-colored decoration of the breast and cuffs and bands of a red lining visible at the bottom. The red caftan of figure 8 in the upper part of the breast and upper sleeves is distinguished visually by a single horizontal band with a row of rhombs in it (an imitation of gold appliqués?) [Fig. 4.6]. A similar band of round appliqués on an identical red caftan can be seen on No. 3. This decorative element is so far unique for male clothing of the Iranian peoples of that time (it appears also in the scene with the seated ruler discussed below). The black band bordering the breast of the caftan widens at the collar (probably this is a narrow and short stand-up collar, as on Nos. 9 and 11–13; cf. on probable Bactrian Yuezhi, Ibid., p. 178, Figs. 121.45; 122.38, 41). Figure 10, leading from its side the consecrated horse with the saddle and parade harness in the direction of the altar (No. 11 leads it by the reins from in front), is attired in a long coat of mail down to the knees, from under which can be seen trousers. In his hairdo part of the locks are gathered into a small knot at the crown, as is completely normal for Bactrian Yuezhi (the same can be seen on No. 5) [Fig. 4.2] (Ibid., Figs. 121.30; 124.1).

The appearance of figure 12, who leads the procession to the altar, is very interesting. First of all, he is the only one on whose head can be seen a narrow, white, diadem. As in other depictions of early Yuezhi, its two ends hang down in back [Fig. 4.3] (Ibid., p. 178); however, here the ends are longer than normal. Only on this individual do the main elements of costume (clothes and trousers, shoes) have various shades of red (crimson and rose). The decoration of his long red coat with its white lining also deserves attention [Fig. 4.4]. First of all, it has sizeable inserts of a different (rose) color which widen the hem. Secondly, on the shoulder seam and on the forearm it is decorated with lines consisting apparently of small gold cylinders strung on a narrow strap, something which is common for the costume of the elite Iranian peoples of the Parthian-Sarmatian period, among them the pre-imperial Yuezhi (for example, Tillya-tepe, grave No. 4 and a series of other depictions) (Ibid., pp. 176, 210, Figs. 114.1, 121.51). Moreover, the upper arms and breast of the coat are decorated with a band of round plaques. It is significant that on that individual (as on the red caftan of No. 8), an important role in the decoration is played by the combination on one and the same object of clothing of two panels of darker and lighter shades. It seems unlikely we should attribute this feature only to the artistic devices of the embroidery: on the coat, the light insertion is on the back, on the trousers on the front. To consider this accidental would be naive, since in many archaic societies the combination of differently colored left and right or rear and front halves of major items of clothing was connected, among other things, with the symbolism of Universe zones, the juxtaposition of opposing forces (see striking examples in the clothing of Siberian shamans: Burykin 2007, p. 126).

Finally, an entirely distinct role in the given scene is played by the costume of the person who stands on the other side of the altar from the worshippers — probably the priest (figure 13), whose image unfortunately is less well preserved especially in its central part. It is distinguished, first of all, by the predominance of the sacral white color, something which has been documented before for the priests of Yuezhi Bactria (Yatsenko 2006, p. 184). Here only some details of the trim (of the trousers and breast of the long coat) are red. It is difficult to say whether the figure is armed

(it is possible that a quiver hangs down on the left). He seems to be holding something over the altar in his right hand, which is raised and clenched in a fist. His long coat (even longer than that on Nos. 7 and 12) is not wrapped over and, apparently, is secured only by a belt [Fig. 4.5]. It is clearly sewn of thick cloth or felt (since the long, tapered hems do not sag); these hems are markedly raked back. To date there are no precise analogies to this clothing. However, it was popular among many peoples of Transoxiana in the earlier Achaemenid period and also was among the Persians an important element of the visual stereotype of a "man from Transoxiana" (Yatsenko 2011, Figs. 1–5). The use of such a dated cut is natural for clothes with ritual functions, such as was, apparently, the coat of the priest. On the front of each leg of the white trousers is a decorative vertical red band, on which has been embroidered a row some kind of stylized figures of a single type, possibly zoomorphic [Fig. 4.9]. The white shoes have pointed and slightly bent tips [Fig. 4.11], something not known amongst the Yuezhi of Bactria but documented for their neighbors, the Indo-Scythians of Gandhara, who had quickly been absorbed into the Kushan Empire (Yatsenko 2006, Fig. 137.56–7).

Let us turn now to the less well preserved fragment 1 of the same composition with the processing and standing donors (Erdene-Ochir 2011, No. 386.1) [Fig. 1], this one depicting individuals Nos. 1–6. Apparently it was originally attached to the left of the fragment described earlier and forms its beginning. However, between the pieces is, apparently, a small lacuna (from an "unpreserved" soldier, presumably wearing a red caftan, all that remains is one hand at the torso of figure 7). Starting at the left, apparently, were originally placed two pairs of men facing each other, each pair with the symmetrical juxtaposition of white and red elements of costume. The leftmost figure is now missing; the right figure (No. 1) in that first pair is preserved only from the stomach to the heels. Between the first and the second (the better preserved) pair there was apparently no altar (compare the pair comprising Nos. 12 and 13), as a flower has been embroidered growing on the ground between them. The costume and hairdos of the figures depcted here are of the same type. I will focus only on a few specific details.

There is a vertical band of decoration on the front of the red trousers of Nos. 4 and 6; it is decorated with a row of similar appliqués. Furthermore, the legs widen markedly at the bottom [Fig. 4.8]. The figures in white trousers and red upper clothing (on No. 3 a caftan; on No. 5 a long coat) have the visually identical horizontal bands of decoration on the upper sleeves and breast, decorated with round plaques. No. 5 has a hairdo with a knot on the crown, similar to that already described for No. 10.

Yet another part (fragment 3) of this same carpet/hanging depicts a battle scene, from which have been preserved only four figures (numbered 1–4) of foot soldiers fighting with swords (Ibid., No. 386.2) [Fig. 3]. Unfortunately other images on either side of them have not been preserved. Here "ours," as in other similar group scenes in the art of the Iranian peoples, are clearly those on the left (Nos. 1 and 3), and the enemies on the right (Nos. 2 and 4) (Yatsenko 2000). On the left, struck by the enemy, a Yuezhi man in armor falls and drops his sword. More important is the other Bactrian soldier (No. 3, fortunately preserved almost entirely), who is attacking an enemy defended by a large shield with a bold design of concentric rhombs. The appearance of his clothing, hairdo and armament is the same as on the soldiers in the previous scene (Nos. 4, 7–9, and 11–12). He has a white caftan and shoes, red trousers and belt. The caftan of the hero is decorated on the breast and on the cuffs by red cloth with a design of rhomboids having a dot in the center. The net-like ornament of the fabric (including the net of the rhombs with the dot) was popular among the Bactrian Yuezhi, judging from other depictions (Yatsenko 2006, Figs. 121.47, 53; 122.41; 123.16; 124.1), and after the collapse of the Empire is documented as well by actual remnants of such cloth (from the "Kurgan" in Old Termez: Maitdinova 1996, Figs. 8–11). On the upper part of the sleeves we see a band of the same red cloth, decorated with round appliqués. The trousers are decorated with a vertical stripe down the front of each leg.

No less interesting is the appearance of the enemies. Thanks to a whole series of specific details we can establish the ethnic identity of these opponents. First of all, their clothes are not open in the front; moreover, the separately attached hem in both cases is made of cloth with rather wide vertical stripes. Secondly, we see on the left one of them (No. 2) a head covering (in the form of a low cylinder of cloth decorated by two rows of circles). Thirdly, unlike the Yuezhi, they sport a small, thick beard, closely trimmed, somewhat longer on the sides, with medium-sized moustaches. All these elements indeed are found in the costume of only one ethnos of that time, one moreover a neighbor of the Bactrians — the Sogdians (cf. Yatsenko 2006, Figs. 152.6, 13–14; 153.9), the eastern part of whose territory rapidly came under the control of the Yuezhi-Kushans.

Yet another important scene is on fragment 4 found in the same year 2009 [Fig. 5, next page], one which likewise appears to be missing its edges. Unfortunately, of the 10 male figures shown on it only two (Nos. 4

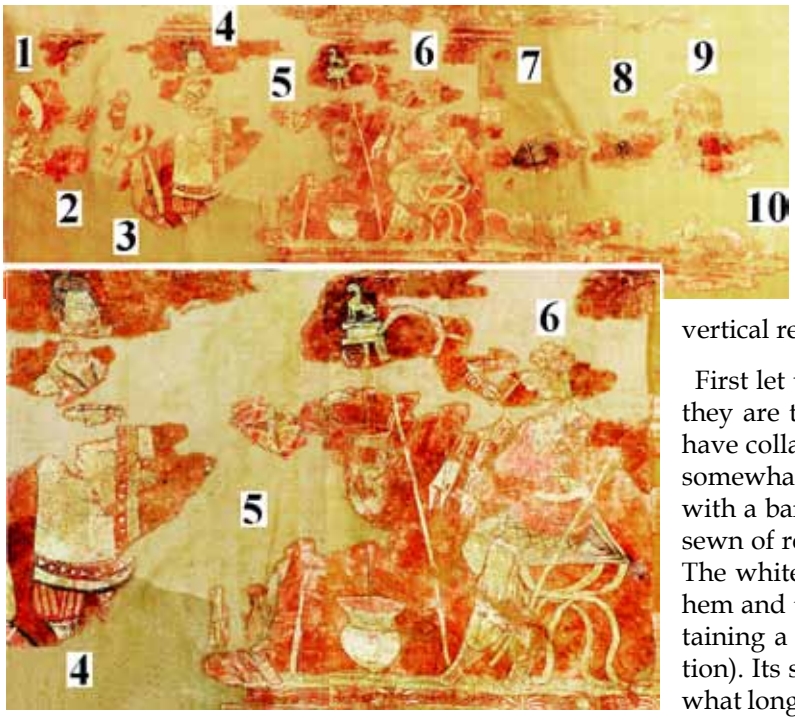


Fig. 5. Fragment 4 from textile found in Noyon uul Barrow 31. After: Erdene–Ochir 2011, pp. 252–53.

and 6, which have reddish hair) are largely intact, the others largely fragmentary. In the left corner is embroidered a god or ruler (No. 1) sitting with legs folded in Turkish style on some kind of elevated platform; an adorant or supplicant (No. 2) bends toward him with a raised hand. Next, three rather badly preserved figures (Nos. 3–5) process from left to right toward a ruler seated on a folding chair. Between them and the ruler is an interesting object, its function, apparently, similar to that of a still.[10] Directly in front of this object sits the ruler with a sword, carefully holding to his mouth with the aid of a special ribbon a cup with a hot or holy drink. To the right is attached a piece of cloth with an additional composition of four figures (Nos. 7–10, of whom are preserved only the lower parts of the torsos and the case of No. 10 only the lower part of one leg). Half of them are turned to the right (alternately, they either have both legs turned to the right or the toes pointed outward to each side). Their upper clothes are decorated in each case individually. All they have in common is white shoes with rounded toes (on Nos. 5 and 6 to the right, around the still, the shoes are red, corresponding, as in the previous composition, to the color of the clothes). The face and hairdo of the ruler sitting in the chair looks like that on the previous carpet. Only in the case of individual No. 4 is the face more elongated and the eyes smaller in size.

Now let us look at specific details of the costume of these figures. As on the carpet previously described, overall the clothing has a red-white color combination, and the upper garment of all of them is worn open. This is the already familiar short caftans with a deep wrap (Nos. 3 and 5–7) and the longer coats, decorated with a wide band along the breast (Nos. 2, 4, 8 and 10 [?]). The trousers, tucked into the shoes, vary in decoration: monotone (Nos. 5–7), sewn of yellowish (?) cloth with vertical red stripes (No. 4) [Fig. 4.15]; white trousers with a vertical red stripe on the front of the legs (No. 3).

First let us look at the figures in the long coats (here they are the ones more fully preserved). These coats have collars with oblique ends. The coat of No. 2 has somewhat flaring sleeves (decorated along the edge with a band having a row of round appliqués) and is sewn of red cloth decorated with rows of small rings. The white coat of No. 4 is trimmed along the breast, hem and the edge of the sleeves with a red band containing a row of ivy fronds (a Graeco-Bactrian tradition). Its sleeves, judging from the left one, are somewhat longer than the arms. Moreover, as with the long coat of figure 5 in the scene of the sacrificial offering, on the breast and the upper part of the sleeves is a horizontal red band containing a row of some kind of small appliqués. On No. 8 the fabric of the coat is covered with a net of large concentric rhombs and a broad red border on the breast. The sleeves, which have some kind of (vegetal?) embroidery, markedly widen at the edges [Fig. 4.13].

Among the figures wearing caftans with a deep wrap, the ruler seated on the throne is distinctive. His red caftan is decorated with a band of the already familiar net of rhombs [Fig. 4.14]. The belt buckle is fastened on the left side, not in the center of the stomach. On figure No. 9, the caftan has a very wide red band along the breast and somewhat flaring sleeves.

Overall the hairdo and costuming of the figures — especially, as described earlier, those wearing long coats which are unknown amongst the Parthians, Sogdians, Chorasmians or Indo-Scythians — provide convincing evidence that here also are depicted Bactrian-Yuezhi men.

One additional important motif is embroidered on fragment 5, the fabric found in 1924 [Fig. 6.1]. This is the depictions of dismounted horsemen (three of them preserved) standing behind their horses and holding them by the reins. Unfortunately all three figures, which are depicted turned in a three-quarter pose toward the viewer, are fragmentary. Apart from damage, because of the design of the composition, to a considerable degree they are hidden by the bodies of their horses (which are, in the given instance, the more

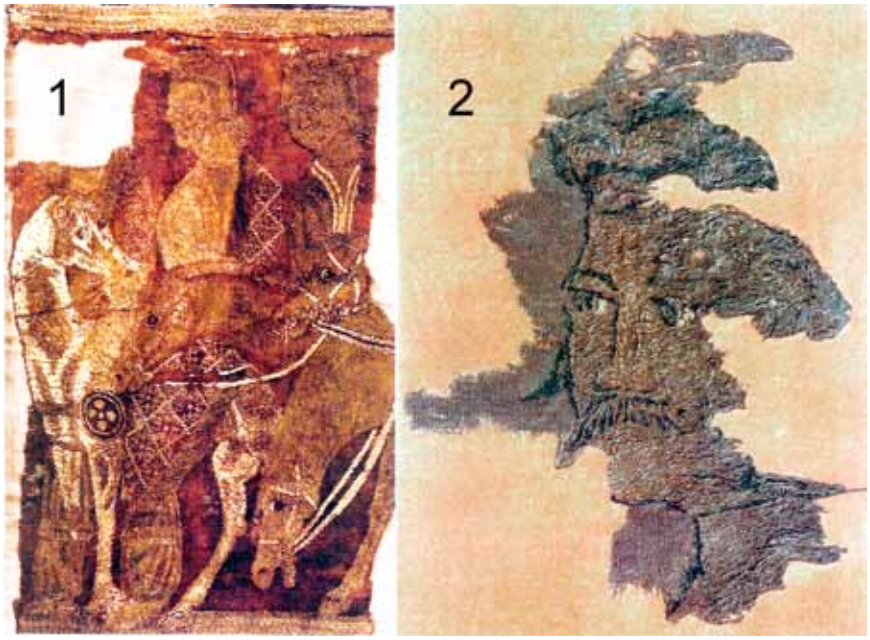


Fig 6. (1) Textile fragment from Noyon uul Barrow 6. (2) Fragment from Noyon uul barrow no. 24. After: Erdene–Ochir 2011: 254–55.

important figures!). The legs of the men are extremely elongated. They have neither beards or moustaches.

The head of the left figure (No. 1) is missing. He wears a short caftan with brown (possibly fur) trim along the breast. The fabric of this garment is entirely covered with a net of large rhombs, in each of which is a flower with four petals [Fig. 4.18]. The man has trousers with wide legs, tucked into shoes; below the knees they are decorated by a horizontal band. Both legs on this fragment belong to this individual. The two other personages do not really have legs in the embroidery on account of the sketchiness and stylistic conventions of the composition.

On the head of the central figure (No. 2) (shown in profile) is a low flat headdress with a narrow projection down the back (cf. for Bactrian Yuezhi: Yatsenko 2006, Figs. 123.26, 121.24). From under it in back wavy hair extends down to the base of the neck. The upper garment is a long, solid coat, worn in a manner common in Central Asia — for the warm season or if necessary for the greater freedom of the right arm, it is dropped off the right shoulder, and its lower part is wound around the waist. It also has thick brown (fur?) trim along the breast. The fabric is also decorated all over with a design of a net of rhombs, whose decoration differs from that in the rhombs on No. 1. Here extending inward from each point of every rhomb is a cross, the ends of whose bar curve in the form of a trefoil [Fig. 4.17]. Large openwork decorations made of gold foil and with such a design are known as well from the Parthian state in that period (Pfrommer 1993, p. 213, No. 118). Such a decorative motif is preserved down to our own day, for example, in carpets of such ancient Iranian peoples as the Kurds and Luri (Stone 2004, pp. 44; 199, K-27, K-28; p. 202, K-35; p. 251]. Under the long coat is a shirt with a vertical cut of the collar, which at the given moment is unfastened. A shirt with exactly the same collar would be worn by Vima Takto, the founder of the powerful Kushan Empire (Yatsenko 2006, Fig. 121.68).

Figure No. 3 on the right is preserved only to the middle of the chest and then only partially. He has the same head gear as the previous one. He has no caftan but only a shirt with a collar of the type just described, with a wide band of decoration [Fig. 4.19].

Finally, the small fragment 6 from the excavations of 1925 depicts only a male head [Fig. 6.2]. It has the same hairdo and type of face that is already familiar to us from the description of the carpet with the scene of ritual offering.

On the territory of the Xiongnu only two kinds of frequently discovered artifacts can be related to Bactrian wares: rather expensive carpets with various embroidered motifs, and inexpensive brass buckles (Miniaev 1976). How might one interpret what may seem at first glance to be such a strange combination of "imports"? Above all, it is clear these are not imports in the sense of trade objects. At the time when Zhang Qian arrived in Transoxiana, the Yuezhi in their new homeland still feared the Xiongnu and paid them tribute. A century later, in the period of the burials at Noyon uul, Bactria was still divided and the Xiongnu strong. I believe that we are dealing here with more or less regular gifts in the form of carpets, for whose packaging in bales were used straps secured by brass buckles. From Chinese information about booty seized by the Xiongnu it is clear that such carpets were second in importance only to cattle.

In general, the Bactrian-Yuezhi embroideries found far from Bactria in northern Mongolia supplement our information both about the appearance of that ethnos (unfortunately only its male members), as well as concerning certain aspects of everyday life, religious traditions and their interactions with their neighbors (with the Xiongnu, Sogdians and Greeks of Transoxiana). The style of the embroideries and the correla-

Fig. 7. Textile from Tomb No. 1, Sampula (Khotan Prefecture, Xinjiang).

tion of the details of costume and hairdos (Yatsenko 2006, Fig. 121.29, 51) permit one as well to count as one of the more valuable depictions of Bactrian Yuezhi the piece of fabric with the figure of a soldier holding a spear found in Tomb No. 1 of the Sampula I necropolis in the ancient Kingdom of Khotan in Xinjiang (first century CE) (*Ursprünge* 2007, p. 213) [Fig. 7].

All the main details of the costume of the merchant mummy of the early 3rd century CE in Tomb 15, discovered in 1995 in the Yingpan necropolis near Lake Lopnor, Eastern Xinjiang (Zhou and Li 1999; Li 1999) correlate precisely with the costume of the Kushans of the imperial period. The merchant was buried in the costume of his country, but with traces of Chinese cultural influence (Yatsenko 2006, pp. 186–7) [Fig. 8]. Here we have well preserved examples of the fabrics of the Kushan Empire, which bear witness to the long preservation of Graeco-Bactrian traditions.

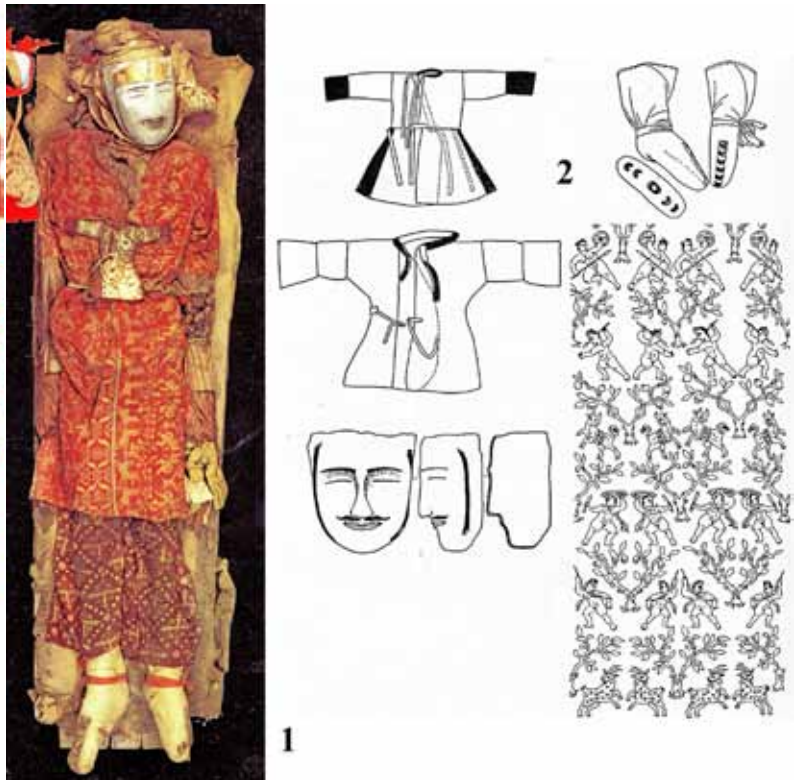


Fig. 8. Costume of a Kushan merchant of the early 3rd century CE. Yingpan, Eastern Xinjiang Tomb No. 15 (1995).

Note: This article is an expanded version of a text prepared in September 2011 for a Collection in Memory of Academician Boris Litvinskii in the Institute of Oriental Studies, Russian Academy of Sciences.

About the author

A specialist on the culture of the ancient Iranian peoples, **Sergey Yatsenko** is a professor in the Russian State University for the Humanities. He has participated in archaeological expeditions in southern Russia (since 1974), southern Kazakhstan (2004–6), southern Siberia (2007–8) and Mongolia (since 2009). His main research concerns the ancient costume of Iranian-speaking and Turkic-speaking peoples and the clan signs of Pre-Islamic Iranian nations. In that field he has published *The Costume of Ancient Eurasia (the Iranian-Speaking Peoples)* (2006) and *Tamga-Signs of the Iranian-Speaking Peoples of Antiquity and the Early Middle Ages* (2001) (both in Russian) and dozens of articles, some of them in English. He has also worked on mythological and epic scenes in ancient nomadic art, on the ethnic and political history of European nomads (Sarmatians and Alans). He is co-author with B. Ia. Staviiskii of a textbook, *Art and Culture of the Ancient Iranians* (2002). E-mail: <sergey_yatsenko@mail.ru>.

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Notes

1. This interpretation currently is supported by Tatiana N. Krupa (Khar'kiv University, Ukraine).

2. This interpretation is currently supported by Ol'ga V. Orfinskaia (Institute of Cultural Heritage, Moscow).

3. The individuals in the multi-figured compositions are numbered from left to right (i.e., in the normal order of the sequence of episodes in the art of the ancient Iranian peoples).

4. In this catalogue, the fragment of carpet has mistakenly been identified as coming from barrow 20, excavated in 2006 (see Polos'mak et al. 2011).

5. We see such a vase later in an analogous scene in Bactria/Tokharistan in a mural at the Buddhist monastery Adjinatepa. N. V. Polos'mak believes that this is not a vase but a large mushroom and sees in this scene a ritual of the preparation of sacred haoma (Polos'mak 2010). But there is no known credible depiction of mushrooms in connection with rituals of the Iranian peoples.

6. Today white textiles among the fabrics excavated at Noyon uul generally appear to be pale yellow.

7. The red long–sleeved coat has a white lining, and the white a red one.

8. A possible exception is figure No. 3.

9. Usually until very recently the peoples of Central Asia used a red border in such cases.

10. This is a large metal tripod, decorated at the top with a sculpted panther and under the center of which are attached vertically, one above the other, two large vessels, the upper of which is connected to the lower by a funnel. On the preparation of distilled liquor among the ancient nomads, see, e.g., Ochir–Goriaeva 2004.

— *translated from Russian by Daniel C. Waugh*

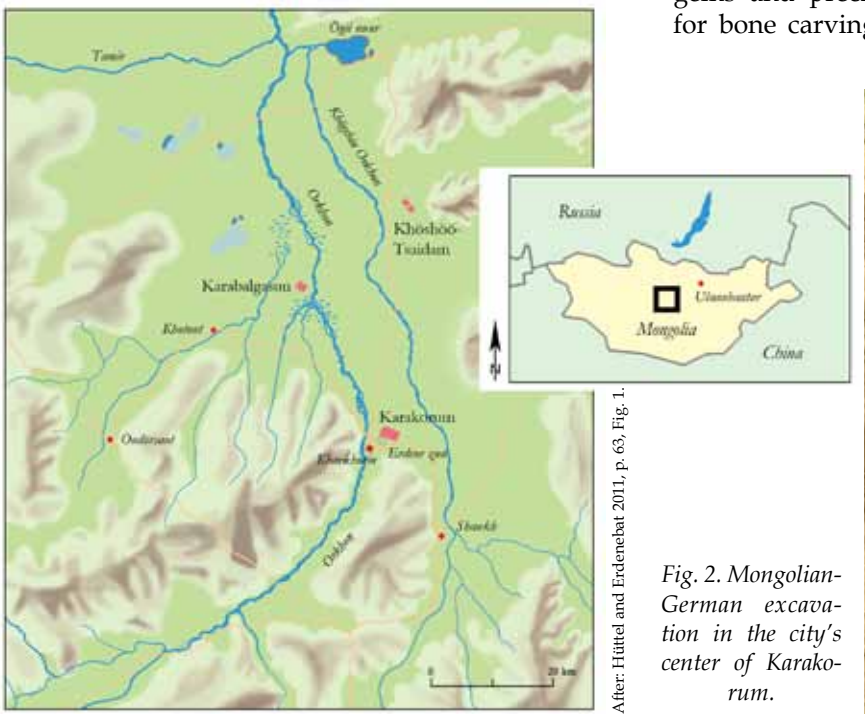
Production Sites in Karakorum and Its Environment: A New Archaeological Project in the Orkhon Valley, Mongolia

Ernst Pohl, Lkhagvadorj Mönkhbayar, Birte Ahrens, Klaus Frank, Sven Linzen, Alexandra Osinska, Tim Schüler, Michael Schneider

Bonn, Ulaanbaatar, Jena, Warsaw

Between 2000 and 2005 archaeologists and students of the Institute of Archaeology, Mongolian Academy of Sciences, and the Department of Pre- and Early Historical Archaeology, University of Bonn, excavated parts of a craftsmen quarter in the center of the old Mongolian capital Karakorum (Fig. 1) where — according to William of Rubruck, a Franciscan monk, who stayed there several months during spring 1254 (cf. Rubruck/Jackson 1990) — a Chinese population lived and worked in the 13th century CE. The excavations in the center of the first capital of the Mongol Empire were carried out within the Mongolian–German Karakorum Expedition with the goal in the first instance of answering questions concerning the founding, the duration of settlement and the end of occupation of the entire town. In addition, interest focused on the profession and occupation of the people living in the urban center (Bemmann et al. 2010).

Fig. 1. The Orkhon valley in Central Mongolia with the main historical places of Khöshöö Tsaidam, Karabalgasun and Karakorum.



After: Hüttel and Erdenebat 2011, p. 63, Fig. 1.

During six excavation campaigns trenches up to 4-5 m depth were opened, extending down to the natural ground of the Orkhon valley (Fig. 2) where structures and findings prove that what was uncovered here are parts of the craftsmen quarter which Rubruck mentioned. Based on stratigraphical observations the length of occupation can be divided into three successive settlement periods with up to six building phases which can be dated to the 13th and 14th century CE (Pohl 2010).

Within the variety of workshops excavated so far metal trade is dominant. Gold and silver smithies are represented as well as workshops for nonferrous metal and iron. In some cases the work with different metals could be observed in one and the same workshop. However, all the remains of metal trade belong to the final production stage. Traces of the supply of raw materials and/or smelting furnaces are totally absent which is certainly due to the topographic situation in the centre of a densely settled city area. Apart from the metal trade, ateliers specialized in glasswork, gems and precious stones, and in addition, shops for bone carving or for the processing of birchbark

Fig. 2. Mongolian-German excavation in the city's center of Karakorum.

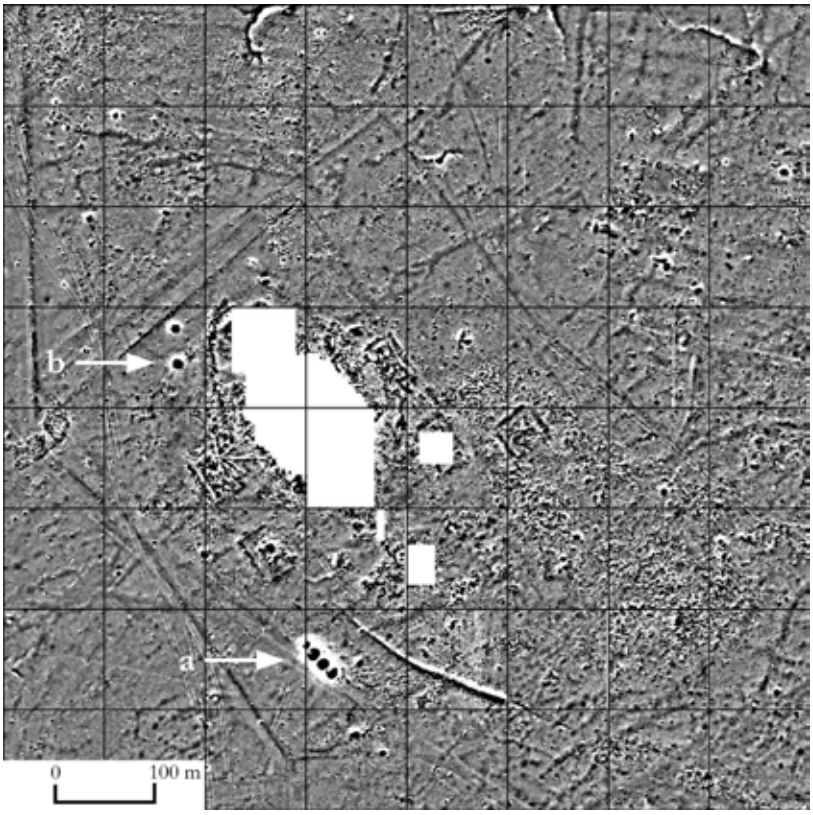
After: Hüttel 2004, p. 193, Fig. 15.

Fig. 3. Aerial picture from the excavation of the "Great Hall" and the kiln site in the southwestern part of the city area.

were established near the crossroads of Karakorum. All these different disciplines are proven by raw materials, semi-finished objects, workshop debris and the final products in an extensive variety of artifacts.

But the center of the city was not the only place for production sites in Karakorum during the 13th/14th century CE. In the 2000 excavation campaign a complex of four big *Mantou*-kilns was excavated by our colleagues from the German Archaeological Institute right next to the great hall believed to be the main building of the temple of the Yüan Dynasty (Fig. 3). These kilns were identified by a geomagnetic survey in 1999 (Fig. 4a) and were used for firing bricks and/or architectural sculpture (Franken 2005). Another kiln northwest of the great hall was excavated during summer 2002, having been identified by the same geomagnetic survey (Fig. 4b). Here, a kiln probably for the production of grey pottery was uncovered (Hüttel 2003). But even outside the walled city area production sites have been discovered. Some 3.5 km southwest of the city center a third complex of altogether 14 kilns was uncovered in the floodplain of the Orkhon River in 2008 and 2009 (Erdenebat and Hüttel 2011; see Fig. 5). Here too clay figures, architectural sculpture and plastic decoration were produced.

All these features provide evidence of production sites not only in the center of Karakorum but also in the vicinity of the town. But none of the sites excavated and explored so far pertain to the metal trade. How artisans were able to receive their fresh supply of iron or copper is still unclear. One possibility has been discussed by our Japanese colleagues excavating for more than a decade at Avraga, Delgerkhan sum, Khentii aimag. Citing metallurgical analysis, Masami Osawa presumes that a number of iron ingots found in their excavations were imports from China (see below). This would support the note of the Persian historian Rashid al-Din who wrote that the population of Karakorum was supplied by five hundred wagons of freight every day. However, he talks only about foodstuffs: "And he had issued a yasa to the effect that every day five hundred wagons fully loaded with food and drink should arrive thither from the provinces to be placed in stores and then dispensed therefrom" (Rashīd/Boyle 1971, p. 62). Supply of other materials



After: Erdenebat and Pohl 2005, p. 171, Fig. 2.

Fig. 4. A portion of the geomagnetic survey in the southwestern quarter of Karakorum showing the temple area with several kiln sites.

After: Hüttel and Erdenebat 2011, p. 81. Fig. 44.

Fig. 5. The kiln site in the floodplain of the Orkhon River.

is not mentioned here but certainly took place. On the other hand, the question of raw material supply and the smelting of iron or copper ore in the steppe area has so far remained unanswered. Even if we know about iron deposits not far from Karakorum — and the necessary fuel exists due to the extensive woodlands of the Khangai Mountains — we do not have any hint about a medieval smelting industry in the Orkhon valley.

To address this question is the aim of new field project begun in 2011 based on a financial support by the Gerda Henkel Foundation, Germany. A survey outside the city wall of Karakorum was to determine whether there were additional metal workshops in these areas. Furthermore, we intended to start excavations in two different places farther away from the city (Fig. 6) to enlarge our knowledge about production sites in the urban hinterland of Karakorum. The selected sites were discovered and surveyed by members of the Mongolian–German geoarchaeological project in 2008 and 2009 (Ahrens et al. 2008; Bemmann et al. 2011). In both places traces of slag and/or the surface contour of the respective structures made excavations promising.[1]

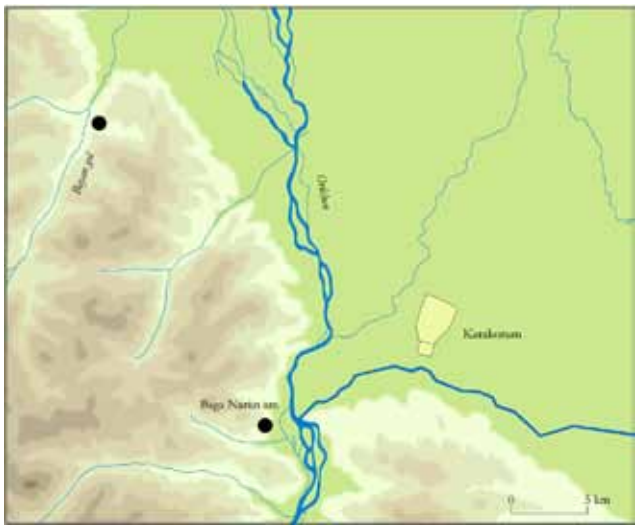


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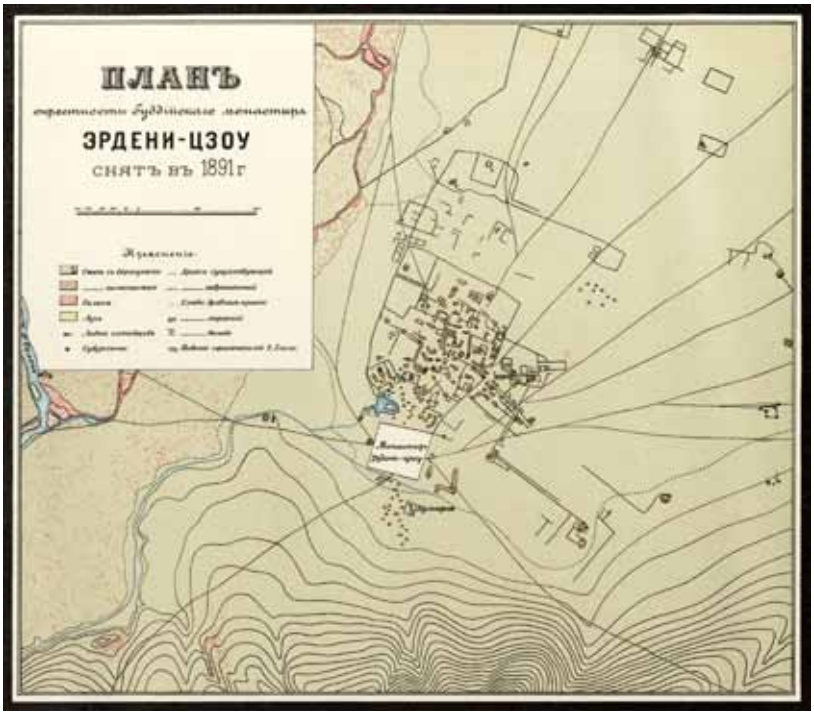
Fig. 6. The Orkhon Valley with Karakorum and the excavation sites at Baga nariin am and in the Bayan gol.

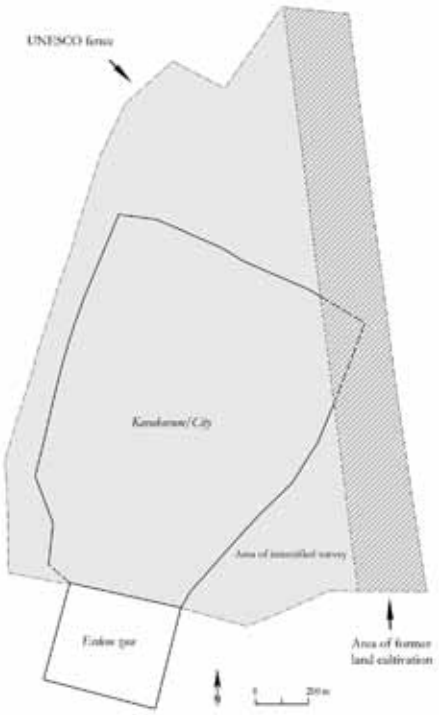
The Survey beyond the Eastern City Wall of Karakorum

Since the first topographic work done by the Orkhon expedition under the German–Russian turkologist Wilhelm Radloff at the end of the 19th century it has been known that large areas outside the city wall were covered by structures of various kinds. Especially north and east of the wall, roads, walls and building platforms are visible in the map of the Radloff expedition (Fig. 7). Unfortunately, due to modern cultivation of the land since the 1950s, large areas beyond the city wall of Karakorum in the north and east including a small part of the city wall were increasingly leveled and destroyed by plowing. Not only the modern farming but also the increasing numbers of cars running across the abandoned city



After: Radloff 1893, Fig. 36.

Fig. 7. Topographic map of Erdene zuu and Karakorum from the Radloff expedition of 1891.



(left) Source: GOOGLE Earth; (right) Copyright © University of Bonn.

Fig. 8. Karakorum and Erdene zuu. Satellite picture and map with the UNESCO fence and the former land cultivation area.

area made it necessary at the end of the 1990s to protect the site for future research. In this context Japanese researchers were charged with determining the area to be protected by UNESCO in the 1990s (Kato 1997).

As a result of that work, a fence was built surrounding Karakorum and parts of the land outside of the city wall. This latter area was chosen for survey in our project (Fig. 8). The intensity of archaeological structures in this area between the city wall and the fence varies from huge settlement hills, walls and platforms, especially along the east-west main road running to the eastern city gate, and burial structures in the north, to areas without any visible archaeological features. Some areas are disturbed by ruins of modern buildings or overlaid by unregulated piles of rubbish. Such areas with a high density of modern use were not surveyed. The vegetation varies from very low grass and herbage to tall bushes and nettles reaching heights over 1 meter growing on Aeolian sand (Fig. 9), which makes the discovery of surface finds very difficult.

Along the UNESCO-fence a ca. 200 m wide strip of a terrain used for agriculture extends northwest to southeast (Fig. 8). For the irrigation of the fields ditches were constructed on the territory of Karakorum in the strip described above. At the beginning of the fieldwork in summer 2011 the removal of the pipes inside the irrigation ditches was started, so that we had the chance to survey 24 ca. 200 m long and ca. 1.40 m deep ditches and profiles for finds and archaeological structures (Fig. 10). To localize the collected finds each ditch was marked with a number (beginning with ditch 1 in the southeast up to ditch 24 in the northwest) and divided in 5 m sections, so that the finds can be localized accurately to within 5 meters. Moreover each starting and end point was leveled with a tachymeter.

The investigation of the trenches showed that building structures, which were to be expected especially in the area outside the eastern city gate, had apparently been destroyed almost completely by plowing and the construction of the irrigation ditches. Roof tile concentrations mainly found in the debris of the ditches show that this area had been built partially with permanent dwellings. Only in trench 6 were remains of a more deeply seated mud-brick wall in the

(left) Fig. 9. Field survey beyond the eastern city gate of Karakorum.
(below) Fig. 10. Re-opened irrigation ditch east of Karakorum.

Photos © University of Bonn.

southern profile documented. In trench 11 were some human bones that belonged to an almost completely destroyed burial. Parts of a human skull and long bone fragments were documented at the bottom of the ditch. More severely damaged bones and one bone bead were found in the debris and in the northern profile of the ditch, where we started to excavate the burial. Only three bones and badly preserved wood remains, as well as three coffin nails came to light. The dating of this feature cannot be verified due to lack of grave goods and the almost complete destruction of it. The other finds from the trenches consist mostly of Chinese glazed ceramics and the local gray unglazed ware (on the Chinese ceramics found during the survey, see the separate contribution by Anne Heussner). Because of the intensive intervention in the land from agricultural practices and the construction of irrigation ditches substantial displacement and destruction of finds must be expected, so that an evaluation and interpretation of the finds in this area is extremely difficult.

The other areas between the city wall and UNESCO fence were surveyed on the basis of the grid system established in 1999 in the course of the excavations in Karakorum. Systematic exploration was started in the southwest section of Karakorum´s eastern wall at the point where the wall meets the northeastern corner of the Erdene Zuu monastery. Starting from this square, the areas east and north of it were examined systematically. The eastern border of our survey was the agricultural area with the distinct irrigation ditches (see above); to the west the city wall of Karakorum was defined as the survey boundary. An area of ca. 5.5 ha in the southeastern part of the survey area has not been studied, because some modern ruins and rubbish dumps led us to expect significant displacement and disturbance of archaeological finds and features. Altogether approximately 23 ha have been examined for archaeological finds during the campaigns 2011 and 2012.

The number and density of archaeological finds was relatively low in the southern area, where archaeological structures are barely visible on the surface, while the quantity of finds rose noticeably in the area of the eastern city gate and in the areas directly at the city wall. Along the east-west trending road, many settlement mounds and platforms are visible; Roof tile concentrations in this area also indicate that houses of Chinese character existed.

The main part of the find material obtained during the survey was ceramics (see below and the contribution of Anne Heussner in this volume). In addition, numerous iron and bronze objects were collected, including eleven coins and numerous coin fragments. All of these are Chinese bronze coins dating mainly to the 11th century (Song Dynasty), with one exemplar from 18th century.

A large group of finds are small four-sided iron objects (total 115 pieces), obtained especially in the southwestern part of the study area, where no archaeological structures are visible on the surface, and further north in the area of the street and the eastern city gate. Most of the iron objects are 4-5 cm long, but

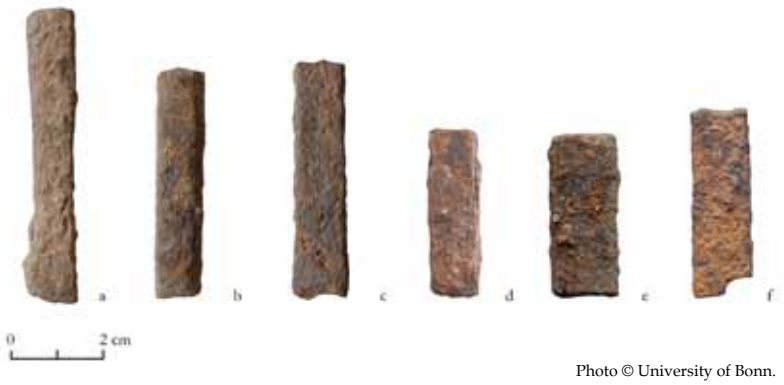


Fig. 11. Iron ingots from the survey east of Karakorum (a–c) and from Baga Naarin am (d–f).

there are also some smaller exemplars from 1.7 to 3.5 cm (Fig. 11 a-c). The cross section in the majority of the pieces is 1 cm x 1 cm, but there are also smaller (0.6 cm – 0.8 cm) and larger ones (1.1 cm – 1.2 cm). Almost all the pieces have a square cross section; in a few cases the cross sections can also be rectangular. Ten of the 115 exemplars have at one end (in four cases on both sides) a circular opening only a few millimeters in diameter and 2–8 mm deep. During the excavations in the Chinese craftsmen-quarter of Karakorum many of these iron bars came to light as well.

The find collection of Avraga, Delgerkhaan sum, Khentii aimag, a site dating to the time of the Mongol Empire, includes also a number of such four-edged iron objects (Shiraishi and Tsogtbaatar 2009, p. 559, Fig. 11). In size and shape they resemble strongly the findings from Karakorum. On the basis of an analysis of macro-and micro-structures and the chemical composition of the iron, the authors presume that these objects are iron ingots for further processing (Osawa 2005, p. 45). Osawa´s analyses and interpretation suggest that the four-sided iron objects of Karakorum are also ingots. Whether the ingots were processed directly in front of the gates in the surveyed area, or whether the bars were traded there for craftsmen in the city cannot be clearly decided yet.

Also uncertain is the source of these ingots. For the ingots of Avraga, Osawa presumes a mine in China (Jinlingzhen [Jinfeng], Shandong Province) as the place of manufacture (Osawa 2005, p. 54). Evidence of a local production site for ingots or metal smelting sites were not found in the areas outside the city wall of Karakorum during the survey. Chemical analyses of the Karakorum ingots might give information about their origin (perhaps China or the urban hinterland of Karakorum). Furthermore, such analyses can give information about the designated use of the ingots (cast iron or wrought iron) and can help to classify types and elaborate chronological aspects of the ingots.

Other finds that would provide evidence of metal-processing services outside the city wall are slags. In the course of the survey only a few slags were found, mostly from areas disturbed in modern times. The rim sherd of a small melting pot with bronze remains inside found in the area of the city gate (Fig. 12) could indicate at least bronze processing, maybe on a small scale, at this spot but cannot provide evidence of metal-processing services in this area. Among the other metal finds are eight wheel hubs, numerous iron nails and fragments of unknown function, as well as several indeterminable bronze objects. In addition to objects of iron or bronze, there were sixteen glass beads, six ceramic game pieces, one fragment of an ink stone and two fragments of loom weights.

Fig. 12. Fragment of a small melting pot found during the survey.

Overall, the survey finds correspond to the known spectrum and still offer no clear evidence of metal-working industries outside the city walls. The high number of the iron ingots described above may indicate, however, the processing of iron or a trade with the ingots in the surveyed areas.

Baga Nariin am — an Open Settlement of the Mongol Period Southwest of Karakorum

Some 6 km southwest of the center of Karakorum a slightly flat terrace is situated directly on the western bank of the Orkhon River. The terrace has a triangular shape with an eastern border marked along its entire length by the concave banks of the Orkhon, the southern end by the valley of a western tributary of the Orkhon and the northwestern border by the rising slopes of the Khangai Mountains (Fig. 13). The terrace was surveyed twice by members of the Mongolian-German project "Geoarchaeology in the Steppe" headed by Jan Bemmann during spring and fall 2009 (Bemmann et al. 2011). The distribution of structures visible on the surface shows that the complete settlement can be divided into two different parts. In a southern part traces of settlement are concentrated along a small road running from southwest to northeast which descends to the floodplain of the Orkhon and crosses the river in the direction of Karakorum by a ford. In the northern part of the settlement the terrace to the Orkhon is divided into two levels. A line of platforms is situated on the upper terrace, while several mound-like structures and undercut banks form a lower terrace (Fig. 14).

Source: GOOGLE Earth.

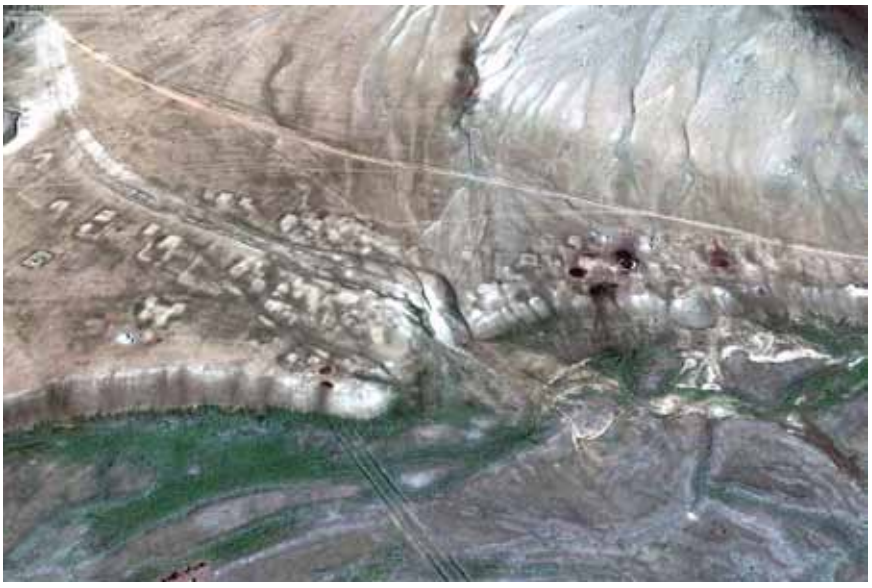


Fig. 13. The terrace of Baga Nariin am from the east.

A Geomagnetic Survey Using SQUID Technology

In 2009 a geomagnetic survey was carried out on the terrace of Baga Nariin am on the basis of SQUID gradiometers (SQUID = Superconducting Quantum Interference Device) — sensors,

Photo © University of Bonn.

Fig. 14. The northern settlement area of Baga nariin am with an upper and lower terrace. View from the north.

which provide highest magnetic field gradient resolution even during fast movement over the ground. This motorized system has been developed at the Institute of Photonic Technology (IPHT) in Jena, Germany (Linzen et al. 2009) to enable precise magnetic survey of large areas in the order of tens of hectares within a reasonable amount of time. Currently, we attain a measurement speed up to 60 km/h by use of a metal-free cart carrying the SQUID gradiometers and an off-road car as pulling vehicle (Fig. 15). Using this setup we map archaeological sites by scanning long but narrow rectangular loops and a progressive shifting of the loop positions by 1.5 meters respectively. In doing so, the magnetic information of the ground is recorded with three SQUID sensor channels in parallel, which eventually lead to a measurement line spacing of 0.5 m. This way, magnetic survey at a rate of 1–3 hectare per hour can be performed. In spite of the high measurement speed the recorded magnetic maps have a local resolution of only a few centimeters because of the high SQUID sampling rates (1000 measurement points per second), the differential GPS technique used and a self–made data acquisition unit. A first magnetic impression of the investigated area can already be given during the measurement by real–time visualization of the SQUID data on the operator's laptop inside the car. The detailed data post–processing results in a magnetic map of high resolution and a topographic representation of the scanned area. Both data sets are geo–referenced, which allows precise combined analysis as well as integration into other GIS data such as aerial images.

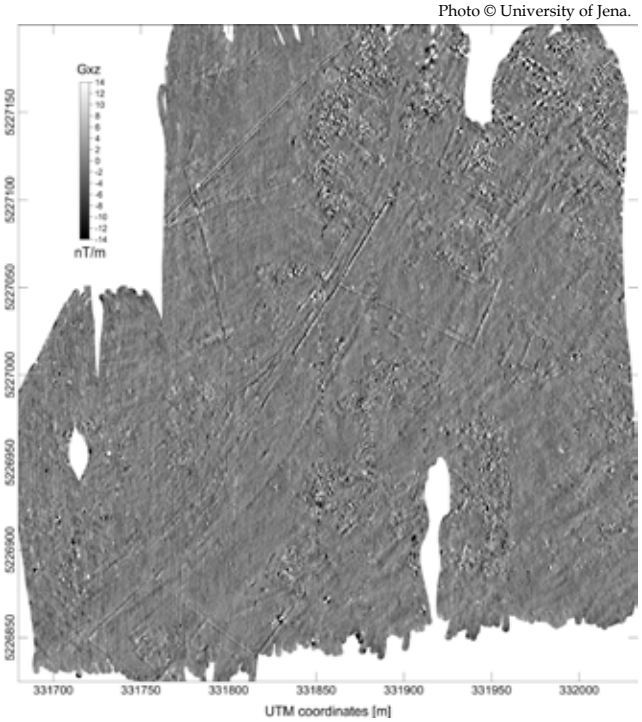
Photo © University of Jena.

Fig. 15. The SQUID system surveying large areas in the middle Orkhon Valley. The SQUID sensors are located inside three helium cryostats (orange) mounted on the left end of the cart. The lateral distance from the sensor position to the back of the off-road car is 6 m. The data acquisition unit (white cover box) is mounted at about one-third of the distance.

The SQUID system has proven its applicability in the Mongolian steppe during two field campaigns in spring 2009 and autumn 2010 respectively. Seventeen sites with a total area of more than 300 hectares corresponding to 2000 driven line kilometers were prospected within 32 measurement days. The terrace area of Baga Nariin am was investigated with the system in 2009. The whole 350 m x 800 m wide area was surveyed within two days. The southern half of this is shown as a SQUID magnetogram in Fig. 16. A variety of magnetic anomalies are visible representing buried archaeological remains. Rectangular structures indicate building foundations. Remarkable linear and in parts more than 50 m long anomalies were detected in the middle and southwest of the area. A subsurface

Fig. 16. SQUID magnetogram of 350 x 350 m² size representing the southern part of Baga Nariin am. The viewing direction is north.

Photo © University of Jena.



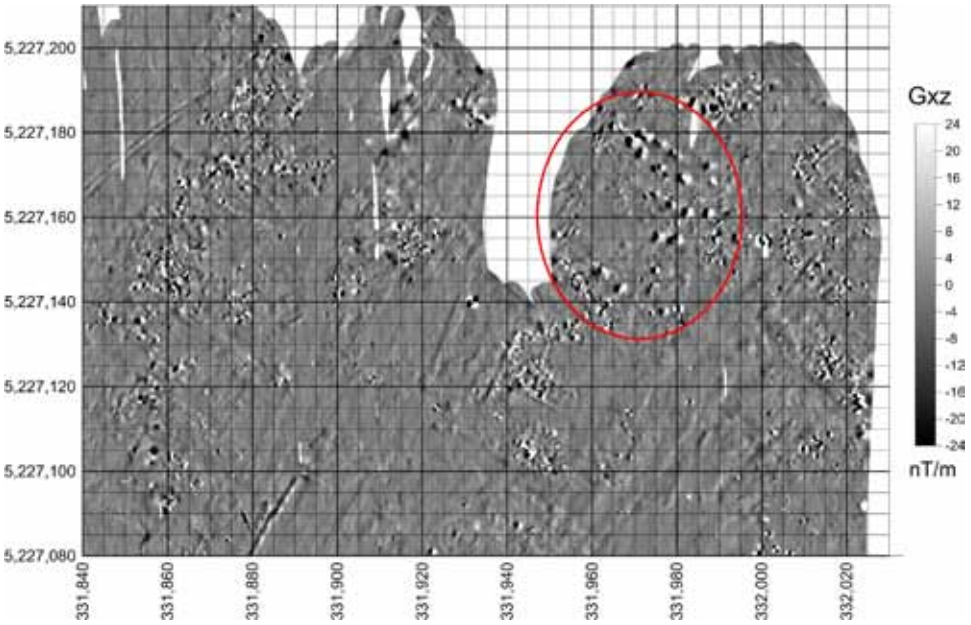


Photo © University of Jena.

Fig. 17. Enlarged northeast part of Fig. 16. The grey scale is changed to +-24 nT/m for better visibility of the interesting point anomalies (encircled in red). The grid spacing is 5 m.

modeling on the basis of these magnetic data results in structures with a V-shaped cross section buried in a depth of 0.7 – 1.2 m. A hint about the filling material of the structure is given by the noticeable high difference of the magnetic susceptibility between the modeled structure and its environment. Fired bricks or soil with a fraction of volcanic rock or slag from metallurgy can be supposed. Even higher iron content is expected for a series of point anomalies in the northeast — see the upper right corner of Fig. 16 and Fig. 17. Intensity, shape and extension of these anomalies indicate remains of medieval furnaces. Thus, one focus of the 2012 excavations was on this area.

A *Dragon Kiln* in Mongolia?

Unfortunately the area intended for excavation on the basis of the geomagnetic survey was occupied during the 2011 campaign by several cattle–breeders with their animals and yurts. So we selected another place in the northern area of the settlement where traces of highly fired and melted bricks were visible on the surface of a small mound of the lower terrace. Here we opened first a 5 m x 5 m trench (KC 5/1-45). When the turf had been removed, large areas of burned soil came to light filled with rubbish of bricks which continues in parts of the trench down to the natural ground at a depth of nearly two meters. The depth of this feature was unexpected, as was the fact which became clear during the course of excavation that here a multi-phased occupation could be uncovered. The first occupation is characterized by several pit houses which were built into the terrace. Due to the fact that the remains of these pit houses were mostly destroyed by later construction, only few observations could be made. In the eastern profile of trench KC 5/1-45 the depression of two pit houses is clearly visible. The northern pit house is 60 cm deep; the southern one has a depth up to 90 cm (Fig. 18). In the western profile another pit house is visible with a depth of up to 1.6 m (Fig. 19). The floor of that house was covered with wooden planks, from which we could collect a sample for dendrochronological dating. A provisional dating by our colleagues from the dendrochronological laboratory of the German Archaeological Institute in Berlin is probably the 1230s CE.

Photo © University of Bonn.

Fig. 18. Baga Nariin am, trench KC 5/1-45. Eastern profile with pit houses.

Fig. 19. Baga Nariin am, trench KC 5/1-45. Western profile with pit house.

Photo © University of Bonn.

Fig. 20. Baga Nariin am, trench KC 5/1-45. Southern profile with the pit of the kiln.

A younger period of occupation is marked by an extensive kiln construction of which we could find only the remains of a pit during the 2011 campaign. This pit was filled completely with debris of bricks. However, in the lowest parts four sloped standing bricks in the southern profile represent the reverse side of a construction, whose character remained to be identified (Fig. 20).

Fig. 21. Baga Nariin am, trench KC 5/51-95. Kiln from the south.

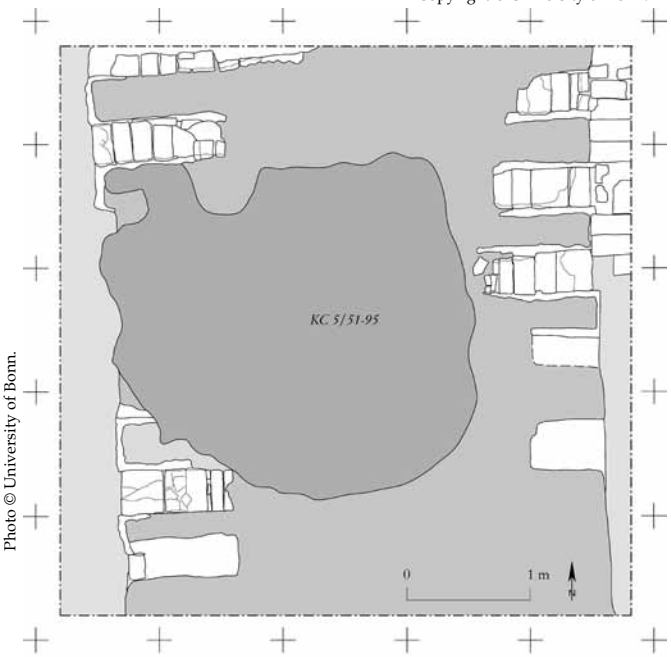


Fig. 22. Baga Nariin am, trench KC 5/51-95. Plan of the kiln.

To clarify this situation this year we opened another 5 m x 5 m trench south of the excavation area of 2011 (KC 5/51-95). Here as well layers of burned soil full of rubbish of bricks came to light directly under the turf. Digging deeper, step by step revealed remains of brink constructions which made clear that we had obviously uncovered a big kiln. A north–south oriented, rectangular chamber of the kiln was cut into the ground using the natural soil as its western border, while the northern and the eastern front are marked by brick walls (Figs. 21, 22). Alongside the western and eastern wall of the kiln buttresses built of bricks at intervals of 70 cm – 80 cm hold an arch of the furnace chamber. The ceiling, however, had collapsed at some point, so that only the rudiments of the arches are visible. The chamber of the kiln has a length of at least 5 m, but the southern entrance area has not been uncovered yet due to the fact that the artificial mound under which the kiln is located extends ca. 5 m more to the south During the 2012 campaign we reached a level more than 2 m below the surface. Since we had not reached the natural soil we opened a small test pit on the rear wall (Fig. 23). But even after 50 cm the bottom of the kiln could not be reached. Realizing that we could not finalize our work during this year we closed the trench by filling.

Fig. 23. Baga Nariin am, trench KC 5/51-95. Selected trench in the northern part.

Even if the excavation of the kiln could not be completed this year, it is possible to discuss some architectural aspects for further research. The main construction features are the arches built by bricks which cover a rectangular firing chamber. Both architectural features are known from a kiln type with a markedly larger total length called a "Dragon kiln" in Chinese archaeology. According to Kerr and Wood "the dragon kiln was essentially a narrow tunnel built up a low slope" (Kerr and Wood 2004, p. 347). The tunnel structure is created by the arches of our kiln. However, due to the fact that we could not reach the natural ground we have as yet been unable to determine the configuration of the kiln bottom. Judging from the surface topography a gradual slope would be possible, but to prove this requires further excavation.

Even that kiln was not the last phase of occupation at this place. During the use of the kiln the ceiling collapsed, leaving a big depression. This depression was filled with yellow-grey soil from the immediate surroundings. Atop that filling a brick pavement was constructed of vertically standing adobes. Traces of this pavement, which were found in both trenches, represent a third occupation layer here.

Melting Pits and Workshop Areas

On our return to the site in summer 2012 we realized that the area of geomagnetic anomalies was not occupied by cattle-breeders this year. So we were able to excavate parts of the area which was characterized by the strong geomagnetic anomalies described above (Fig. 17). We opened three trenches measuring 5 m x 5 m covering an area of altogether 15 m x 5 m. During the excavation different features such as a flat ditch, two pits and several post holes could be observed [Fig. 24]. Noteworthy is feature no. 9 at the northern border of trench HC 38/51-95. Here a slightly rectangular pit with a burned edge came to light in the final days of the 2012 campaign. At its bottom, the pit was filled with a big lump of metal slag which definitely was the cause of the strong anomalies in the geomagnetic map (Fig. 25). Here was our first proof of smelting in the Orkhon valley. According to the geomagnetic results we have to assume that the entire area with strong anomalies was used for iron smelting.

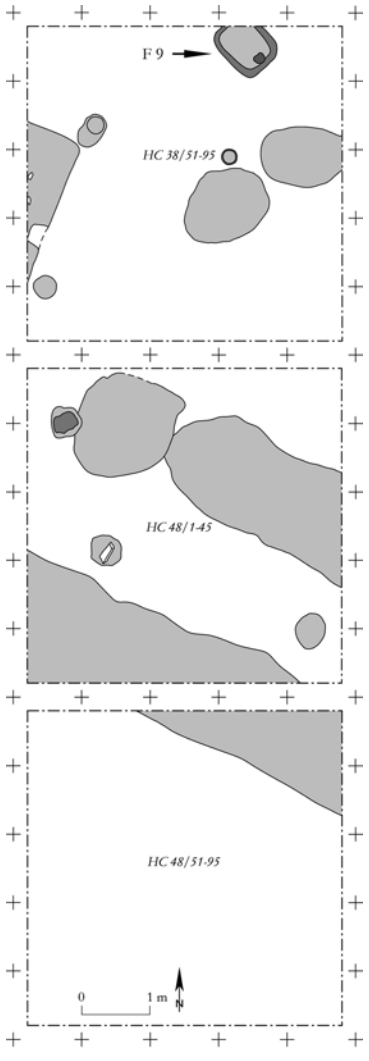


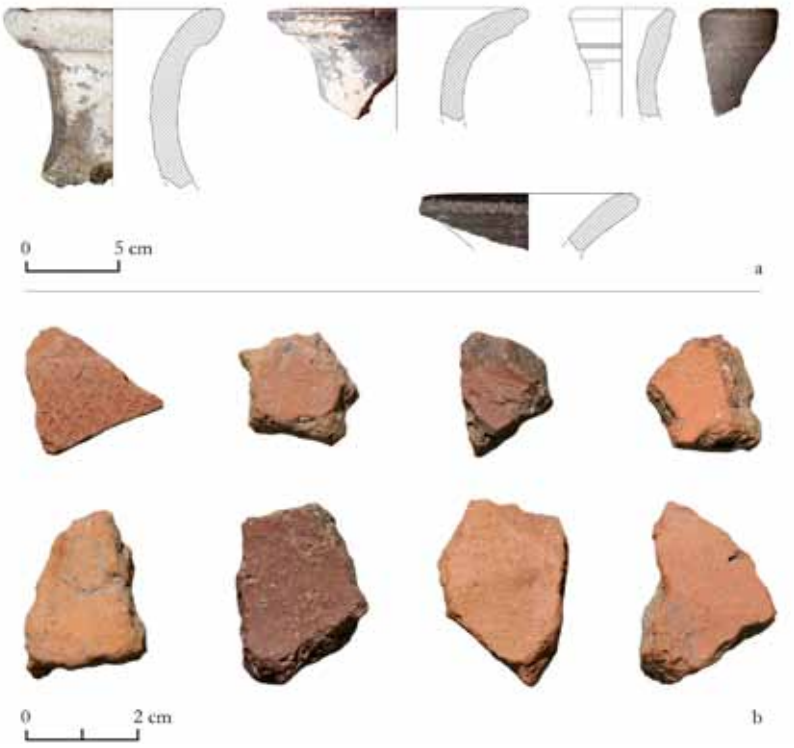
Fig. 24. Baga Nariin am, trench HC 38/51-95, HC 48/1-45 and HC 48/51-95.

Fig. 25. Baga Nariin am, trench HC 38/51-95, F. 9 with metal slag.

Another stage of metal production obviously occurred on the border of the terrace east of the smelting area. Based on surface findings of small pieces of iron slag we opened two trenches here as well. Even if these trenches were mostly free of archaeological features, directly under the slag concentrations were two small open fire pits. Both pits, situated on the slope of the terrace, measure ca. 60 cm x 40 cm and contain small ventilation channels leading downhill (Fig. 26).

Fig. 26. Baga Nariin am, trench HD 84/56-100. Melting pit.

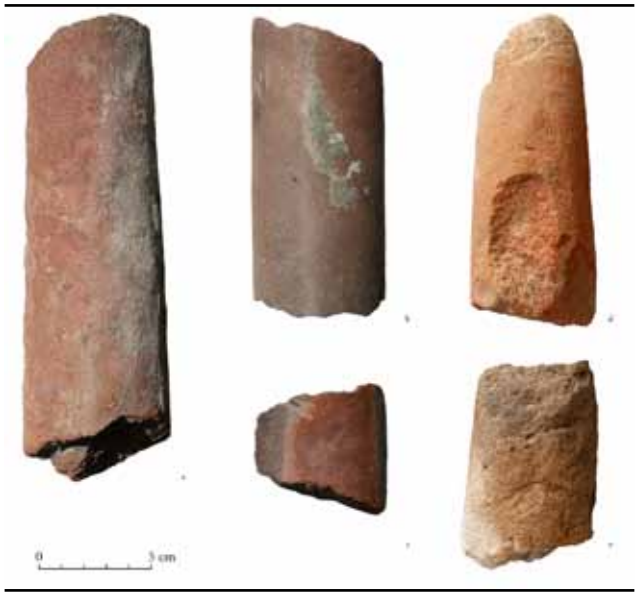
Fig. 27. Baga Nariin am. Early medieval pottery from the survey.



Artifacts and Dating

Even if precise natural scientific data are absent yet due to the short time span after the end of our excavation, the dating of the settlement seem to be quite clear, judging from the artifacts collected and excavated. Apart from 42 stone artifacts from the Palaeolithic era the oldest materials in Baga Nariin am belong to the Early Medieval period of Mongolia. In the northern part of the surveyed area we found several fragments of rims from bottles (Fig. 27a), which have analogies in Turkic as well as in Uighur sites (ca. 7th–9th centuries). A reddish potsherd with stamped ornament found together with several undecorated sherds of the same fabric (Fig. 27b) belongs to the same period.

The main part of the finds made during the survey and the excavations belongs to the time of the Mongol Empire of the 13th/14th century CE. A few Chinese copper coins date to the Song Dynasty, which is not unusual even for find spots of the Mongol period. An excellent artifact for dating is an Islamic silver coin with the *tamgha* of Möngke Khan (r. 1251-59), collected from the surface in 2009 (Fig. 28). Within the wide range of artifacts of different materials, including processed bone pieces and fragments of plate glass, both suggesting workshops here, several iron ingots of the same type which were collected in the survey are especially noteworthy (Fig 11 d-e). Fragments of clay supports collected during the survey in 2009 and excavated during the last two years (Fig. 29) compare with finds in the kiln site of the Orkhon valley mentioned above (Fig. 30). All



(below) Fig. 28. Baga Nariin am. Silver coin from the reign of Möngke Khan.

(middle right) Fig. 29. Baga Narin am. Earthen clay supports from the survey (a-c) and from excavation (d-e).

(lower right) Fig. 30. Kiln with clay supports from the kiln site in the floodplain of the Orkhon.

Photo (lower right) after: Hüttel and Erdenebat 2011, p. 40, Fig 43; remaining photos © University of Bonn.

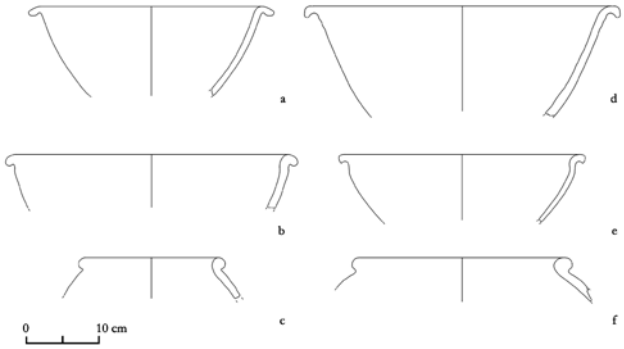


Fig. 31. Selected grey pottery from the survey east of Karakorum (a-c) and from Baga Nariin am (d-f).

these groups of artifacts confirm that the medieval settlement of Baga Nariin am was a production center.

The medieval pottery in Baga Nariin am covers the the same spectrum as that collected in the survey and is entirely comparable to the materials excavated in the city's center between 2000 and 2005. The pottery of Chinese origin consists of typical wares from the Song and Yüan dynasties (see the contribution by Anne Heussner in this volume). The second category is the indigenous grey pottery which obviously derives from older steppe traditions. The clay is generally well prepared and tempered with fine limestone gravel and sand or silica. The ware is entirely smoke fired, whereupon the surface is mostly dark grey. The variety of the forms is quite small. The biggest groups are large bowls with a globular or conical contour and pots with a round shoulder and sometimes with handles. Both groups are represented in the material from Baga Nariin am and from the survey outside the city (Fig. 31). Still unclear is the question of whether the few potsherds with stamped ornament and generally from older periods represent a survival into medieval times or whether they indicate prior settlement activities in Baga Nariin am (Fig. 27) or in Karakorum as well.

Source: GOOGLE Earth.

Fig. 32. Bayan gol valley. Satellite picture with ramparts, pit depressions and kilns.

Archaeological Research in the Bayan gol Valley: a Manchurian Occupation?

The Bayan gol is a small tributary of the Orkhon running north-northeast with its estuary some 12 km northwest of Karakorum. Our interest to that area was initiated by prior research which began in the middle of the 20th century. The first person to draw attention to archaeological relics here was the Mongolian archaeologist Kh. Perlee. Without any detailled description of archaeological monuments he mentioned a place named "Bayan goliin balgas" at a distance of 12 km from Erdenee zuu monastery (Perlee 1961, p. 149, No. 153). Most likely on the basis of written records, he wrote that this place was occupied by Manchurian soldiers in charge of agriculture.[2] The same statement about the chronology at Bayan gol (obviously a copy of Perlee's report) is in the publication by D. Maidar (1970, p. 43, No. 104).

More information about archaeological sites in the valley became known from the work of Japanese researchers in the Orkhon valley during the last decade of the 20th century. First of all they drew attention to two rectangular ramparts located in the lower part of the valley on the right bank about 1 km south-southwest of the estuary (Fig. 32, no. 1). On the basis of historical sources Shimpei Kato has connected this place with the "Shira-Ordo" palace which is mentioned in historical sources of the Mongol period (Kato 1997, p. 23 with Fig. 7).

During the last decade two field projects have published short remarks regarding archaeological sites in the Bayan gol valley. In 2002 the Japanese archaeologist Noriyuki Shiraishi published a map with five concentrations of sites (Shiraishi 2002, p. 244, Fig. 3-43). In addition to the well-known ramparts he mentions

Fig. 33. Bayan gol valley. Kiln site on the eastern terrace.

Fig. 34. Bayan gol valley. Kiln site on the western terrace.

Photos © University of Bonn.

two concentrations of tombs in the estuary of the Bayan gol and marks two settlement areas south of the ramparts on both sides of the stream. In 2007 a joint Mongolian-Chinese excavation project took place on the southwestern terrace indicated by Shiraishi's map. Here several ritual sites of the Early Medieval period were excavated, and materials collected as well from the Xiongnu, the Khitan and the Qing Dynasty (Ankbayar and Odbaatar 2011).

The most recent research in the Bayan gol valley was done by the Mongolian–German geoarchaeological project in 2008. In a first report it provides a short description of archaeological relics and indicates that the double ramparts are supposed to be tombs of the Early Medieval period and that in all likelihood the major part of the sites probably dates to that time (Ahrens et al. 2008, pp. 319-20 [MOR 18-32]).

Our interest was drawn to two kiln sites in the upper part of the valley which were discovered by Jan Bemmann and his team during a survey campaign 2009 and the author in 2010. The first kiln complex is situated some 700 m southwest of the above-mentioned ramparts, south of a small eastern tributary on the eastern terrace of the Bayan gol (Fig. 32, no. 2). Here, the terrace was obviously divided intentionally by a north-south oriented sunken road which runs parallel to a large building (?) complex of walls on the upper terrace (cf. Shiraishi 2002, p. 244, fig. 3-43). On the eastern slope of that sunken road are 9 kilns (Fig. 33); three kilns are situated on the northern slope of the tributary, one on the southern slope. A second kiln complex is situated another 700 m southwest on the western terrace of the valley. Here two groups of kilns of the same outline could be observed within a large open settlement area (Fig. 34).

But another group of archaeological features piqued our interest as well. Between the two ramparts and the first group of kilns two concentrations of dark spots could be identified in the satellite picture of Google Earth (Fig. 32, nos. 3-4). Surveying these features in the valley we could recognize these structures as flat pits covered by bushes of nettles (Fig. 35). We chose for excavation two of the pits of the southern group. Directly under the turf we could recognize that the flat pits form the remains of pit houses which were dug into the natural soil (Fig. 36). Both pit houses were up to 1.3 m deep and mostly filled with dark brown soil. Special structural

(below) Fig. 35.Bayan gol valley. Pit depressions.

(right) Fig. 36. Bayan gol valley, site No. 4 (cf. Fig. 32). Excavated area with pit houses.

Fig. 37. Bayan gol valley, site No. 2. Kiln with lime remains.

(top right) Fig. 38. Bayan gol valley, site No. 2. Firing chamber.

(middle right) Fig. 39. Bayan gol valley, site No. 2. Firing chamber.

details could not be observed; only a posthole and the fragment of a millstone in the northern pit house were noteworthy. Finds were few; only some potsherds of a dark grey pottery could be retrieved.

For excavation of a kiln we selected one example from the northern kiln complex. The complete area of the kiln was divided into four sections whereupon two sections were opened by excavation. In the northeastern section a circular structure of lime was uncovered directly under the turf (Fig. 37) representing the outer line of the kiln. Upon opening a small deep section on the southern profile of sector B a central furnace chamber came to light (Figs. 38-39). This chamber was completely filled with loose-fitting stones, the complete skeleton of a small animal and an iron vessel with a blue enamel facing (Fig. 40). A second furnace chamber was uncovered in a second deep section downhill (Fig. 41) showing that this kiln was in use for a longer period of time.

Fig. 40. Bayan gol valley, site No. 2. Iron vessel with blue enamel facing.

Fig. 41. Bayan gol valley, site No. 2. Firing chamber.

No remains of metallurgical production came to light during our excavation. Based on the abundance of lime we early came to the conclusion that this kiln site was used for lime burning. This assumption was confirmed during the last days of our stay in the Bayan gol by an old man who indicated that here lime kilns existed until the 1940s. When this industrial complex started to produce is still unknown; we hope to obtain some information by analyzing a few charcoal samples in the coming year.

Results

During the last two years our work has substantially enlarged the knowledge of workshops and trade around Karakorum. While directly outside the city wall no area can be clearly connected with metal trade, the excavation in Baga Nariin am yielded evidence of production sites. The most prominent features are the remains of a big kiln of obviously Chinese origin and the first evidence of metal smelting processes during the medieval era in Mongolia. Furthermore, workshops of bone carving and possible glass production can be located here (Fig. 42). The dating of the settlement, especially from a preliminary analysis on the basis of dendrochronological data from a board found in one of the pit houses, at least raises the possibility that the residents here might have been in charge of building the city and the royal palace of the Mongolian khans. But to confirm this requires further natural scientific data from charcoal samples.

The results in the Bayan gol valley did not meet our expectations concerning metallurgy of the medieval era in the broader vicinity of Karakorum. According to the results of the Mongolian–German geoarchaeological project, that valley was more densely settled during the Early Medieval time than in the Mongol era. Now an additional settlement layer of Manchurian and/or modern times can be added to the history of settlement here. Even if we could not obtain any results concerning industrial sites of the medieval period in the Bayan gol valley, the results seem to be important, because the archaeology of the post–Yüan era in Mongolia has so far been limited. We hope our work will encourage an interest in that epoch.

Acknowledgements

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About the authors

Ernst Pohl is senior researcher at the Institute of Archaeology and Cultural Anthropology of the University of Bonn, Germany. He has worked in Mongolia for 15 years within the Mongolian–German Karakorum-Expedition. Between 1999 and 2005 he excavated parts of the workshop area in the center of the Old-Mongolian capital Karakorum. Since 2011 he conducts archaeological excavations in the vicinity of Karakorum searching for evidence of metal trade in the steppe area in the time of the Mongol Empire. E-mail: <pohl.vfgarch@uni-bonn.de>.

Lkhagvadorj Mönkhbayar works at the Institute of Archaeology of the Academy of Sciences in Ulaanbaatar, Mongolia. As a member of the Medieval Department he was part of the Mongolian–German Karakorum-Expedition since 1999. Within the current project he is the Mongolian co-leader of the excavations. E-mail: <munkhlj@yahoo.com>.

Birte Ahrens is a research assistant and Ph.D. candidate at the Institute of Archaeology and Cultural Anthropology of the University of Bonn and has worked in Mongolia continuously since 2008. In the current project she headed the archaeological survey outside the Karakorum city walls. Her Ph.D. thesis is about landscape archaeological research in the upper Orkhon valley. E-mail: <bahrens@uni-bonn.de>.

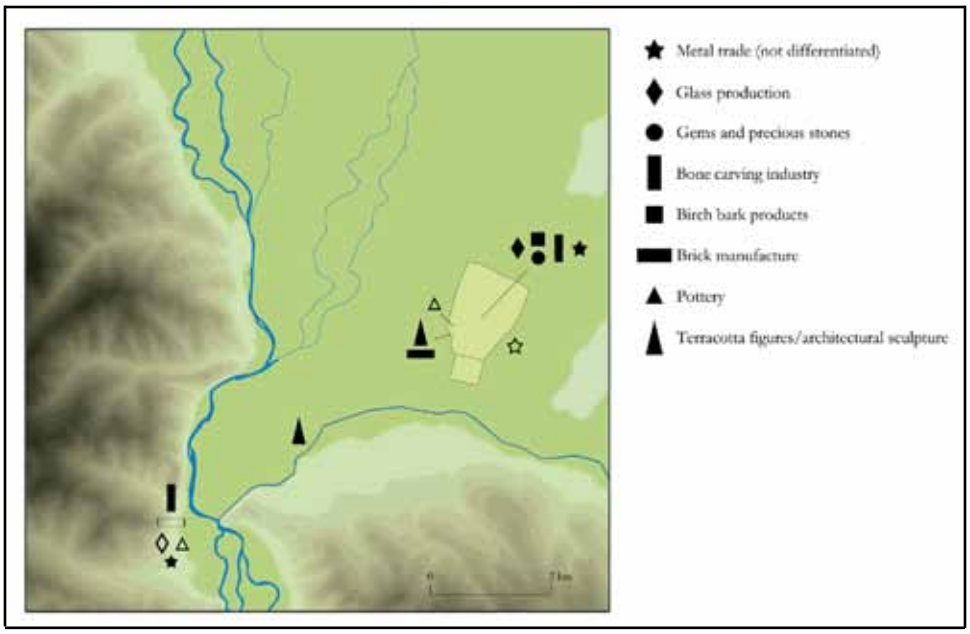

Fig. 42. Distribution of workshops in and outside of Karakorum. Open symbol: supposed. Filled symbol: proved.

Klaus Frank works at the "LVR-Amt für Bodendenkmalpflege im Rheinland" in Bonn. As a specialist for archaeolgical survey he was part of the team during the 2012 campaign in the Orkhon valley working on the survey and the classification of the pottery. E-mail: <Klaus.Frank@lvr.de>.

Sven Linzen is a senior researcher at the Institute of Photonic Technology (IPHT) in Jena, Germany. The aim of his work is the development and application of new superconducting devices. In 2005 he carried out the first motorized magnetic survey with SQUID sensors near Palpa and Nasca, Peru. He conducted the magnetic survey of large areas with the IPHT SQUID system in the Mongolian Orkhon valley in 2009 and 2010. E-mail: <sven.linzen@ipht-jena.de>.

Alexandra Osinska is an archaeologist from Poland who usually works in commercial archaeology. She has been part of excavation projects in different European countries and joined our project in Mongolia as a volunteer during the 2012 campaign. E-mail: <a_osinska@o2.pl>.

Tim Schüler is head of the Archaeometry Department at the Thuringian State Office for Archaeology in Weimar, Germany. He is one of the pioneers of the SQUID sensor application in archaeological survey. In 2009 he carriecd out together with Sven Linzen and Sebastian Hauspurg the large area magnetic survey in the Mongolian Orkhon valley. E-mail: <schuelert@tlda.thueringen.de>.

Michael Schneider is Ph.D. student and junior researcher at the Institute of Photonic Technology (IPHT) in Jena. He is working in the field of backward calculation of geomagnetic SQUID data. In 2010 he carried out together with Sven Linzen and Stefan Dunkel the large area magnetic survey in the Mongolian Orkhon valley. E-mail: <michael.schneider@ipht-jena.de>.

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Notes

1. We are thankful to Jan Bemmann and his team for providing the necessary information regarding the two places selected for excavation. The materials from Baga Nariin am collected during the survey will be published in the final report of our project.

2. Originally Kh. Perlee was a historian. During a visit of our excavation at Baga Nariin am in summer 2012 Prof. Ayudai Ochir, a specialist of Manchurian history, confirmed that historical sources report a 60-year occupation in the Bayan gol valley under the Qing Dynasty in the 18th century CE.

Preliminary Report on the Ceramics of Chinese Origin Found East of the Old Mongolian Capital Karakorum

Anne Heussner
Berlin

During summer 2011 and 2012 a survey beyond the eastern city wall of Karakorum, the ancient capital of the Mongolian Empire, was carried out in connection with a new field project of the University of Bonn and the Institute of Archaeology, Mongolian Academy of Sciences. Following the results of the excavation in the city's centre between 1999 and 2005 the new project's purpose was to document metal trade outside the city as well.[1] During the survey numerous sherds of ceramics of Chinese origin were collected. The recording of the findings in a database began while the fieldwork was still in progress. The finds were washed, photographed and labeled according to the measurement system of the Mongolian–German Karakorum Expedition.[2] The survey was finished in summer 2012, but so far only parts of the material of the 2011 campaign have been analyzed.

The archaeological research on Chinese pottery from Karakorum is of special interest for Mongolian history and an understanding of the economic networks in Central Asia in the 13th – 14th century CE. Karakorum is said to have been founded by Chingis Khan in 1220, but it seems certain work was started under his second son, Ögödei Khan, in 1235. It was the first Mongolian capital of the Great Mongol Empire that was soon to split into four separate but still interconnected parts.[3] Some historical evidence about the medieval multi-cultural town can be found, for example, in official Chinese records like the *Yuan Shi* (元史).[4] Further written evidence about the town is in Persian historical works such as that by Rashid al-Din[5] and in travel accounts by early missionaries like William of Rubruck.[6] However, detailed knowledge about Karakorum and the roughly 160 years in which it flourished is scarce. Archaeological research is necessary to flesh out the history of the town and its role in the vast medieval Central Asian network. Part of this research is the study of imported ceramics in and around Karakorum which are mainly of Chinese origin. The composition and provenance of those ceramics reflect the connections Karakorum had to central China and its industry. The study of the ceramics is therefore valuable for shedding light on the urban history of Karakorum.

The Material

By far the highest percentage in the finds around Karakorum is ceramics. Glazed ceramics of Chinese origin constitute about 77% of all finds so far recorded in the database. The material resembles the ceramics found during the excavations on the walled territory of Karakorum in the years 2000-2005.[7] All of the major wares found inside Karakorum were found as well on the survey around it. Namely those are common Chinese wares from the Song (960–1279) and Yüan Dynasty (1261–1368) produced in Northern and Southern Chinese kiln systems: *Cizhou* (磁州), *Jun* (钧), *Jian* (建), *Longquan* (龙泉), and *Jingdezhen* (景德镇). They will be discussed in detail later. Some of the minor wares which were found inside Karakorum are missing in the surroundings, though it must be emphasized that not all of the material is recorded in the database yet. Additionally, ceramics such as lustre ware of Iranian manufacture are very rare in Karakorum itself. Only a few sherds of such ware were found during the excavation. It is not surprising that none of them was found during the survey in the surroundings. Conclusions about missing wares cannot be made before the material is recorded completely. Basically the ceramics seem to be about the same in and around Karakorum. To what extent their composition differs in and outside the town and how that may have changed over time is a subject for further research.

The sherds found during the survey usually are small to medium size. Starting in the area close to the Erdene zuu monastery, where the survey began, the sherds were about 4–9 cm² in size. They were very loosely scattered around the area. Where the survey got closer to the area of the eastern gate of Karakorum the density of the sherds increased substantially. The majority of the material was found there, and most of it is not even recorded in the database yet. The average size of the sherds in that area is slightly larger than that of the sherds found in the other areas, starting generally with at least 6 cm² and in rare cases reaching sizes of almost 100 cm². Though no complete vessel was found, an almost complete lid, which is to be discussed in the paragraph on the Northern Chinese

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White wares (Cizhou wares), was found close to the eastern gate area.

Dating

The majority of the material can be dated to the Yüan (1261–1368) or Song (960–1279) dynasties. Many of the innovations made in the development of ceramics and new wares that came into existence during the Song dynasty, which is a highpoint in the history of China's ceramic industry, lasted from Song times up into the Ming (1368–1644) period. Therefore some of the sherds cannot be definitely dated to one or the other period. In general the material is consistent with the historical dating of Karakorum. Few ceramics from post-Yuan (meaning post-Karakorum) times were found. They date roughly to around the end of the Ming dynasty – beginning of the Qing dynasty (1644–1911), i.e., the beginning of the 17th century. Around this time the monastery of Erdene zuu was built on the ruins of Karakorum, and life in the area revived.[8] Still those younger ceramics constitute only about 3.5% of the Chinese ceramics recorded so far. They are not known from the excavations in Karakorum itself.

Methods

Chinese ceramics deriving from Song and Yüan Dynasty times are, in general, divided into different kiln systems and the wares they produced. The wares are distinguished by the color and character of the glaze and of the sherd itself. Groups of ceramics classified by the glaze roughly correspond with kiln systems in which the wares were produced. Though a single kiln system might have produced more than one ware, often it was renowned for a specific one. Sometimes a kiln system copied the wares of another. They were several kiln sites belonging to one kiln system that could have produced different wares as well. So grouping the material by glaze is a preliminary means of determining the origin of the ceramics. Another indicator of the origin is the character of the sherd itself. Due to natural resources, different kinds of kilns, and different clay that was used for the production, Northern Chinese wares usually are to be defined as stoneware, whereas Southern Chinese wares are porcellanous.[9] Further indicators such as décor or marks can be used to assign a sherd to a kiln system and possibly even to a specific kiln site. In the case of the small fragments found on the survey this is not possible. Still they do contain information about their approximate origin via their glaze and the structure of their sherd. Therefore they reflect the connections Karakorum had to the different parts of China and thus constitute a valuable subject of research.

The sherds were collected by Birte Ahrens, University of Bonn, Mongolian students and partly by the author herself. In 2011 the survey started southeast of the walled territory of Karakorum, close to the monastery Erdene zuu. It reached the area close to the eastern gate of Karakorum and was continued there in 2012.

After being cleaned the sherds were photographed and recorded in a database. The main criteria recorded were: ID, localization, number of sherds, the kind of fragment found (rim, wall, and bottom), the color and character of the sherd, the color of the glaze, forms of decoration, motifs, marks, signs of repair, and signs of production. On the basis of those criteria general groups of wares were formed, the main criterion being the glaze. The main groups being discussed in this preliminary report are: White ware, Black and Brown ware, Thickly-glazed Blue ware (Jun ware 钧), Green-glazed ware (Longquan Celadon 龙泉), Bluish White-glazed ware (Qingbai ware 青白), Blue and White ware (Qinghua ware 青花), and Post-Yüan Polychromous wares. Examples for those wares are given in the following paragraphs (Fig. 1).

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Fig. 1. Distribution of Kiln Sites in Ancient China.

White Wares

White wares make up about 50% of all Chinese wares found and recorded during the 2011 survey. White glazed wares and wares covered with a white slip and an almost transparent glaze were quite common during the Song and Yüan dynasties. A lot of those wares were produced in the Cizhou kiln system which is named after a location of excavated kilns in Cixian district, Hebei province (Pierson 2009, p. 23). This kiln system produced a wide range of popular stonewares during the Song and Yüan dynasties. The production sites were spread across northern China. Kilns belonging to this system were, for example, found in Hebei and Henan provinces.[11]

Photos © Anne Heussner

Fig. 3. a) Potsherd with overglaze enamel decoration of Cizhou–*type; b-e) Potsherds of Black & Brown ware.*

The best preserved piece recorded from the survey so far is a Cizhou-type lid. It consists of creamy stoneware that was coated with white slip and has underglaze painted decoration showing brown floral sprays on a white ground. The inside is partly glazed and has a diameter of 12.7 cm. Its outer diameter measures 19.0 cm and its height is 5.6 cm. It is most likely to be dated to the Yüan Dynasty, though those wares started to be produced during the Song Dynasty. The slip painting decoration seen on the lid is a characteristic technique of Cizhou-type wares (Pierson 2009, p. 23). The black/brown and white design is a stylistic development that foreshadows the blue and white designs which dominated Chinese ceramics in the Ming Dynasty (Fig. 2).

Only a few Cizhou-type sherds showing decorations other than black or brown painting on white ground were found in the area surrounding Karakorum. However, they could be decorated in many other ways as well, including relief created by cutting layers of slip, and overglaze enamel decoration. An example for White ware with cut relief decoration is a sherd on which the relief of a chrysanthemum can be seen. The best example for colored overglaze decoration from the survey so far is a sherd showing red and green floral enamel decoration on white ground. The overglaze enamel decoration is of special importance since it was the earliest overglaze decoration in China. It was created in the Cizhou kiln system (Wang 2002, p. 237; Pierson 2009, p. 25) (Fig. 3a).

Fig. 2. Lid of Cizhou–type.

Photos © Nico Becker

Those examples of Cizhou-type wares date to the Yuan Dynasty. Generally most of the Chinese wares used in Karakorum that seem to derive from this kiln system were produced during the 12th – 14th centuries. Sherds of Cizhou-type ware showing different decoration techniques were found during the survey of the surrounding areas of Karakorum as well as during the excavations on the walled territory of Karakorum itself. The findings published so far cannot be connected with a specific Cizhou kiln site.[12]

Black & Brown Wares

Another ware partly produced within the Cizhou kiln system is Black and Brown ware that is

(left) Fig. 4. Black & Brown ware bowl from the excavation in the city's center of Karakorum.

(right) Fig. 5. Jun–bowl from the excavation in the city's center of Karakorum.

Photos © Nico Becker

generally connected with Song dynasty tea-drinking ceremonies. The more popular Black and Brown wares though derive from the Southern Chinese Jian kiln system. They are also known as *temmoku* wares, which is their Japanese name. This rather southern Chinese ware was imitated and produced in northern Chinese kilns as well. Black and Brown wares constitute almost 11% of the Chinese ceramics recorded in the survey so far. They derive from kiln systems that include the Cizhou, the Ding (Hebei province), the Jian (Fujian province), and the Jizhou (Jiangxi province).[13] Sherds of Black and Brown ware found on the survey are rather small. Examples are shown in Fig. 3c–e. Black and Brown wares found around Karakorum frequently show russet streaks on a black ground as decoration. This decoration can be seen on finds from the excavations inside Karakorum as well, where larger pieces of tea ware like the example shown in Fig. 4 were found. Fragments showing a white glazed rim as further decoration were found in and around the town (Fig. 3b). However, the sherds of Black and Brown ware found on the survey do not show the big variety of the ones found inside Karakorum. They partly re-semble the black wares excavated by the Russian archaeologist Sergei V. Kiselev in Karakorum in 1948–49. Those are assumed to derive from Henan, Hebei and Shanxi provinces (Meikotu and Ochir 2007, p. iv), thus being — like the Cizhou-type wares — wares of northern origin.

Thickly-glazed Blue Ware (Jun Ware 钧)

Another connection from Karakorum to regions of Henan province is shown by the thickly-glazed blue Jun ware sherds found on the survey and in Karakorum itself. The Jun kiln system produced thickly glazed blue (sometimes green) bowls of different shades that could be decorated with purple splashes in in-glaze decoration. The thick glaze is very distinctive and sherds of this ware are easy to classify.[14] They were mainly produced during the Song and Yüan dynasties. Interestingly Jun ware was of such fame that it was imitated in the Southern Chinese kiln system of Jingdezhen during the Qing Dynasty (Kerr 1993). None of those younger Jun imitations were found in or around Karakorum. The Jun ware from Karakorum dates from the Song and Yuan dynasties. A few nearly intact bowls were found during the excavations (Fig. 5).

A special feature of Jun ware is that it regularly displays marks in form of written Chinese characters (such as family names of the producers or numbers). Two Jun bottom sherds found on the survey have marks that are not characters. One of them is a sherd of a blue-glazed Jun bowl, with a swastika painted in black on the bottom (Fig 6). So far, no other example of a mark like this is known to the author. The other

Fig. 6. Fragment of a blue-glazed Jun–bowl with a painted swastika on the bottom.

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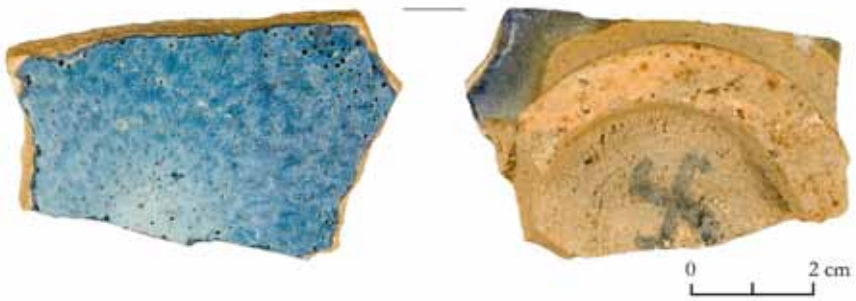

Photos © Nico Becker

(left) Fig. 7.Fragment of a green-glazed Jun–bowl with a flower painted in black on the bottom from the survey.

(right) Fig. 8. Fragment of a green-glazed Jun –bowl with a flower painted in black on the bottom from the excavation in the city's center of Karakorum.

example is a sherd of a green-glazed Jun bowl, marked with a flower painted in black on the bottom (Fig. 7). A similar mark was found on another green-glazed Jun bowl excavated in the centre of Karakorum, though the flower was painted in a different style (Fig. 8). Other examples of flower-like marks on Jun ware are not yet known to the author. The only other flower mark known to the author so far is on the bottom of a plate from the southern Chinese Jingdezhen kiln system found in Jininglu (集宁路), Inner Mongolia (Chen 2004, p. 20). The meaning and derivation of these marks remain to be determined. Generally less than 1% of the ceramics recorded at the survey shows marks. Those that do frequently have only fragments of the Chinese characters. A few marks can be seen on the published pictures of the ceramics excavated in Karakorum by Kiselev (Meikotu and Ochir 2007). They have not been displayed and discussed in detail though. In the current survey, marks were found only on White ware (Cizhou ware) and Jun ware.

Green-glazed Ware (Longquan Celadon)

Though most of the wares found in and around Karakorum derive from Northern Chinese kiln systems that produced ceramics for daily use, wares of Southern Chinese origin that were produced for export were found as well. Those Southern wares mostly derive from the Longquan or the Jingdezhen kiln system. Longquan in Zhejiang province was especially famous for its jade-like greenwares during Song and Yüan dynasty times. Those so-called celadons are porcellanous wares that resemble jade, being glazed in various shades of green. Longquan celadons were renowned export ceramics that are often unearthed in other Asian countries, among them Japan and Korea.[15]

Celadons constitute only 3% of the Chinese ceramics recorded by the survey. However, they are well known in the material from the excavations in Karakorum (Erdenebat et al. 2010; Meikotu and Ochir 2007). As with most of the Northern wares described above, celadons started to be produced during the Song Dynasty and reached their peak during the Yüan Dynasty. Lots of complete celadon vessels from the Yüan dynasty have been found, for example, on the Sinan wreck — a merchant ship that sank about 1323 close to Korea and was discovered in 1975 by a fisherman.[16] Some of the celadons found on the wreck resemble celadons found in and around Karakorum, which proves that the latter are (at least partly) Southern Chinese export wares from the Yüan Dynasty. One of the most beautiful sherds of celadon found on the survey is a bottom piece of a plate decorated with a lotus motif (Fig. 9). The carved

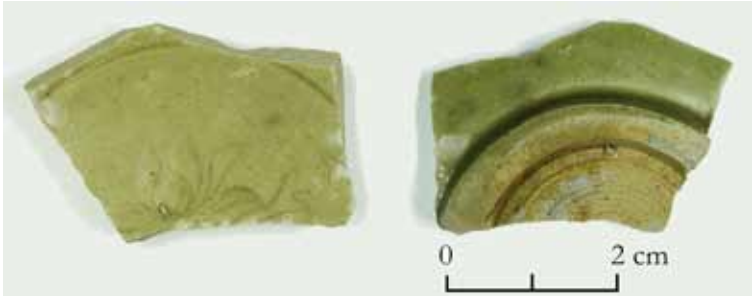

Fig. 9. Celadon potsherd.

Photos © Anne Heussner

Photos © Anne Heussner

Fig. 10. Qingbai ware.

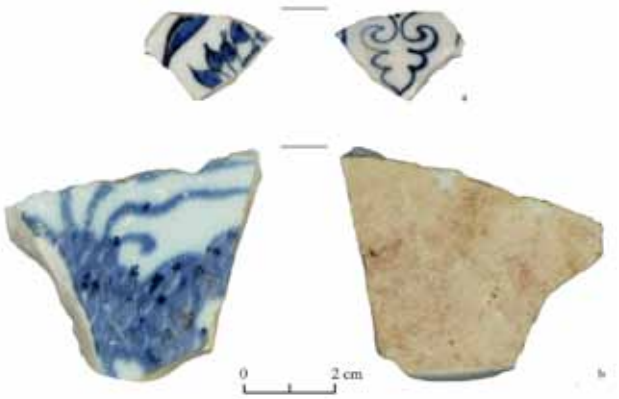

Fig. 11. Blue & White ware.

lotus design, circled by an incised line, is situated in the middle of the plate. The lines are highlighted by the accumulation of the olive green glaze inside them. Similar pieces of Longquan dishes decorated with a lotus design have been found in Jininglu, Inner Mongolia, and date to the Yuan Dynasty (Chen 2004, pp. 84, 118–19).

Bluish White-glazed Wares (Qingbai Wares 青白)

About 8% of the Chinese ceramics from the survey recorded so far are of a fine porcellanous structure with a bluish white glaze known as *qingbai* (青白, bluish white) or *yingqing* (影青, shadow blue). The kiln system most famous for producing this ware is Jingdezhen in southern China.[17] Like the green Longquan celadon wares, these qingbai-glazed wares are supposed to appear jade-like. The decorations on the sherds found around Karakorum are incised or impressed. Insofar as the motifs are recognizable, the designs are usually floral (Fig 10a). Most of the sherds from Jingdezhen are rather small (Fig. 10b), which makes it hard to distinguish their features and compare them with other finds. Still they provide evidence of fine Southern Chinese export ware in and around Karakorum. They date to Song and Yüan Dynasty times.

Blue and White Ware (Qinghua Ware 青花)

Blue and White ware, which is quite distinctive, derives from the same kiln system (Jingdezhen) as the Bluish white-glazed ware, though in part it is younger than the qingbai ware. The fine porcellanous (and later porcelain) ware decorated with blue underglaze painting first appears during the Yüan Dynasty. It became very popular as export ware under the Ming Dynasty. When famous Chinese Ming porcelains are mentioned today, most people think about Blue and White ware. During the survey only a very few small pieces of Blue and White ware were found. One of them shows on the outside of the vessel a cloud collar characteristic of the late Yüan Dynasty period and a floral motif on the inside (Fig 11a). On the outside of another sherd are parts of a dragon, a famous motif on Blue and White ware during the Yüan and Ming dynasties. This sherd is from a vessel that remained unglazed on the inside and most likely is to be dated to the late Yüan Dynasty, rather than to the early Ming Dynasty (Fig. 11b). Some almost complete bowls of Blue and White ware were excavated in a temple in Karakorum itself (Janßen-Kim 2006). The Blue and White ware from the excavations in the center of the town is mostly small fragments. Usually they are decorated with floral motifs. Sometimes parts of a dragon can be recognized. One piece shows the leg of a person (Fig. 12).

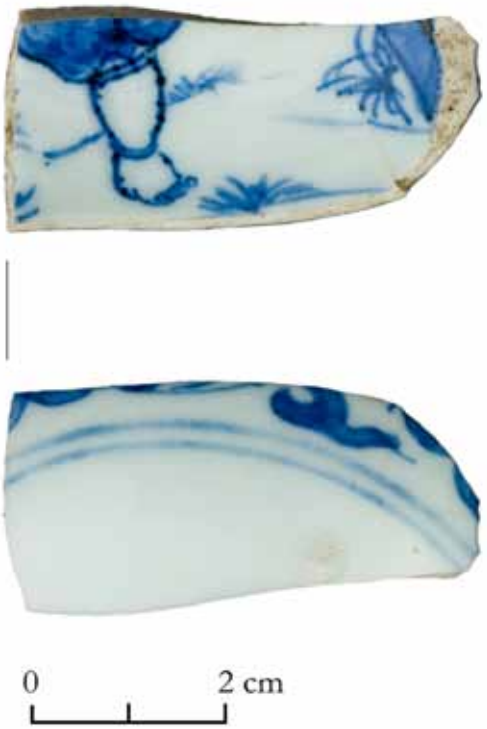

Fig. 12.Blue & White ware.

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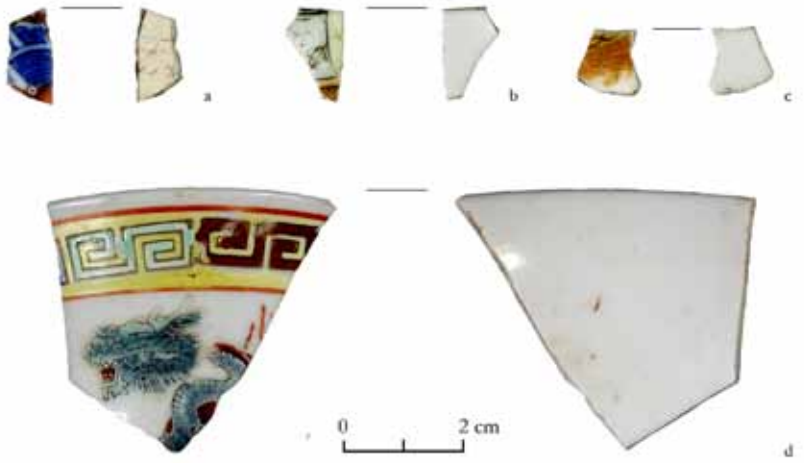

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Fig. 13. Post-Yüan Polychromous Wares.

Post-Yüan Polychromous Wares

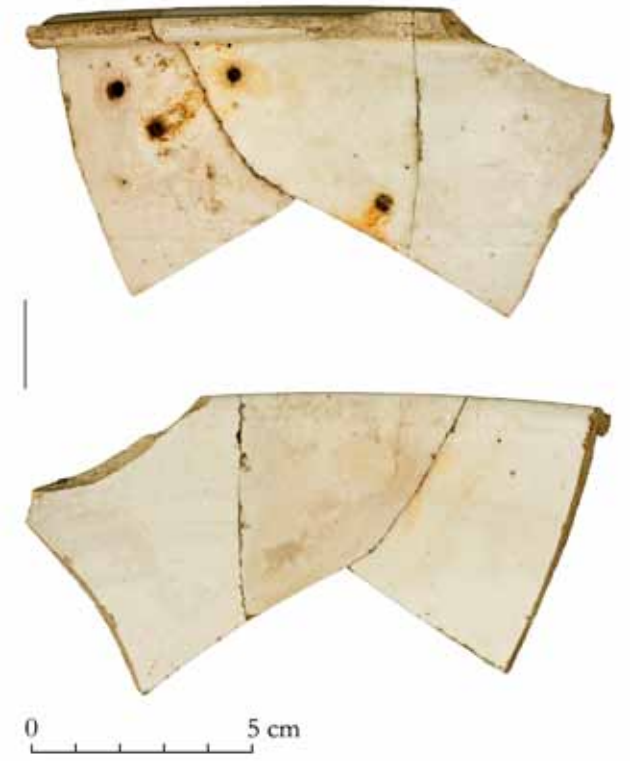
There is evidence around Karakorum for ceramics and porcelain dating to the post-Yüan period. However, there is little of it, only about 3% of the ceramics recorded so far. They seem to date from the end of the 16th or beginning of the 17th century and later. Lots of the younger pieces found are white porcelains with a transparent glaze which are not exactly datable though likely to derive from the late Ming or early Qing Dynasty. There are only a few notable pieces. One of them is a sherd of a vessel with overglaze red and underglaze blue design (Fig 13a). This decoration technique was invented in the 15th century (Wang 2004, p. 234). Since the sherd is too small to recognize the motif, a precise dating is impossible, though it is most likely from the Ming Dynasty, sometime between the 15th and the 17th century. Two very small fragments of porcelain with polychrome overglaze decoration probably date from the beginning of the Qing Dynasty in the 17th century. Unfortunately such fragments are too small to allow determination of the motif once painted on them (Fig. 13b–c), and it is impossible to date them precisely. The only younger sherd with a recognizable motif is a bluish-white rim sherd with polychrome décor. A colored key fret pattern circles the outer rim. The spirals appear in twos, each pair being painted in a different color from the next. The key frets that can still be seen are light blue, light green and red in color. The background of the scroll is painted yellow. Underneath it a dragon was painted with underglaze black lines and overglaze blue and red. The colors are not very carefully applied. Only the outer part of the vessel was decorated. The author has so far been unable to find a matching parallel to this décor (Fig. 13d). Possibly this sherd dates to the early Qing Dynasty, but more research is needed to be certain.

Photo © Nico Becker

Fig. 14. Vessel with an attached handle from the excavation in the city's centre of Karakorum.

Signs of Repair

A special feature of the ceramics found in and around Karakorum are signs of repair, found on sherds from almost all the kiln systems. About 1% of the recorded ceramics of the survey show non-piercing holes of about 3mm in diameter. Sometimes there are traces of metal clamps which held the vessels together. Those signs of repair are known from the ceramics excavated in Karakorum (Meikotu and Ochir 2007, p. vi). Most of the drilling holes seem to be signs of repair, though some of them were made for attaching handles to a vessel, as an example excavated in the center of Karakorum shows (Fig 14). Interestingly those repairs did not happen exclusively on fine, porcellanous wares. Most of the signs of repair found on the survey are on White ware vessels, an example being three matching sherds with four drilling holes on the outside, each having a diameter of 3 mm. Two of the holes are filled with rust. Tracks of rust on the glaze partly reveal the shape of the lost metal clamps. Traces of rust can be seen as well on the fracture of the sherd (Fig. 15). Obviously in Karakorum ceramics for daily use as well as fine wares got repaired. Examples of White ware and moon-blue Jun ware are shown in Fig 16a–b. Even wares with a very coarse temper like the one shown in Fig 16c were repaired and re-used. The drilling holes and the technique of repair are the same as the ones used on fine Southern Chinese wares shown in Fig 16d–e.



Photos (left) © Nico Becker; (right) © Anne Heussner.

(left) Fig. 15. Rim sherds of a bowl with repair holes.

(right) Fig. 16. Repair holes in different sherds.

Results

So far the evidences from the Chinese ceramics recorded on the survey east of Karakorum indicates that ordinary Northern Chinese wares as well as fine Southern Chinese export wares were in use in and around the town in the Yüan period. The vast majority of the wares are those for daily use produced in the Northern Chinese Cizhou kiln system. Around the area of the eastern gate of Karakorum the density of sherds is very high. Aerial pictures suggest that beyond there was as well a suburban settlement during the Yüan Dynasty. Wares of daily use and fine wares were repaired with metal clamps that were fixed in non-piercing holes of about 3 mm diameter drilled on the outside of the vessel. In general the material found in and around Karakorum is similar to that found in contemporaneous sites in Inner Mongolia such as Jininglu (Chen 2004). Though these are wares that often were first produced during the Song Dynasty and partly remained in vogue until the Ming Dynasty, the parallels to the finds at Jininglu and on the wreck of Sinan suggest that most of the ceramics date to the Yüan dynasty, specifically around the end of the 13th – beginning of the 14th century, as Meikotu and Ochir (2007, p. vi) have already suggested. The material from recent excavations in Karakorum is still to be analyzed. It seems rather likely that some of the ceramics found in Karakorum could be dated to the Song Dynasty as well. Ceramics dating to post-Karakorum times have only rarely be found. While for the most part they cannot be precisely dated, it is likely that they are from the Ming – Qing Dynasty transition at the end of the 16th – beginning of the 17th century. However, there does not seem to have been much settlement in and around Karakorum beyond the Yüan Dynasty.

About the author

Anne Heussner studied Pre- and Proto-history as well as Central Asian Studies at the Humboldt University, Berlin; she is currently a Ph.D. candidate at the University of Bonn, whose Karakorum project she joined in 2010. In 2011 she spent five months in Ulaanbaatar, Mongolia, to record ceramics excavated in Karakorum in a database and also to participate in the survey project around Karakorum which found the ceramics discussed in this article. Her Ph.D. thesis (EDC 2014), about the imported ceramics found in Karakorum, is being supervised by Prof. Dr. Jan Bemmann, University of Bonn and Prof. Dr. Mayke Wagner, German Archaeological Institute, Berlin.
E-mail: <anneheussner@googlemail.com>.

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Notes

1. See the article by Ernst Pohl et al. in this issue of *The Silk Road*.

2. For information on the project and first results see Bemmann et al. 2010.

3. Those parts are the regions of the so-called "Golden Horde" (Ulus Jöchi) extending from western Asia into Russia, the Chaghataids in Central Asia, the Il-khans in the Iranian areas of the Middle East and the Yüan Dynasty in China whose control encompassed Karakorum. For more information see, e.g., Golden 2011 with a map of the territories on p. 86.

4. The "Annals of the Yüan Dynasty," partly translated into German, for example, by Abramowski 1976.

5. Translated into English by Boyle (Rashīd/Boyle 1971).

6. The standard translation into English is that by Jackson (Rubruck/Jackson 1990).

7. Excavations in the so-called craftsmen quarter were carried out by Prof. Dr. Helmut Roth and Dr. Ernst Pohl, both University of Bonn, Germany, within the framework of the Mongolian-German Karakorum Expedition. First results are published in Bemman et al. 2010. The glazed ceramics excavated in the campaigns 2000–2005 are the subject of the

Ph.D. thesis of the author of this article.

8. Erdene zuu was built in 1588. For further information on the monastery see Brandt and Gutschow 2003.

9. The term "porcellanous" refers to wares that are high fired (1200–1300°C) and contain a certain amount of kaolin ('porcelain earth') though not enough to call them porcelain by technical and chemical definitions. However, in China stoneware and porcelain usually are not distinguished from one another. Both are referred to as "high fired wares/ porcelain," ciqi (瓷器) or taoci (陶瓷).

10. See the article by Ernst Pohl et al. in this issue of *The Silk Road* for further information about the survey.

11. For information on Cizhou-type wares see, e.g., Wang 2002, p. 153; He Li 1996, pp. 139–40; Chen 2004, pp. 10–12; Li and Cheng 1996, p. 112.

12. See for ceramics from Karakorum Meikotu and Ochir 2007; Erdenebat et al. 2010.

13. For information on Black and Brown ware and the connected kiln systems see, e.g., Pierson 2009, p. 27; Li and Cheng 1996, pp. 116–17; He Li 1996, p. 139; Wang 2002, pp. 154–5, 159–61, 217; Mowry 1996.

14. For information on Jun ware see Wang 2002, p. 161; Pierson 2009, p. 20; Li and Cheng 1996, pp. 110–11; He Li 1996, p. 142; Chen 2004, pp. 12–14. For Jun ware excavated in Karakorum see Meikotu and Ochir 2007.

15. For information on Longquan celadons see, e.g., Wang 2002, p. 163; Pierson 2009, pp. 27–33; Li and Cheng 1996, pp. 108–10; He Li 1996, pp. 136–8; Chen 2004, pp. 15–17; Gompertz 1980.

16. Findings published, for example, in a catalogue compiled by The Bureau of Cultural Properties, Ministry of Culture and Information, Korea (Bureau of Cultural Properties 1985).

17. For information on the Jingdezhen kiln system see, e.g., Wang 2002, p. 160; Chen 2004, pp. 19-21; Li and Cheng 1996, pp. 114–15; He Li 1996, pp. 138, 142–3; Pierson 2009, pp. 30–33; Pierson et al. 2002.

Bactrian Historical Inscriptions of the Kushan Period

Nicholas Sims–Williams
SOAS, University of London, England

Of all the Bactrian inscriptions of the Kushan period the richest in historical data is that of Rabātak (translated below as No. 2), which describes events of the early years of Kanishka I and the extension of his power over northern India as far as the Bay of Bengal. The statement that Kanishka "inaugurated the year one" evidently refers to the beginning of the "era of Kanishka" or "Kushan era," which Falk (2001; 2004) has convincingly placed in 127/8 CE on the basis of a synchronism with the Śaka era in a Sanskrit astronomical treatise. The inscription seems to mention the third and sixth years of Kanishka, in which case it cannot have been written earlier than 132/3 CE, but much of the text is devoted to the events of his first year. One phrase, the exact interpretation of which is somewhat elusive, could be understood to allude to a decision by Kanishka to employ the "Aryan" language, i.e. Bactrian, instead of Greek, a change attested on the Kushan coinage very soon after the beginning of the reign of Kanishka, quite possibly during his first year (cf. Cribb 1996, pp. 110–11).

The Rabātak inscription includes several important lists: of the cities of northern India over which Kanishka claimed sovereignty; of the gods worshipped in Kanishka's dynastic temple at Rabātak; and of Kanishka's predecessors, his great-grandfather Kujula Kadphises, the founder of the Kushan dynasty, his grandfather Vima (I) Taktu and his father Vima (II) Kadphises. The name of Vima Taktu is also attested, presumably as that of the ruling monarch, in a Bactrian inscription at Dasht-e Nāwūr, where several inscriptions in Bactrian, Kharoṣṭhī and an undeciphered script are all inscribed on the same rock. The Bactrian inscription DN 1 (No. 1 below) and the Kharoṣṭhī inscription DN 4 are both dated in the year 279 of an unnamed era. Salomon (2005) has plausibly attributed this date to an "era of the Greeks," which probably began in 175/4 BCE (Falk and Bennett 2009). If so, year 279 of this era would correspond to 104/5 CE.

The place which has yielded the largest number of Kushan Bactrian inscriptions is Surkh Kotal, the site of another dynastic temple founded by Kanishka. One of these, the so-called "unfinished inscription," appears to be dated in the year 279 like the inscription of Dasht-e Nāwūr (cf. Bivar 1963; 1976). It is not translated below, since nothing can be clearly read apart from the date. The fragmentary "Palamedes inscription" (No. 3 below) is undated, but the fact that it is "signed" in Greek suggests that it is probably not later than the earliest years of Kanishka. The most important inscription of Surkh Kotal (No. 4 below), which survives in three versions with slight variants, records building and restoration works begun in the year 31 of the era of Kanishka (i.e. 158/9 CE, early in the reign of Huvishka) and was presumably erected in or soon after that year.

Most other Bactrian inscriptions of the Kushan period, such as those of Ayrtam (of which the only edition, that of Harmatta 1986, is based on unduly speculative readings) and Dil'berdzhin (Livshits and Kruglikova 1979), are poorly preserved or incomprehensible and do not seem to offer usable historical data.

No. 1. Dasht-e Nāwūr inscription (DN 1)

Apparently a royal proclamation of Vima Taktu, one of a group of inscriptions on a boulder near the peak of Mt. Qarabāy. Dated in the year 279 of an unnamed era, perhaps equivalent to 104/5 CE (see discussion above).

Editions: Fussman 1974, pp. 2–50; Davary and Humbach 1976; Sims–Williams 1996, pp. 95–96 (lines 1–7 only).

Translation and notes:

> [*Date (line 1)*]: (Year) 279, (day) 15 of (the Macedonian month) Gorpiaios.

While the rest of the inscription is in Bactrian, this date is expressed in Greek. The adjacent Kharoṣṭhī inscription DN 4 confirms the reading of the numeral 279 and the month-name (*gapiu*) (Fussman 1974, p. 20).

> [*Titulature of Vima Taktu (lines 2–7)*]: The king of kings, the great salvation, Vima Taktu the Kushan, the righteous, the just, the god worthy of worship, who has gained(?) the kingship by his own will ....

Many words are scarcely legible and can only be read in the light of the parallel titulature of Kanishka in the Rabātak inscription (see below), but the name of the king is read *ooēmo tak••o* by all editors. The Kharoṣṭhī inscription DN 4 also contains the name *Vhama* (for *Vh<e>ma***?),** the title "king of kings" **(***rajatiraja***)** and perhaps the epithet "righteous" or "just" **(***dhrami[ka]***)** (Fussman 1974, p. 21). Of particular interest is the title "the great salvation" (also used of Kanishka in the Rabātak inscription), which seems to be equivalent to the Greek title *Sōtēr Megas* "the Great Saviour." Cribb has argued that the "anonymous" Kushan king who issued coins under this title was in fact Vima Taktu (Cribb 1996, pp. 97–99, 111–23; disputed by MacDowall 2002).

[*Lines 7-13*: largely illegible and/or incomprehensible, apart from the very last word of the inscription]: ... was proclaimed.

No. 2. Rabātak inscription

A temple foundation inscription on a stone plaque, found at the site of Rabātak, Baghlān province, Afghanistan, and now in the National Museum in Kabul (Fig. 1). Undated, but probably not earlier than the year 6 of the era of Kanishka, i.e. 132/3 CE.

Fig. 1. The Rabātak inscription. Tracing made by Nicholas Sims–Williams.

Editions: Sims–Williams 1996; 1998; 2008. Cf. also Fussman 1998 for a sceptical view of Sims–Williams' readings and interpretation. The edition of Mukherjee (1997) is epigraphically worthless.

Translation and notes:

[*"Year one" of Kanishka (lines 1-7)***]: ...** of the great salvation, Kanishka the Kushan, the righteous, the just, the autocrat, the god worthy of worship, who has obtained the kingship from Nana and from all the gods, who has inaugurated the year one as the gods pleased. And he issued(?) a Greek edict(?) (and) then he put it into the Aryan (language) (i.e. Bactrian). In the year one there was proclaimed to India, to the cities of the *kṣatriyas* (or *kṣatrapas***?),** the capture(?) of *[...]adra(g)o* and *ōzopo* and Sāketa and Kauśāmbī and Pāṭaliputra, as far as Śrī-Campā; whatever (cities) he and the other generals(?) reached(?), (he) submitted (them) to (his) will, and he submitted all India to (his) will.

[*Foundation of a temple (lines 7-19)***]:** Then King Kanishka ordered Shafar the lord of the marches to make in this

place the temple which is called 'God's water,' in the Kasig plains, for these gods who have come hither into the presence of the glorious Umma, that(?) (is), the above-mentioned Nana and the above-mentioned Umma, Aurmuzd, the Gracious one, Sroshard, Narasa, (and) Mihir. [*In smaller letters above the line*: 'who in the Indian (language) is called Mahāsena and is called Viśākha.'] And he gave orders to make images of the same, (namely) of these gods who are inscribed hereupon, and he gave orders to make (images of) these kings: King Kujula Kadphises (his) great grandfather and King Vima Taktu (his) grandfather and King Vima Kadphises (his) father, and himself, King Kanishka. Then, as the king of kings, the son of the gods Kanishka had given orders to do, so Shafar the lord of the marches made this sanctuary, and Pyash the lord of the marches, and Shafar the lord of the marches, and Nukunzuk the *ašto-wa*[*lgo* carried out] the king's command. May these gods who are inscribed here [keep] the [king] of kings, Kanishka the Kushan, for ever healthy, fortunate (and) victorious!

[*Chronological summary (lines 19-22)*]: And the king, the son of the gods, was pacifying(?) all India from the year one to the year six(?). [So] the temple was founded(?) in the year one; then in the third(?) year also ... according to the king's command, many rites(?) were endowed, many attendants were endowed, many ... [were endowed. And] King [Kanishka] gave the fortress to the gods, and for these freemen [who] ... in 'God's water' ....

No. 3. Palamedes inscription (SK 3)

A building inscription on a stone plaque, found at the site of Surkh Kotal, Baghlān province, Afghanistan; present location unknown (perhaps National Museum, Kabul). Undated, but probably early in the reign of Kanishka.

Editions: Curiel 1954, pp. 194-7; Benveniste 1961, pp. 150–51; Humbach 1966, p. 102.

Translation and notes:

[*Complete text (lines 1-3)*]: ... the chief [...], the chief of the armoury, the *ašto*[-*walgo*(?) ...] made this temple [...]. (Written)(?) by Palamedes.

The title *ašto-walgo*, partially restored both here and in the Rabātak inscription, is unambiguously attested in a later Bactrian document. The last line, which is written in Greek, may name the mason who carved the inscription rather than its author.

No. 4. The great Surkh Kotal inscription (SK 4), in three copies (M, A, and B)

A building inscription on a stone plaque (copy M), found at the site of Surkh Kotal, Baghlān province, Afghanistan, and now in the National Museum in Kabul. Copies A and B, on two series of building blocks found at the same site were formerly in the National Museum, but at least some of the blocks have been plundered. Undated, but not earlier than the year 31 of the era of Kanishka, i.e. 158/9 CE.

Editions: Maricq 1958 (first edition of M); Benveniste 1961, pp. 114–40 (first edition of A and B); Humbach 1966 (a fantastic interpretation of the text as a Mithraic hymn, which its author has since disowned, cf. Humbach 2003); Davary 1982, pp. 53-64 (most convenient synoptic edition, but without translation). Editions with translation: Gershevitch 1980, pp. 64–65; Lazard et al. 1984, pp. 226–30.

Translation and notes:

[*The earlier history of the temple (lines 1-6)*]: This citadel (is) the temple of Kanishka the victorious, which was named(?) by the lord king Kanishka. When the citadel was first completed, it did not require(?) (an) internal water (supply), but the citadel was waterless, and when there was an attack(?) by enemies, then the gods were displaced from (their) seat, then they were taken to the stronghold (of) Lraf and the citadel was abandoned.

Lraf has been identified with Greek Drapsaka, the name of a city not far from Surkh Kotal. (See most

recently Grenet 2005, p. 47 n. 4.)

> [*The building works of Nukunzuk (lines 6-20)*]**:** When Nukunzuk the lord of the marches, the lord's favourite, who is most dear to the king, the son of the gods, the second-in-command(?), the beneficent, the compassionate, who is pure-minded towards all living creatures, came here to the temple in the year thirty-one, (in) the month Nisan, then he surveyed(?) the citadel, he dug this well, and he brought out the water, and he fitted it with stones, so that water should not be lacking to the people in the citadel, and when there might be an attack(?) by enemies the gods might not be displaced from (their) seat and the citadel might not be abandoned. And above the well he made a winch(?) (and) he installed a beam(?), so that by means of this well (and) by means of this winch(?) the whole citadel fared(?) well.

Nukunzuk may well be the same person as the Nukunzuk of the Rabātak inscription, by this time promoted to the higher rank of "lord of the marches," perhaps even "second-in-command, deputy" (if this is the meaning of *loixobosaro***,** see Sims–Williams 2008, p. 65).

> [*Conclusion of version M (lines 20-25)*]**:** And this well and *mašto xirgo* were made by me, Burzmihr the son of Kuzgashk, the inhabitant of Astilgan, the servant of Nukunzuk the lord of the marches, according to the lord's command. And this (inscription) was written by me, Mihraman the son of Burzmihr: **[***monogram 1***].** Mihraman: [*monogram 2*].

Version B concludes with a shorter version of this statement, while version A has only "[*monogram 1*]**.** Mihraman: **[***monogram 2*]." The most recent discussion of this paragraph is that of Humbach 2003, pp.162–65.

About the Author

Nicholas Sims–Williams <ns5@soas.ac.uk> is Research Professor of Iranian and Central Asian Studies at the School of Oriental and African Studies, University of London. His research is mainly concerned with the Middle Iranian languages of Eastern Iran and Central Asia and with the texts written in those languages. His most recent books include *Bactrian documents from Northern Afghanistan* (3 volumes, 2001-12), *Bactrian Personal Names* (2010) and *Iranian manuscripts in Syriac script in the Berlin Turfan collection* (2012).

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The Bibi Khanum Mosque in Samarqand: Its Mongol and Timurid Architecture

Elena Paskaleva
Leiden University Institute for Area Studies (LIAS)
International Institute for Asian Studies (IIAS)
Leiden, the Netherlands

The great imperial ruler Timur[1] (r. 1370–1405), one of the few mortals to give their name to an architectural style, embodies the epitome of Eurasian identity. Through political and military activity Timur created a vast empire that extended from India to Anatolia in the fourteenth-fifteenth centuries. He chose Samarqand, "the city of domes" and important trading hub along the Silk Road, as his capital.

The Bibi Khanum Congregational Mosque (1398–1405) in Samarqand was conceived as the most significant architectural expression of Timur's rule. The mosque was the most ambitious building project initiated during his lifetime and can be visited today in a twentieth-century restoration (Fig. 1). It is very likely that the construction was never completed, which can explain the dilapidated state of the monument at the end of the nineteenth century (Fig. 2). Both Ibn Arabshah, who wrote the world-famous and at the same time scathing history of Timur's rule, and the Spanish ambassador to Timur's court, Ruy González de Clavijo, provide contemporary evidence in favor of this hypothesis.

According to Ibn Arabshah (1936, p. 223) the mosque was left in ruins after Timur tried to increase the height of the main entrance:

> […] nor could Timur exert himself for its destruction and rebuilding afterwards or complete anew its fabric once dissolved, and so he left it shattered and kept its mass, as it was, weak and broken ; but he ordered his courtiers and servants to assemble in it and be present at the Friday prayers, and it remained in this condition while he lived and after his death.

Further, Clavijo (1928, pp. 280–81, 284) describes the health of Timur as very fragile at the time of the restructuring of the main portal in November 1404:

> The Mosque which Timur had caused to be built in memory of the mother of his wife the Great Khanum seemed to us the noblest of all those we visited in the city of Samarqand, but no sooner had it been completed

Photo ©1999 Daniel C. Waugh

Fig. 1. Samarqand, Bibi Khanum Mosque, view from the east taken in 1999.

Fig. 2 (right). Samarqand, the ruins of the Bibi Khanum Mosque, picture taken by I. Vvedenskii in 1894-7.

Reproduced with the kind permission of Ergun Çağatay from his *Bir Zamanlar Orta Asya* (Istanbul: Tetragon, 1996), p. 128.

than he began to find fault with its entrance gateway, which he now said was much too low and must forthwith be pulled down. […] Now at this season Timur was already weak in health, he could no longer stand for long on his feet, or mount his horse, having always to be carried in a litter. It was therefore in his litter that every morning he had himself brought to the pace, and he would stay there the best part of the day urging on the work. […] Thus the building went on day and night until at last a time came when it had perforce to stop-as was also the case in the matter of making the street (for the new bazaar)-on account of the winter snows which began now constantly to fall…[By November] His Highness was in a very weak state, having already lost all power of speech, and he might be at the very point of death…

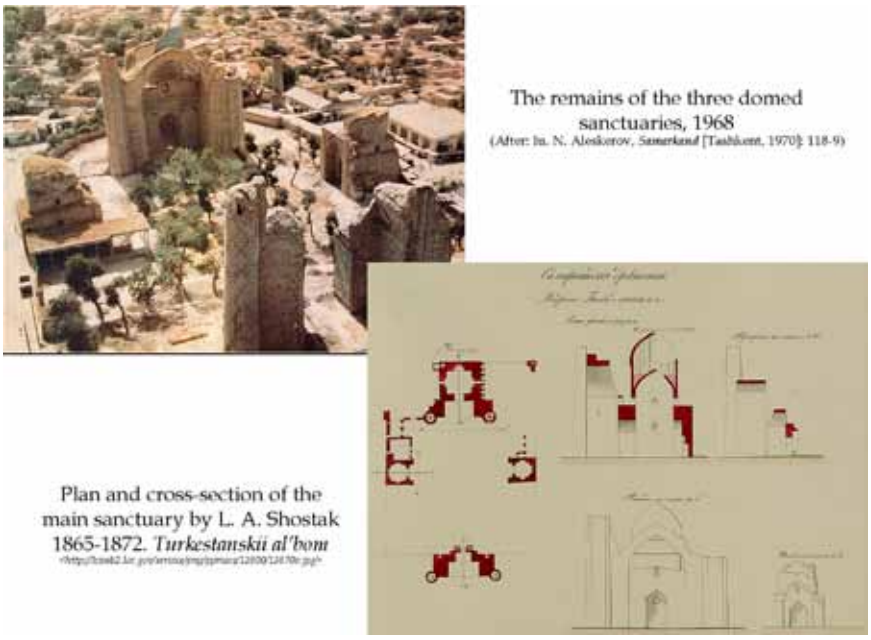
Timur did get better but he died shortly afterwards on 18 February 1405 in Utrar on his way to China. Given his poor health and the harsh winter of 1404, it is quite unlikely that the Bibi Khanum Mosque could have been completed by Timur before the China campaign. Judging by the state of the remains in the late nineteenth century, we can assume that the only structures that had been completed could have been the main portal and the three domed units (Fig.3). There is no direct evidence that any other Samarqand ruler attempted to finish the building either. The only information that we have refers to the impressive Koran reader that adorns the centre of the courtyard at present. It was commissioned by Timur's grandson Ulugh Beg and was initially placed in the main sanctuary (Ratiia 1950, p. 32, note 1). However, we do not know of any work done by Ulugh Beg on the mosque.

Timur commenced the construction of Bibi Khanum after his glorious campaign in India. The monument celebrated his conquest of Delhi in 1398. Based on the political link to India and the architectural resemblances, some scholars (Welch and Crane 1983; Golombek and Wilber 1988, p. 259) have attributed the design of the Bibi Khanum Mosque to the Tughluq Mosque in Delhi, which is also based on the four-*iwan* plan and has domed structures behind the *iwans*.[2] Ibn Arabshah (1936, p. 222) gives us his eyewitness rendering of the events:

> Timur had seen in India a mosque pleasant to the sight and sweet to the eye; its vault was beautifully built and adorned with white marble and the pavement likewise; and being greatly pleased with its beauty, he wished that one like it should be built for him at Samarkand, and for this purpose chose a place on level ground and ordered a mosque to be built for himself in that fashion and stones to be cut out of solid marble and entrusted the business to a man called Mahomed Jalad, one of his helpers and superintendents of the court.

The campaign in India was indeed a huge military and political success.[3] Timur brought back with him to work at the construction site of Bibi Khanum stonemasons from Hindustan, who might have executed the 480 white marble columns supporting the shallow brick domes of the arcade.[4] Yet, it is unlikely that Timur would have copied the overall architectural design and epigraphic program of a monument that could not directly contribute to his claims for imperial rulership across Central Asia. That is why it is also plausible to look for architectural prototypes within the former Ilkhanid empire that could have directly influenced the Timurid architectural iconography throughout his reign.[5] The Ilkhanids, who were descendents of Chinggis Khan, ruled Iran and the adjacent lands in Iraq and Anatolia from 1256 to 1353.

Timur aimed to recreate the Mongol Empire and achieve recognized primacy over the Islamic world. Although he was a member of the tribal aristocracy,



The remains of the three domed sanctuaries, 1968
(After: Ia. N. Aleskerov, *Samarkand* [Tashkent, 1970]: 118-9)

Plan and cross-section of the main sanctuary by L. A. Shostak 1865-1872. *Turkestanskii al'bom*

Fig. 3. Samarqand, remains of the three domed units.

he was neither a direct descendant of Chinggis Khan, nor a chief of his own tribe. That is why Timur could not obtain the title of khan — a symbol of sovereignty among the nomads — and could not become a caliph, the supreme spiritual leader of the Islamic realm (Manz 2002, p. 3). Through dynastic marriages to Chinggisid princesses, Timur gained the title of a son-in-law (Mongolian *güregen*) and appointed a Chinggisid puppet khan.[6] Furthermore, Timur staged himself as a supreme leader by the grandiosity of enormous building projects and presented himself as a ruler with almost supernatural powers (he was referred to as *Sahib Qiran*[7] — lord of the auspicious conjunction). Timur's striving for legitimacy has been widely discussed in the seminal works of Beatrice Forbes Manz (2002; 1989) and John Woods (1990; 1987).

In view of his endeavors to revive the Mongol Empire and to present himself as a legitimate heir to Chinggis Khan, Timur might have followed Ilkhanid architectural paradigms. The aim of this article is to show by a comparison the possible influences that Ilkhanid royal monuments might have had on Timurid architecture. In particular, the Congregational Mosque of Bibi Khanum can be analysed in connection with Ilkhanid mosques and mausolea, erected in the capitals of Tabriz and Sultaniyya. Tabriz was the royal capital of the Ilkhanid ruler Ghazan Khan (r. 1295-1304) who converted to Islam in 1295.[8] Sultaniyya was the capital of his brother and successor Oljeytu (r. 1304–16). The architectural heritage of these Ilkhanid sultans who ruled Central Asia in the late thirteenth-early fourteenth centuries bridges Byzantine and Islamic architecture.[9]

Architectural elements

The four-iwan plan

The Bibi Khanum Mosque is based on the four-*iwan* plan (Fig. 4). The four-*iwan* scheme, marking the four cardinal points by *iwans* (majestic portals) surrounding a rectangular open courtyard, has been traced back to the Parthian palaces of Assur from the first century CE (Pope 1969, p. 30) and is associated with the Sasanian period (224–651 CE) (Ardalan and Bakhtiar 1973, p. 70). Originally, the scheme was used as a palace plan representing royal and divine power. Later, with the advent of Islam and after the tenth century CE, the four-*iwan* plan was widely adopted for religious compounds such as open-courtyard mosques and madrasas (religious schools), caravanserais and domed Sufi *khanaqahs* (lodges).

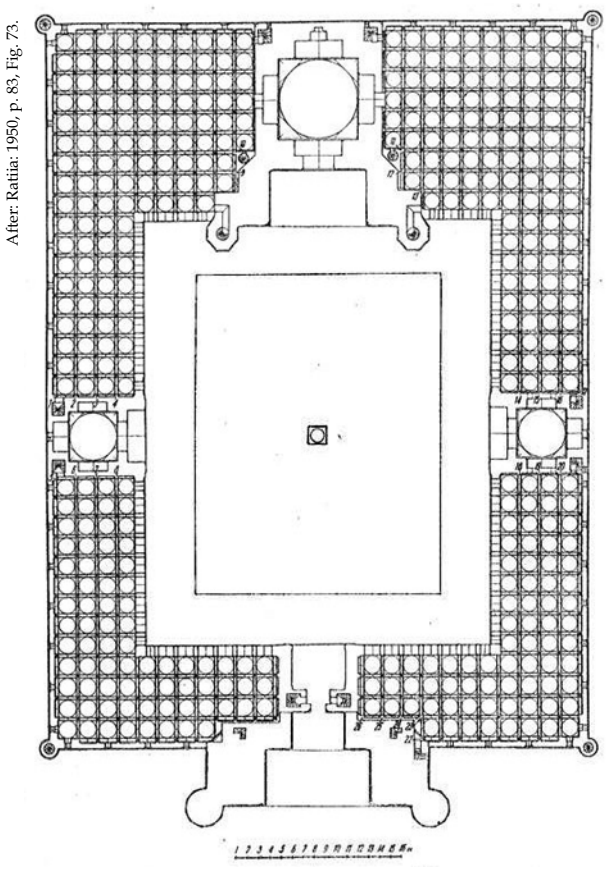
Initially, the *iwan* was associated with a gate or an arch into a sanctuary, going back to the first fire temples from the fifth century BCE; it developed in later times as a sacred passage to a holy site—a passage related to crossing the border between the sacred and the profane. Although the religious reality of the *iwan* in the four-*iwan* mosque is very different from that in the Zoroastrian fire temples, the reality of the holy gate, transpositioning the human being from its temporal realm into the divine realm, remained intact.

Following the palace and madrasa architectural examples of the Seljuks (1037–1307), the Qarakhanids (the Turkic ruling dynasty of Central Asia between 999–1211 with Samarqand as its capital) and the Ilkhanids who all built four-*iwan* royal monuments, Timur most likely chose the four-*iwan* plan to embody his ambitions of an heir to glorious empires. The four *iwans* of the courtyard marked ideally the four corners of the world that were also signified by the four corner minarets. Timur saw himself as an all-encompassing being, a *Sahib Qiran*, who conquered and ruled from Anatolia to India. With its four-*iwan* plan, the Bibi Khanum Mosque represented a miniature version (the microcosmos) of the world (the macrocosmos) dominated by Timur.

Domed sanctuaries

The Bibi Khanum Mosque is an open courtyard compound with three domed sanctuaries: the largest

Fig. 4. Samarqand, plan of the Bibi Khanum Mosque.



After: Ratiia: 1950, p. 83, Fig. 73.

one (to the west) constitutes the main mosque and the two smaller ones (to the north and to the south) are regarded as winter mosques (Fig. 5). However, the exact function of the smaller sanctuaries has never been explicitely identified (Ratiia 1950, p. 31, note 1). The main sanctuary contains the *qiblah* wall (towards Mecca)[10] with the *mihrab* (prayer niche) and is situated on the longitudinal axis. The side mosques are situated along the perpendicular axis. Each mosque is based on a square cruciform plan with a domed interior defined by four axial arched recesses. The double-shell domes rest on high cylindrical drums. The architectural design of the Bibi Khanum Mosque is unique not only for Timurid architecture, but it remains the only mosque compound in the Islamic world comprising three separate domed units.

For the first time in a Timurid building, the main mosque is situated along the longitudinal axis. The earliest surviving example of such an arrangement, within a four-*iwan* plan, is the Ilkhanid Congregational Mosque at Varamin (commissioned 1322–23, completed 1325–26), in which the domed sanctuary dominates the whole compound (Komaroff and Carboni 2002, pp. 121–23) (Fig. 6). The Varamin mosque was one of the first Islamic monuments to adopt the four-*iwan* plan from the very beginning. Some former monuments, such as for example the four-*iwan* Congregational Mosque at Isfahan, developed through time as a four-*iwan* compound but were not originally conceived as such. Furthermore,

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Fig. 6. Varamin, Congregational Mosque, 1320s, view of courtyard, looking southeast with the sanctuary iwan *to the right.*

the concept of a prayer hall with a prayer niche opposite the main entrance was utilized already in Umayyad and Abbasid mosques (Blair 1984, p. 74).

Ratiia (1950, p. 22, note 1) suggests that the northern mosque of Bibi Khanum might have been erected on the spot of the *khanaqah* of Timur's younger wife Tuman Aqa, mentioned several times in the Timurid chronicle *Zafarnama* composed by Sharaf al-Din Ali Yazdi.[11] On the contrary, Barthold (1964, pp. 432–33) believes that the *khanaqah* was part of a larger complex including the Tuman Aqa Mausoleum built close to the shrine of Qusam Abbas at Shah-i Zinda (the Timurid female necropolis in Samarqand). According to Viatkin, quoted by Barthold (1964, p. 433), the *khanaqah* corresponds to the mosque situated across from the Qusam Abbas shrine. The *khanaqah* must have been an important royal compound that offered shelter to Timur himself as discussed in the *Zafarnama*:

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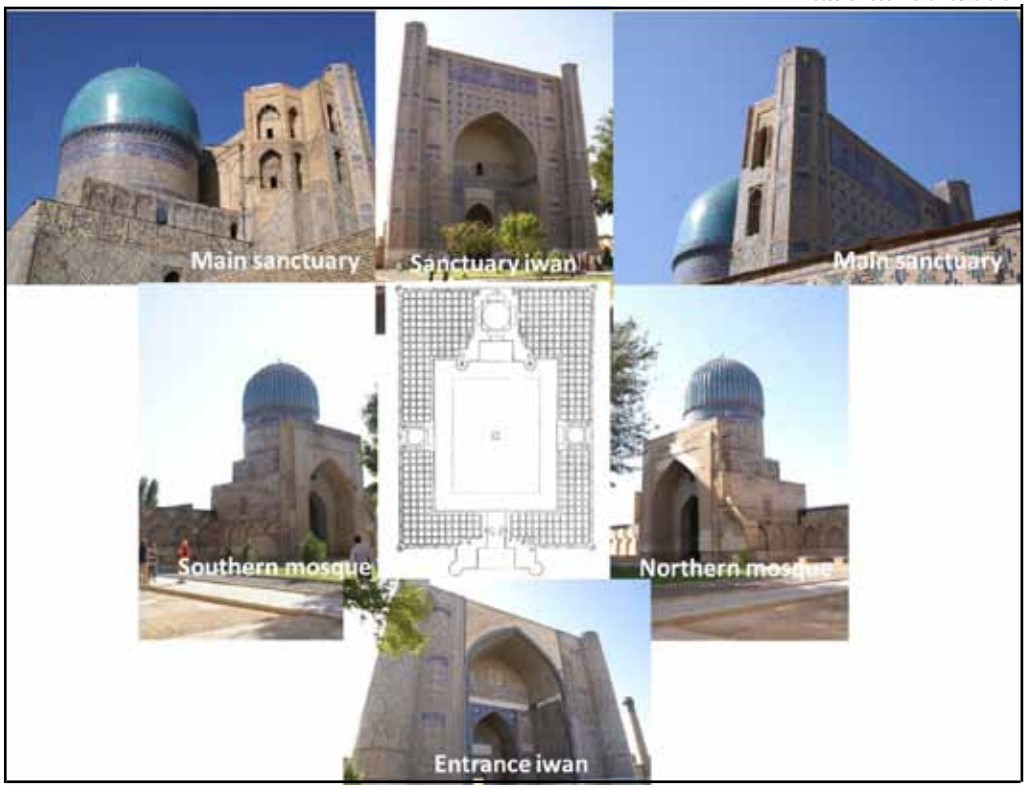

Fig. 5. Samarqand, Bibi Khanum Mosque, present view of the domed sanctuaries. Note: all photos by the author were taken in September 2006.

> […] In the midst of these happenstances. Mirza Muhammad Sultan, who had been residing, according to orders, on the border of Jatah, arrived with

Fig. 7. Samarqand, plan of the kosh of the Bibi Khanum Mosque (to the left) with the Khanum´s madrasa and mausoleum (to the right), Iron gate on top, reconstruction.

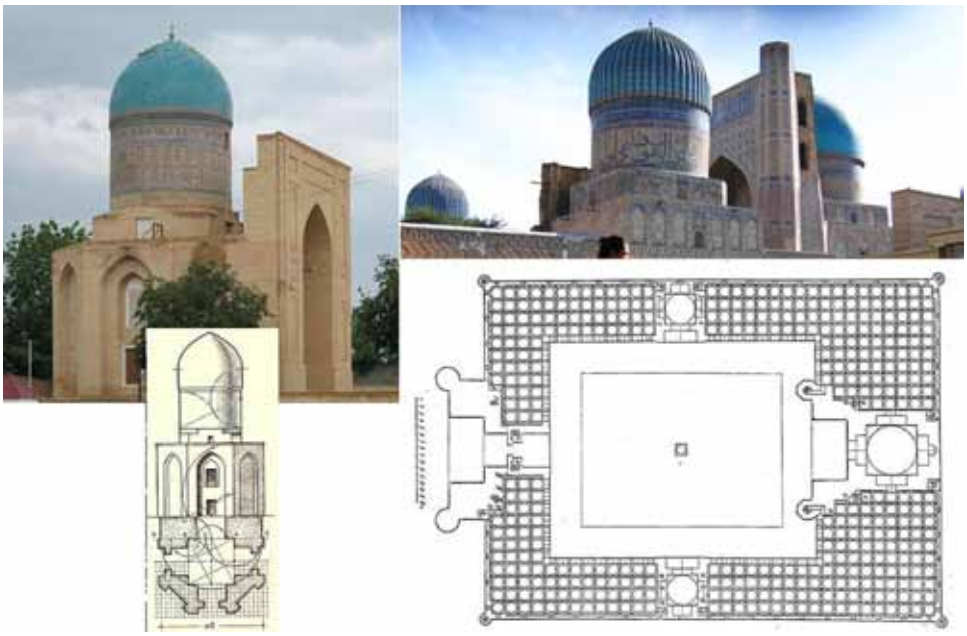

Fig. 8. Samarqand, present view of the kosh of the Bibi Khanum Mosque (to the right) with the Khanum´s mausoleum, the only remaining part of the madrasa (to the left).

(top) After: Ratiia 1950: p. 14, Fig. 6 (detail). Present view, Google Earth, accessed 10 October 2012. (bottom) Photo © 2006 Elena Paskaleva. Plan Bibi Khanum after Ratiia 1950: p. 83, Fig. 73 and plan of mausoleum after Bulatov 1978: p. 175, Fig. 85.

> a multitude of private attendants. In the khanaqah of Tuman Aqa he paid his respects (?) to (Timur). He fulfilled the custom of distributing money and magnificent presents. (Timur) embraced the prince and caressed him. During the completion of this affair, his Majesty was occupied with the utmost concern and solicitude with passing judgement. Although he, his blessed self, was present to oversee the construction work, during that time he very often frequented the madrasah of the Khanum, which is near the masjid, and the khanaqah of Tuman Aqa.

Timur resided both in the *khanaqah* and in the madrasa of Saray Malik Khanum while he was supervising the construction of the Bibi Khanum Mosque in 1404 (*Zafarnama*, in Thackston 1989, p. 90). Saray Malik Khanum was Timur's oldest and chief wife. Her madrasa was situated across the road from the mosque, with their main entrances symmetrically arranged along the new trading route that connected the Iron gate of Samarqand with the Registan Square at the beginning of the fifteenth century (Fig. 7). The madrasa was destroyed by the amir of Bukhara Abdullah Khan II at the end of the sixteenth century (Mankovskaia 1970, p. 15) and only the mausoleum remained (Zahidov 1960, p. 71). According to the reconstruction suggested by Ratiia (1950, p. 14, Figs. 6, 7) the madrasa was based on the four-*iwan* plan and was similar in scale with the mosque. Further Ratiia proposes that the mausoleum was situated along the perpendicular axis of the madrasa and incorporated into the centre of its southern wall. Zahidov disagrees with this statement and points out the obvious disparity that the perpendicular axis of the madrasa would have stretched beyond the city wall. The present Google Earth image shows that the madrasa was much smaller in scale and the remaining mausoleum was at the end of the longitudinal axis (Figs. 7, 8). It is very difficult to make statements about the plan of the madrasa based on the Google Earth image, yet it is rather unlikely that it followed the four-*iwan* scheme. It is believed that Saray Malik Khanum herself was buried in the madrasa (Zahidov 1960, pp. 60–61). The trend of a domed funerary chamber within the madrasa was continued down into the fifteenth century in Khurasan, where the majority of the notables in the court of Herat (the subsequent capital of the Timurid empire, established by Timur's son Shah Rukh (1377–1447) were buried in madrasas commissioned by themselves (O'Kane 1987, p. 21).

The Bibi Khanum Mosque formed a *kosh* with the Saray Malik Khanum Madrasa. The *kosh* is an architectural ensemble of two or three buildings oriented towards each other with their main façades (mostly symmetrically aligned along the same axis)

Photo © 1999 Daniel C. Waugh

Fig. 9. Reconstruction of Gur-i Amur, Samarqand. Model in the Amir Timur Museum in Tashkent.

forming a square between them (Paskaleva 2013). The earliest example of a *kosh* in Samarqand known to me is from the eleventh century CE. It is the four-*iwan* Qarakhanid royal madrasa from 1066 built across from the *gur-khana* (burial chamber) of the Qusam Abbas shrine at Shah-i Zinda.[12]

If we deliberate on the remark made by Ratiia that the Tuman Aqa *khanaqah* was integrated into the northern domed sanctuary of the Bibi Khanum Mosque, it will mean that the *khanaqah* formed initially a *kosh* with the Saray Malik Khanum Madrasa that was being built across the street. The particular *kosh* of a madrasa facing a *khanaqah*[13] can also be observed in the Timurid dynastic mausoleum of Gur-i Amir in Samarqand (1400–1404) (Fig. 9), and in its earlier Ilkhanid prototypes — the mausoleum of Ghazan Khan in Tabriz (1295–1305) (Fig. 10) and the mausoleum of Oljeytu in Sultaniyya (construction started after 1305) (Fig. 11). The Gur-i Amir complex consists of an octagonal tomb to the south, in which Timur was subsequently interred, a two-*iwan,* two-storey madrasa to the east and a cruciform Sufi *khanaqah* with an extended chamber to the west. The madrasa and the *khanaqah* did not survive; their possible *kosh* layout has been reconstructed by Zasypkin and Pletnev (Golombek and Wilber 1988, Fig. 79). It is probable that the Gur-i Amir mausoleum followed the architectural layout of the Ilkhanid mausolea in Tabriz and Sultaniyya. Also the Bibi Khanum Mosque with its three domed sanctuaries, arranged in a triple *kosh,* might have adopted the same orthogonal solution. This hypothesis will be analysed in the following paragraphs.

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Fig. 11. Sultaniyya, Oljeytu's Mausoleum, present view.

The funerary complex of Ghazan Khan, the Ghazaniyya (Fig. 10) in the southern district of Sham in Tabriz, consisted of a hospice, hospital, library, observatory, academy of philosophy, fountain, pavilion, and two madrasas for students of Hanafi and Shafi'i law.[14] The tower-mausoleum had a twelve-sided plan and was crowned by a dome (Godard 1964, p. 263). Donald Wilber visited Tabriz in 1937 and 1939 and has reconstructed the mausoleum based on his measurements and

Fig. 10. Tabriz, Ghazaniyya, representation of the mausoleum (in the center) and adjacent madrasa (to the left) and khanaqah (to the right). BnF Suppl Persan 1113, ff. 256v-257r.

on the contemporary (fourteenth-century) accounts of Ibn Battuta and Vassaf (Wilber 1955, Fig. 17). According to Wilber, all buildings were arranged around a large garden, The Garden of Justice. Only a few edifices formed part of the mausoleum; the others were situated across the garden. Wilber argues that Ghazan's mausoleum was flanked by a domed madrasa (to the left) and a domed *khanaqah* (to the right) (Wilber 1955, pp. 124-26; Pl. 31; Fig. 17).[15] All three domed buildings were arranged around a central courtyard. This appears to be what Ibn Battuta describes (quoted by Wilber 1955, p. 125)

> We were lodged in a place called Shām where the tomb of Ghāzān…is located. Adjacent to this tomb is a splendid religious school [madrasa] and a monastery [*khanaqah*] where travellers are fed.

Thus we can suggest that the central complex consisted of three (domed) structures: the main mausoleum on the longitudinal axis and the *khanaqah* and the madrasa on the perpendicular axis forming a *kosh*. This solution of three compounds oriented along two orthogonal axes is almost identical with the plan of the Bibi Khanum Mosque. The Timurid dynastic mausoleum Gur-i Amir follows the same architectural configuration: the actual mausoleum is along the longitudinal axis, the madrasa and *khanaqah* are situated along the perpendicular axis.

Another complex in Tabriz, worth mentioning here might be the enclosed Rab-i Rashidi, containing the mausoleum of Rashid al-Din (around 1300). Ghazan and Oljeytu's vizier Rashid al-Din (1247–1318) ordered his funerary complex to be built in the eastern suburb of Tabriz.[16] Its proportions could have equalled both the Ghazaniyya and Oljeytu's Mausoleum in Sultaniyya. The Rab-i Rashidi contained four major structures — hospice, *khanaqah*, hospital and *rawda* (the mausoleum itself with winter and summer mosques), surrounded by a wall with a monumental portal (Blair 1984, pp. 67–91). According to the reconstructions by Blair both the *khanaqah* and the *rawda* were based on the four-*iwan* plan. The tomb with a high dome to the south was situated along the longitudinal axis of the *rawda*. The crypt was meant for Rashid al-Din and his sons; the domed room was situated above it. Blair suggests that the tomb had a square plan. The domed winter mosque (*gunbad*) was to the left; the summer mosque, used also for Friday prayers, was in front of the tomb within the sanctuary *iwan* (Blair 1984, p. 75, Fig. 5). The portal was flanked by two minarets. The orthogonal layout of the four-*iwan* courtyard was underlined by a bisecting water channel with a pool in the middle. The *khanaqah* with resident shaykhs and Sufis was most likely covered by a roof; its portal was flanked by three domed units on each side (Blair 1984, p. 73, Fig. 4).

The *khanaqah* as part of the funerary complex testifies the elevated status of Sufism at the beginning of the fourteenth century. Blair notes (1984, p. 79) that "in Iran, Sufism had become an institutionalized practice linked to government". Similarly, Sufism was institutionalized during Timur's reign (Askarov 2010, pp. 26–29). As a result royal *khanaqahs* were commissioned in close proximity to royal (funerary) madrasas. In Herat of the fifteenth century many patrons built joint complexes of madrasas and *khanaqahs,* whereby the teachers were "moving freely from one to the other" (O'Kane 1987, p. 23). According to O'Kane this architectural phenomenon "is strong evidence of the way in which Sufism had penetrated the fabric of Tmurid society in Herat." These trends might explain Ratiia's hypothesis of the Tuman Aqa *khanaqah* built opposite the Saray Malik Khanum Madrasa. Likewise the *khanaqah*-madrasa *kosh* ensembles were repeated at Gur-i Amir and at Registan Square by Ulugh Beg, Timur's grandson.

During his three year campaign, from 1386 to 1388, Timur raided through central and western Iran, the Caucasus and eastern Anatolia. In 1385 Timur visited Tabriz during his Iran campaign (Rashidzada 2008, p. 472). He went in particular to the district of Sham, where the Ghazaniyya was situated, and recited a *sura* (Quranic verse) at the mausoleum; then he visited the madrasa and the *khanaqah*.

Also in 1385 Timur occupied Sultaniyya (Fig. 12), which Oljeytu (r. 1304–1316) had proclaimed

Source: http://liontails.tumblr.com/, accessed 20 June 2012

Fig. 12. Matraqi's depiction of Sultaniyya, Istanbul University Library Yildiz T 5964, 1537-1538, fol. 31v-32r (cropped). Congregational Mosque (to the left), mausoleum (to the right).

Engravings by François Préault from M. Louis Dubeaux, La Perse (Paris, 1841).

Fig. 13. Sultaniyya, entrance portal of the Congregational Mosque. (right) Fig. 14. Sultaniyya, Oljeytu's Mausoleum showing a courtyard with three gates along the orthogonal axes connected by an arcade.

capital early in his reign. There are two important similarities between the Bibi Khanum Mosque and the architecture of Sultaniyya. The first one is that Oljeytu's Congregational Mosque was built as a *kosh* across from the madrasa of his favourite wife (Blair 1986, pp. 145–46). It is very likely that Timur might have been impressed by the remains of Oljeytu's Congregational Mosque,[17] which, according to the descriptions by the seventeenth-century travellers Olearius and Struys, did have a four-*iwan* plan and a domed sanctuary along the main longitudinal axis.

According to Rogers (1976, p. 21) Timur admired Oljeytu's mosque and Timur's architect might have been inspired by it. Further Rogers suggests that the Sultaniyya mosque might have been used as a prototype for Bibi Khanum. To prove his argument Rogers analyses the similarity between the entrance *iwan* of Oljeytu's mosque flanked with polygonal minarets as drawn by François Préault in 1808 (Fig. 13) and the impressive sanctuary *iwan* of Timur's mosque with its massive octagonal pylons. In Bibi Khanum, the entrance portal is also defined by enormous pylons that serve as the basis for the minarets with decagonal socles and cylindrical shafts.

To recapitulate, both Timur and Oljeytu's royal *kosh* ensembles consisted of a mosque based on the four-*iwan* plan and a madrasa; the main mosque sanctuary with a high *qiblah* dome was located along the longitudinal axis; both mosques had monumental projecting entrance arched portals flanked with double buttress-like minarets. The compounds were paved and covered with multiple small domes above the galleries.

The second similarity might be the fact that the complex around Oljeytu's mausoleum (1304-13) was also organised according to the four-*iwan* plan, whereby the *iwans* were connected by arcades around the courtyard; the tomb was situated in the south *iwan* (Blair 1986, p. 144) (Fig. 14). Blair stresses the fact that Oljeytu's tomb complex followed the four-*iwan* plan of the Tabriz tombs of Ghazan and Rashid al-Din. The mausoleum itself is an octagonal domed compound. According to Kashani, Amuli and Natanzi, the components of Oljeytu's mausoleum complex included both a madrasa and a *khanaqah* (Blair 1986, p. 144, Table 1).

In Timur's Congregational Mosque, the corners of the rectangular compound are defined by four minarets. Sharaf al-Din Ali Yazdi describes them in his chronicle: "In each of the four corners is a minaret, whose head is directed toward the heavens, proclaiming: 'Our monuments will tell about us!' which reaches to the four corners of the world" (Golombek and Wilber 1988, p. 259). Furthermore, the two most sacred gates — the entrance *iwan* and the sanctuary *iwan* are flanked by imposing buttress-like minarets; so altogether, there are eight minarets. The eight minarets of the Bibi Khanum Mosque might correspond to the eight minarets if Oljeytu's mausoleum (Fig. 15). Sheila Blair (1987, p. 72) discusses the latter as a representation of

Fig. 15. Detail of the dome of Oljeytu's Mausoleum, with the flanking minarets and triple-windows.

Oljeytu's striving for broader power and authority as a protector of the Holy Cities and a leader of the Islamic world, whereby multiple minarets were interpreted as a reference to the holiest sanctuaries of Islam.

The foregoing analysis shows that Timur had first-hand experience with the Ilkhanid monuments in Tabriz and Sultaniyya. Following their architecture and reusing their iconography in his imperial capital of Samarqand would have reinforced his claim as heir to the Mongol Empire.

Triple arches and domes

Architectural representations in surviving Ilkhanid and Timurid manuscripts and their epigraphy have been discussed in several publications. In their survey *Architecture in Islamic Painting*, Michelle de Angelis and Thomas Lentz point out the usage of calligraphy as an architectural form representing the word of God. The authors stress the fact that architectural inscriptions denote the function of the depicted building or indicate the patron (De Angelis and Lentz 1982, p. 15). Further, their analysis focuses on the abstract, aesthetic character of the inscriptions which is determined as primary. Galina Pugachenkova, on the other hand, examines miniature painting as a source on architectural history. (Pugachenkova 1960, pp. 111–61). Discussing depictions of the Bibi Khanum Mosque in several manuscripts, she draws conclusions about the construction methods and the architecture of the minarets. In a sense, Pugachenkova treats these visual representations as a reliable source for reconstructing the monument. It is impossible to define with certainty whether the architectural images in the various manuscripts illustrate existing monuments. Yet, I would like to stress some architectural similarities between the miniatures and the real buildings that can simply enrich the current analysis.

As pointed out in the previous paragraphs, the triple domes seem to be a recurrent motif both in Ilkhanid and Timurid architecture. Here, I shall compare the design of the Bibi Khanum Mosque (Fig. 16) with the most architectural representation in the Timurid *Mi'rajnama* (Prophet's Book of Ascension) — fol. 45v depicting the domes of paradise (Fig. 17). The Timurid *Mi'rajnama*

Photo © 2006 Elena Paskaleva

Fig. 16. Samarqand, Bibi Khanum Mosque, present view from the east.

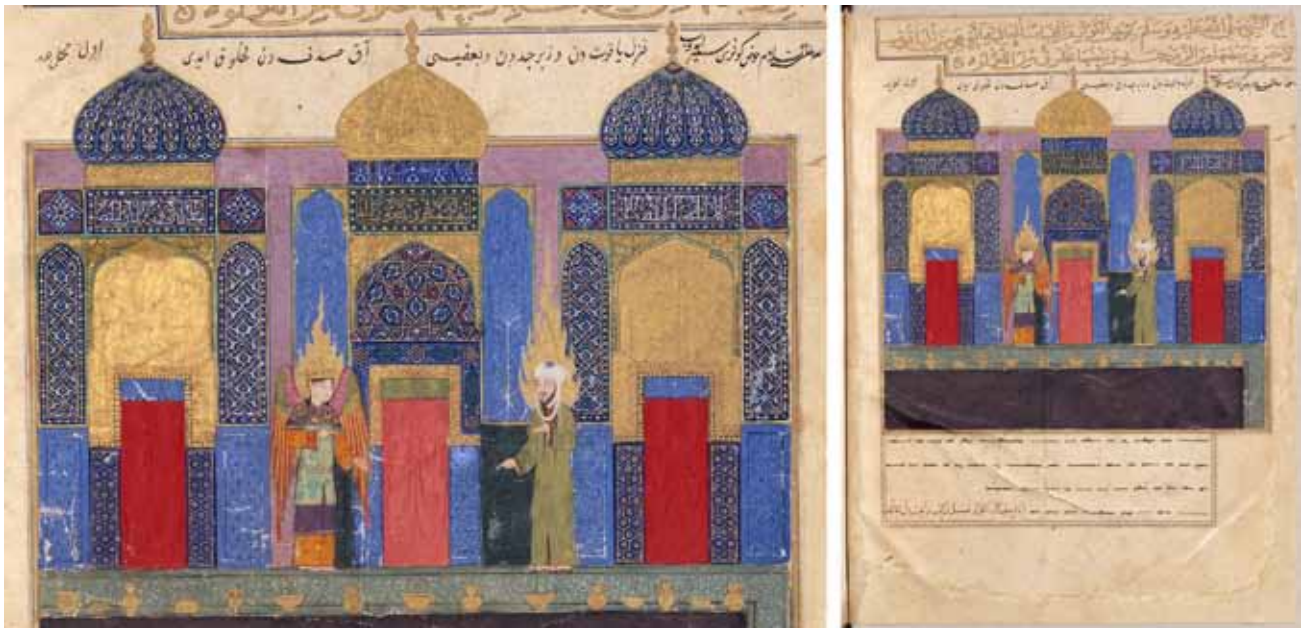

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Fig. 17 (below). The Prophet Muhammad arrives at the gates of paradise, Mi'rajnama, Herat, 1436–37. BnF, Suppl. Turc 190, fol. 45v.

manuscript is attributed to the *kitab-khana* (royal literary and art workshop) of Herat around 1436–37 CE.[18] Calligraphers from all parts of the Timurid empire were summoned at the *kitab-khana* in Herat. The majority though came from Tabriz and would have been familiar with its Ilkhanid architectural heritage (Rakhimova 2010).

If we compare the representation of paradise on fol. 45v entitled "Prophet Muhammad arrives at the gates of paradise,"[19] and a flat projection of the three domed sanctuaries of the Bibi Khanum Mosque (Fig. 5), we see that both representations consist of three domed pavilions. Each of the three structures on fol. 45v comprises in turn three horizontal parts: 1) a rectangular gate covered with red cloth, most likely silk; 2) three arched niches topped with a band of inscriptions and 3) a ribbed cupola resting on a drum. The space in the middle is occupied by the main sanctuary (presumably housing the *qiblah*) with a detailed *muqarnas* vault. The central side niches are blind, framed with elongated decorative niches. The two side sanctuaries have blue ribbed domes; the one in the middle has a golden dome. This iconographic representation of paradise is almost identical with the three domed mosques of Bibi Khanum. The two side mosques have a cruciform plan with four arched recesses in the interior. Their double-shell ribbed domes rest on high cylindrical drums that project above the *iwan* screens and can be seen from the courtyard (Fig. 5). Only the main sanctuary containing the *mihrab* has a smooth cupola with ultramarine tiles resting on a high cylindrical drum. The present *iwan* screen of the sanctuary portal is very high and almost obstructs the view of the dome. Given the proportions of the sanctuary, it was undoubtedly meant to surpass the height of the side mosques. However, during the restorations in the 1980–90s a band of inscriptions was added onto the screen and one additional octagonal segment was placed on top of the two framing *guldasta*.[20] These two additions elongated the overall proportions of the *iwan*. In the 1980s-90s similar inscription bands were added onto the main entrance portals to Shah-i Zinda and to the Gok Gunbad Mosque in Shahr-i Sabz, both built by Ulugh Beg in the fifteenth century. These epigraphic bands are absent from the earliest photographs taken at the end of the nineteenth century. That is why it is very difficult to assess the original height of the sanctuary *iwan* at Bibi Khanum and to make objective statements about the visibility of the dome from the courtyard. Yet I personally support the hypothesis that the sanctuary dome was more visible and glistened above the *iwan* screen.

Based on the eye-witness accounts of Clavijo and Babur, we can assume that the destroyed palace of Aq Saray (1384–1405) in Timur's summer capital Shahr-i Sabz (Kish) was also based on the four-*iwan* plan. There was probably an *iwan* in the centre of each courtyard façade. The rectangular courtyard itself was formed by a double-storey arcade.The main audience hall on the longitudinal axis had three compositional elements with arched recesses; the central one was covered by a dome. The audience hall was flanked with polygonal *guldasta*. Here is how Babur described it in 1497–98 (*Baburnama* 2002, pp. 60–61):

> Temür Beg, who was born and raised in Kish, endeavoured to make it his capital and had superb buildings constructed there. For his own use as court he built a large *peshtaq*[21] with two smaller peshtaqs on either side for the divan begs and *tovachi*[22] begs to hold court in. On every wall of this *divankhana*[23] he made many little arches for plaintiffs at court to sit in. Few such superb arches can be pointed out in the world. They say that it is more splendid than Chosroës' Arch.[24]

Pugachenkova (Masson and Pugachenkova 1980, p. 133) quotes Pope who summarises that the principal audience hall along the longitudinal axis of Aq Saray formed "a triple-arched façade." The main entrance to the Bibi Khanum Mosque, which was destroyed by the earthquake in 1897 (Ratiia 1950, p. 46, Fig. 40), also consisted of three arched doorways topped by a *muqarnas* vault. The same pattern of three arches, only the central being open, the side ones blind, is repeated in the main *iwan* of the sanctuary (Fig. 18).

Fig. 18. Samarqand, main sanctuary as seen from the courtyard, portal with adjoining two blind niches (between 1865 and 1872). General view: Photograph by N. V. Bogaevskii, from Turkestanskii al'bom*, 1871–1872, part 1, vol. 1, pl. 75.*

Source: Library of Congress Prints and Photographs Division, Washington DC .<http://lcweb2.loc.gov/service/pnp/ppmsca/13800/13881v.jpg>, accessed10 October 2012.

Source: Archnet, <http://archnet.org/library/images/one-image-large.jsp?location_id=13244&image_id=188338>, accessed 17 June 2012. Photographs (1984) by Sheila Blair and Jonathan Bloom.

Fig. 19: Tabriz, Ali Shah Mosque, exterior from southwest and interior view from north of the qiblah wall showing the mihrab at the centre of the three relieving arches and the two openings at the sides.

It is possible that these triple arches were an element introduced to Ilkhanid architecture by Oljeytu's mausoleum (Fig. 11) and later reused in the Ali Shah Mosque in Tabriz (Fig. 19). According to Pope (1969, p. 70) Ali Shah is said to have been the architect of Sham (the complex of Rashid al-Din) and of Oljeytu's mausoleum. The triple arches play an important role in the composition of Oljeytu's mausoleum: the octagonal plan is carried up to the dome's base and each segment of the eight-sided gallery supporting the dome is divided into three open arches. The eight minarets spring from the corners of the outer-facing eight-sided gallery (Fig. 15). A similar pattern of three arched (blind) niches is also repeated along the two bands forming the exterior walls.

Folio 45v of the Timurid *Mi'rajnama* might have been executed by calligraphers familiar with the monuments of Tabriz, Sultaniyya and Samarqand, all of which would have existed in 1436–37, the presumed year in which the manuscript was created. The text of the manuscript is written in Chaghatay Turkish, rendered in the Uighur script. As Christiane Gruber (2008, p. 267) has suggested, the use of this script can be interpreted as a link between the Timurid dynasty and Mongol rule. The Uighur script had been used from the time of Chinggis Khan and throughout the Ilkhanid period. It was a perfect medium representing the Timurid striving for legitimacy and cultural lineage with the Mongol Empire.

Inscriptions

The Koranic inscriptions above the pointed arches on fol. 45v of the Timurid *Mi'rajnama* form the extended Shi'a version of the *shahada,* the Islamic declaration of faith:

لا اله الا الله

There is no god but Allah the One
(inscription above the arch to the right)

محمد رسول الله

Muhammad is the messenger of Allah
(inscription above the central arch)

عليّ وليُّ الله

Ali is the wali of Allah
(inscription above the arch to the left)

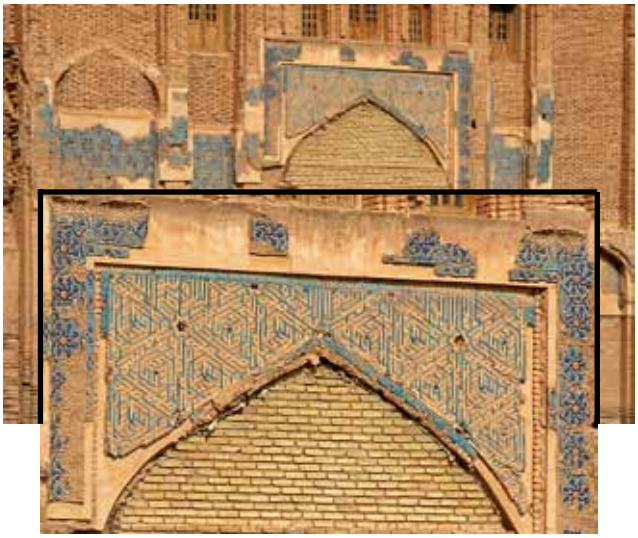

Photo © 2010 Daniel C. Waugh

Fig. 20. Sultaniyya, Oljeytu's Mausoleum, east portal spandrels in the form of rectangular Kufic.

Fig. 21. Varamin, Congregational Mosque, detail of inscription at top of mihrab.

Photo © 2010 Daniel C. Waugh

This fact is rather surprising since the Timurid *Mi'rajnama* manuscript was presumably commissioned in Herat during the reign of Shah Rukh who was an overt Sunni. One explanation might be provided by the fact the expanded version of the Shi'a *shahada* was used by Oljeytu in his mausoleum in Sultaniyya (on the east portal spandrels in the form of rectangular Kufic) (Blair 1987, p. 45; p. 84, Fig. 7) (Fig. 20); a shortened form appears also on the *mihrab* of the Congregational Mosque at Varamin (around 1325) (Fig. 21)[25] and on the *mihrab* that Oljeytu commissioned

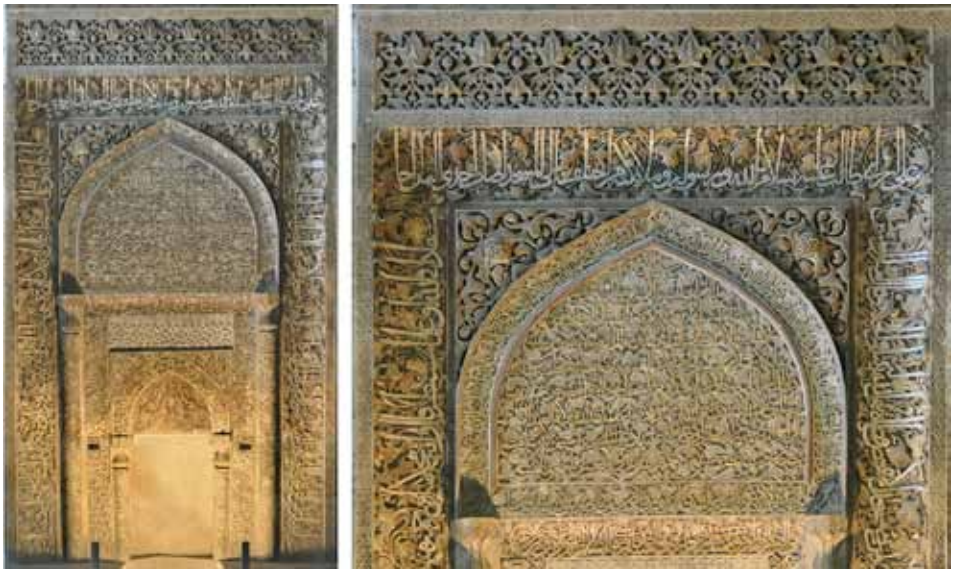

Photo © 2010 Daniel C. Waugh

Fig. 22. The mihrab commissioned by Oljeytu for the Congretational Mosque in Isfahan, 1310. The band with inscriptions reads "Ali, son of Abu Talib" in the upper right-hand side corner — the place where the eyes of the viewer will fall first.

for the Isfahan Congregational Mosque (1310) (Fig. 22). Timur saw himself as a reviver of the Mongol Empire; accordingly, he might have copied some of the epigraphic programs of his predecessors.

The usage of the Shi'a *shahada* can be also related to genealogical references connecting Timur to Ali, which can be attested only in Gur-i Amir, the Timurid dynastic mausoleum in Samarqand. These inscriptions must have been created after 1425 (when Ulugh Beg brought the jade piece to the tomb), i. e. about twenty years after Timur's death (Woods 1990, p. 85), and about 10 years before the execution of the Timurid *Mi'rajnama* manuscript. One inscription is on the plinth over the tomb in the crypt (Fig. 23), and the

Photo © 1979 Daniel C. Waugh

Fig. 23. Samarqand, plinth over Timur's tomb in the crypt of the Gur-i Amir Mausoleum.

other on the jade cenotaph in the main mausoleum (Semenov 1948–49). A partial translation of the latter reads (Grabar 2006, pp. 78–81):

> […] And no father was known to this glorious [man], but his mother [was] Alanquva. It is said that her character was righteous and chaste, and that she was not an adulteress. She conceived him through a light which came into her from the upper part of a door and it assumed for her the likeness of a perfect man.[26] And it [the light] said that it was one of the sons of the Commander of the Faithful, 'Ali son of Abu Talib.[…]

According to Grabar (2006, p. 78), these inscriptions can be interpreted as the key to Timurid ideology and legitimization on three different levels. Firstly, Chinggis Khan and Timur both have the same predecessor — the Mongol amir Tumananay. Timur descended from his son Kachulay and Chinggis Khan from his other son Kaudy. This lineage directly relates Timur to Chinggis Khan and thus presents him as a legitimate heir to the Mongol empire. Secondly, Timur's family tree can be traced back to Ali, the cousin and son-in-law of the Prophet Muhammad, son of Abu Talib, who also raised Muhammad. Through this genealogy, Timur legitimizes his rule over the whole Islamic world. Thirdly, Ali is a central figure in the mystical tradition of Sufism, which flourished under Timur and his descendants. Although Grabar (2006, p. 79) states that "it seems clear that he [Timur] was under strong Shi'ite influences," I think that the references to Ali should not be interpreted as a Timurid affiliation to Shi'ism, but rather be seen as part of Timur's attempt to profess himself as a leader of the religious community and as the ultimate religious authority across the Muslim world.

Timur's shortened geneology asserting the shared ancestry with Chinggis Khan formed part of the foundation inscription of the Bibi Khanum Mosque (Sela 2011, p. 15). It was engraved on the marble arch of the entrance *iwan* that collapsed during the devastating earthquake of 1897. These inscriptions were, however, recorded, translated and published by Lapin two years earlier in 1895 (Lapin 1895, p. 9). At present, the entrance *iwan* has been restored with three parallel pointed arches following the images on the earliest photographs. However, the foundation inscription has not been restored.

On the actual Bibi Khanum building, the *shahada* (not its extended version), "*There is no God but Allah the*

One and Muhammad is the messenger of Allah," is depicted in Kufic script on the inner side of the vaulted arch of the main entrance (and on the rotated square dado).[27] The same inscription of the *shahada* can be found on the madrasa in the Ghazan Khan ensemble in Tabriz (Wilber 1955, p. 125) (Fig. 10). According to Wilber (1955, p. 125), the madrasa is represented to the left of Ghazan's Mausoleum on Suppl Persan 1113 ff.256v-257r; the inscription reads: [28]

لا اله الا الله محمد رسول الله

There is no god but Allah the One,
Muhammad is the messenger of Allah

The beginning of the *shahada* can be also discerned above the entrance to Ghazan's tomb (Fig. 10). The inscription reads:

لا اله الا الله ... | .... حق |

There is no god but Allah the One

Square Kufic inscriptions reading "Ali" executed by glazed brick in the *banna-i* technique can be found on several Timurid buildings. At the Aq Saray palace at Shahr-i Sabz, "Ali" can be seen on the vault of the entrance *iwan* and at the top of the cylindrical shaft of the northern *guldasta* (corner tower). The Kufic on the entrance vault reads "Allah, Muhammad" in light blue glazed brick and "Ali" in a stylized frame of dark blue glazed brick (Fig. 24). The Kufic on the shaft is in the form of a trefoil, reading

Ali

Muhammad

Photos above and below
© 2006 Elena Paskaleva

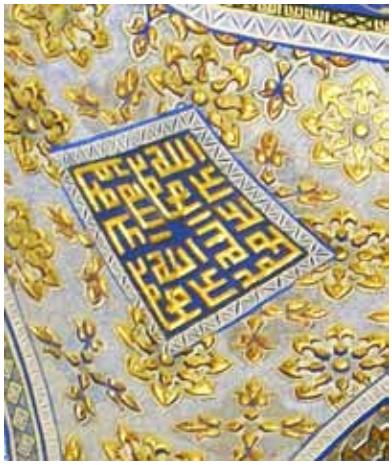

Fig. 25. Shahr-i Sabz, square Kufic inscription at the top of the northern guldasta *of the Aq Saray palace.*

"Ali" in dark blue brick and "Muhammad" in light blue (Fig. 25). The present state of that inscription is very poor, and there is no direct evidence of an adjacent Allah inscription. However, the inscription might have had the complete triad.

Usage of square Kufic inscriptions reading "Allah, Muhammad, Ali" can be also found at Guri-i Amir within the transitional zone of the cylindrical drum in the form of a superimposed square (Fig. 26). Also the exterior of the tomb to the south-east is covered by the triad "Allah, Muhammad, Ali" (Fig. 27, next page). The base of the dome of Oljeytu's mausoleum is embellished by a circular band comprising trefoils in rectangular Kufic reading "Allah, Muhammad, Ali" (Blair 1987, p. 44; p. 82, Fig. 2)

Fig. 26. Samarqand, Gur-i Amir, Timurid dynastic mausoleum, inscription containing Ali, situated between two squinches in the main mausoleum.

(Fig. 28). This similarity is striking and points to the epigraphic and artistic influences that Ilkhanid monuments might have had on Timurid architecture.

Furthermore, there are at least three other square Kufic inscriptions reading "Ali" on the Bibi Khanum Mosque — on the back side of the right and left pylons to the main sanctuary (Fig. 29),[29] and to the right of the entrance to the sanctuary as a dado reading "Muhammad, Ali" (Fig. 30). These inscriptions have not been restored, as can be seen on the earliest

Fig. 24. Shahr-i Sabz, square Kufic inscription on the vault of the entrance iwan *to the Aq Saray palace.*

Photo *iwan* © 1979 Daniel C. Waugh. Photo inscriptions © 2006 Elena Paskaleva.

Allah

Muhammad

Ali

Photos (left and below) © 2006 Elena Paskaleva.
Photo (above) © 2010 Daniel C. Waugh.

(left) Fig. 27. Samarqand, Gur-i Amir, Timurid dynastic mausoleum, exterior inscriptions of the main mausoleum.

(above) Fig. 28. Detail of dome of Oljeytu's mausoleum, Sultaniyya, showing inscription around its base.

photographs of the mosque made by Bogaevskii from the 1870s and by Sarre from around 1900.[30] However, the exact position of the inscriptions, their proper organisation in a catalogue, is a subject on which I am still working.

Another similarity between the epigraphic programme of Oljeytu and Timur is the inscription on the sanctuary dome of Bibi Khanum (Quran 2:122) reading: "And Abraham and Ishmael raised the foundations of the house"(*Baburnama* 2002, p. 57). Blair (1987, p. 53, Fig. 26) detects partially the same inscription in interlaced Kufic around the interior dome at the level of the windows at Sultaniyya: "*[And when Abra]ham, and Ishmael with him,/ raised up the foundations of the House;/ 'Our Lord, receive this from us; Thou art/ [the All-hearing, the All-knowing'…].*

Furthermore, the square Kufic inscription around the drum of the main sanctuary dome at Bibi Khanum reads (Fig. 31):

البقاء

Everlastingness

It is also repeated in square Kufic at the dome of Gur-i Amir. The same inscription in a trefoil, repeated five times, covers the base of Oljeytu's exterior dome at Sultaniyya (Blair 1987, p. 44; Fig. 2, p. 82).

(left) Fig. 29.Samarqand, Bibi Khanum, square Kufic reading Ali at the backside of the pylon supporting the main sanctuary.

(below) Fig. 30. Samarqand, Bibi Khanum, square Kufic reading Muhammad and Ali as a dado to the right of the main entrance to the sanctuary.

As shown above, the Bibi Khanum Mosque is the only Timurid edifice with three mosques and three domes. Its lavishness, rich decoration and expensive materials were associated with the plenitude of paradise, and the structure might have been designed to represent paradise itself. The usage of framing minarets, gigantic *iwans* and multiple domes in Samarqand followed architectural and political representations already used by the Ilkhanids in Tabriz and Sultaniyya. In order to augment the importance of his capital and to profess its opulence, Timur surrounded it by villages bearing the names of the largest Islamic

Photos © 2006 Elena Paskaleva

Fig. 31. Samarqand, square Kufic reading "Everlastingness" along the drum of the sanctuary domes of (top) Gur-i Amir and (bottom) Bibi Khanum.

capitals: Sultaniyya, Shiraz, Baghdad, Damascus and Cairo (Barthold 1958, p. 41). Timur used architecture and urban solutions as a tool to legitimize his rule on a grand scale and assert himself as an heir to the major Islamic empires. The Islamic ideology coded in his buildings in the form of genealogical inscriptions relating him to Ali asserted Timur as a religious leader as well.

About the Author

Elena Paskaleva, Ph.D. (September 2010, Leiden University) is an affiliated post-doctoral research fellow at the International Institute for Asian Studies (IIAS) in Leiden, the Netherlands. She studied Architecture at the Bauhaus University Weimar and Art History at the Friedrich-Schiller University Jena, Germany. In 2004 she obtained her M.A. degree (*cum laude*) in Comparative World Architecture from Leiden University. In September 2006 Elena Paskaleva was a guest lecturer at the University of Architecture in Tashkent. Her major research interests include Timurid architecture, its restorations and epigraphy. Her monograph, *The Architecture of the Kosh* (Utrecht: Clavis Publicaties) will appear in 2013. E-mail: <elpask@gmail.com>.

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Notes

1. All diacritics have been omitted in order to simplify the reading.

2. Although scholars refer only to the mosque (known also as the Begumpuri Mosque), the compound consisted of a madrasa, mosque in the north section, and the mausoleum of Firuz Shah Tughluq (1351–88). The mosque was built during the reign of Muhammad Shah Tughluq (1325–51) or his successor, Firuz Shah (r. 1351–88).

3. Timur set out on his India campaign in March 1398 and after raiding as far as Delhi returned to Samarqand in April 1399.

4. As represented on fol. 359v–360r from the *Zafaranama* by Yazdi, Herat 1467–68. See Lenz and Lowry 1989, p. 289. Also see Golombek and Wilber 1988, p. 256. They discuss the textual sources which mention 400–480 marble columns, hauled from quarries by 95 elephants which Timur brought back from India.

5. Contemporary Mamluk architecture also borrowed features and craftsmen from the former Ilkhanid capital of Sultaniyya, although the two empires were antagonistic (see Blair 1986, p. 147).

6. Both Saray Malik Khanum and Tuman Aqa were Chinggisid princesses. Saray Malik Khanum was the daughter of the Chaghadayid Khan Qazan who controlled huge areas of Khurasan and Kerman in the 13th and 14th centuries. At first, Saray Malik Khanum was married to Amir Husayn, the supreme *amir* of the Chaghatays with a residence in Kabul and later in Balkh. In 1370 Timur dethroned Husayn and was declared the supreme governor of the Chaghatay Ulus. Husayn was killed and Saray Malik Khanum became Timur´s primary wife, who enjoyed exclusive rights and respect in the Timurid family. Saray Malik Khanum was most certainly older than Timur. Tuman Aqa was the daughter of Qazan Khan's son, Amir Musa, the brother of Saray Malik Khanum. Regarding the appointment of the puppet khan, the *Mulfuzāt Timūry* (1830, p. 134) has Timur saying: "The Prince Syurughtmush Aghlān, is of the posterity of Jengyz, place him on the throne of sovereignty, and let the Amyr Timūr be his deputy and Commander in Chief, and we will be obedient to him."

7. For a comprehensive analysis of the term, see Chann 2009.

8. For a comprehensive analysis of Ghazan's conversion to Islam, see Melville 1990.

9. Both Ghazan Khan and Oljeytu were born Christian. However, the Byzantine influences are not discussed in this article. For further references on the interactions between Byzantine and Islamic architecture in the Ilkhanid period, see Askarov 2009, pp. 30–40.

10. The *qiblah* of the Bibi Khanum Mosque is not ideally oriented towards Mecca. One argument in support of this statement can be traced down to Babur (*Baburnama* 2002, p. 58) who discusses the orientation of the *qiblah* of the Ulugh Beg Madrasa in Samarqand and mentions that it differs "greatly" from the orientation of the Muqatta' Mosque, the *qiblah* of which was determined astronomically. The *qiblah* orientation of the Ulugh Beg Madrasa is almost parallel to the orientation of the Bibi Khanum Mosque (the difference between the two is about 2°). The actual difference between the *qiblah* of the Bibi Khanum Mosque and Mecca is about 20°.

11. Although Yazdi's *Zafarnama* is the best known historiographical source on Timur, it was not written during Timur's lifetime and was based on Nizamuddin Ali Shami's *Zafarnama*, completed in 1404, the only surviving chronicle written during Timur's reign. For more details on Timur's historiography, see Woods 1987.

12. The madrasa was excavated and analysed by Nemtseva and Shvab 1979. During the Timurid period Shah-i Zinda became an important royal necropolis. Parts of the Qarakhanid madrasa were reused in the mausoleum of Amir Burunduk and in the mausoleum of the Unknown II.

13. The earliest examples of this concept are analysed by Wolper 2003, who discusses prototypes of *khanaqahs* built across madrasas from the late thirteenth century in Anatolia but does not use the term "*kosh*".

14. On the Ghazaniyya, see Blair and Bloom 1995, p. 6. Donald Wilber (1955, p. 124) notes that the correct name should be Shenb, for in Persian written *nb* is pronounced as *m*. Shenb, meaning cupola or dome, thus refering to Ghazan's mausoleum. The Hanafi and Shafi'i schools (*madh'hab*) of Sunni Islam were widespread in the Ilkhanid empire.

15. Wilber's reconstruction is based in part on a miniature in a manuscript of Rashid al-Din's Jami at-Tawarikh (BN Suppl. Persan No. 1113, fols. 256v–257r) which he reproduces as his Pl. 31 without identifying the MS number. See his discussion, pp. 124–25, where he cites Jean Sauvaget's decipherment of the inscriptions. The manuscript in BnF was transcribed at Herat ca. 1425 (Blair 2010), not prior to 1318 as Wilber suggests.

16. Wilber 1955, pp. 129–31; Blair and Bloom 1995, p. 6. For the reconstruction of the mausoleum of Rashid al-Din, based on its endowment deeds, see Blair 1984.

17. The mosque is depicted by Matraqi (1537–38), Istanbul University Library, Yildiz T 5964, ff. 31v–32r.

18. For a seminal analysis of the manuscript, its political significance and artistic merits, see Gruber 2008. The large-format manuscript (34.3 by 25.4 cm) was copied in Arabic and Uighur (eastern Turkish) by Hari-Malik Bakshi. Although it does not have a colophon, it probably dates from the same time as the other manuscript with which it is bound, copied by the same scribe on similar paper and dated December 1436 to January 1437 (Blair and Bloom 1994, p. 62; Gruber 2008, p. 266).

19. For the text of the manuscript corresponding to the images, see Gruber 2008, p. 364.

20. According to the photograph published by Ratiia (1950, p. 35, Fig. 24), the flanking *guldasta* of the main sanctuary consisted of five octagonal segments. At present, there are six of them.

21. *Peshtaq*: an arched gatehouse leading to the forecourt of a building. Note by Thackston (*Baburnama* 2002), p. 477.

22. *Tovachi*: an officer of the muster. Note by Thackston, p. 477.

23. *Divankhana*: an office of fiscal administration. Note by Thackston, p. 477.

24. Chosroës' Arch refers to the great Sasanian (ca. 224–651) vaulted hall at Ctesiphon. Note by Thackston, p. 478.

25. The mosque might have been intended for Shi'ites. For more on this, see Komaroff and Carboni 2002, pp. 121–23.

26. Quran Sura 19:17 (Note by Grabar).

27. Cf. a square dado with the *shahada* on the tombstone of Mahmud ibn Dada Muhammad, dated 1352 (Safadi 1978, p. 115, including a photograph).

28. I would like to thank Professor Jan Just Witkam for his help with the transciprion of Suppl Persan 1113 ff.256v–257r.

29. The inscription on the left pylon can be clearly seen on a photograph by N. A. Vasilkin published in Bulatova and Shishkina 1986, pp. 76–77.

30. Unlike the majority of the inscriptions of the Ulugh Beg Madrasa on the Registan, especially those along the northern and southern facades that have been simply reinvented. On the photographs published by Friedrich Sarre in 1901 (folios on Samarqand) these facades are completely destroyed.

Arts of the Islamic World in the Louvre: Experiencing the New Galleries

Daniel C. Waugh
University of Washington, Seattle

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I confess to more than a little hubris in venturing to write on this subject. But the occasion of the opening of the stunning new galleries for the Louvre's magnificent collection of the arts of the Islamic world seemed too important to pass by. What follows are some first impressions, based on an all too brief few hours in those galleries a few days after their formal opening in September of this year and on a reading of the catalogue published for the occasion. To do full justice to the material would take time and expertise of another order.

The exhibition actually combines two collections – that of the Louvre and that of the Musée des Arts décoratifs — comprising together what has long been known as one of the most comprehensive assemblages of Islamic art anywhere. Yet it was only less than a decade ago that the Louvre finally got around to creating a separate curatorial department for the arts of Islam. The old, cramped galleries hardly did justice to the material, but the challenge was to carve out new space in ways that accommodated the historic architecture of the building. The solution represents the most radical architectural addition to the museum since the installation of I. M. Pei's glass pyramid in the central courtyard. Architects Rudy Ricciotti, Mario Bellini and Renaud Piérard designed totally new galleries on two levels occupying the formerly empty space of the Visconti courtyard. The upper (ground) level rests under an undulating translucent roof that is, perhaps, reminiscent of a nomadic tent, open to the sides so that one sees the lower walls and windows of the historic building (Fig. 1). Below this, underground, is an even larger space housing the largest part of the collection. A virtue of the new arrangement is its easy access to other parts of the Louvre collections which help one to situate Islamic arts in a broader context, notably the newly opened permanent displays of the arts of the Mediterranean world in late Antiquity. If there is a drawback to the new design, it lies primarily in the fact that the flood of light from the sides into the upper gallery reflects off the display cases and can make it very difficult to view their contents. One wonders whether in fact it may not be necessary to add some side curtains, even if this then will undercut the architectural concept of connecting the new and old spaces of the museum.

The galleries' virtues include first of all their spaciousness — much more of this outstanding material now is on permanent display than ever before. The openness of the space, especially on the lower level, allows for visual contextualization across time, geography and medium (Figs. 2, 3). The art has a chance to "breathe," and for certain of the displays its positioning can to a degree replicate that which

(below) Fig. 1. View from the entrance to the new Islamic galleries.

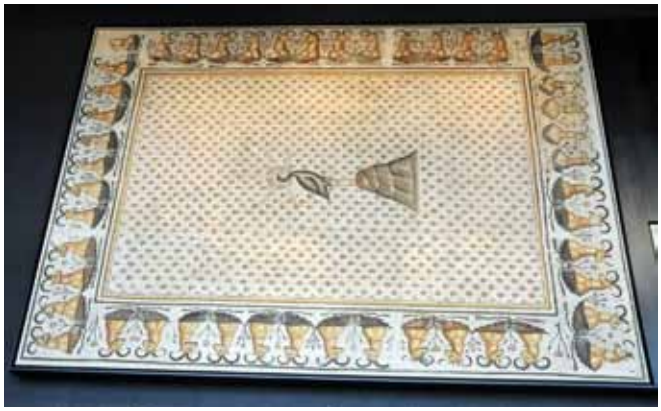
(right) Fig. 2. View of the lower gallery, where a display of important carpets occupies center stage.

(above) Fig. 3. View in the lower gallery.

(right) Fig. 4. A reconstructed wall of Iznik tiles as they might have appeared in an Ottoman mosque.

technically challenging mounting of an elaborately carved 15th-century entrance corridor's ceiling dome from Cairo. As the covering of a passage between two gallery spaces it functions in the same way it would have in its original setting (Fig. 5). Of particular value in the architectural design of the gallery is the fact that one can look down, as from a balcony, on the impressive display of floor mosaics of late Antiquity from the Near East, which occupy the space adjoining the Islamic art on the lower level (Fig. 6). Given the extent of these mosaics, a view from above is really essential for their full appreciation, and one would have experienced at the sites for which the works were first created. In particular this is true for the reconstruction of how Iznik tiles would have been placed on the wall of an Ottoman mosque (Fig. 4), though to place selections of individual smaller tiles way up on other walls, as has been done here for other sites without regard to where the tiles originally had been positioned, can have the opposite impact of making them difficult to see and appreciate. One of the most striking accomplishments of the new installation was the

(right) Fig. 5. A composite image showing the Mamluk porch ceiling from the second half of the 15th century.



(below) Fig. 6. View of the "Phoenix mosaic" floor from Daphne, a suburb of Antioch [Antakya] on the Orontes River, Turkey, 6th century CE (Inv. no. AGER, Ma 3442).

Fig. 7. Objects in case no. 22A ("The Iranian World and its Borders: From the East of Iran to Central Asia, 11th-15th Centuries"), where the general description indicates altogether too vaguely: "The objects unearthed in these regions attest to the homogeneity of productions in an area encompassing eastern Iran, Afghanistan, and Central Asia. They illustrate a common material culture..." Clockwise from upper left, inventory nos. MAO 434, MAO 830, MAO 402, MAO 415, MAO 1256, MAO 1248.

of course their proximity serves as a vivid reminder of the fact that this art was part of the heritage of the world of early Islam.

The old Islamic galleries at the Louvre were organized in a conventional way by chronology and geographical/political region. In the new display, while to a degree there is a chronological sequence, and there are at least some sections where material is grouped by the geography of where it was produced (Fig. 7), there are as well many thematic sections, exploring techniques, particular elements of style or subject matter, illustrating patterns of patronage that cut across periods, and so on (Fig. 8). Of particular importance in the material grouped by geography are the finds made at Susa in southwestern Iran, famous for the French excavations of the ancient Mesopotamian and Achaemenid levels (major displays of this early material may be found in the Ancient Near East galleries), but less well known for

Fig. 8. Objects illustrating how literary subjects make their way into the visual arts of ceramics used for architectural decoration, the three examples all from Iran at the end of the 12th to the 13th centuries and depicting Bahram Gur and his slave girl Azade, an episode from the epic Shahnama. *Left to right, inventory nos. MAO 256/3, 431, and 1221.*

Fig. 9. A stucco frieze from the 9th century CE, found at Susa (MAO S. 1843). The photo is a composite of several images. For a fuller appreciation of early Islamic stucco, one needs to see the examples from Samarra, housed in Berlin, and visit the few sites (notably the congregational mosque in Nain, Iran), where there still is a substantial amount in situ.

the abundant Islamic period finds which now receive their due in several of the displays here (Fig. 9). While the cases are numbered sequentially, that does not necessarily mean that there is thematic continuity from one to the next; it seems unlikely that most viewers would in any event follow the numbered sequence. Significantly, there seems to have been a conscious effort to avoid making distinctions between "secular" and "religious" art, an approach which in fact is quite appropriate where so much of the material we think of as "Islamic" in fact has no explicit religious content.

Major captioning is in French, English and Spanish, but the majority of the specific item captions are only in French. While I did not use it, I understand that the audio guide is still rather limited in the number of items it covers, but perhaps it will be re-designed to include much more material. Increasingly I appreciate the virtues of audio guides, since they permit one to look at the art and not be distracted by straining to read printed text, and it is possible in the audio guides to have varying levels of detail as options for those wanting more of an in-depth treatment than that printed on most captions.

The Louvre has been a pioneer among museums in producing audio-visual material, its website being one of the first to provide extensive selections of key objects with more than the usual perfunctory captioning information. It was possible too to do a "walk-through" of the old Islamic galleries on-line, examining the individual contents of each display case. One can hope that a fully illustrated feature such as this will become available for the new Islamic galleries.

Apart from what may eventually be on the website, the museum has provided in the new galleries some video displays, though more is needed here. One of them offers an overview of political history (focussing, somewhat oddly, on the institution of slave soldiers in the Islamic world). In a corner of the lower gallery is a circular "learning center" with seats and several interactive monitors on which one can explore literature and famous writers across the Islamic centuries (Fig. 10). On an adjoining wall, but with no proper seating in front of it, is a continuous video projection (in French) illustrating from works of art the multiplicity of religious traditions in the Islamic world, this perhaps the most explicit nod in the exhibits to contemporary concerns about multiculturalism. Particularly informative is the video display next to the installation of the Cairo entrance dome. In it we learn a lot about provenance and restoration, if less about the artistic connections and style.

The catalogue published in conjunction with the opening of the new galleries is in its own right a stunning achievement in its conceptualization and visually (the latter, thanks to superb photography and production values). Nearly three decades ago, the noted specialist on Islamic art Oleg Grabar (to whom the current catalogue is dedicated) wrote, "A catalogue is true to its most obvious raison d'être when it reflects most forcefully, most intelligently, and most beautifully the peculiarities of a given collection, not an arbitrarily extracted group of artifacts."[1] This certainly is the case here, where there is substantial emphasis on the history of the Louvre collections, and, insofar as the book lays out a history of the art, it is told through the lens of the many gems the museum has acquired. Grabar also suggested that there is a

Fig. 10. Viewing the interactive monitors in the "study" area.

need too for other kinds of catalogues, thematic in organization and interpretive in emphasis.

It would seem that Sophie Makariou and her collaborators at least *tried* here to balance these several approaches, a balance which is reflected as well in the organization of the material in the gallery space. That is, each historic period is introduced by a fairly conventional introductory section laying out the context of political developments (some superb color maps, also available in the gallery in a video display, illustrate the complex changes over time) and then summarizing the distinctive developments in the arts in that period. Next come subject essays, whose generic topics recur for each of the following chronological eras represented in the later sections of the book. As she suggests, readers who want to explore such topics as architectural decoration, calligraphy, or some of the key urban environments which were centers of artistic production can link those sections and postpone reading material in between. Indeed, to read the book straight through does not provide a coherent narrative, as there is a lot of movement back and forth chronologically, geographically and thematically. After the introductory essays to each section, there is a "florilegium" highlighting individual "masterpieces" and whose essays are a kind of "history of the object." That is, they build around a particular work a narrative which may at one point emphasize provenance and history, at another style or technique, and in general invite the reader to explore wider connections. Authors seem to have had considerable leeway in their essays to develop a particular emphasis, but this then sometimes leads to odd results. An example is in the discussion of the 20th-century painted reproductions of the famous Umayyad Mosque mosaics in Damascus (Fig. 11), important, yes, for information on the state of some of the mosaics before later unsuccessful "restorations." In focussing on the circumstances of the paintings' production, the essay (pp. 80–84) glosses over why the mosaics themselves are so important and totally ignores the disputed question of what they may have meant for Caliph al-Walid and his artists.

The overall effect of the approach in the catalogue is to suggest that the arts of the Islamic world are many and varied and that one should not be thinking of "Islamic art" as some kind of unified entity informed in the first instance by religious precepts. Appropriate as that is, the book will disappoint those who hope to find in it a coherent discussion of what Islamic art may or may not be. As Grabar has written, "...The artistic experience of the Muslim world in over 1,400 years is too rich, too varied, and too complex to lend itself to a single message, a single voice, or a single explanation. No one person can master its intricacies with the accuracy and commitment it deserves, and it would be a betrayal of its history to limit it to one formal system or to one set of explanations."[2] Precisely for this reason, it would have been appropriate, given the dedication of the book to Grabar (and the fact that up until his death a year ago he had been a consultant on the new installation for the Louvre), had the catalogue included an essay by him addressing that challenge, since he thought so long and creatively about it.[3] If this catalogue falls short then, it is in the interpretive realm.

Of course to say that is a bit unfair: Grabar himself probably would have agreed that the fault, if so it be, is inherent in the genre of "collection catalogue." Its audience is a general one which probably will find the material challenging enough as it is. Despite all the advances in the scholarly analysis of Islamic art since Grabar wrote, one comes away with the impression that little progress has been made in hugely important subjects — for example, the classification and technical analysis of ceramics that still all too vaguely are provenanced as being from "northeastern Iran or Central Asia." As Grabar recognized, a catalogue such as this is can hardly be expected to break new ground.

The essays try to contextualize individual pieces with reference

Fig. 11. Paintings made in 1929 of the early 8th-century mosaics on the walls of the gallery in the northern courtyard of the Umayyad congregational mosque, Damascus. Inventory nos. MAO 2074 etc.

to analogous examples or to the original settings in which the objects were located, but generally without providing any comparative visual material. Perhaps it would be too much to expect the inclusion of even small photographs of comparable material in other museums' collections. However, in cases where the discussion involves developments such as the emergence of the "beveled" style in early stucco and wood carving (Fig. 12) or focuses on particular influences (for example, Chinese design in ceramics) (Fig. 13), being able to see the comparative material would have been hugely helpful to those being introduced here to Islamic art. In fact it is impossible to appreciate fully the creativity of the artists and craftsmen of the Islamic world without seeing such comparisons. One might wish as well that some comparative examples of the art itself had been included alongside the Islamic pieces in the displays.

(left) Fig. 12. Carved wooden panel with a "bird-flower," late 9th-early 10th century CE, Egypt (Inv. No. OA 6023).

(above) Fig. 14. Dado in the tomb chamber of Abd al-Samid at Natanz, showing where the cross- and star-shaped tile mosaic once was, surmounted by a frieze of larger lustre–ware tiles with a Quranic inscription. Photo taken in 2010.

I suppose it is a truism to say that a visit to the Louvre (or any other major museum) can feel like jumping into the deep end of a pool without being able to swim. Certainly the size and scope of the Louvre's Islamic collection require multiple visits — there is no quick fix. Ideally a visitor might first absorb what is in this catalogue, but few will afford it (at 39 euros it is really a bargain) and even fewer would carry its 3 plus kilos in unwieldy large format into the galleries. Perhaps much of its content can eventually be transferred to the audio guide and put on the website. Those who do not read French can access at least part of the collection in print and in English via the catalogue produced for the Sakıp Sabancı Museum in Istanbul, which hosted an exhibition of the Safavid, Ottoman and Mughal material at a time when the galleries in Paris had been closed for the remodeling.[4]

Fig. 13. Dish with a peony design, based on Chinese "blue-and-white" porcelains, Iran, late 15th-early 16th century (Inv. no. MAO 710).

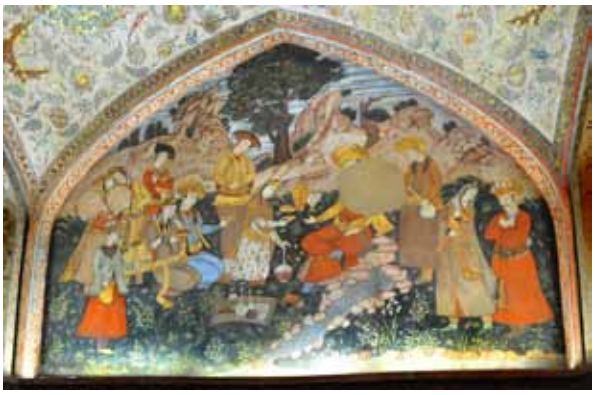
There certainly are gaps the museum might fill by some additional captioning and interactive displays in the galleries, though to do so always will run the risk of distracting from viewing the art itself. Thinking just about ceramic tiles, in which the collection is particularly rich, there really is insufficient information to appreciate their placement and context, and, where we know or are pretty sure of the buildings from which they came, the significance of those sites. Granted, I say this from a particular personal perspective, having visited some of the stunning examples of Ottoman mosques still resplendant with their Iznik tiles, and seen Takht-i Suleyman and the Natanz shrine of Abd al-Samad in Iran, where, alas, there is nothing left of this ceramic glory *in situ* on the interiors (Fig. 14). The reconstructed wall of Ottoman tiles in the Louvre

Fig. 15. Iznik tile panels on the balcony walls of the Mosque of Ahmed I (1609–17) ("The Blue Mosque"), Istanbul. As the Louvre's display illustrates in separate sets of panels, there was a noted decline in the quality of Iznik tile production in the 17th century. The section in the left image here is undoubtedly inferior to that on the right, whose high quality tiles were made originally for placement in the Topkapi Saray palace in the 1570s and 1580s. The tiling of an entire wall as shown here is a good parallel to the reconstructed panels displayed in the Louvre, whereas the image from the Piyale Pasha Mosque in Istanbul on p. 348 of the catalogue shows only a tiled mihrab and frieze, albeit in the mosque from which the Louvre's tiled tympanum (Inv. OA 7509) supposedly comes.

display comes closest to what is desirable here, though to explain the component parts and lay them out on the wall still falls short of giving a sense of context (cf. Fig. 15). The two Iranian sites have at least brief treatments in the catalogue (pp. 244–46 and 248–50, the latter including Sheila Blair's stunning picture of the muqarnas cupola at Natanz, but no illustration of the still magnificent tiled façade. Yet there are only cryptic captions in the gallery. One of the most evocative pieces in the whole collection is the Safavid tile garden (Paradise?) scene (in the catalogue, pp. 344–46) (Fig. 16), one of several such examples in museums outside of Iran.[5] For contextualization in a Safavid garden setting, the Louvre catalogue has a picture of the exterior of the Chihil Sutun pavilion in Isfahan, but does not show any of its paintings, which include analogous images (Figs. 17a, b). Examples

Fig. 16. Persian garden scene, Safavid period. mid-17th century (Inv. no. OA 3340). Such garden scenes abound in Persian miniatures of the 15th-17th centuries.

(below) Fig. 17a, b. a) A painted panel in the the main hall of the Chihil Sutun, placed below the large scenes depicting key moments of Safavid history. While the pavilion was erected and first decorated in the middle of the 17th century, following a disastrous fire it was re-painted in the early 18th century, the painting supposedly reproducing faithfully the original designs. b) Other rooms in the building also contain painted garden scenes such as that on this lunette, whose date may be uncertain. Photos taken in 2010.



such as these sites, which can suggest a wide range of connections with other parts of the collection, invite special treatment, not the least of which might be interactive three-dimensional computerized reconstructions of some of the architectural spaces and their decoration to display alongside the actual tiles.

The most sustained essay in the catalogue is the final section of some 80 pages devoted to the arts of the book, intended as a way of pulling together some of the threads concerning the essence of Islamic arts. In her introduction to the catalogue, Sophie Makariou alerts the reader that a similarly expansive treatment of the arts of the book will not be found in the galleries — there, the display of manuscripts is very limited, given the need to protect them against deterioration. So, unlike in the case of, say, ceramics, the arts of the book will be regularly rotated.

All the more reason, for those who can be in Paris, to return again and again to visit the new Islamic galleries. Many of the pieces are familiar friends, which have long been chosen as the very best examples to illustrate the history of Islamic arts. But now one can really appreciate the depth of the collection and make new acquaintances, all in one of the most inviting museum spaces ever created. The administrators, curators, architects and sponsors (the principal donor was the Alwaleed bin Talal Foundation) all deserve accolades.

Notes

1. Oleg Grabar, "On Catalogues, Exhibitions, and Complete Works," *Muqarnas* 4 (1987), p. 5.

2. Oleg Grabar, "Reflections on the Study of Islamic Art," *Muqarnas* 1 (1983), p 12.

3. Inter alia, see Grabar, *The Formation of Islamic Art*, rev. ed. (New Haven and London: Yale Univ. Pr., 1987), Ch. 1.

4. *Istanbul, Isfahan, Delhi. 3 Capitals of Islamic Art. Masterpieces from the Louvre Collection* (Istanbul: Sakıp Sabancı Müzesi, 2008).

5. As the catalogue indicates, the Metropolitan Museum in New York has three panels, Rogers Fund acq. nos. 039a-c; there is one in the Victoria and Albert Museum in London (Inv. no. 139: 1 to 4 – 1891). All these can be viewed on-line on the respective websites. Another, detached panel, on display in the Chihil Sutun, apparently is a modern reproduction (see *Les Arts*, p. 509, n. 11 in the section on the Louvre panel), although there is some evidence that the decor of the pavilion originally may have included such ceramic panels.

Töwkhön, the Retreat of Öndör Gegeen Zanabazar as a Pilgrimage Site

Zsuzsa Majer
Budapest

The present article describes one of the revived Mongolian monasteries, having special significance because it was once the retreat and workshop of Öndör Gegeen Zanabazar, the main figure and first monastic head of Mongolian Buddhism. Situated in an enchanted place, it is one of the most frequented pilgrimage sites in Mongolia today. During the purges in 1937–38, there were mass executions of lamas, the 1000 Mongolian monasteries which then existed were closed and most of them totally destroyed. Religion was revived only after 1990, with the very few remaining temple buildings restored and new temples erected at the former sites of the ruined monasteries or at the new province and subprovince centers.

The monastery and pilgrimage site described here is called Töwkhön (Fig. 1). Surrounded by a forest, it is situated at the peak of Shiweet–Ulaan uul or Shiweet–Ulaan Mountain (N 47°00.745′, E 102°15.447′, elevation 2245 m) belonging to Khangai nuruu or Khangai Mountain range, in Bat–Ölzii subprovince of Öwörkhangai province, about 500 km from Ulaanbaatar and 60 km from the important Erdene zuu monastery in Kharkhorin subprovince of Öwörkhangai. It is the most easily reached from Kharkhorin, by going southwest up the valley of the Orkhon River; it can also be approached from the Orkhon waterfall (Orkhon khürkhree, better known as Ulaan tsutgalan, 'red confluence'). The final part of the road from the foot of the Shiweet–Ulaan Mountain up to the site is not always passable even by jeep, especially in winter or after rain. Visitors can reach the site on horseback or on foot even when it is not possible to drive up to the monastery. In 2004 Töwkhön was included on the list of the World's Cultural Heritage Sites thanks to its cultural importance and the natural beauties of the Orkhon River Valley area.

Information on the monastery is to be found mainly in books on Mongolian architecture and historical sites, although there are also some scattered data on the history of its foundation in publications on Öndör Gegeen's life. In his atlas which shows 941 monasteries and temples that existed in the past in Mongolia, Rinchen marked the site on his map of the Öwörkhangai monasteries as *Töwkhön khiid* (No. 818), with the place name given as Orkhon gol (Orkhon River, which is a very rough location). In the old times when the area of the Khalkh Mongols was divided into four big areas (*aimag*) of the four *khan*s**,** again divided into smaller units (*khoshuu***,** 'banner, battalion'), the site was situated in Tüsheet khanii *khoshuu* of Tüsheet khan *aimag*. It is among the ruined Mongolian temple sites which were revived after the democratic changes, and still now functions actively, even though there is only one lama permanently in residence. The author visited the site in 2005 twice (once when it was covered by snow) and in summer 2007, when B. Shagdarsüren, the hermit lama of Töwkhön monastery (who has the rank *lowon*; T.: slob-dpon, 'master') (Fig. 2), provided information as well.[1]

Fig. 1. The peak with Töwkhön monastery.

Fig. 2. Shagdarsüren lama.

Historical background and the foundation of the site

The monastery has been known by variant names apart from *Töwkhön/Düwkhan* or *Töwkhön khiid* (*khiid* means monastery or smaller temple site in Mongolian), a name given it only later. The word *Töwkhön* is of Tibetan origin. The term *sgrub-khang* means "house/dwelling for practice" or "place of meditation" and is used for meditation halls as well as dwellings, even caves for intensive contemplation. The pronunciation of the word became distorted or modified as *Düwkhan* or *Töwkhön* in Mongolian, the latter being the variant used today. In its Mongolian translation, this name was rendered as *Büteeliin süm*, "Temple of practice." The original Tibetan name given by Öndör Gegeen himself for the monastery was *E Wam gachillin* (T.: E-wam dga'-khyil gling), meaning "Monastery of the purity of method and wisdom." Another Mongolian name for it in earlier times was *Bayasgalant aglag oron*, "Joyful isolated place," or *Arga bilegiin aglag bayasgalant Töwkhön khiid*, "Töwkhön, the joyful isolated monastery of method and wisdom." Töwkhön came also to be called "The *Utai* of Outer-Mongolia," *Utai* being the distorted Mongolian pronunciation of Wu-t'ai-shan (T.: ri-bo rtse-lnga, "mountain with five peaks"), one of the most important monastic and pilgrimage sites in China, thus indicating the importance of Töwkhön as a place of pilgrimage.

The establishment of this meditation retreat or hermitage is connected to Öndör Gegeen Zanabazar (1635–1723), the first head of the Mongolian Buddhist church. Öndör Gegeen is a title, meaning "His Holiness the Bright One," while his other name, Zanabazar is being derives from Sanskrit Jñánavajra, meaning 'vajra wisdom'. He was born in 1635 in today's Yesön Züil subprovince of Öwörkhangai province. A descendant of Chinggis Khan, he was the son of Tüsheet khan Gombodorj and grandson of Awtai khan (1534–1589) who founded Erdene zuu, the first monastery in Mongolia in 1586 near to Ögödei Khaan's capital, Karakorum (present Kharkhorin). According to legend, when he was only three years old his ability and talent for memorizing religious texts amazed everyone. He showed an outstanding capacity for acquiring the Teaching in the three ways of listening, thinking and meditating, the main methods of Buddhist studies. At the age of five he was enthroned at Shireet tsagaan nuur (Lake), in present Bürd suprovince of Öwörkhangai. Becoming a Buddhist lama, his first ordination name was Ishdorj (T.: ye-shes rdo-rje) and later he became known as Luwsandambiijaltsan (T.: blo-bzang bstan-pa'i rgyal-mtshan (dpal bzang-po)), which was also an ordination name. After studying in the biggest Tibetan monastic universities, he received initiations from the 5th Dalai Lama and the 4th Panchen Lama. The 5th Dalai Lama recognized him as the reincarnation of the Tibetan master *Jonon* Darnad (Tāranātha, 1575–1634), a famous writer and historian and the last great representative of the Tibetan Jonangpa sect, and in 1651 granted him the title *jewtsündamba khutagt* (T.: rje-btsun dam-pa). He thus became the religious and political leader of Mongolia.

In Mongolia, local customs were absorbed into the Tibetan form of Buddhism, since the faith had always had the ability to integrate its teaching with local deities and practices and to adapt it to a different culture. It was Zanabazar himself who established unique features for Mongolian Buddhism. These included lama robes differing somewhat from Tibetan lama robes, special melodies of chanting, and a particular ceremonial system which included new elements or modifications of traditional ceremonies either in the melodies or by the introduction of new prayer texts which he composed. He was a real polymath, compiling volumes of Tibetan texts, and by creating unique works of art — mainly sculptures cast in gold, bronze, or copper, but also paintings — established a new, Mongolian school of fine arts (Fig. 3). His main art works can be seen in a number of monasteries today as well as in the Zanabazar Fine Arts Museum and the Choijin Lama Museum in Ulaanbaatar. He also developed two new writing systems, *Soyombo* (S.: svayambhū; T.: rang-byung, the "self-existing" script) in 1686 and *Khewtekh dörwöljin* (the "horizontal square" script), both intended to enable with their

Fig. 3. Sita (White) Tārā. Sculpture attributed to Zanabazar, 17th century. Zanabazar Fine Arts Museum, Ulaanbaatar.

special characters the writing down of all sounds not only of Mongolian, but also of Tibetan and Sanskrit, the sacred languages of Mongolian Buddhism. Neither of these writing systems came into everyday use, but rather are used as decorative scripts. He also founded important monasteries such as *Baruun khüree* or *Shankh* (also known as *Tüsheet khanii khüree*) in 1647 and *Ribogejigandanshaddüwlin* (T.: ri-bo dge-rgyas dga'-ldan bshad-sgrub gling) or *Nomiin ikh khüree*, "Great monastic city of the Teaching" at Khentii khan uul in 1654. This latter was also known as *Sardagiin khiid* and as *Züün khüree*, 'Eastern monastery' in relation to the previously founded *Shankh* or *Baruun khüree*, 'Western monastery'. It was later ruined in the Khalkh–Oyirad wars in 1680 but is considered to be the origin of the later Ikh khüree, moving to different locations before settling down at the site of today's Ulaanbaatar.

Töwkhön retreat was founded by him in 1653, initially as a meditation cave and then with a temple. He first discovered the site in 1648, when at the age of 13 he was traveling on horseback to meet the Dalai Lama (Daajaw 2006, p. 38). It was a perfect site, surrounded on all sides by dense forests which concealed it and with a specially shaped rocky peak "designed" to hold a temple as in a nest, or resembling an armchair. Some sources call the mountain (otherwise known as Shiweet uul) Shireet uul, "Mountain with a throne," Töwkhön shireet uul, or Shireet Ulaan uul, "Red mountain with a throne" after its shape. According to Daajaw (2006, p. 40), the site had been occupied as early as the Bronze Age. Probably a watchman or guard was stationed there, as the peak is highly suitable for sending signals in case of any danger. Daajaw bases this opinion on the fact that the flat area at the peak (where the ritual stone mound for the local spirits called *owoo* is situated) had been enlarged by a stone retaining wall and leveling of the surface, and has the remains of two stone foundations.

Recognizing it as an auspicious site, Öndör Gegeen started to meditate on Shiweet Ulaan uul, after returning from his first Tibetan stay in 1651 when he was named *jewtsündamba khutagt*. Usually 1653–1655 is given as the date of foundation of the retreat, initially with the erection of a stone-walled meditation hut (Daajaw 1999, p. 263). According to Choinkhor (1995, p. 17), on his return from Tibet, when the Mongolian nobles and princes promised to build a meditational dwelling for him, Öndör gegeen said that Shiweet Ulaan uul was waiting for him. Ölzii (1992, p. 85) adds that in 1653 for the 19th birthday of Zanabazar a *Bat orshil örgökh* or *Danshig ikh naadam* (T.: brtan-bzhugs, "strengthening of the feet") ceremony for his longevity was held in Erdene zuu, at which he asked that the Khalkh nobility build at Shiweet uul a temple and retreat where he could make his art works.

So Zanabazar settled there for a while, contemplating, composing texts and making his sculptures. The *Düwkhan / Töwkhön süm* or *büteeliin süm*, 'place of practice', the first temple, was built and named *E Wam gachillin*. In 1656 at the age of 21 he left to further his studies with the Dalai Lama (Daajaw 2006, p. 39). On his return in 1657 the Khalkh nobility again had a *Bat orshil* ceremony performed for him. He then returned to the Töwkhön retreat and later hid there from the attacks of the Oyirad Galdan Boshigt during the war between the Oyirad Mongols and the Khalkh Mongols. When in 1688 the army of Galdan Boshigt invaded Erdene zuu, they also attacked the small temple of Zanabazar at Töwkhön, but he managed to flee from them. Since he spent the subsequent years traveling, his retreat was abandoned.

During the years while Öndör Gegeen was meditating there he composed several prayers, including "Giving the greatest blessing" (*Jinlaw tsogzol*; T.: byin-rlabs mchog-stsol); the short text of the Medicine Buddha (*Baga Manal*; T.: sman-bla; S.: Bhaṣajyaguru); and the "Incense offering for strengthening and reviving people's spiritual strength" (*Khiimoriin san* or *Lündai san*; T.: rlung-rta'i bsangs; also known as *Madjün jinlaw*, rmad-byung byin-rlabs, after the beginning words of the text meaning "Excellent blessing"). These texts retain special importance in Mongolian Buddhist readings today. *Jinlaw tsogzol* and *Khiimoriin san* have been recited from his time on in all Mongolian temples as part of the daily chanting. While at Töwkhön, he also created many of his famous art works, including sculptures of deities cast in gold such as *Makhgal* (Mahākāla, T.: mgon-po), now in Baruun khüree; *Ochirdar'* (Vajradhara, T.: rdo-rje 'dzin-pa), now in Gandan or Gandantegchenlin monastery (T.: dga'-ldan thegs-chen gling) in Ulaanbaatar; the twenty-one *Dar' ekh* (Tārā, T.: sgrol-ma); the five dhyāni buddhas or the five transcendent buddhas (*yazguuriin tawan burkhan*, T.: mgon-po rigs-lnga); and *Tsewegmed* (Amitāyus, T.: tshe-dpag-med). It was here in 1686 that he designed his Soyombo alphabet, its first character now the national Mongolian symbol (*soyombo süld*), appearing even on the national flag.

Several of the sights at the monastery are connected with Öndör gegeen himself. They include the *Bogd* temple, originally built in his time; his contemplation cave; his handprint; the footprint of his boots; his stone throne and the joined tree where he used to tie his horse (see details on these below).

The retreat was re-discovered in 1773 by hunters who found the abandoned site where the stone meditational building had already collapsed (Daajaw 2006, p. 39). It was reconstructed as a hermitage in 1786, following which it became commonly known

as *Töwkhön*. The structures erected in the 18th century included two temples — an assembly hall (*khuraliin dugan*) and a "residential temple" (*lawran/ lawrin dugan*; T.: bla-brang, "residence") — a storage house or financial unit building (*jasiin bair*), a contemplation yurt (*nügnee sakhidag ger*), a bōdhi stupa or "stupa of enlightenment" (*janchüw chodin*; T.: *byang-chub mchod-rten*), a fence (*khashaa*) creating a temple compound where on three of the sides the peak towering above the complex fences it off, and an entrance gate (*daman khaalga*). These were built on the initiative of *Luwsandagwaadarjaa* (T.: blo-bzang grags-po/ bdag-po dar-rgyas, 1734-1803), the enthroned lama (*shireet lam*), bearing the title "the learned wise lord of religion" or *nomch mergen tsorj* (T.: chos-rje) of the nearby Erdene zuu monastery. According to the leaflet of the monastery, the third temple, standing separately on the southwest of the other temples, the "summer palace" or "bedroom temple" (*Serüün dugan* or *Semchin*; T.: gzims khang), was established at the beginning of the 19th century by Sain noyon khan T. Namnansüren in honor of the 8th *bogd*. Daajaw says, however (2006, p. 40), that when the *bogd*s visited the monastery, they were accommodated in this temple, which would mean it existed earlier than the time of the 8th *bogd*. In its heyday the monastery consisted of an assembly hall (*Khurliin dugan*), with a separate part for the images of the protector deities attached to it at its north side, the *Bogd* temple or *Büteeliin süm* with a temple for burning eternal butter-lamps (*Mönkh zuliin süm*) built in front of it, the temple standing separately, named *Semchin* or *Lawran*, two or three stupas, a prayer-wheel, and outside the fence a storage or *jas* building, another building for a kitchen, and yurts for a kitchen and visitors. There were two wells here, too. Two meditational caves and other caves were situated at the site. The main idols of the monastery became *Gombogür* (T.: mgon-po gur, an aspect of Mahākāla) and *Ochirwaan'* (Daajaw 2006, p. 40) or *Ochirdar'* (Daajaw 1999, p. 263). According to Shagdarsüren lama, the main worshipped deities were Tsongkhapa (*Zonkhow* or *Bogd lam*; T.: tsong-kha-pa), Buddha and Mahākāla (*Makhgal*).

At least four monks had to reside in the place, but from the number of the buildings of the site it is clear that it did not have more than a handful of lamas at a time. All of them were fully ordained, having taken the *gelen* vow (T.: dge-slong; S.: bhikṣu). However, many monks visited the place on special occasions to celebrate the great days. Furthermore, old monks of Ikh khüree, the then monastic capital of Mongolia (situated once at the site of today's Ulaanbaatar), withdrew to the temple, living and meditating here. Among the lamas who came to meditate at the site was the famous Jamiyaan *gelen*, who spent 11 years here at the beginning of the 20th century. His small meditation cave can be seen here as well.

When the Chinese *Gamin* army (the Chinese Nationalist army of the Kuo-min-tang or Chinese Nationalist Party, which came to Mongolia in 1919) went through this area at the beginning of 1920s, it devastated the site. Later *Töwkhön* monastery was closed and totally destroyed in 1937 with the purges and monastery destructions.

Reopening and restoration of the site

In 1970 the area was taken under the protection of the Öwörkhangai *aimag* local administration. The rebuilding of the temples and reopening began in the early 1990s, replicating their original form as determined from an old picture (Figs. 4, 5). Since that time until now only one monk, the "monk of Töwkhön"(*Töwkhönii lam*) called Shagdarsüren (aged

Fig. 4. View of the temple complex from the right side

Fig. 5. An old picture from the same viewpoint (after: Maidar 1972, Ill. no. 121).

around 50), resides here permanently. He became a monk in his twenties, and studied in Kharkhorin, Erdene zuu monastery, whence his teacher sent him to this holy place to revive the meditational retreat. At the time he arrived nothing remained of the previous temple complex, but its buildings were rebuilt afterwards one by one. Töwkhön as a pilgrimage site was re-opened on 27 October 1993, and regular worship ceremonies started. In 1994 the site was taken under state protection.

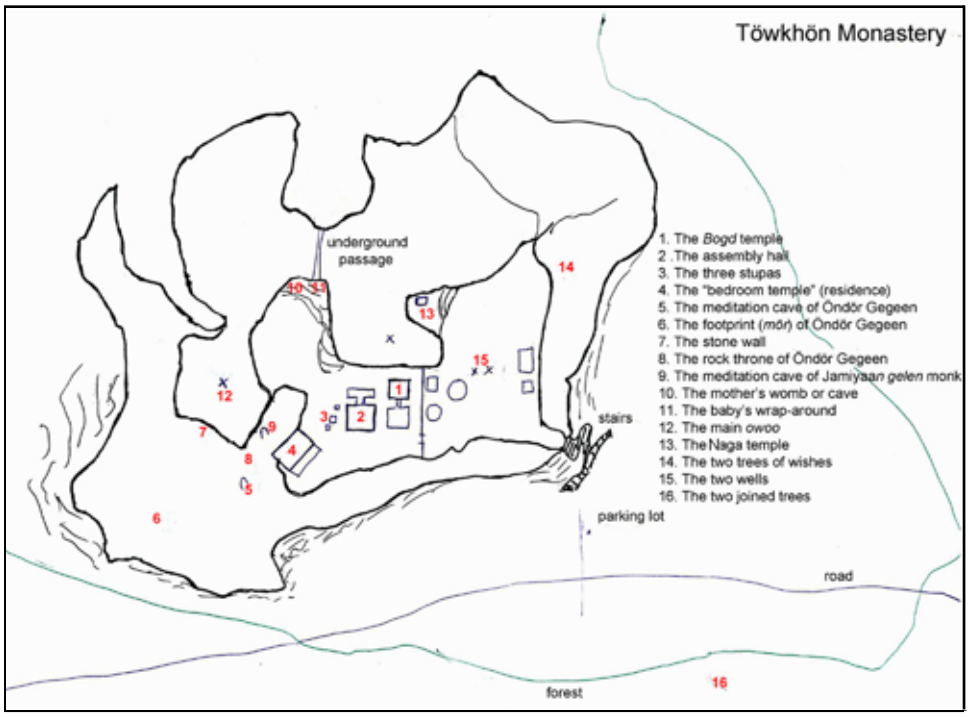


Fig. 7. Sketch of the site with the sixteen sanctuaries marked.

The main temple (*Tsogchin dugan*; T.: tshogs-chen, "main assembly hall" or *Khurliin dugan*, "temple for ceremonies") was rebuilt and reopened in 1997 and the statue of *Makhgal* was placed in it as the main protector deity of the retreat. At that time, accompanied by Mongolian monks, Gurudeva rinpoche consecrated the revived temple. Gurudeva rinpoche (1908–2009) was a highly esteemed lama of Inner-Mongolian origin who, having escaped the purges of the Chinese, studied for decades in Tibet and Nepal and contributed greatly to the revival, restoration and reopening of temples in Mongolia. In 1998 the bōdhi stupa (*choden suwraga*, *suwraga* being the Mongolian word for stupa), the biggest of the three stupas at the complex, was rebuilt, and in 1999 the small *Lusiin dugan* (Nāga temple). In 2001 the other temples of the complex were rebuilt, namely the

Fig. 6. The stairs leading up to the temples.

Bogd temple (*Bogdiin dugan*, the "bedroom temple" (*Semchin dugan*) or "summer palace" (*Lawran dugan*), and the offering temple (*Takhiliin dugan*) or "temple of the eternal butter-lamps" (*Mönkh zuliin dugan*). The two smaller stupas were erected in the same year, as were the fence and the entrance gate.[2]

Töwkhön today looks the same as it did before 1937. Young novices from Yidgaachoinzinlin datsan (T.: yid-dga' chos-'dzin gling grwa-tshang), which is one of the monastic schools of Gandan main monastery in Ulaanbaatar, come from time to time for major ceremonies and also for several months (4–5 lamas per season) to practice and help the work of Shagdarsüren monk. Apart from the everyday chanting and several monthly readings, in summer *Maan' büteel* (T.: ma-ṇi) or mantra contemplation is performed, on the occasion of which many lamas gather here. They also come to celebrate the great days of the ceremonial year.

The sixteen wonders along the pilgrim path

On arriving at the monastery, from the base of the peak, where there are a parking lot and several smaller wooden buildings and yurts, one ascends a stone staircase (Fig. 6) to the fenced-off area with the temples. The staircase is said to have the shape of the magic HŪM syllable. Therefore while approaching the temples "one can purify his or her body, speech and mind before taking refuge and entering the sacred place."

At the top of the stairs, when one enters the first gate, finds a wooden house and a *ger* (yurt) of the residing monk, as his summer and winter dwellings and an additional storage building. The entrance of the temple complex itself is on the left. Entering through the main gate, one sees a court with the wooden temple buildings reconstructed in their original style in reddish-brown color with green roofs and golden top ornaments. The meditation caves and other sacred sites are to be found around and above the temple complex on the hillsides, where on the rocks mantras like OM MANI PADME HŪM, OM BADZRA PĀNI HŪM PHAT, OM ĀH HŪM are painted in Tibetan and *Soyombo* script, as well as the *Soyombo* symbol itself. There is a path in Töwkhön which helps visitors to discover all these sanctuaries (*byasalgakhuin oron*) or miraculous sights of this holy place, of which there are sixteen (Fig. 7).

They include the following: The first one, the *Bogd* temple (Fig. 8), which stands right at the entrance of

Fig. 8.The assembly hall on the left and the Offering temple or Temple of eternal butter-lamps in front of the Bogd temple on the right.

the complex in front of the rock wall bordering the complex from the north, was originally founded by Öndör Gegeen as a meditational shrine (*byasalgaliin süm* or *büteeliin süm*). It is closed to laymen. In front of it is another temple building, *Mönkh zuliin dugan* or *Mönkh zuliin süm*," temple for (burning) eternal butter lamps."

The second of the sanctuaries is the assembly hall *Tsogchin* or *Khurliin dugan*, "ceremonial temple" (Fig. 9) on the left of the above two. Today it is called the *Gandanpuntsoglin* (T.: dga'-ldan phun-tshogs gling). Here people can enter and place offerings. Shagdarsüren lama (with other lamas if any are in residence) holds here the daily chantings. On the 8th of the lunar month he holds the ceremony in honor of the Medicine Buddha (*Manal*), and on the 15th he reads the Guhyasamāja tanra text (*Sandüin jüd*; T.: gsang-'dus rgyud; S.: Guhyasamāja tantra). The temple can accomodate about ten monks. As in

*Fig. 9. Inside the Tsogchin temple (*khurliin dugan*).*

every temple, there is a throne beside the door for the disciplinary master (*gesgüi*; T.: dge-bskyos) even if the place does not have one. The main protector of the temple is *Makhgal***.** This temple has a separate chapel built on its north and connecting by a corridor. This "temple for the protectors" (*gonkhan*; T.: mgon-khang) is where the images and sculptures of these deities are held. On the altar in the *gonkhan* are many old sculptures and painted scrolls or thangkas, such as that of Buddha, Tsongkapa, the Medicine Buddha and different wrathful deities like *Makhgal***,** *Namsrai* (Kuvera/Vaiśravaṇa, T.: rnam-sras), and (*Baldan) Lkham* (Śrīdevī, T.: dpal-ldan lha-mo). There is also a small statue of Zanabazar and a large rock piece with an impression resembling a human hand, said to be the handprint of Zanabazar.

To the west of this temple are three stupas (*takhiliin shüteen***,** *choden*, T.: mchod-rten) re-erected in their ancient style, the one in front originally made by Öndör Gegeen (Fig. 10).

Fig. 10. The three stupas.

Fig. 11. The Semchin or Lawran temple.

The third, separate temple building on the left is the "bedroom temple" (*Semchin dugan*) or "residence" (*Lawran*), containing the thangka of *Jigjid* (Fig. 11). The building is used as an accommodation when monks and novices of Gandan monastery arrive. Originally this temple would accommodate visiting *bogd*s and other high lamas.

Following the path from the Semchin temple to the west up the hillside, one comes to the meditation cave (*byasalgaliin agui*) of Öndör Gegeen, used later by other practicers as well (Fig. 12). There is a small altar inside. Nearby on a sloping rock the footprint (*mör*) of the boots of Öndör Gegeen and his disciple can be seen marked with the Tibetan inscription *zhabs* ("feet") painted above it (Fig. 13). According to legend he left it as a memorial in 1723 before his journey to Manchuria. Inside his bootprint is visible a smaller footprint, said to be either his bare foot as

Fig. 12. The meditational cave of Öndör Gegeen.

(right) Fig. 13. The footprints of the boots of Öndör Gegeen and his disciple.

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Fig. 14. The retaining stone wall

a small boy, or of that of one of his main disciples, Luwsannorowsharaw (T.: blo-bzang nor-bu shes-rab).

Fig. 15. The rock throne of Öndör Gegeen.

The man-made stone wall (*örmöl chuluun khana*) is the "co-creation of human beings and nature" (Fig. 14). It was built as a retaining wall around the highest peak towering above the temples, making it possible to form the flat area in the middle of which is the main *owoo***.**

The next sanctuary is the rock seat or throne (*sentii*) where Öndör Gegeen used to sit (Fig. 15). It is marked by the Tibetan inscription *bla-ma'i seng-khri* or the "lion-throne of the lama". Nearby is another small cave (Fig. 16) where one of the later practitioners withdrawing to Töw-khön, Jamiyaan *gelen* monk, meditated for 11 years. It also has a small altar inside.

The above sites can all be found on the west of the temple buildings up on the rocky hillside. If one leaves the temple compound on its east one can reach the other holy sites on the mountain from the north of the foreground area.

The mother's womb (*ekhiin umai*) or mother's

Fig. 16. The meditational cave of Jamiyaan gelen.

(right) Fig. 17. The 'mother's womb cave'.

being reborn. Here one can also think of every sentient being as his or her beloved mother. The third cave is decorated with the Tibetan syllables *E WAM*, which means "method and wisdom" or the unity of the principles of man and women. Actually it is an underground passageway leading to the other side of the peak (Fig. 18), where there are many large stones and rocks heaped, an *owoo* and a Tibetan inscription *bde chen sgo*, which means "the gate of great bliss." This is the secret passage route Öndör gegeen Zanabazar used to escape from the army of Galdan boshigt in 1688.

cave (*ekhiin agui*) is a small cave, which can be found halfway to the main *owoo* on the left (or alternately from behind the main temple upwards the hillside, but that way is more dangerous). There are two different caves here in the rock (Fig. 17), one for women (with the Tibetan inscription: *OM SHRĪ GU HYA rdo-rje btsun-ma'i bhak*, "ōm, glorious secret vajra nun"), one for men. When one crawls in and turning back crawls out, all his or her sins are said to be cleared away, as if

Next to the caves is a rock formation called baby's wrap-around (*ölgii khad*) (Fig. 19). It is indicated with

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(below) Fig. 18. The secret underground corridor leading to the other side of the peak.

(below right) Fig. 19. The 'baby's wrap-around rock'.

(right) Fig. 20. The main owoo above Töwkhön temples

the inscription: *E WAM dga'-'khyil rdo-rje brag … rdzong gling*, "vajra rock of the purity of method and wisdom, f**or**tress monastery." By standing inside this vertical crack in the rock wall, one is "wrapped around" like a baby; this experience is said to help in obtaining enlightenment by the merit of having gained a precious human birth.

The "main *owoo*" (*goliin owoo*) is situated at the top of the hill (Fig. 20), in the middle of the relatively big flat area (called *naadmiin talbai*, "field for traditional national Mongolian *naadam*

Fig. 21. The Nāga temple.

games") created with the support of the retaining walls. Encircling the *owoo* in the traditional way three times is said to strengthen and revive people's spiritual strength, but as usual, women are forbidden to go up there.

The next sanctuary, the Nāga temple (*Lusiin dugan*) or the temple of the spirits of water (alternately, called *Lowonjalbiin süm*) (Fig. 21) is reached when one descends from the *owoo*. Here *Lowonjalba* (T.: slob-dpon rgyal-ba), the king of the nāgas (*lus*; T.: klu) or water spirits is worshipped.

To the east on the separate smaller mountain peak, above the wooden building of the residing lama, are the two trees of wishes (Fig. 22), in which respectively are embodied the wrathful deity Mahākāla and the goddess Tārā. One can express his wishes there, taking refuge in the Mahākāla tree (*Makhgal(iin) mod*) and receiving a blessing from Tārā at the Tārā tree (*Dar' ekh(iin) mod*). From these trees or the nearby rock is a perfect view of the temples themselves from the east.

Visiting the trees brings one close to the end of the pilgrimage route of *Töwkhön*. On descending to the foreground area of the temple level one reaches the fifteenth sanctuary. The two wells (*khudag*) are found here (Fig. 23), between the buildings and yurts,

Fig. 22. The two trees of wishes.

Fig. 23. The two wells.

in the middle of the flat area or field. They are said to be miraculous, since it is very rare that wells can be dug at almost the summit of a mountain peak, where one would not expect to reach underground water. The water in the one on the right is blackish in color and used for the offerings (*takhiliin us*, "water for the offerings"), while the water in the other well is clear or yellowish and used as "drinking water" of the lamas (*undnii us*). This is strange, too, to have wells with different types of water so near to each other. These wells, which are the ones originally used by the lamas of *Töwkhön*, were restored in 2004.

The last of the sixteen sights or miraculous places in *Töwkhön* is at the bottom of the peak; so one has to descend on the stone stairs, and cross to the other side of the field and the parking area, to the south. The two joined trees (*kholboo mod*), which have grown together in an unusual way, are the ones in the forest to which Öndör Gegeen used to tie his horse (Fig. 24). The trees of this area of the forest are decorated by *khadag***s** (ceremonial scarfs of mainly light-blue color) and prayer flags (*lündaa*, T. rlung-rta, 'wind horse') hanging on strings tightened between them.

The holy place of Töwkhön and its surroundings has a special atmosphere. Visitors are supposed to maintain silence and help to keep this pure place clean. Pilgrims and tourists

Fig. 24. The joined two trees.

come to worship at this retreat of Öndör Gegeen from May until October, weather permitting, and especially in summer. The lama in residence is helpful to all explaining how the sanctuaries can be reached, as some of them are not easy to find, though there is an information board. The calm and peaceful atmosphere evokes an earlier century in this, one of the loveliest places in Mongolia.

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About the Author

Zsuzsa Majer received M.A. degrees in Mongolistics and Tibetology (2002, 2003) and defended her Ph.D. in Mongolian Linguistics in 2009 at Eötvös Loránd University, Budapest, Hungary. She wrote her Ph.D. dissertation on the revival and ceremonial system of Mongolian monasteries and temples (*A Comparative Study of the Ceremonial Practice in Present-Day Mongolian Monasteries*). She has conducted research six times since 1999 in Mongolia for extended periods, studying the past and present of Mongolian Buddhism. Her present research concerns the history of the main Mongolian monasteries that existed before the purges. E-mail: <zsumajer@yahoo.com>.

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Leaflet of Töwkhön monastery in Mongolian.

Information board of Töwkhön monastery.

Notes

1. The author conducted field research on the sites of old but destroyed monasteries of different sizes and types in Mongolia between 2005 and 2009. This included a survey executed in 2007 summer together with Krisztina Teleki on all monastic sites in Öwörkhangai, Dundgow' and the south part of Töw province in the framework of the Documentation of Mongolian Monasteries project of the Arts Council of Mongolia. The documentation of the sites included recording GPS data, drawing plans of the visible arrangement of monastery buildings, taking photos, and collecting all the available oral history regarding the sites from the very few still living informants, old lamas who had been lamas before the 1937 purges. Regarding this research, see Krisztina Teleki, "Building on Ruins, Memories and Persistence: Revival and Survival of Buddhism in the Mongolian Countryside," *The Silk Road* 7 (2009): 64–73.; Zsuzsa Majer, "Buddhism in Mongolia Today: Continuation or Disjuncture with the Past and the Tibetan Buddhist Tradition," *The Silk Road* 7 (2009): 51–63; and Majer and Teleki, "On the Current Condition of 190 Old and Present-Day Monastic Sites in the Mongolian Countryside," *Zentralasiatische Studien* 39 (2010): 93–140. The homepage of the project may be accessed at <http://www.mongoliantemples.net>.

2. In his book on Mongolian architecture published in 1992, before the site was revived (pp. 85–86), Ölzii describes it the site as having one small wooden temple, with foundations of three other temples around it, and, outside of the once existing fence, foundations of a bigger and a smaller yurt. In his book on Mongolian architecture Daajaw published some photographs, in one of which (p. 40) can be seen the *Tsogchin* and Bogd temples, the two rebuilt first. Another picture (p. 43) shows the *Mönkh zuliin dugan*, the third one re-erected, in front of the Bogd temple, but the fence had not yet been built.

Cultural Thieves or Political Liabilities? How Chinese Officials Viewed Foreign Archaeologists in Xinjiang, 1893–1914

Justin M. Jacobs
American University, Washington D.C.

During the twilight years of the Qing 清 empire, negotiations surrounding the arrival, departure, and daily activities of foreign archaeologists in Xinjiang 新疆 were a reflection of the larger asymmetrical geopolitical relations between China and the foreign powers, including Japan. Contrary to popular wisdom, the moral indignation often associated with the spoils of these expeditions is the product of a later generation, one that came of age in the 1920s and 30s. When turn-of-the-century Chinese scholars, officials, and antiquarians showed any interest in the fruits of foreign archaeological labors at all, they invariably looked to those manuscripts and artifacts evincing the Chinese script, wholly ignoring (and occasionally in open contempt) of those written in another language (Jacobs 2009, 2010).

Both the popular wisdom and its recent scholarly corrective, however, assume that the most significant aspect of these expeditions at the time they were undertaken was the transnational debate over culture, history, and language. From the standpoint of those foreign explorers and their domestic disputants who later wrote about these expeditions at length, perhaps that is so. It was decidedly not the case, however, for their Chinese counterparts sweating away on the front lines of the local county *yamen*. The historian's fixation on moral debates and museum controversies in the post-colonial era is anachronistic and not reflective of contemporary perspectives found in the original archival material surrounding these expeditions. When we highlight the rare nugget or two of moral commentary espoused by those Chinese officials whose duty it was to monitor these expeditions, we ignore the much larger geopolitical context against which these impressions were first recorded. This article is an attempt to recover the contemporary geopolitical context surrounding these expeditions, and foreground the preponderant views and concerns of Chinese officialdom. Qing officials in Xinjiang were obsessed not with moral judgments about transnational "theft," but rather with the preservation of their own careers and the threat foreign explorers posed to their future prospects in the Chinese bureaucracy.

Such an agenda will require us to turn our attention to the unwieldy morass of bureaucratic drudgery that flowed through the veins of the Chinese bureaucracy on a daily basis. As we shall see, for Qing officials in Xinjiang, there was nothing abstract or morally controversial about the foreign archaeologists then passing through their province. To these officials, moral indignation, never expressed and seemingly unfelt, was a tactic poorly suited to the challenges at hand. Of far more importance was that they treat these "casual foreign travelers" (*youlizhe* 遊歷者) in a manner that preserved political — not cultural — sovereignty.

Hitched to a sinking ship

"Order your men to transport … [their] crates and luggage to the Liu *yamen* in the Main Hall at Karashahr with great care," wrote Wen Lishan 文立山, the sub-prefect of Turpan, in March 1903, clarifying instructions to his chief of staff. "Then wait for a stamp of receipt and bring it back for our records. The servants assigned to this task must not impede or otherwise obstruct these orders. If they do, the gravest of blame will fall upon them" (Zhongguo Xinjiang Wei-wu-er zizhiqu dang'an guan et al. [hereafter XJDAG] 2001, p. 158). This brief excerpt from a dull and unremarkable document from the Xinjiang archives opens a window into the unequal relationship that existed between foreign powers and the Chinese state during the final decades of the Qing dynasty. The luggage in question belonged to Albert Grünwedel and Albert von Le Coq, two prominent German archaeologists whose fame would later derive from their excavations and removal of frescoes on this and future expeditions. For those Chinese officials tasked with keeping tabs on their expedition, however, Grünwedel and Le Coq's scholarly achievements were of little import. To Qing officials, these German explorers were walking diplomatic liabilities, to be handled with kid gloves and promptly sent on their way. If these treaty-protected foreigners lodged the slightest complaint with their powerful ambassadors, it could spell professional disaster for

the unlucky official in whose jurisdiction the alleged infraction occurred. The frequent transport of luggage is a case in point. Desperate to avoid allegations of neglect, Sub-Prefect Wen took great pains not only to ensure strict compliance down the chain of command, but also to procure a complete trail of bureaucratic paperwork that would absolve him of blame should an incident arise in the future.

All negotiations regarding a possible foreign expedition were handled by the central government and foreign embassies in Beijing. Because the Qing court was far too weak to deflect foreign pressure for their entry, Xinjiang's officials had no choice but to fall dutifully in line and unfurl the red carpet. Even when foreigners failed to obtain the necessary paperwork, entry to the province could not be refused, especially since most of them came via railways in Russian Siberia, far from the shrinking radius of Qing power. Furthermore, neither bandit uprisings nor ecological disasters seemed capable of dissuading these archaeologists from their destinations. This vexed local officials to no end, for the simple reason that safe passage and freedom of movement was a treaty right enjoyed by all Western and Japanese travelers in China. As a result, the single most common directive to appear in any document relating to foreign archaeologists in Xinjiang during this time warned Chinese officials to "afford them the necessary protections in accordance with treaty provisions" (*anyue tuowei baohu* 按約妥為保護). Out of the many multitudes of humiliating diplomatic agreements China had signed over the course of the nineteenth century, no specific treaty was ever singled out, for everyone knew what they cumulatively entailed. In short, anytime a foreign citizen hailing from one of the great powers found himself in desperate straits or a diplomatic pickle — often, though not always, of his own making — he could simply call upon his or a friendly nation's diplomatic corps to come to his aid. Aware of how widely the gulf in economic and military disparity stretched between his own nation and that of China, the disgruntled foreigner and his ambassadorial lawyers could then proceed to invoke tortured treaty logic to shift the blame for any quarrel onto Chinese officialdom.

In order to avoid such blame, Chinese officials in Xinjiang treated foreign archaeologists as if they were visiting dignitaries. No detail of their expedition was deemed too petty or mundane to escape scrutiny at the highest levels. The biggest concern was that a predilection for shortcuts and unpatrolled routes would lead to an ambush by bandits, still widespread in the aftermath of major Muslim rebellions in the 1860s and 70s. These fears were realized in the wake of the 1911 revolution, when the Buddhist monk and explorer Count Otani 大谷光瑞 appealed to his nation's diplomatic corps to protest on his behalf. "The Japanese ambassador claims that the Count suffered the pillaging of his silver currency and pack animals by bandits while he was in Khotan county," the Office of Foreign Affairs wrote to Xinjiang's governor in January 1912, "and that local officials were unwilling to protect him. The situation is dire. Find a way to make amends." Left unspoken in such crises was the fact that the foreigner often brought such troubles upon himself. Warned against taking dangerous mountain routes, Count Otani simply brushed his naysayers aside. "He is adamant, and tells us not to worry, since he took this route last year without incident." Still, throwing caution to the winds was not a prudent career move for a Chinese official tasked with Otani's safety. "Should anything happen en route, we will fail to live up to our neighborly responsibilities and problems will arise. We have no choice but to instruct Magistrate Zhang in Yangi Hissar county to gather horses and manservants and prepare for his safe escort" (XJDAG 2001, pp. 232–33).

Whenever foreigners proved less than forthcoming in divulging the details of their daily itinerary (as they often were), Chinese officials turned to their Mongol, Turkic, or Chinese interpreters to get what they needed. "According to our Mongol interpreter," wrote the Turpan sub-prefect, Peng Xuzhan 彭緒瞻, in 1893, "the Russian [i.e., V.I. Roborovskii] spends his time making drawings in the mountains, traveling seven to ten miles per day. Not once has he taken a main road." This unwillingness to stick to the safety of beaten paths worried officials in both Xinjiang and Beijing alike. The central government advised its border officials "not to allow them to proceed to any restricted regions or areas where local sentiment is not conducive to their arrival." Yet as we saw in the case of Count Otani, such restrictions were meaningless in the face of determined resistance by gun-toting foreigners and their powerful consular corps. This led Sub-prefect Peng to try and cover all possible contingencies, imploring his subordinates to "protect this foreigner wherever he goes, without the slightest neglect" (XJDAG 2001, p. 101). In 1906, the American climatologist Ellsworth Huntington made the trip from Karashahr to Toqsun, with an unscheduled stop in Loksin en route. In an effort to stay one step ahead, the magistrate of Toqsun called in his Turkic interpreter, a man by the name of Arin. "He passed through the southern mountains with five attendants, on his way to Loksin," Arin reported. "Then he sent me to accompany the armed escort for his luggage and pack animals to Toqsun." Armed with such intelligence, the magistrate ordered officials in Loksin "to despatch forthwith a servant to protect them in

accordance with treaty regulations, await their arrival, escort them to the county office, and report their entry and exit dates" (XJDAG 2001, p. 251).

Failure to report with swift accuracy the exit and entry dates of foreigners on the move was met with a torrent of abuse. In October 1910, when the names of two Japanese explorers in separate regions of the province were erroneously reported as one, the offending official was swiftly castigated. "The lack of clear reporting does not provide a channel for prudent foreign affairs," observed Rong Pei 榮霈, the *daoyin* of Dihua and Barikol. "In the future, whenever you encounter a foreign traveler, do not submit muddled reports that serve to obstruct our work and lead to further inquiries." In 1909, when officials in southern Xinjiang inexplicably lost track of the Hungarian-born British archaeologist Aurel Stein for a brief spell, the same *daoyin* ordered them to clean up their act. "Henceforth, whenever foreign travelers enter your district, you absolutely must attach servants to their party and escort them in accordance with treaty regulations. Exit and entry dates must be reported, and you must check their passports to see where they have been and what they have been up to. We do all this in the interests of caution, and no dereliction of duty can be countenanced." Fortunately for Rong *daoyin*, the extensive trail of paperwork he maintained allowed him to identify the precise location of an infraction among his staff. When the Finnish explorer Gustaf Mannerheim managed to escape official oversight for a time in 1907, Rong traced his files back to the source. "When he left for Turpan," Rong discovered, "the local magistrate sent a courier ahead to Fuyuan county. Why did the magistrate of Fuyuan not come out to take charge? … It seems that someone has shirked their responsibility, and gross neglect has occurred as a result. Who shall shoulder the blame for this lapse?" (XJDAG 2001, pp. 225, 112, 288).

As we have seen, most bureaucratic slips and instances of foreign disobedience could be papered over by an interrogation of the native interpreters attached to the expedition, each of whom was legally obliged to answer an official summons. Not surprisingly then, the most troublesome expeditions were those that arranged for their own private translators and porters (such as Stein's Indian servants), who then enjoyed the same foreign protections as their employers. This was the case with the 1908 expedition of Count Otani, whose "specially employed translator started causing trouble, demanding the procurement of wine and food, and the provision of an additional cart." Seeing his demands go unrequited, this translator proceeded to "beat up commoners," and refused to pay for those supplies he did obtain. This was an ominous beginning to the Otani expedition, which everywhere left peeved officials and an acrimonious trail of documents in its wake. At the opposite end of the spectrum was the French sinologist Paul Pelliot, whose fluency in Chinese was a breath of fresh air to his largely monolingual counterparts. "He is of good moral character and disposition, and his elegant speech is pleasing to the ear," wrote one official in 1907. "He lived in Beijing for many years, and is thoroughly conversant in Chinese script and speech. He is an erudite connoisseur of all things ancient, and there is nothing vainglorious about him." Beneath such flowery praise was the pragmatic recognition that Pelliot would not constitute a diplomatic liability for Xinjiang officialdom. In order to find out where he was going, they simply asked him. If there were bandits in the area, they told him to steer clear, and he usually did. That Pelliot evinced a healthy dose of respect for his Chinese counterparts was certainly most welcome. But that was not why they liked him. The reason Pelliot was able to ingratiate himself with Chinese officials was because they were confident no diplomatic incidents would break out on their watch (XJDAG 2001, pp. 200, 204, 262).

Regardless of the diplomatic threat foreign archaeologists posed to Chinese authority in Xinjiang, each expedition — be it well-behaved or decidedly ill-mannered — proved extremely costly to a provincial administration already on financial life support. The only way to maintain a vast Chinese bureaucratic and military establishment in far-off Xinjiang was to provide enormous subsidies from the central government in Beijing. Before the twentieth century, this had been an onerous yet consistently undertaken task. That all changed with the disastrous Boxer debacle in 1900–1, precisely the sort of international brouhaha (foreign missionaries crossing paths with local bandits) that officials strived to prevent with foreign archaeologists in Xinjiang. In retaliation, the foreign powers, after unleashing a deadly punitive expedition on Beijing, levied a crippling indemnity upon the Qing court, one that sent it into a downward fiscal spiral from which it never recovered. Silver subsidies for Xinjiang plummeted, to be severed completely when the last emperor finally abdicated his throne in February 1912 (Millward 2007, pp. 149–50). In light of the fact that the provincial administration gained no tangible benefits from playing host to foreign explorers — they were parasites to be endured, not resources to be exploited — any financial burden incurred by the locality during the course of their travels merely exacerbated the economic crisis already afflicting the province. So rare was the archaeologist who looked after his own debts that Chinese officials encountering such a man felt it worthy of special commendation in their reports. Taking stock of the Huntington expedition in 1905,

one grateful official observed that "this foreigner has offered to pay for all of his provisions and other expenses" (XJDAG 2001, p. 250).

Most, however, did not. The Japanese were the most notorious offenders, refusing to pay for peddlers and pack animals employed on their journey. In December 1911, when Tachibana Zuicho 橘瑞超, a disciple of Count Otani, insisted on traveling to sensitive oases such as Charchan, located in the impoverished moonscape of southeastern Xinjiang, it was all the local magistrate could do to mitigate the fallout from his arrival. "We are a rustic locale and have no guesthouse for him to stay in," he observed. "So I ordered some Turban residents to vacate their home and let him occupy their quarters." Tachibana's arrival caused such a stir among the local populace that the magistrate had to issue a special order warning the Turkic peasants to "refrain from tracking his movements and thereby instigating an incident." Grünwedel and Le Coq were no saints, either. After arriving at the border town of Tacheng in late 1904, officials all along the route to Dihua received orders to prepare "sheep, firewood, and hay for twelve horses." These were not gifts. "If you can get the traveler to take care of the bill on the spot, that would help us avoid cumbersome paperwork." Le Coq, however, did not take care of his bill, nor was he willing to accept a receipt for his expenses. Following repeated failures to procure payment from the Germans, Chinese officials had no choice but to shoulder the burden themselves, justifying their humiliating capitulation in moral terms. "Seeing as the amount in question is insignificant, the deputy magistrate should just pay for the expenses himself, as a display of magnanimous hospitality" (XJDAG 2001, pp. 233, 228, 162–63, 166, 156).

Unfortunately for Xinjiang's provincial coffers, such displays of "magnanimous hospitality" were becoming distressingly commonplace. Even when foreign archaeologists did not overtly consume provincial resources, Chinese officials were still forced to expend them. The treaties demanded it. "Disseminate an order to all village heads that [the foreigners] are to be afforded protection in accordance with the treaties," wrote Li Fangxue 李方學, magistrate of Ningyuan county, in 1902. "In addition, send them water, vittles, foreign liquor and other necessities, all in fulfillment of our Excellency's policy of treating guests from afar with great generosity" (XJDAG 2001, p. 156). Once again, the moral gloss woven into this statement belies the profoundly unequal nature of the relationship. Grünwedel and Le Coq were scholars without diplomatic credentials, and yet the highest officials in Xinjiang were forced to treat them as if they were foreign dignitaries. Chinese officials assumed the burden of expense for armed escorts, manservants, interpreters, and sometimes even daily provisions. If the foreigners failed to pay their bills, they could not be held accountable. If they ventured off the beaten path, they could not be called back. If they encountered bandits en route, blame fell upon the Chinese officials who did not sufficiently protect their risk-taking endeavors. If they lacked accommodations, locals were kicked out of their homes, then muzzled in their attempts to seek redress.

Last but not least, we must note the stratospheric expense of all the bureaucratic paperwork Xinjiang officials were obliged to maintain regarding these expeditions. As the provincial governor of the early Republic once noted, the quality of paper produced in Xinjiang was "fit only to wrap packages, not to meet the needs of official documents." This meant that all government organs were forced to import, at phenomenal expense, rolls of paper manufactured in inner China and transported to the northwest by camelback (Yang 1921/1965, p. 184). Once in Xinjiang, much of this pricy papyrus was consumed by local officials who had no choice but to document, in mind-numbing detail, their latest adventures in babysitting for tempestuous foreign archaeologists. Over a twelve-month period during 1904–5, Chinese officials throughout Xinjiang had to deal with a constant stream of packages from abroad, all intended for Grünwedel and Le Coq in the field. Since the Germans changed their itinerary constantly, often failing to notify Xinjiang officials in advance, the ordeal of making sure their mail got to them intact became a near comic affair. Provincial couriers and magistrates chased the foreigners to every corner of the province (see, for example, XJDAG 2001, pp. 166, 169, 175, 180, 182). Two decades later such mundane distractions had not diminished. In 1931, no fewer than sixteen documents were circulated by various officials for the express purpose of tracking the development of a painful toothache in P. Vorontnikov, a Russian astronomer attached to Sven Hedin's Sino-Swedish expedition (XJDAG 2006, pp. 138–48). These are merely a few examples of the sorts of daily bureaucratic chores that diverted both the attention and resources of Chinese officials in Xinjiang.

Official forbearance for such tomfoolery declined markedly after the 1911 revolution. Though Xinjiang's new governor, the shrewd and experienced Yang Zengxin 楊增新, quickly neutralized Han revolutionaries in Dihua and Ili, foreign and domestic opportunists took advantage of the chaos to pursue their own agendas. Turkic peasants rose up against the harsh rule of the local Muslim khanate in Hami, unpaid Han soldiers carried out a campaign of terror and assassination throughout the province, and Russian

generals led Mongol cavalry in an invasion of Khobdo. To add insult to injury, nobles in Outer Mongolia leveraged Russian support to declare independence from the new Chinese republic, and Tibet attempted to follow suit. All of these developments had consequences for foreign archaeologists in Xinjiang, by now the last majority non-Han region to remain under Chinese suzerainty. Paranoia was rife throughout the province. Count Otani's men, perennial *personae non gratae* in Xinjiang, were now suspected of meddling in secret society affairs. "This traveler has been in Kucha for three months," an official noted in 1913. "Submit a report for my review regarding whether or not he has been inciting the ignorant commoners; whether he is conducting surveys of the land; where he lodges at night; what activities he engages in; and whether or not the local magistrate has sent someone to protect him" (XJDAG 2001, p. 241).

By far the biggest concern for the new governor was the extent to which his province was being professionally mapped in preparation for a possible military invasion. Suspicion fell first on the Japanese, but evidence was thin. Not so with Aurel Stein, whose British citizenship suggested that he may be a cartographic vanguard of a much larger expedition from India and Tibet, the latter a suspected British satellite. Officials were suspicious of Indian surveyors that Stein sent out ahead of the main party, and the provincial commissioner for foreign affairs, Zhang Shaobo, wanted to make sure that Stein was aware of their concerns. "You should have a polite conversation with the British consul [in Kashgar]," Zhang wrote to his southwestern officials in November 1913, "and make sure they inform this traveler that he is not allowed to survey important passes for national defense, nor can he draw up any maps. We must do this so that neighborly relations are not hurt when local officials begin to restrict his activities." The next month, when Stein ignored these instructions, officials in Charchan took the unprecedented step of searching the luggage of one of his Indian attendants. "When I entered Narsun's room and examined his luggage," reported the local magistrate, "I saw a device used for surveying and mapping attached to a stand. When I asked him what it was, Narsun said that it was merely photographic equipment. Fortunately, I was able to recognize its true nature on my own, and was not deceived." The conclusion forwarded to Governor Yang was that "both times Stein has come to Charchan, his goal has been to draw maps of our land under the guise of archaeological endeavors" (XJDAG 2001, pp. 113–16, 118).

The governor ordered the equipment in question to be detained, and a forceful note of protest was sent to the British consulate. "Tell Consul Macartney that if Stein draws up any more maps we will deport him." Macartney denied that Stein had anything but scholarly aims. The governor did not believe him. After securing promises from Stein that he would not conduct any more surveys of the land (a promise soon broken), he was permitted to resume his travels. Not only that, but he was also allowed to take out a loan for his journey to the neighboring province of Gansu (XJDAG 2001, pp. 119, 121, 123–24). Thus, despite the newly varnished bluster of the post-Qing administration, the fundamental terms of its relationship with foreign archaeologists had not changed. Though Chinese officials evinced an increasing determination to confront foreigners when they transgressed treaty provisions, when push came to shove, there was still precious little the provincial administration could do about it.

So long as China was weak and prostrate at the feet of foreign nations, any province still committed to a unified Chinese state was destined to adopt a similarly demeaning posture. The red carpet had to be trotted out — the treaties *still* demanded it. After the 1911 revolution, Governor Yang felt bold enough to try and bluff Stein into compliance. When Stein called his bluff, the humiliation was all the more acute. Such capitulation inevitably spawned resentment among a younger generation of Chinese — those who would later interpret the heyday of foreign archaeologists in Xinjiang in moral terms. "Our nation's officials are completely powerless," wrote Xie Bin 謝彬, an intellectual employed in the Beijing government during the 1920s. "They give way in the face of adversity, renounce our handful of rights that actually are written into the treaties … and allow foreigners to twist logic in violation of the regulations" (Xie 1923, p. 372). As we have seen, however, the reality on the ground was quite different. China did not lack for stalwart and conscientious officials eager to safeguard their nation's interests. They simply lacked the resources to enforce their claims of sovereignty on foreigners more powerful than themselves. For these officials, the distractions of the Great War in Europe in 1914 proved a welcome respite from foreign archaeologists. When they returned a decade later, the rules of the game had changed considerably (see Jacobs, forthcoming).

During the end of the Qing and the early years of the Republic, the Chinese empire was united, but it was united in subjugation to Western and Japanese powers. Thus it made little difference whether Grünwedel, Le Coq, Stein, Pelliot, or Count Otani traveled through Xinjiang or strolled through the suburbs of Beijing. Because the distant northwestern borderlands were still tethered tightly to the sinking ship of late imperial China, the burdens conferred upon the Chinese

administration in Xinjiang by foreign archaeologists were virtually synonymous with those imparted by Western missionaries throughout all of inner China. Against such a historical backdrop, the highest aspiration a Chinese official could hope to meet was to keep the financial and political damage accrued by the state to a minimum. And, in the event an "incident" did break out, his highest aspiration was to ensure that he had followed proper bureaucratic procedures to the letter, lest his own head fall on the chopping block. Expressing interest, concern, or indignation over cultural matters was a luxury most Chinese officials did not enjoy.

About the author

An Assistant Professor of History at American University, **Justin Jacobs** is a historian of modern China. His research concerns empires and the ways in which they adapted to the ideal of the nation-state during the twentieth century. His first book project, "Empire Besieged: The Pursuit of Han Colonial Legitimacy in Xinjiang, 1911-64," examines this process along the Muslim borderlands of northwest China. His articles have appeared in *The American Historical Review*, *Journal of Asian Studies*, and the *Journal of Inner Asian Art and Archaeology*. E-mail: <dryhten@gmail.com>.

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AGRICULTURE ON THE MONGOLIAN STEPPE

Doeke Eisma
Den Haag, The Netherlands

The natural conditions on the Mongolian steppe are not favourable for agriculture: severe long winters with temperatures down to -40° C and hot summers with temperatures up to +40° C. Precipitation is less than 400 mm/y with snow (less than 10% of the total precipitation) in the winter and rain concentrated in July-August. The growing season is only about 100 to 110 days (in summer) (Jadambaa et al. 2003).

Water for the crops, however, may come from sources other than directly from rainfall. Snow melt in spring and continuing later in the year in the highlands feeds rivers that flow along the northern fringe of the steppe: large rivers like the Kerulen, the Onon and the Selenge, which are perennial and eventually flow into Lake Baikal and the Amur River. Smaller rivers in central and western Mongolia flow south and west from the highlands and end in shallow salty lakes. Melting snow also feeds groundwater, which along the banks of the Tuul River is sufficient to supply a large town like the capital Ulaanbaatar with the water it needs. This indicates that the availability of water for agriculture varies from area to area as well as with the techniques of extraction and distribution.

On the large flat or undulating steppe plains that are not crossed by rivers, water is scarce and only available during rainfall and at some sources fed by groundwater. Along its southern fringe the steppe grades into a semidesert or a desert with extremely low rainfall, but in many places groundwater is present at shallow depths and can be pumped up or obtained from wells. At its northern fringe the steppe grades into forest. Here the often broad valleys have a grassy steppe vegetation without trees, while the slopes, in particular the north-facing slopes, are forested. Often some surface water as well as groundwater is available during at least a large part of the year.

The nomad population on the Mongolian steppe during the past three millennia had essentially three options to obtain the cereals and some vegetables they needed to supplement their diet of meat, milk and milk products: growing them locally where possible, obtaining them through barter or trade from the farmers in present-day northern China or southern Siberia, or obtaining them by force through looting. It has been supposed that steppe nomads had a chronic shortage of agricultural products and therefore were forced either to trade with farmers or to rob them. Increased defence of China against raids by nomads forced the steppe nomads to organize themselves into larger units and eventually form a steppe state with political leadership and an "upper class." Barfield (2001) called such nomad states that extracted wealth from their sedentary neighbours in China "shadow empires." According to Khazanov (1984) and Golden (1987-91) agriculture, or rather the lack of sufficient agriculture on the steppe, played an essential role in the formation of such steppe states. Di Cosmo (2002), however, showed that it is unlikely — and rather hypothetical — that the steppe nomads in Mongolia had a shortage. The conditions of temperature and precipitation allow some agriculture, at least at the conditions that prevail at present.

However, the question remains to what extent the conditions of temperature and precipitation in Mongolia have stayed the same, or nearly constant, from ca.1000 BCE up to the recent increase of global temperature. This paper will consider to what extent climatic fluctuations may have influenced steppe nomad agriculture. Yet even if the conditions for agriculture have remained relatively favourable and agriculture could be practiced, it would be important to determine whether production was sufficient, whether trade or looting were necessary to obtain agricultural products or might have been preferred to farming. The role of agriculture in steppe nomad society is discussed in the last section of this paper.

Farming in Mongolia

The earliest known indications for farming in Mongolia have been found in Tamsagbulag in Dornod, and in the southern Gobi between Edsen Gol (Dong He) and Durbet (Dorbod) (Derevyanko and Dorj 1992; Berkey and Nelson 1926; Nelson 1926; Maringer 1950). They date from the 4th and 3rd millennium BCE, well before the population of the steppe by nomads, and are found on the banks of river valleys that are now mostly dry but at that time contained much more water than at present. In Tamsagbulag the people lived in fixed dwellings, in which and in their graves were found agricultural implements: hoes and hoe-like instruments, grinders,

millstones, pestles. In addition to farming, the people lived by food-gathering, hunting and some fishing. In the southern Gobi only grinding stones and pottery were found, no hoes, stone spades, digging sticks or other agricultural implements. Possibly the grinding stones were used only to grind locally gathered edible grains of wild species, but it is also possible that grain was grown locally or imported from the farming areas in nearby North China (Maringer 1950).

Such finds are comparable to what one might expect from the recent practice of farming by nomads in the Selenge valley (described by Róna-Tas, in Di Cosmo 1994). They open the soil of a strip of land near the river by wooden plows, break the clods by hand, and then sow seeds (wheat, barley or rye). After this, they leave for their summer pastures and return in autumn to harvest. Near Tarialan the ears are picked by hand, without any sickles, and threshing is done by animals (horses, oxen). Wooden shovels are used to separate grain from chaff. The leftover straw is used to line shallow pits (about 50 cm deep) where the grains are stored. Grinding is done with grinding stones in a mill operated by horses.

The Gobi area is steppe now a semi-desert, but more humid conditions prevailed during the time of the Neolithic settlements, as the dried-out streambeds, erosion tracks and ancient lake shores testify. After about 2500 BCE conditions in what is now the Eurasian steppe area changed to a cooler and more arid climate. Indications for this change have been found in the Altai and the Amur river area — i.e., directly west and east of Mongolia — but not (yet) in Mongolia itself (Anthony 2007, 2009). The forests retreated and open grassland expanded, which reduced the possibilities of farming. The steppe (probably also the Mongolian steppe) became populated by nomads around 1000 BCE. It is highly unlikely, however, that agriculture completely vanished during this transition (Volkov 1964). Di Cosmo (1994) cites indications for agriculture in central Mongolia from the late Bronze Age (about 800 BCE), in the Tuul River region and at Ulangom from 700–300 BCE.

Somewhat later, during the period of the Xiongnu, who formed a steppe state from 209 BCE to the end of the first century CE, there is ample evidence of agriculture (Di Cosmo 1994). Although Sima Qian in his history only mentions about the Xiongnu that they were cattle-raising nomads (Sima Qian 1961/1993), agriculture was practiced at many, usually fortified settlements scattered throughout Mongolia (Hayashi 1984, Di Cosmo 1994). The largest, and best studied one is the partly non-Xiongnu settlement at Ivolga on the Selenge river south of Ulan Ude. At Ivolga Xiongnu graves contain cast iron ploughs (probably models of the wooden ploughs that were used in the field), and graves near Ivolga as well as at Noyon uul, north of Ulaanbaatar, contain kernels of millet (Davydova 1968; Rudenko 1969; Bunker 1997). In Ivolga the style of the dwellings, their heating system, and their spades and ploughs point to a Chinese influence. It is therefore probable that the farming was done by Chinese or by original (Chinese–influenced) inhabitants who had been conquered by the Xiongnu. At two other, much smaller Xiongnu dwelling sites north of Kiakhta there are no indications for agriculture (Erdélyi 1994).

The Chinese records of the Han dynasty, the *Han Shu*, contain several references to Xiongnu farming: a Chinese military expedition into Xiongnu territory (in 141–87 BCE) appropriated Xiongnu grain and cereals to feed the troops (Di Cosmo 1994); in 88 BCE a harvest of grain and other agricultural products was lost because of continuing rains and frost; Chinese captive soldiers were employed in farming at the Ling wu river (Rudenko 1969; T'ang 1981). Also, the Xiongnu sent four thousand cavalry men to Jushi to work the land, whence they were later expelled by the Chinese (Di Cosmo 1994). Much of the farming was probably done by imported Chinese farmers and prisoners, and possibly by impoverished Xiongnu (Di Cosmo 1994). The Xiongnu had military agricultural colonies with Chinese prisoners, who probably worked the land while the Xiongnu military guarded them. Collecting Chinese prisoners was one of the main reasons for looting neighbouring China; some were probably bought from other nomadic tribes. Chinese farmers came to the Xiongnu on their own initiative because living conditions were better among the Xiongnu than in imperial North China (Hayashi 1984). Probably also some farmers came from the (sedentary) Western regions. In addition to housing farmers, the fortified villages were mainly for storage of provisions.

After the Xiongnu state ended, there is a gap of about 450 years with few indications for agriculture on the Mongolian steppe. The Xianbi took over from the Xiongnu in the first century CE. They grew grain in favourable places, but whether this was on the steppe or in an area with a sedentary population is not clear. After a large number of Xianbi had gone to northern China, the Juanjuan (or Rouran) took over from the Xianbi. Their empire reached from the Ili river to Manchuria. They ruled Mongolia from ca.400–552 (Sinor 1990) and also practiced agriculture, but the locations are not known. A fortress/village with agriculture is mentioned in northern Mongolia, but on the whole such villages were not so developed among the Juanjuan as among the Xiongnu. Hayashi (1983) states that also among the Xianbi and the Juanjuan farming was mainly done by Chinese.

The Juanjuan were conquered in 552 by the Türk, who had a steppe state up to 744 CE covering an area

ranging from the Aral Sea to Manchuria. At that time there probably was some agriculture of importance. Agriculture was mentioned in inscriptions of the 8th century (the Orkhon inscriptions) with Türk words for "field" and "grain" (Lopatin 1939, 1940), which were interpreted by Thomsen (1896, p.67) as "seed grain." It was requisitioned from China by the Türk Khan together with 3000 farming tools. The Tang imperial records indicate that in 627 the grain harvest of the Türk (probably not all of it) was bought by China for the army (which is surprising considering the large agricultural production in China itself). Both in 520 and 698 seed grain and farming tools were imported from China, which may have been needed to replace seed grain that had been lost or consumed. Farming (beans and cereals) was done north of the Yellow River between Li He and Hequ and around present-day Hohhot. In 694 (?) Qap Khan invaded northern China carrying farming tools and seeds, with the intention to occupy the area (Liu Mau-tsai 1958, pp. 456-7, 751; Hayashi 1990).

The Turkic Uighur, who replaced the Eastern Türk in 744, had their state in Mongolia up to 840 CE. They built towns, including the capital Karabalgasun on the Orkhon River and Baybalik on the Selenge. The population in the towns (traders, officials, clerics) needed food; this stimulated agriculture to produce grain and vegetables. Tamim ibn Bahr, an Arab traveller in 821 CE, described farming using irrigation near the Uighur capital (Minorsky 1947–8). In addition, Manichaean beliefs adhered to by the Uighur required the clergy to eat onions and "other strong vegetables." This led to an edict (in 763) that the population as a whole was to eat vegetables, not meat. Remains of irrigation works are still extant near Karabalgasun, and grain as well as pestles and millstones have been found during excavations in the town. Also millet was found in graves, but Mackerras (1990, p. 336) states that nomad cattle breeding remained dominant and that the Uighur continued to be nomads to a large extent.

The Khitan, nomads from what is now Manchuria, formed an empire (the Liao) in northern China in 916 but before this they had occupied eastern and central Mongolia in ca. 860, several decades after the Uighur had been defeated by the (nomadic) Kirghiz. To feed the occupation army they started agricultural projects along the Kerulen and Orkhon rivers around 1000 CE, probably irrigating the fields with river water (Wittfogel and Feng 1949). Harvests (of millet and wheat) were very good but presumably ended when the Khitan were defeated by the Jin in 1125 and left Mongolia. The Jin, who succeeded the Khitan (or Liao) in northern China, did not occupy Mongolia. It was left in the hands of various tribes and tribal confederations until the 13th century when the Mongol empire emerged from among them. There are no indications that agriculture was practiced during that time. In the "Secret History of the Mongols," written in the early 13th century, grain and granaries are mentioned in the area of the Merkit who lived south of Lake Baikal on both sides of the lower Selenge river between present-day Kiakhta and Ulan Ude (de Rachewiltz 2004).

During the Mongol conquests in ca.1220 agriculture (millet) and granaries were observed on the flanks of the Khanggai range and on the plains south of Uliassutai (preset-day Uliastay) by Chinese travelling to Chinggis Khan in Afghanistan. There were irrigation canals and the farmers were at least partly Moslem (Hui He), probably Uighur; the autumn harvest was already ripening when the travellers passed through. It is most likely that these farmers were the captives that Chinqai had brought (probably in ca. 1212) from Central Asia and had settled between the Khangai and the Altai mountains. This was called the *Chinqai Balgasun*, the town, or granary, of Chinqai. The settlement was only partly successful, as a number of captives could not endure the harsh climate and had to be resettled in Hebei in northern China, but the settlement in Mongolia persisted until the 14th century (Buell 1993; Waley 1931). The original purpose of the settlement probably was the production of grain for the army.

A few decades later, the Mongol Khan Ögedei initiated farming (with irrigation) near the Mongol capital Karakorum along the Orkhon River to feed the town's population and visitors. Mainly barley and two kinds of millet, vegetables and spices were produced, but the production was not sufficient and imports were needed together with imports of vegetables and spices that could not be produced locally because of the climate (Dardess 1972–3, Rösch et al. 2005). Also grain was produced in southern Siberia in imperial colonies. Several decades later, the Khan and future emperor of China Qubilai could successfully blockade his rival Ariq Böke in Karakorum by cutting off the supplies of grain from China, which indicates that production in Mongolia was insufficient Later he stimulated farming to feed both the impoverished local population and the army in Mongolia, in areas that apparently had been already under cultivation before: along the Kerulen river, near Karakorum and around Chinqai Balghasun as well as in the upper Yenisei basin. In 1272 an army unit was ordered to open canals and plough fields; in 1279 oxen and tools were issued to an army unit (the same one?); in 1288 water from a river was used to irrigate the fields of the local population; in 1289 troops were sent to dig more canals; and in 1297 plow oxen were issued to farming households. In spite of these efforts, agricultural

production, as under Ögedei, again was insufficient to meet the needs (Dardess 1972-3). After the Ming succeeded the Mongol (Yüan) empire in 1368, Mongolia was occupied by different independent tribes, and there are no indications of farming during that period. Barfield (1989) states that around 1632 grain was always in short supply, but the reason why is not clear. Grain (as well as livestock and metal) was imported for the common people and to feed prisoners; luxury goods were imported for the elite.

From about 1725 to 1911 during the Manchu (Qing) occupation, farming was largely done by local labour around the monasteries (especially in the 19th century) and, into the 20th century, by Chinese settlers on local plots. The Manchu at first did not support the development of agriculture in Mongolia, but in 1715 the Kangxi emperor ordered the military to prepare suitable regions in central Mongolia for agriculture. Until 1911 military camps were maintained by the Manchu where millet, barley and wheat were cultivated (Bold 2001). Already in the 18th century Chinese farmers had come to Mongolia, with certificates or without, and settled there. Many took Mongol wives and at least a number of them supplied the local people with grain (Bawden 1982). Large scale industrial farming including sprinkler installations was initiated after ca.1960 by the state, while the local farming at favourable localities by nomads continued. Fodder was produced when industrial farming and husbandry were introduced in state farms. At present ca. 1 % of Mongolia is arable land (Petrov 1970, Forni 1995). Between ca.1960 and 1992 less than half this area was cultivated and less than 10% irrigated. Present large-scale farming is limited by the costs of labour and irrigation, which are high in relation to the price that can be realized for the products. Large scale vegetable production is entirely dependent on irrigation; in 1992, 20% of the potatoes was produced with irrigation and 10% of the fodder (Forni 1995). Farming occurs, or has occurred in the late 19th and in the 20th century mainly around Hovd and Ubsa Nuur, near the Khan Khuchei mountains, in Hovsgol, Bulgan, Selenge, eastern Khentey, Dornod and in the Gobi, producing grains, fodder, potatoes and vegetables (Petrov 1970; Friters 1949, pp. 27-8). Small plots are locally farmed for vegetables by the nomadic steppe population (Germeraad and Enebisch 1996, p. 91).

The oldest (Neolithic) sites with agriculture were located near water (a river, a lake), but there is no indication that this water was used for irrigation. Also the Xiongnu sites are located near water (the Ling wu and Ivolga rivers and probably other streams), but there is no indication that irrigation was used. How the Türk farmed is unknown, but from the Uighur period to the present irrigation is mentioned. The sources indicate only irrigated farming under the Uighurs, Khitans and Mongols in Mongolia, but it is likely that there was also farming on small plots without irrigation. Only in modern times is there a clear distinction between large scale farming without irrigation and irrigated farming. For the latter, success of the harvest depends on the availability of river water or ground water during the growing season (spring to summer) rather than on local precipitation. Apart from the availability of water, on the steppe the success of any farming depends on the absence of heavy frost or excessive rainfall during the growing and harvesting seasons.

Steppe farming in Mongolia: palaeotemperatures and palaeohumidity/precipitation

Although we know about agriculture on the steppe in the past only through scattered archaeological and historical records, we can attempt to investigate to what extent farming on the steppe was influenced by climate fluctuations by comparing those records with the estimates of temperature and humidity/ precipitation during the past few thousand years. After the last glacial period in the Pleistocene, that ended around 12.000 BP, a worldwide pattern of climatic improvement led to a thermal optimum that ended ca. 3500 BCE. Then there was a step-wise change to somewhat cooler conditions, that resulted in cooler and more arid conditions on the Eurasian steppe after 2500 BCE. Although Chen et al. (2003) estimated from sediment cores of Lake Yanhaizi (Inner Mongolia) that 2300–1200 BCE was still a relatively wet period, data from Uvs Nuur in northwestern Mongolia indicate that in that area the climate became dryer already after 3000 BCE, and dune sands were deposited over soil profiles formed during the previous more humid period (Grunert et al. 2000). On the southern Loess plateau in North China a more arid climate began around 1100 BCE (Huang et al. 2003).

For agriculture on the steppe after about 1000 BCE it is important to know to what extent water was available in the rivers during the growing season as well as the amount of precipitation during the growing season and the air temperature in summer and spring. Lack of water or prolonged winter frosts would prevent the grain from growing and ripening. A warmer climate with more snow melting in the mountains is favourable for growing grain, as more water is available in the rivers and spring temperatures would generally be higher. Former air temperatures can be estimated from the oxygen isotope ratio (δO^{18}) in organic material and in carbonate and from tree growth conditions that are indicated by tree rings, which are wider apart when conditions are better.

Pollen spectra in peat and sediments give general indications of climate conditions, as do palaeosols and ice cores. Tree rings and oxygen isotopes in organic material indicate temperatures during the growing season, ice cores indicate winter temperatures, and palaeosols indicate the general conditions of temperature and humidity. In addition to this there are historical records that indicate climate conditions, and recently climate modelling became a tool for understanding past climatic variations. As the records show, large volcanic eruptions with an enormous output of ash and aerosols can lower the temperature over a large part of the world for one or several years (Briffa et al. 1998). This occurred in 1453 (eruption in the South Pacific in 1452), 1601 (eruption in 1600 in Peru) and 1815-18 (eruption of the Tambora in Indonesia in 1815), but such short-term temperature drops are often not visible in local data.

Relevant for the climatic history of Mongolia during the last 3000 years are the palaeotemperature and paleohumidity/precipitation data, that were collected in Mongolia as well as in areas adjacent to Mongolia (Inner Mongolia, southern Siberia).[1] The palaeotemperature data are summarized in Fig. 1, those for palaeohumidity/precipitation in Fig. 3; data for both palaeotemperatures and palaeohumidity/ precipitation in the Baikal region, Mongolia and the Uiuk and Minusinsk depression (from Koulkova 2004) are given in Fig. 2. There is no agreement or synchronicity between the warmer and colder, or dryer and wetter periods at different localities. Warmer conditions occur at one locality at the same time as colder conditions at another. For example, in the Khitan period, when harvests were described as large, the climate may have been warmer (Hulun Buir, Fig.1.V) and more humid (Fig. 3.7), or colder (Tumo plain, Fig.1.VII) and more humid (Fig. 3. 3) or dryer (Telmen Lake Fig.3.1; Daihai Lake, Fig. 3.6). The warmer or colder, dryer and wetter conditions that are observed/estimated therefore reflect primarily local conditions and are not representative of a larger area.The transition to warmer or colder (and wetter or dryer) conditions in fact is more gradual than indicated in Figs.1 and 3, where sharp lines are drawn, but even if a gradual transition takes a century (from – 50 yrs. to + 50 yrs. from the line), there will be no more agreement or synchronicity between the various locations. An analogous comparison (by Rosen et al. 2000) of warmer and cooler/dryer and moister periods between 2000 BCE and 1500 CE in southern Kazakhstan, the Tien Shan mountains, and Lake Balkash, and pollen data in Kazakhstan and Siberia shows a similar lack of correlation, the data representing local/regional conditions. This local/ regional variation obscures the large worldwide changes in climate (as observed by Jones et al. 2009, and Chapman and Davis 2010). There is also no indication that low temperatures, or a rapid decline of temperature, north of China at the end of the Han (206 CE), Tang (906), Song (1279) and Ming (1644) led to the collapse of these dynasties and replacement by pastoral invaders from the north (cf. the contrary opinion by Zhang et al. 2010). It is more likely that the collapses were caused by internal conditions in China rather than by a temperature drop north of China.

The estimates of warmer, colder, dryer or wetter periods do not allow any conclusions whether during a certain period in Mongolian history, conditions for agriculture were more favourable or less. Also there is no agreement with the worldwide changes in climate (see Fig. 1.XI, after Jones et al. 2009). The large harvests under the Khitan and the disappointing harvests in Mongol times occurred in the same worldwide warmer period. This does not mean that the conditions may, or may not have been favourable, but that the available estimates of temperature and humidity/ precipitation do not show it. It seems more likely, therefore, that differences in farming techniques, or skills, were responsible for the differences in harvests, and not differences in temperature and humidity/ precipitation, or maybe the Khitan were just lucky with the weather. Or the size of the population that had to be fed may have led to disappointments, because harvests, although relatively large, were not sufficient.

Nomads and agriculture

Some interpretations have suggested that agriculture, or rather insufficient agricultural production, was at the base of the formation of the steppe states which existed in Mongolia (summary in Di Cosmo 2002). Prior to the population of the steppe by nomads in ca.1000 BCE, in its border regions there was nomadism on a smaller scale in combination with some form of sedentary life and animal husbandry. Khazanov (1984) distinguished a first phase of sedentary animal husbandry (presumably early in the second millenium BCE), that was induced by a change to a more arid climate which made farming less rewarding. This was followed by a second phase of semi-sedentary pastoralism, a third phase of husbandry in herds, using more distant pastures, and a fourth phase of semi-nomadic pastoralism and pastoral nomadism, which spread over the entire Eurasian steppe. Because of the need for protection on the steppe, an upper class of nomads emerged whose main occupation seems to have been warfare (Di Cosmo 2002). They appropriated the wealth obtained by trading with or looting the sedentary communities outside the steppe.

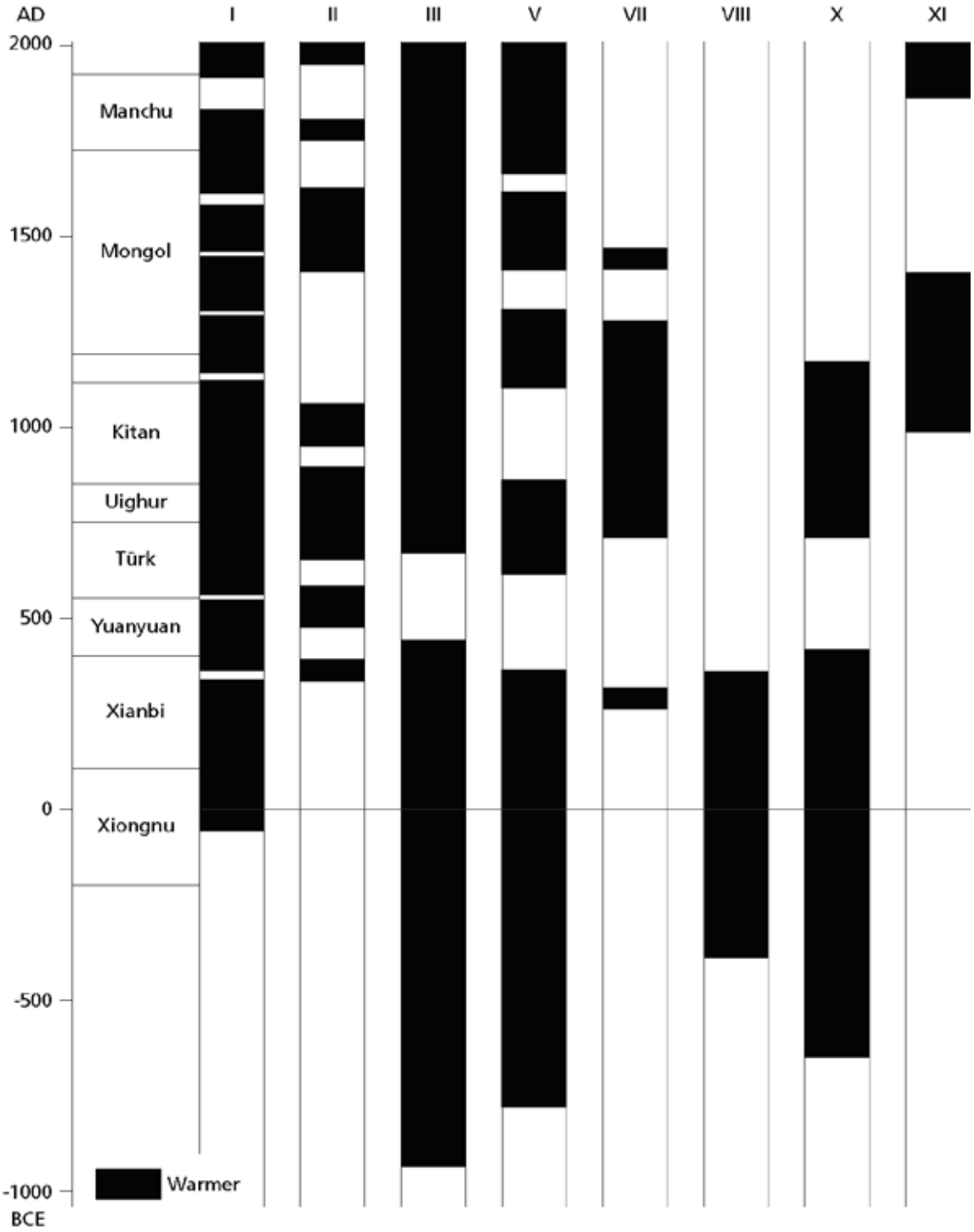

Fig.1. Estimated periods with higher temperatures in Mongolia and adjacent regions. Shaded areas: periods with higher temperatures than before or after.

I. West Mongolia (tree rings), data from Jacoby et al. 1996, d'Arrigo et al. 2001.
II. West Mongolia (lake sediments), data from Shinneman et al. 2010.
III. Inner Mongolia, Lake Zhuyeze, data from Fa Hu Chen et al. 2006.
V. Inner Mongolia, Hulun Buir (lake levels), data from Jule Xiao et al. 2009.
VII. Inner Mongolia, Tumo plain (historical records), data from Chen Guangming 1988.
VIII. Minusinsk, Kutuzhekovo Lake, data from Zaitseva et al. 2004.
IX. Jinchuan (Jilin) (peat bog), data from Hong et al. 2000.
X. North China, data from Jenkins 1974.
XI. Worldwide, data from Jones et al. 2009, Chapman and Davis 2010.

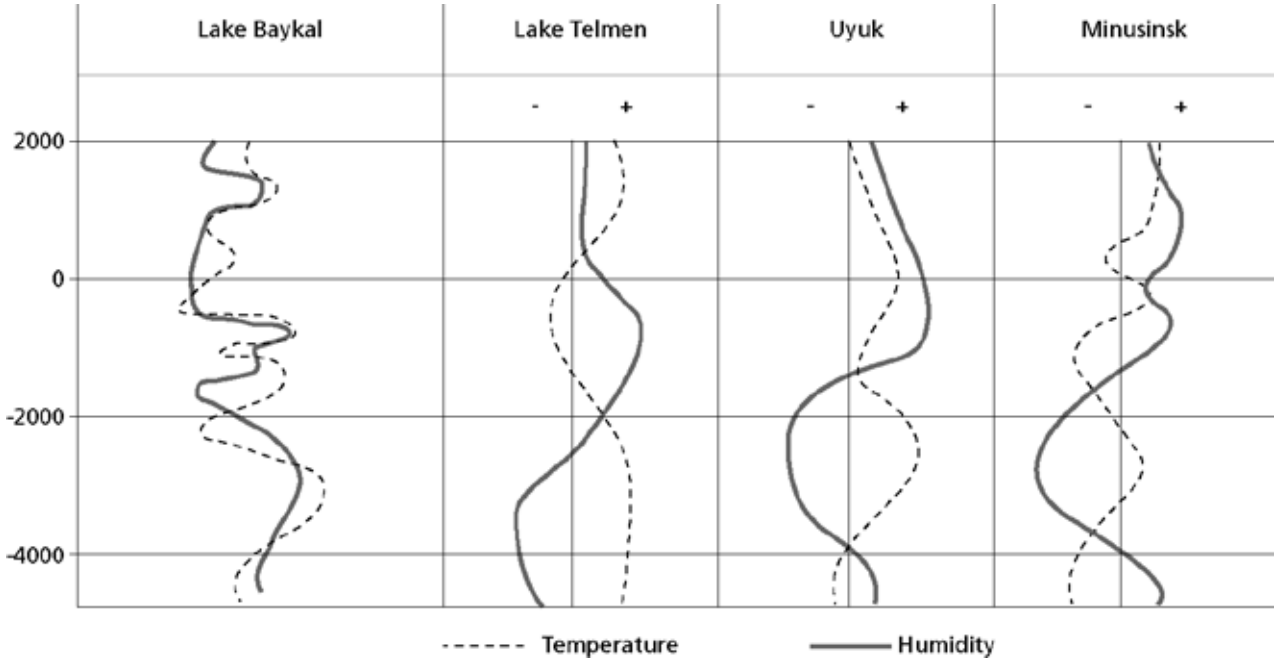

Fig 2. Estimated records of high and low temperature and humidity in the Baikal region, Mongolia and the Uyuk and Minusinsk depressions. After: Koulkova 2004.

North China protected itself against the looting and the raids with walls, fortresses and soldiers. While some have assumed that the nomads' response was to unite and form a steppe state, in at least certain cases this was not so. The Xiongnu state formed intially as a reaction to an invasion from China (by the Qin). The Türk and the Uighur states were the result of successful rebellions. In creating the Mongol state Chinggis Khan was motivated to expand into border states initially by a desire for tribute, spoils and prisoners (artisans) and to gain free passage for trade caravans, but not specifically to acquire agricultural products. Indeed it is impossible to determine whether there was a shortage of agricultural products among the nomads impelling them to trade with the farmers or to rob them. Di Cosmo (2002) argued against this hypothesis, citing the absence of any evidence in the archeological and historical records. Imports of grain from China — annual "gifts" — were only in small amounts; some degree of farming was present among the nomads themselves. Nomad raiding parties into the sedentary communities took away animals and people, not agricultural products; trading was done mainly to exchange silk for horses and other livestock. This could only be done in periods of relative prosperity on the steppe, when there was a surplus of horses and sheep. Farming was done near the steppe from Manchuria to the Tarim Basin but the commercial and economic relations of the steppe states were with the city states and non-Chinese agro-pastoral communities that lived alongside or within the steppe, and not with farming communities of interior China. Although there were many raids and wars between steppe states and the bordering sedentary states, both sides tended to incorporate territories with people (farmers) and livestock, so that the border regions became a combination of both nomadic and sedentary communities.

All these arguments make it plausible that agriculture was not an important factor in the formation of steppe states. Most archaeological and historical evidence for agriculture in Mongolia pertains to those steppe states where at least part of the population was concentrated in settlements: fortified villages among the Xiongnu (Ivolga was exceptionally large); towns and smaller settlements under the Uighurs, the Mongols, the Manchus and in the 20th century; military camps under the Khitan, the Mongols, the Manchus; monasteries in the Manchu period; and, in the 20th century settlements stimulated by Communist economic policy. To feed these concentrations of people agricultural products were needed, and local production had to increase. For the steppe states that did not build settlements (the Xianbi, the Juanjuan and the Türk) the evidence of agriculture is sparser or absent, and the same applies to "stateless" periods when Mongolia was inhabited only by tribes and tribal confederations. This does not mean that there was no agriculture, but rather that plots were scattered and few traces have been left. Also few graves from these periods have been found or excavated.

It seems then that, when needed, agriculture to a large extent was organized by the rulers of the steppe

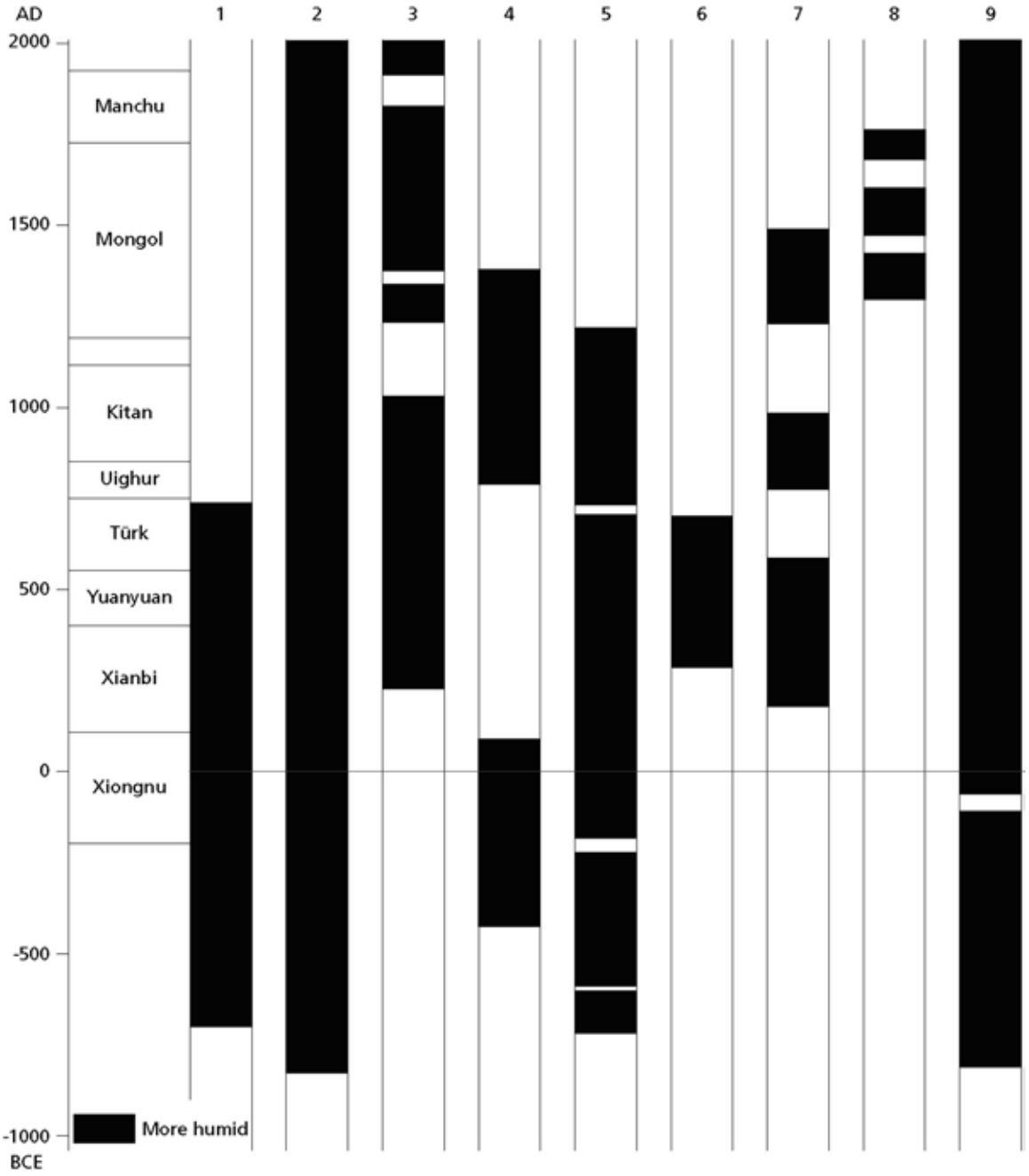

Fig.3. Estimated periods with higher humidity/precipitation in Mongolia and adjacent regions. Shaded areas: periods with higher humidity/precipitation than before or after.

1. *NW Mongolia, Telmen Lake, data from Peck et al. 2002.*
2. *NW Mongolia, Uvs Nuur, data from Grünert et al. 2000.*
3. *Inner Mongolia, Tumo plain (historical records), data from Chen Guangming 1988.*
4. *Inner Mongolia, Lake Zhuyeze, data from Fa Hu Chen et al. 2006.*
5. *Duowa, Qinghai (caves), data from Maher and Hu 2006, Maher 2008.*
6. *Inner Mongolia, Daihai Lake, data from Jule Xiao et al. 2006.*
7. *Inner Mongolia, Hulun Buir (soils), data from Li and Sun 2006.*
8. *NE China (groundwater), data from Gates et al. 2008.*
9. *Minusinsk, data from van Geel et al. 2004a, 2004b.*

states who also built settlements. It is likely that they did this because they feared a shortage would develop if they did not. An increase in settlements presumably coincides with an increase in populations needing to be fed. The Uighurs imported merchants and probably also artisans and officials, who lived in the towns around which also agriculture was concentrated. The Mongols imported both farmers from Central Asia and merchants and artisans, who came to live in Karakorum. Large amounts of grain imports from northern China were required, as local production was insufficient. Shortages might result when an army was stationed in Mongolia, as under the Khitan, the Mongols and the Manchus (who founded military farms), or when an increasing number of steppe nomads was not engaged in agriculture any more (e.g. because they were engaged in war). In the latter circumstance, agriculture was probably maintained by conscripting farmers. This involvement of the Khans with agriculture points to a possible motive for the formation of a nomad state: it was expected of a Khan to take care of the grain supply. If agricultural products are part of the daily meal, an assured constant supply is needed. This cannot be assured by raiding the settled communities or by trading with them, but only by a safe and constant production, by local farming, by importing farmers or by occupying productive areas.

For other steppe states the evidence is less clear. The Xiongnu imported Chinese farmers but probably not in very large numbers. Perhaps there was little need for them if, as seems likely, the population decreased when the Xiongnu expanded into the "Western Regions." One might also posit a decrease in population to occur when large numbers of them were scattered over northern China after the Southern Xiongnu had separated themselves from the Northern Xiongnu, and, defeated, the remaining Xiongnu moved westward (Yü 1990). If there were shortages of agricultural products in the Xiongnu period, they would have occurred in times of armed conflict. The Xianbi, the Juanjuan and the Türk may also have used Chinese farmers for agriculture in Mongolia (Hayashi 1990). The Türk used the Chinese in the border region north and east of the large bend in the Yellow River and in the region of present-day Hohhot, and invaded northern China to obtain the grain they needed (Hayashi 1990). Even if they did not build settlements, the Türk rulers showed they recognized a need to develop agriculture: Qap Khan invaded North China with the intention to settle farmers there. These were the areas with more favourable conditions for agriculture than might be expected on the steppe. There are no data to establish to what extent and in what numbers Chinese may have been employed in Mongolia but not in neighbouring regions. Both the Xiongnu and the Türk could have obtained agricultural products from the sedentary regions they occupied.

After a steppe state with settlements ended, the settlements and towns were deserted and the population was dispersed. At the end of the 1st century CE, when the Xiongnu suffered heavy losses against the Chinese Han armies and the Xianbi, many fled to China or elsewhere, the settlements were abandoned and finally the Xianbi took over the territory vacated by the Xiongnu (Yü 1990). After their defeat by the Kirghiz the Uighurs moved west in large numbers to present-day Xinjiang. Defeated by the Jurchen, the Khitan likewise left Mongolia, some ending up in Manchuria, others in Central Asia. Driven out by the Ming, the Mongols in China returned to Mongolia, where they took up nomadic steppe life again. With the end of Qing rule in Mongolia in 1911, we see a similar pattern. In all these cases nomadic life became dominant again on the steppe. After the fall of the Manchu, when the Manchu army and the Chinese left but many Mongol continued to live in monasteries and in some settlements (mainly regional administrative centres), nomad life dominated (even today about 40 % of the population lives as nomads on the steppe).

As there is no indication of large imports of grain, or robbery, local agricultural production, at least partly carried out by Chinese farmers, probably was sufficient. Yet it seems likely that agricultural production was low and risky and with failures when it was too cold or too wet; so rulers of steppe states with settlements or towns without exception found it necessary to organize a good production of cereals and vegetables (and the Türk found it necessary to invade North China). In the absence of clear evidence to the contrary, there remains a possibility that during the predominantly nomadic periods shortages of agricultural products may have occurred. This may have led to some trading with, or looting of the farmers along the steppe borders, events not important enough to be mentioned in historical records.

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About the author

Doeke Eisma, a retired marine scientist of the Netherlands Institute for Sea Research, Texel, and the Sedimentology department of Utrecht University, studied after his retirement in 1997 East Asian History and (classical) Chinese at Leiden University. He has published on Mongol

history and recently completed two picture books on Deer Stones and Türk Stone Monuments in Mongolia.

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Note

1. In western Mongolia data were collected at the Tarvagatay Pass and Solongotyn Davaa (tree rings, Jacoby et al. 1996; d'Arrigo et al. 2001) and at several lakes (sediment cores, Shinneman et al. 2010). In Inner Mongolia data were collected at Lake Zhuyeze (Gansu) (pollen records, Chen et al. 2006), at Daihai Lake (sediment cores, Xiao et al. 2006), at Hulun Buir (Hulun Nur, Hulun Lake) (lake levels, Xiao et al. 2009), at the Tumo plain (historical data, Chen 1988). Estimates for the summer monsoon were given by Sheng–Hua Li and Jimin Sun (2006) and Feng et al. (2006). Northwest of Mongolia in the Minusinsk valley data were collected at Kutuzhekovo Lake (sediment cores, Zaitseva et al. 2004) and in the the Jinchuan peat bog in Jilin, northeastern China (oxygen isotopes, Hong et al. 2000). For northern China data had been collected by Jenkins (1974); more recent estimates of worldwide temperature changes during the last millenium are taken from Jones et al. 2009 and Chapman and Davis 2010.

Water Wealth and Energy in the Indian Himalayas

Kelly D. Alley
Auburn University

The Himalayas is a place of majesty where glaciers hug the world's tallest mountains, snow melt and precipitation combine to form the water of many vibrant river systems, and millennia of cultural and linguistic diversity guide human life ways. The Silk Roads of the past navigated this complex region and laid pathways of trade and communication and philosophical and religious exchange between continents. Along with these human endeavors, the towering mountains of the Himalaya housed the great water storages of Asia. Over the last century these waters have doubled in their value for human civilizations. Today while the Himalayan rivers provide water to sustain millions of people, they also generate hydroelectric energy for populations across South, Southeast and Central Asia (Fig. 1). Carved by the mighty power of the river flows, the steep mountain passages of the Himalayas steer water toward its long traverse across the plains societies. These rivers and their passages and pathways are the Silk Roads of today, linking the fundamental resources of water and energy to the vast needs and accomplishments of contemporary civilization.

Given its water wealth, all religions of the region have granted these mountains and rivers a revered position in cultural narratives and practices. The Himalayas are also a complicated land and river ecosystem. While their formidable geological barriers no longer prevent communication and interaction between neighbors, the region's rivers still flow in the directions dictated by geology, and citizens are forced to share water according to the paths of the river flows. As water enters a new phase of global commodification, even more is at stake for these river pathways as citizens and nation-states of the region compete to meet basic needs and special interests.

Apart from this widespread interest in water wealth and river flows, the contemporary fascination for the Himalayas also relates to the growing discourse on climate change and to concerns about the extent of melting glaciers (China Dialogue 2010; Immerzeel et al. 2010) (Fig. 2). The concentrations of water in the snowfields and glaciers of the Himalayas are a valuable storage and frontier resource, especially at a time when nation–states are vying for more water to meet growing demands and populations. But what will happen to these storages if the planet warms? How fast will glaciers melt and how will this accelerated melting affect the region's river flows? These questions are propelling a new wave of exploitation and policy on water management and climate adaptation in the region. The availability of water storage in the glaciers and the assumption that these glaciers might be melting faster are motivating a push for hydropower across the shared river basins.

Fig. 1. The 520 MW Tapovan Vishnugad dam under construction on the Dhauliganga tributary to the Alaknanda river in Chamoli District, Uttarakhand.

Fig. 2. The glacier feeding the Bhagirathi tributary to the river Ganga in 1993.

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The Himalayas and the Ganga-Brahmaputra-Meghna basin

Let us expand beyond the geological mountain system then and consider the Himalayas in the context of nested river basins and highlight the key human exploitations underway. Worldwide, glaciers provide the concentrated mass to supply melt water, stream flow and sediment to river valleys. In the Himalayas, the glacial system provides water and sediment to the intensively tilled valleys of the Indus, Amu Darya, Ganga (Ganges), Brahmaputra, Yellow, Yangtze, Sutlej, Mekong and Nu/Salween, and these river systems nourish food production and sustain the lives of millions. The Indian Himalayan ranges sit within two mega basins, the Ganga-Brahmaputra-Meghna basin and the Indus; both have raised great river valley civilizations through human advances in hydraulic engineering. If we take one mega basin in this paper, the Ganga–Brahmaputra–Meghna (Fig. 3), we can focus on the major water and energy interests at work today and model what is occurring across the river systems of the Himalayas.

This mega basin has geopolitical dimensions that are affected by patterns of climate change and the sharing of glacial formations and waterways across nation-state boundaries. Before taking this wider focus, let us first start by outlining the geographic and cultural dimensions of the Ganga sub-basin.

The Ganga's main stem and tributaries drain more than one million square kilometers of China, Nepal, India and Bangladesh. The Ganga basin in India, which includes the Yamuna sub-basin, covers one fourth of India's geographical area. From the confluences of the Bhagirathi and the Alaknanda tributaries in the Himalayas, the river Ganga gains additional flow from Nepal's tributaries, glacial snowmelt and monsoon rainfall. Now the basin's sediment loads, which are integral to the river system, are driven by the deforestation of the Gangetic plains and the Himalayan foothills.

For at least two and a half millennia, the river Ganga has nourished human civilizations and great dynasties, and the Hindu and Buddhist pilgrimage traditions have grown up along the riverbanks. By the 4th century BCE, Pataliputra (now near Patna, the capital of the state of Bihar) was one of ten ancient capital cities of India. At the headwaters of the Ganga in the Himalayas, sacred shrines at Gangotri, Kedarnath and Badrinath have marked the sources of the river's sacred power in the Hindu traditions. The temples of Kedarnath and Badrinath also celebrate their position at the snouts of Himalayan glaciers. Farther downstream in the sacred towns of Uttarkashi and Rishikesh and along the plains at Haridwar, Allahabad (Prayag), Banaras, Vindhyachal, Nadia and Kalighat people worship Ganga's waters through rituals of purification.

Over time the water wealth of this river has been worshipped by humans as part of the overall engagement that is necessary for human life. From these great attachments have emerged understandings of the river that revere and thank her. The Ganga has been worshipped as a river goddess by Hindus across India and the world (Fig. 4). According to the Hindu view, sacred spaces are not detached from ecology and the built environment but are embedded in them; Hindu texts and rituals explain this conjunction of divine power and the physical world. In this integrated view, Ganga is a goddess who absolves worldly impurities and rejuvenates the cosmos with

Source: Independent Broadcasting Associates, <http://www.ibaradio.org/India/ganga/extra/maps/maps/map1.html>

Fig. 3. Map of the Ganga basin.

Fig. 4. The river goddess Ganga. North India, 5th century CE. Museum of Asian Art, Berlin, MIK I 5864.

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Fig. 5. Devotees bathing in the Ganga at Assi Ghat (in the late 1990s).

her purificatory power. She is also a mother who cleans up human sin and mess with loving forgiveness. Hindus show their respect to her in oil lamp rituals (*arati*) performed on the riverbank and in temple worship (*puja*). Most importantly, devotees seek spiritual purification by doing ritual ablutions (*snan*) in the river (Fig. 5).

The Ganga basin of today holds over 800 million people. From the Himalayas to the Bay of Bengal, the Ganga passes by more than 30 major cities of more than 300,000 residents and the river borders many other smaller towns. The Ganga has provided municipal and industrial water for these cities. India's Central Pollution Control Board reports that three-fourths of the pollution of the river comes from the discharge of untreated municipal sewage draining from these urban centers. (Central Board n.d).The Upper Ganga plain in the state of Uttar Pradesh is home to sugar factories, leather tanneries, textile industries of cotton, wool, jute and silk, food processing industries related with rice, dal and edible oils, paper and pulp industries, heavy chemical factories, and fertilizer and rubber manufacturing units. Industrial wastewater is discharged by all these industries and contains hazardous chemicals and pathogens. Four major thermal power plants depend upon water from the Ganga.

In addition to the very serious deterioration of river water quality across the plains, groundwater levels are declining in northwestern India from over-pumping for agriculture (Rodell et al. 2009; Scott and Sharma 2009). As surface water quality declines, residents turn to groundwater for a good portion of domestic, municipal, agricultural and industrial needs. The groundwater supply will need recharge from adequate river flows to continue to meet such high demands. River flows that are altered by hydroelectric dams and canals and that divert water to needy urban centers are affecting this recharge rate. In the warming climate, faster glacial melt may bring more water into the river system at some times of the year but can lead to flash floods especially in riverbeds that have become disembedded from ecological and hydrological systems by dams and diversions (Mustafa and Wrathall 2011). Increased rainfall and glacial melt may help to recharge groundwater and dilute pollution in the river's flow but can lead to dangerous and deadly flooding.

Panning out from the Ganga's pathways we can nest our understanding of water uses in the wider Ganga-Brahmaputra-Meghna basin. This larger basin is bound in the north by the Tibetan Plateau, in the east by the Yunnan and Sichuan Provinces of China, in the south by India and in the west by Pakistan. The transnational population of this wider basin is now reaching one billion. The Brahmaputra sub-basin is gifted with water wealth, hydropower potential and high biodiversity, while the waters of the Ganga and Meghna are intensively utilized for agricultural and industrial production, urban settlements, hydropower and everyday sustenance. Nepal and Bhutan, the smaller upper riparian countries, have significant hydropower potential and favorable ratios of per capita water availability. Bangladesh accounts for 8 percent of the total basin territory while the hydrological catchment covers most of the country.

People living across the GBM region face extreme fluctuations in water availability and river basin conditions according to an annual weather cycle. The weather alternates between high water availability — through extreme rainfall and flooding during the monsoon — and extended low flow during the nine month dry season. With the use of hydropower technology, the water source and availability is also modified in time and space through storage ponds and reservoirs, to meet year round demand. In addition, hydropower is attractive for contemporary societies because it serves as an add-on to coal and nuclear power through its capability to meet needs for "peaking power." While large storage dams can hold a massive amount of water behind a barrage and facilitate water redistribution and reallocation, run of the river dams halt the river flow for a short period, hold water in a small storage pond and then release it through a head race tunnel to generate power on

demand. Especially with run of the river projects, the downstream flow regime alternates between diminished flow at some hours of the day and rushes of water at others. Residents living downstream face seasonal flooding from glacial melt and monsoon rains and in addition see changes in stream flow from the hydropower projects, which may also create flood effects. This means that residents living downstream from one or many dams and diversions will be witnessing and adapting to all these changes in the river's rate and direction of flow, which create cumulative requirements for human adaptation (China Dialogue 2010; Lahiri–Dutt 2012; Schwarzenbach et al. 2010; Malone 2010).

Over the last century, the people of South Asia have engaged with the land and its resources intensively, to meet growing demands for food, bioenergy and urban development. Human populations have converted forest, grassland, and shrubland to cropland at a rapid rate, making it the dominant landscape in most regions of South Asia today. More than 70% of total land area is now under cultivation. Irrigation, use of fertilizers and double cropping have also increased since the 1950s. This agricultural expansion and intensification have triggered carbon and greenhouse gas emissions, land degradation, soil erosion, and loss of biodiversity and freshwater storage (Mann 1995; Tian et al. 2011). Carbon loss through deforestation and phytomass degradation has dominated the terrestrial carbon balance in the 20th century. In a region governed by a monsoon climate, the shrinkage of natural vegetation weakens the sustainability of systems and makes the region more vulnerable to extreme climate events, such as flooding.

Hydropower in the Himalayas

Let us turn now to the key energy movements in the GBM basin. Hydropower is an important energy strategy that now reshapes the ecological functions and services of a river system. Although large dams were built just after Indian Independence as part of national development and significant resistances to these large dams developed in the following three decades (Baviskar 2005; Dharmadhikary 2005; Gilmartin 1995; Singh 1997; Wagle et al. 2012), the current wave of dam investment has been motivated by the 21st-century interest in industrial growth and urban expansion. In 2002, the Government of India announced a *50,000 megawatt initiative* to narrow the gap between supply and the growing demand for power. This hydropower push has focused on the Indian Himalayas where the steep drops of tributaries to the Indus, Ganga and Brahmaputra rivers have the potential to generate larger outputs of power. The sites of current development are located across the northern region of India, in the states of Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Sikkim, Arunachal Pradesh and Assam (Fig. 3).

Along the northwestern tributaries of the Ganga in the State of Uttarakhand, the Tehri dam and several run of the river dams were constructed to provide energy and water supply to the northwestern states of Uttar Pradesh, Delhi and Rajasthan. Activists, citizen groups and scientists have opposed this rapid dam construction; in general the development has been fierce and controversial with energy and industrial interests in water pushing out allocations and uses for farmers and residents (Wagle et al. 2012). Along the Beas and Sutlej rivers that flow into the Indus river system, several hydropower projects have been constructed and many are underway. There are also local and regional protests over these projects. In Sikkim a cascade of dams is proposed along the Teesta river to augment the existing two. In the northeastern state of Arunachal Pradesh, the government has sketched up a blitz of projects along the main tributaries of the Brahmaputra, along the Siang, Subansiri, Lohit, and Dibang rivers (Yumnam 2012).

The current push for hydropower across the Indian Himalayas is supported by assessments that only a small portion of the power potential has been tapped in the region (Menon and Kohli 2005; Government of India 2010; Vagholikar and Das 2010). Investors have been lured by new incentives for open access and the freedom to sell power on a merchant basis, the possibility of transferring hydrological risks to the public, and recent trading in Clean Development Mechanism (CDM) carbon credits (Dharmadhikary 2010; Dharmadhikary 2008; Yumnam 2012). But contrary to expectations, hydropower does not always result in an increase in energy for people living in these river basin cities and towns; generally local citizens get the end of the trickle down effects of an increase in power supply. The bulk of energy generated is sold to high end users such as industries and urban facilities (Sreekumar and Dixit 2010; Wagle et al. 2012). In addition to their energy usage, the high end users also withdraw significant amounts of water for industrial and urban processes and return large amounts of wastewater to the river system.

While the northwestern tributaries to the river Ganga have been subjected to rapid dam development for over two decades, the northeastern region is now ramping up for a spurt in activity. Government agencies such as the Ministry of Power and public and private sector hydropower companies have been able to override citizen resistance in the northwestern states to a great extent by completing projects and altering

river courses, but they are facing stronger opposition to dams in the northeastern Himalayas. In general, citizens of the northeastern Himalayan states have had a vexed relationship with the central government. Guerilla movements motivated by various aims have destabilized central Indian control, sought separate states, redrawn existing states and arranged partial agreements with neighboring countries to forge specific goals. A general conclusion from history is that there is a powerful culture of political and cultural resistance that continues today, especially through student union groups. As Baumik (2009) notes after years of work as a journalist in the region, these student and youth groups thrive on the margins of the Indian political system, in the buffer space between political parties and insurgent groups. Along with student unions, human rights organizations, gender-specific groups and social platforms have entered the sphere of civil society. These groups now push back against central and state government hydropower plans and the alliances that use private Indian and foreign companies to garner finance and carry out intensive land use changes.

The Lower Subansiri dam, sitting just north of the border between Arunachal Pradesh and Assam, is the largest dam under construction in the northeastern region. This 2000 MW dam is a run of the river project that will generate power for export to the capital city of Delhi through the Agra transmission line. The downstream effects of this project will impact agriculturalists and citizens of Assam, who till and live in a plains ecosystem governed by cycles of annual flooding. This annual flooding nourishes sediment and provides a multitude of wetland ecosystem services. In particular, citizen and indigenous groups and farmers unions have been opposing the Lower Subansari dam by debating government plans and clearances and blocking the passage of engineering equipment for the dam (Menon 2011; Panos 2011; Thakkar 2010; Vagholikar and Saikia 2009). The central government has responded by arresting what they call "anti-dam" leaders and promoting a nationalist prestige for hydropower projects (Thakkar 2010). In 2010, the Government of India reluctantly assigned an expert committee to evaluate this project, but the findings, which purportedly set a limit on the height of the dam, were not declassified for public review. More recently, the Brahmaputra Board has argued that the project plan has an insufficient flood cushioning provision (Assam Tribune 2012). As residents of the region position themselves for or against hydropower plans and projects, scientists and nongovernmental groups are using satellite imaging and data exchange through the internet to bypass government control of information. University groups and scientists are aligning for or against individual hydropower projects as they are courted for expert opinion.

Citizen concerns about ongoing dam construction

The push-back against dam development in the Himalayas, though falling short of direct water wars in the GBM basin, works on the assumption that more hydro-development in the Himalayas will have wide-ranging and largely negative effects for capital relations, agricultural and livelihood subsistence, and ecological and biodiversity across all basin countries (Bosshard 2010; Ahmed et al. 2004; Dharmadhikary 2008; Lahiri–Dutt 2012; Menon and Kohli 2005; Vagholiar and Das 2010; Wagle et al. 2012). Most ongoing and proposed dam projects connect a local water resource to national and supranational institutions and markets, and the push-backs occur as: 1) the struggle for people's or public rights for water against individual or corporate control of water sources and uses; 2) the opposition to government attempts to centralize decision–making against the democratic and constitutional provisions for self-rule and devolution of power to local government levels; and 3) the commodification of water that omits attention to sociocultural, hydrological and ecological systems. While construction has already been rapid in the northwestern states, future dam construction will occur in the northeastern states of Sikkim and Arunachal Pradesh, and the neighboring and downstream state of Assam will be profoundly impacted and wrapped up in all its neighbor's water decisions. Chinese public and private sector companies are building four run of the river schemes and planning a mega dam larger than the Three Gorges Dam along the Yarlung Tsangpo, the main tributary to the Brahmaputra. These projects will directly impact the functioning of the Indian dams downstream and overall water availability in Arunachal Pradesh, Assam and Bangladesh.

Back in the northwestern states, the short term effects of run of the river dams are coming to light after pressure from a number of groups forced the final cancellation of two projects in 2010. Shortly after the government's announcement of the 50 megawatt initiative, the Ministry of Power charted out an over-ambitious plan to dam all the tributaries of the river Ganga at more than 60 places in Uttarakhand state. Maps of these plans began circulating through civil society networks, and people in and outside the state grew worried about the cumulative effects of these dams on water availability downstream, and general water quality in low flow situations (see South Asian Network n.d.). Local resistance movements formed and then pressure was exerted on government

through exercises of resistance fasting. Civil society or environmental activists use the Gandhian ritual of fasting to push government officials toward a final decision on an issue or project, and to draw the attention needed to register the official decision in the public media. These public records can be used by citizens to enforce accountability when a government agency attempts to backpedal or reverse a decision later in time. To oppose the Loharinag Pala dam, a retired professor from a top engineering school and former chairman of the Central Pollution Control Board began a fast unto death. He started and stopped the fast several times before his final stretch in the summer of 2010. On the hour before his death, the Environment Minister announced that the dam would be scrapped and an eco-sensitive zone would be established in the area. This fasting by an important figure was the tipping point for the decision to cancel a problematic project (Drew 2011, 2012).

In 2010, the Indian magazine, *Frontline*, ran an announcement on the report titled "Performance Audit of Hydropower Development through Private Sector Participation" (Tripathi 2010). In the report, the Comptroller and Auditor General (CAG) argued that the government of Uttarakhand had pushed the state toward a major environmental catastrophe by following a highly ambitious hydropower policy. After the cancellation of run of the river dams at Loharinag Pala and two in the advanced planning stage (Pala Maneri and Bhairon Ghati), the Ministry of Environment and Forests issued the *Notification for an Eco-Fragile Zone on the Upper Bhagirathi* to protect the upper Bhagirathi and ban additional hydropower projects, indicating that some policy makers may have realized a threshold for altering the river stream and flow regimes in the upper reaches of the Bhagirathi. A new study on recent flooding in Pakistan states that the aggradation of river channels caused by water withdrawls and dam construction may be reducing the width of downstream channels, making river beds less elastic to extreme flows in the rainy season (Mustafa and Wrathall 2011). The loss of river beds and the carriage of sediment outside the channel may worsen flood peaks. Yet despite this understanding of the risks associated with emerging patterns of climate change, hydropower projects remain on the execution list for the end of India's 11th year plan and into the 12th year plan. The government has theoretically closed the upper Bhagirathi to additional dam construction, but continues to grant permits to projects on the Mandakini, Dhauli Ganga and Pinder rivers which flow into the Alaknanda river and eventually into the Ganga. On the Alaknanda tributary, a cascade of four dams is under construction with a mix of private and public sector financing and management. All the dams currently under construction — Vishnuprayag, Lata Vishnugad, Vishnugad Pipalkoti and Srinagar — are located in the fragile upper reaches of the Ganga basin. In total 13 dams have already been constructed in Uttarakhand and 57 more are approved or in various stages of construction (Alley 2011).

In addition to citizen resistance, the high courts and Supreme Court have called for more rigor in the environmental impact assessments overseen by the Ministry of Environment and Forests (Kohli 2011). For example in 2009, the Uttarakhand High Court responded to a citizen petition demanding a cumulative impact assessment for all the hydropower projects planned and under construction in the upper Ganga river basin in Uttarakhand. The Court requested that a scientific study analyze land use changes and basin–wide ecological problems and predict the effects of a rapid and prolific development of hydropower facilities. The final report brought new science and data into the public domain but also endorsed all the planned projects without finding a single one dangerous to ecosystems and services. In its conclusion, the report also argued to reopen the three projects the Ministry of Environment and Forests had cancelled in 2010 (mentioned above). This science report also contradicted the *Notification for an Eco-Fragile Zone on the Upper Bhagirathi*, the legal document issued in 2010 to protect the upper tributary from additional hydropower and urban development. In late 2011, the Government of India announced a committee to perform final financial closure for the three canceled dam projects, suggesting that it would not reconsider them. However, this cumulative impact assessment report remains a standing policy for water management and planning in the state of Uttarkhand. Its status was bolstered when the World Bank cited this document in the safeguard sheet for the new 400 MW Vishnugad Pipalkoti dam (World Bank 2009).

In the water and hydropower politics of the Himalayas, the concept of integrated river basin management emerges as a policy ideal; in this the goal is to have all stakeholders at the table with a fair say on how to use the river basin resources for all. But in reality the coordination is a confrontation, a push and push-back that characterizes the evolution of decisions and subsequent resource uses. Now the epistemic or decision-making community has expanded to include university scientists and extension specialists, finance and resource investors, Ministry of Environment and Forests regulators, World Bank and Asian Bank project managers and civil society members. Science groups have the potential to bring more ecological and climate expertise into the planning and assessment process. The new IIT (Indian Institute of Technology) consortium charting out the Ganga

Basin Management Plan is a good example of a group carrying out research and specific management and policy and bridging government agencies and civil society (see Gangapedia n.d.). Expert committees are also formed by court orders to offer analysis and comment on resource intensive projects including feasibility and detailed project reports. Experts are hired within and outside India by all parties with an interest in a project, and some of these experts find their way onto policy committees.

Water and energy uses in an upstream-downstream world

A recent US intelligence report characterizes the GBM basin as a basin with "inadequate" transboundary governance on water issues (National Intelligence Council 2012). Curiously, this "ungoverned" basin lies between two others that have a water sharing agreement through a treaty or river commission. To the west, the Indus basin is governed by the Indus treaty between India and Pakistan and to the east the lower region of the Mekong basin is governed by the Mekong River Commission. The GBM basin contains five countries that have different political motives and interests in water uses (Chellany 2012).

Bangladesh is located on the alluvial delta of three large rivers, the Ganges, Brahmaputra, and Meghna, and sits within a complex network of other rivers. Together these rivers contribute more than 90 per cent of the annual stream flow and about 80 per cent of the annual freshwater inflow into the country. India and Bangladesh have debated the management of trans-boundary rivers for decades, with Bangladesh focusing on their shortage of water during the dry season from January to May. In theory, the 1996 Ganges Treaty was to divide the share of the Ganga waters at the Farakka barrage but in the years between the commissioning of the barrage and the final treaty implementation India had already diverted a significant share to create a more viable port in Kolkata. This period of water diversion dried up the Padma basin and created problems for agriculture and soil quality in western Bangladesh. More importantly, it led Bangladeshis to a very negative view of water sharing with Indians that carries over into public discussions on India's river linking schemes (Ahmed et al. 2004; see also Khalequzzaman 2012).

Although India and Nepal have a long history of cooperation in irrigation and hydropower projects and six agreements and treaties on their shared rivers, the government of Nepal has adopted a very cautious approach towards India's hydropower projects and river linking proposals. Nepal's concerns center on the social and environmental costs of the huge storages that India would like to construct on the shared rivers. The argument is that storage projects in Nepal would be critical to hydropower generation, and would help to mitigate flooding in India and increase the flow of the Ganga at the Farakka barrage. The basins of Kosi, Gandak, Karnali, and Mahakali already have extensive links to accommodate the lean-season flows in India. However recent developments in Nepal show that hydropower investors from India and China are moving in to jump start the country's first big wave of hydropower development (Nepali First Media 2012).

A landlocked Himalayan country, Bhutan is almost entirely mountainous, with flatland limited to the broader river valleys and along the foothills bordering the Indian subcontinent. With the exception of one small river that flows north, all rivers flow south to India. Hydropower generation is the most important feature and the single biggest revenue source for Bhutan. Today, the power sector contributes about 45 per cent to the gross revenue generation in the country and accounts for about 11 per cent of GDP. For the exploitation of its massive hydropower resources, Bhutan is fully dependent upon India. As the largest aid donor to Bhutan, India has also assisted in a number of development projects in the country from electricity to irrigation and road development. The two countries have signed memoranda of understanding to prepare detailed project reports for several hydropower projects (Yaqoob 2005; Tshering and Tamang 2004). Two of Bhutan's rivers — Manas and Sankosh — are tributaries of the Brahmaputra and are also targeted in India's river linking schemes that surface from time to time in government plans and court orders (Alley 2004; Bhaduri 2012).

Only recently the Chinese Government admitted its role in the hydro politics of the region by confirming the construction of four run of the river dams along the Yarlung Tsangpo. The government generally addresses water scarcity problems by constructing large dams and water diversion schemes. In December 2002, the government launched a south-to-north water diversion project which consists of three south–to–north canals, each running more than 1,000 kilometres across the eastern, middle and western parts of the country. The project is considered China's largest water transfer scheme and will link together four of its seven major rivers. From its three hydrological stations located along the Yarlung Tsangpo, China has provided India with hydrological forecasts to mitigate floods in the latter's northeastern territory, but generally data and information sharing is weak between the two countries. However, neither hegemon appears interested in forming a multilateral commission with the other three basin countries to regulate and share water uses in the basin.

In 2005, Yaqoob (2005) noted that the Ganges-Brahmaputra-Meghna basin had the potential for political stresses in the coming five to ten years. Now seven years later one criterion of several generally cited parameters of basins at risk is evident in this region: rapid institutional and/or physical changes from major planned projects in hostile and/or institution-less basins that may outpace the transnational capacity to absorb that change (McNally et al. 2008: 2). As Yaqoob and others have noted (Zawahri and Hensengerth 2012), a regional cooperative framework is necessary in this basin to achieve equitable water resource development in the shared basin. A successful river basin organization should have strong support among governments, consistent and cooperative engagements, and high levels of authority through formal instruments such as legislation (Nishat and Faisal 2000). The hope of independent scientists and policy thinkers is that ongoing dialogue especially among scientists, NGOs and citizens will catalyze more official cooperation between countries. Since political and economic diversity and disparate political and cultural heritages can make decision-making difficult, it is important to have independent players or advisory groups to offer impartial expert advice. Good river basin management also requires mechanisms for transparency, public participation, and accountability to ensure that all local, regional and transnational concerns are incorporated into transboundary decision-making.

The future of the Indian Himalayan water towers that provide shape to the massive Ganga-Brahmaputra-Meghna river basin will be determined by the decisions all basin countries and citizens make separately and together. The actual water uses for energy generation, agriculture, industry and urban and rural municipal needs will be decided by pushes and push-backs over time. Situated here is a complex mix of 21st–century survival needs for water meeting 21st–century demands for the energy to fuel industrial growth. The river basin, for better or worse, connects and provides for all these plans and uses. These rivers, the Silk Roads of today, link geologies and cultures as they provision the great natural and man-made storages, the power from flows and all the sacred realms needed to bring water to people.

About the Author

Kelly D. Alley is Professor of Anthropology at Auburn University. She has worked in the Ganges river basin of India for over 20 years, studying interpretations of the sacred river Ganga and problems with river pollution and wastewater management. She is the author of, On the Banks of the Ganga: When Wastewater Meets a Sacred River (2002), and book chapters and articles on religion and ecology and environmental law and justice in India and the US. She is now working on water governance in the Ganga-Brahmaputra-Meghna basin. This research is supported by the Center for Forest Sustainability and the College of Liberal Arts at Auburn University. E-mail: <alleykd@auburn.edu

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EURASIAN STEPPE BRONZES (RE)DISCOVERED

Catrin Kost
Institute of East Asian Art History, Heidelberg University

John Boardman. *The Relief Plaques of Eastern Eurasia and China. The 'Ordos Bronzes', Peter the Great's Treasure, and their kin.* BAR S2146. Beazley Archive Occasional Paper. Oxford: Archaeopress, 2010. 91 pp. + 62 plates + 3 maps. ISBN 978-1-4073-0687-2.

Ulf Jäger, Sascha Kansteiner. *Ancient Metalwork from the Black Sea to China in the Borowski Collection.* Ruhpolding; Mainz: Franz Phillip Rutzen, 2011. 186 pp. + 230 color plates. ISBN 3-447-06496-X.

The study of metal artefacts from the Eurasian steppe belt has as long history and is connected with many different names. However, the names associated with the two publications under review here — John Boardman, Ulf Jäger and Sascha Kansteiner — are fairly new to the field. This is not surprising, as all three have a background mainly in classical and prehistoric archaeology and only Ulf Jäger (2006) has published on the subject before. Nonetheless, both books make interesting contributions to the field. With their splendidly illustrated catalogue, Ulf Jäger and Sascha Kansteiner allow the reader to discover another of the many private collections whose existence would otherwise be unknown, while John Boardman's preliminary study not only boldly addresses a problem that has been evident for a long time — the need for comprehensive studies of the known material — but also takes a first step towards a possible solution.

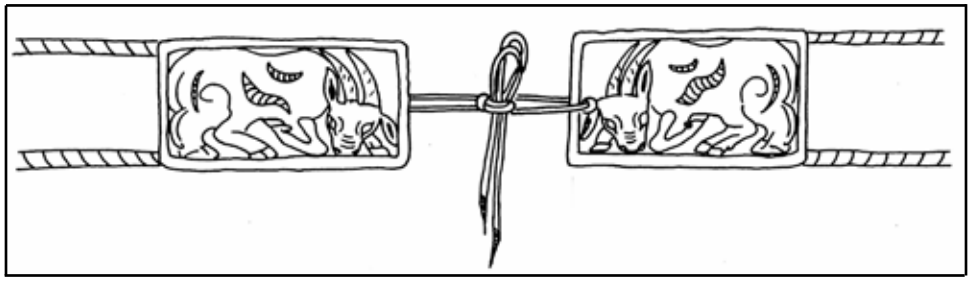
Sir John Boardman's study is written in a very dense style and seems to expect of the reader certain background knowledge of the subject. Already in the preface, Boardman presents us with a familiar problem: with private collections successively being made accessible and results of archaeological excavations being published, the number of known objects from the eastern Eurasian steppe is constantly growing. However, probably due to the vastness of the material, a systematic and comprehensive approach is still missing, or as Boardman puts it (p. 1): "Studies have been piecemeal." He is to be applauded for not merely pointing out the problem but for essaying its solution.

The main aim of the book is thus to create a corpus of material upon which more in-depth research can be based. The author focuses mainly on one group of objects — relief plaques which are commonly termed "belt plaques" or "decorative plaques" for garments, harnesses etc. (Fig. 1) These artefacts are characteristic finds throughout the eastern Eurasian steppe, and their figurative decoration has intrigued many other scholars before John Boardman. He analyzes the plaques by subject, style and form and arranges them in groups — a clearly art historical approach that may, the author hopes (p. 2) "lead more readily to conclusions of social and historical significance."

As becomes clear in the introduction though, rather than encompass a bigger corpus of material, the author focusses in the first instance on only one group of plaques, the so called "Rope–border series," which he sees as being more related to the Chinese kingdoms than to the mobile groups of the northern Chinese steppe. In Chapter 2 he describes their iconography and style in detail and orders them by type and approximate chronology, as well as by separating the solid from the openwork pieces. Each types is given a number and a letter (e. g., 1A) and is listed with reference to the corresponding image.

Fig. 1. Reconstruction illustrating one possibility of how plaques would have been attached to a belt.

Drawing © Catrin Kost



This chapter points out several useful things, for instance that the rope border, which in Boardman's opinion has roots in Chinese art, might have been inspired by chain–stitching for felt and cloth panels, or that the depiction of animals with beaked muzzles is likely to have drawn inspiration from the appearance of the Saiga, an antelope living in the Eurasian steppe. His elaboration on how the so-called *Kerbschnitt* pattern (p. 16) with which the body of many animals is decorated derives from woodwork found in Sarmatian sites is also convincing. The most striking feature of this chapter though is his drawings, in which he "explodes" the figurative decoration of the belt plaques. This is especially useful because some motifs (see, e. g., his Pl. 14) are of an extremely tight composition and thus hard to discern. So far no other scholar has made the effort to unscramble them.

In an attempt to identify the starting date for the production of the rope-border plaques, Boardman mentions the burial of Xinzhuangtou, which has been dated to the late Warring States period (i.e. the 3rd century BCE). The assumption that the two pairs of rope–border plaques found in the grave goods are amongst the earliest examples of the series is more than justified. However, on the basis of one find to question the date of the whole cemetery of Daodunzi, where several of the stylistically earlier plaques were found in graves containing Chinese Wuzhu-coins (cast from 118 BCE and thus a perfect *terminus a quo*), seems like jumping to conclusions.

Chronology remains problematic in Chapter 3, titled "Other Plaque Series." Here, the author outlines in much the same fashion as for the rope–border plaques a wealth of other material — irregularly shaped plaques ("outline plaques"), B/P–shaped plaques, plaques with a geometric decoration as well as plaques with drop, bar and plain borders. Boardman discusses style and subject, sorts, and proposes a relative chronology which is combined with thoughts on the absolute date. He also examines the possible Chinese influence on these plaques, which he sees as being more nomadic than the rope–border series and proceeds to a brief overview of the history of Peter the Great's treasure and the Chinese sites of Aluchaideng and Xichagou, both located in Inner Mongolia.

It should be stressed that, with very few reliably dated finds, chronology is a difficult topic for every scholar researching the bronzes of the eastern Eurasian steppe. Boardman himself rightly remarks that establishing a relative chronology seems to make much more sense than trying to determine the absolute date of individual finds. However, one cannot help but feeling that in Chapter 3 he treats too much material in too cursory a fashion, which in turn leads to generalizations that are incorrect. Statements such as, "Many of the works discussed in the later part of this section must be second-century in date, some much later," are not adequate when presenting material that can, with the help of accessible literature, be dated from the Early Warring States Period (5th century BCE) to the 1st and 2nd century CE.

Boardman's conclusions start with a few general remarks on the relations between the settled Chinese and the mobile groups of the steppe as recounted in in Chinese written sources. The author also stresses once more that he sees the rope-border plaques as Chinese products, while the plaques examined in Chapter 3 are more purely nomadic. But despite these labels, he admits (p. 88) that "places of manufacture are as yet impossible to determine." This, however, does not keep him from trying to put the rope-border series into a wider historical context. He does so by referring to the story of the King of the Zhao state (Zhao Wuling 趙武陵), who — according to written sources such as the *Huainanzi* (淮南字) or the Records of the Historian (*Shiji* 史記) — not only commanded his soldiers and officials to wear barbarian dress and use barbarian weapons but also did so himself. Boardman suggests that this might have been the very situation in which a Chinese belt–plaque series was born. In his view this process would have been facilitated by the fact that buckles (Chin. *xibi*; p. 89) had been a regular feature of Chinese garments for a long time. Drawing from earlier northern sources, the Chinese would have copied the form and decoration of the belt plaques, combining them with Chinese features such as the rope border. This, the author deducts, would place the starting date of the rope-border series during the reign of King Wuling of Zhao, 325–299 BCE.

The idea, of course, fits extremely well with the author's view that the rope-border belt plaques are a Chinese product. However, following his train of thought, one should be aware that in China traditionally not belt plaques but belt hooks were used to fasten garments. My own research (Kost, forthcoming) also shows that the term *xibi* 犀毗, which Boardman mentions and which occurs in written sources such as the History of the Former Han Dynasty (漢書), is one of the terms used specifically to designate "northern" belts, while other terms are used to identify the more typical Chinese belts.

A very nice aspect of Boardman's reasoning, however, is that it adds another layer to the ever present question of "Who produced the belt plaques and for whom?" (i.e. the Chinese for the nomads or the nomads for themselves) by proposing that some plaques were made by the Chinese mainly for their own use. It would have been interesting to hear his

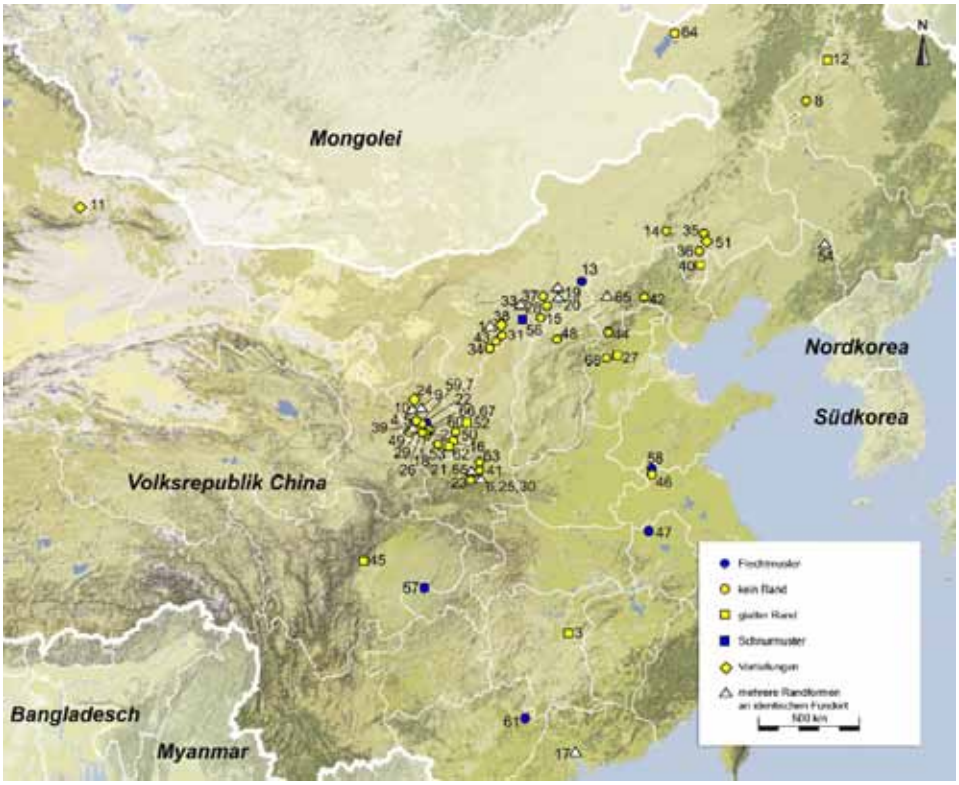


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Fig. 2. Distribution map for different kinds of plaque borders. Blue circles and squares indicate Boardman's rope-border plaques. Further examples of these appear at sites no. 1, 9, 10, 17, 33, 54, 65. White triangles indicate several different types of borders found at one site.

thoughts on why, then, so many rope-border belt plaques appear in graves of the northern Chinese steppe (Fig. 2). But unless proven otherwise through physical evidence of workshops, his idea certainly remains valid.

Reading John Boardman's book raised a very basic question that seems important to ask. The author himself remarks — and most archaeologists will agree with him — that stylistic studies are "not much in favour these days" (p. 7), but insists that "we ignore them at our peril" (p. 7). Personally I think that they are problematic but become more convincing the more closely they are intertwined with chronological discussion. But chronology, as already mentioned, is a difficult topic when it comes to the bronzes of the eastern Eurasian steppe. What differentiates this stylistic study from others hitherto published in the field is the singling out of a so-called "relevant" series, thereby running the risk of treating the objects within a bigger group unequally. No doubt, there are belt plaques which are much more masterfully designed and cast than others — but should the archaeologist not see this as connected with the individual abilities of a craftsman and treat *all* the objects in question *pari passu*, instead of automatically classifying the less splendid ones as "cheap imitations" (p. 24), "forgeries" (p. 24) or even the "sorry finale of a brilliant series" (p. 83)? My personal opinion is that we still know very little about the mobile groups of the eastern Eurasian steppe. By dismissing objects as being irrelevant, we rob ourselves of potential sources of information.

Despite the above reservations, it is important to stress that Boardman achieves the aim proclaimed in the introduction. This book is a preliminary study, born out of the fascination for a subject but also out of the realization that there is a substantial need for a more comprehensive approach to it. Thus, his inclusion of a relatively large corpus of material not only serves as the basis for his own research but will, he hopes, also be of use to other scholars.

The publication by Ulf Jäger and Sascha Kansteiner deals with a set of objects collected by of Dr. Elie Borowski. His collection forms the core of the Bible Lands Museum in Jerusalem, which he founded together with his wife Batya in 1992. The catalogue introducing these artefacts to a wider audience certainly is visually appealing. High quality color images accompany the 245 catalogue entries for the roughly 300 objects presented. These cover a timespan of about 1000 years (5th century BCE – 5th century CE) and, as indicated in the title, they come from a very large geographical area.[1] The artefacts from Eastern and Central Asia form a slightly larger group for which the corresponding 195 catalogue entries were written by Ulf Jäger, while the 50 entries on objects from Western Asia were written by Sascha Kansteiner.

Each author chose a slightly different order for his artefacts and thus the Western Asian objects are ordered according to country of possible origin. Finds from Eastern and Central Asia are mostly grouped according to object type, although Ulf Jäger follows the idea of John Boardman (in the book reviewed above) and differentiates rope–border belt plaques ("belt plaques," pp. 17–30) from the "other belt plaques"

(pp. 33–43) and the "outline–animal plaques" (pp. 44–47).

The catalogue entries supply all necessary information on the objects, such as descriptor, inventory number, material, place of assumed origin, proposed date, dimensions and in one case (pp. 142, 222) even information on the composition of the metal alloy. Following the basic data is a description of the individual piece, its form, decoration and the metalworking techniques involved in producing it. The descriptions are concise, easily understandable and of great help in discerning the very dense decoration of some objects. The terminology is precise and consistent, a laudatory feature not always found in catalogues. Only rarely might we ask for more of the high quality images; e. g., for artefacts such as the gold buckle (?; p. 149, No. 211) which retains its wooden core, it would have been nice to have an additional shot of the reverse.

Most readers will agree that the main aim of a catalogue introducing a collection is to present the objects. However, as demonstrated in Emma Bunker's publication of the bronzes from the Arthur M. Sackler Collections (1997), which includes excellent essays by herself, Kathryn M. Linduff and Wu En as well as data on metal analysis carried out by W. Thomas Chase and Janet G. Douglas, a catalogue can profit enormously from additional information on the history and archaeology of a region. Apart from a short foreword by John Boardman, in which mainly the allegedly "Chinese" objects are addressed, the publication under review here does not offer any introduction into the historical and archaeological context or important sites. One can assume that this is due to the large geographical area and the long period of time covered. Although desirable, such an essay is not essential, but its lack means that this book will be useful mainly for for people who have already gathered some background knowledge or for those who are interested in the objects mainly for their aesthetic quality. Less forgiveable is the inadequacy of the maps. Those that are provided show modern-day borders exclusively and are thus of limited use when using historical terms such as Persia, Scythia, Lydia etc.

In thinking more about what the catalogue might have done better, one might wish for an attempt to put objects back into their historical context. For Eurasian bronzes, a goal would be to give the "archaeological orphans" (a brilliant term coined by Emma Bunker) a new home by finding similar or identical pieces from excavated contexts which might help in determining an approximate date and area of distribution. Unfortunately, especially in the first half of this catalogue, opportunities that readily presented themselves to do this were simply not seized. While I would agree with most of the dates assigned to individual objects, their description and especially the information on the place of origin (or maybe rather the area of distribution) would really have benefited from more thorough research into recent studies of identical objects from archaeological contexts (e.g., Linduff 2008), and also newer Chinese publications (such as Wu En 2007, 2008).

To give but one example: page 35, No 32 presents a B/P- shaped (and not, as stated, a rectangular) openwork plaque depicting a scene of interaction between a horseman, two dogs and a monster (?) as well as a small two–wheeled cart. According to the author of the entry, similar images can be found on wall-hangings from the Pazyryk kurgans in the Altai mountains. Additionally, a mirror–image plaque in the collection of the Metropolitan Museum of Art is mentioned. While there are numerous identical and mirror-image examples of belt plaques of this kind in private collections, what seems more important is the fact that one mirror–image plaque was found in Inner Mongolia (Zheng 1991, pp. 12–13), while the sites of Daodunzi (Ningxia Hui Autonomous region) and Xichagou (Liaoning province) yielded absolutely identical objects. The site of Daodunzi is especially interesting (Bunker 1997, pp. 80–83; more detailed, Linduff 2008). Here the belt plaque, together with another B/P-shaped plaque depicting a recumbent horse, was excavated from the grave of a 50–55–year–old female. Both belt plaques were found at the feet of the deceased and thus not in a position suggesting she wore them when being interred. Apart from artefacts such as cowries, jewellery, beads made from different material etc. the burial contained Wuzhu coins, which were cast from 118 BCE and serve as a *terminus a quo*. The date provided in the catalogue is thus fine, but the location "North China" could have been refined by adding Ningxia, Liaoning and Inner Mongolia, and the information just mentioned would have given the reader a better idea of not only where these objects were found but also how they were used in a funerary context.

At the risk of sounding picky, in conclusion I might mention two more things. The first is a problem that one encounters frequently in western language publications using Chinese sources. At first glance, many Chinese articles do not seem to have an individual author. Instead, one or several institutions with sometimes — let us be honest — annoyingly long names are mentioned above the title of the article. An example would be the Archaeological Institute of the Ningxia Hui Autonomous Region, 宁夏回族自治区文物武考古研究所/Ningxia Huizu zizhiqu wenwu

kaogu yanjiusuo. In some, but not all cases though, the name(s) of individual contributor(s) — mostly scholar(s) affiliated with the institution whose name is cited — are mentioned at the very end of the article. Thus, to quote the work by just stating name, issue and year of the journal it was published in is simply not correct. One would never get away with citing *BMFEA* **(=** *Bulletin of the Museum of Far Eastern Antiquities*) 4 (1932), when referencing Johan Gunnar Andersson's famous article "Hunting Magic in the Animal Style." I firmly believe that Chinese colleagues and their research deserve to be treated in the same way.

Lastly, what spoiled some of the fun in reading this publication is the high number of spelling mistakes, typos and missing punctuation and spaces. This is especially sad because the catalogue is otherwise designed and presented in a very appealing fashion. Indeed, it is clear that Borowski's is a diverse collection consisting of intriguing objects, many of which are identical with excavated artefacts. The author of this review was especially fascinated by the gold plaque in the shape of a recumbent stag (p. 145, No. 206) which shows clear parallels to the finds from the Kostromskaya, the beautiful silver repoussé vessels from Iran and the gilded belt plaques (p. 24, No. 15) and harness roundels (p. 30, No. 25; p. 31, No. 25) from the northern Chinese steppe. But since beauty lies in the eye of the beholder, each reader will have to make his or her own choice.

About the author

Catrin Kost received her PhD from Munich University in 2011. Her thesis, which she is currently preparing for publication, focussed on the mobile-pastoralist groups of the northern Chinese steppe from the 5th century BCE to the turn of the era. While (re)assessing the hitherto known finds, the main focus of research was the figurative decoration of the belt plaques and the way these objects were used. Catrin has just finished a 15-months project on the Aurel Stein Collection in the British Museum, London, and will hold the post of Assistant Professor at the Institute of East Asian Art History at Heidelberg University from autumn 2012. E-mail: <CatrinKost@web.de>.

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Note

1. Note that, contrary to the title, the catalogue presents not only metal artefacts but also contains information on some objects made of bone (pp. 133-36).

*Xiong*News: Fourscore Years Since the First Excavations at Noyon uul

Even though the beginnings of Xiongnu archaeology date to the end of the 19th century with the work of Iu. D. Tal'ko–Gryntsevich, it was the excavations at Noyon uul in north central Mongolia in the 1920s which really put the Xiongnu on the map. As the recent international conference on Xiongnu archaeology and publication of its papers highlighted, huge advances have been made especially in recent decades. The first book reviewed here celebrates the opening of a new era of excavation at Noyon uul, and the second book is the catalogue for the most important exhibition mounted to date of Xiongnu artifacts.

— Daniel C. Waugh
Professor Emeritus of History
University of Washington

Nataliia V. Polos'mak, Evgenii S. Bogdanov, Damdinsüren Tseveendorzh. *Dvadtsatyi Noin-ulinskii kurgan /The Twentieth Noyon uul Tumulus*. Novosibirsk: "Infolio," 2011. 184 pp. ISBN 978-5-905727-01-6.

This large-format, lavishly illustrated volume is the most extensive report to date on the results of the remarkable single–season complete exavation of Tomb No. 20 in the Sutszukte Valley of Noyon uul in Mongolia in 2006. One can be thankful that Nataliia Polos'mak, of "Siberian Ice Princess" fame, has found a new focus for her energies, after Altai nationalists succeeded in preventing her from continuing her work in the frozen tombs of the Ukok Plateau. She was the co-director of the joint Russian–Mongolian expedition at Noyon uul and has since excavated another of the major Xiongnu burials there.

The cemeteries at Noyon uul were what first really brought Xiongnu archaeology to world attention. Discovered in 1912 by a mining engineer Andrei Ballod, who undertook an amateurish dig in one of the largest tombs, the cemeteries were then mapped and more serious excavation undertaken by members of the expedition headed by the well-known Russian explorer Petr Kozlov in 1924–5. The spectacular discoveries of the 1920s formed the basis of an important Noyon uul collection better known from the portion deposited in the Hermitage Museum than from that in the National Museum of Mongolia. The most complete discussion and analysis of those early excavations and their artifacts is still the monograph by Sergei I. Rudenko, published in 1962 and subsequently translated into German.[1]

Since there has been substantial criticism in recent times regarding the methodologies of the Kozlov expedition (the blame being directed at Kozlov himself), one of the important contributions of the book under review here is the opening essay by T. I. Iusupova, which attempts to set the record straight. She draws on Russian archival materials to show how Ballod's initial attempt to draw serious attention to Noyon uul largely fell on deaf ears, and how Kozlov's decision to undertake excavations was in effect unplanned, made at the moment when his expedition had officially been recalled due to accusations made against him for supposed White (anti-Bolshevik) leanings. He did not have a trained archaeologist on his staff, but when the first discoveries became known, he readily accepted the assignment of archaeologists for the second season of digging. Academic rivalries affected support for the excavations and continued once conservation work was underway in Leningrad, with the Russian Museum and the Hermitage vying to see which would house the artifacts. Presumably there will be further information forthcoming soon on this early history of the Hermitage collection, whose re-mounted exhibit is about to re-open and is the subject of what should finally be a properly detailed catalogue, compiled by Sergei Miniaev and Iuliia Elikhina.

Iusupova's essay is nicely illustrated with archival photos, though it is perhaps telling that so many of them are formally posed portraits of expedition members and so few actually show any of the excavation work. Nonetheless, we can enjoy the lovely portrait of Kozlov and his wife that was taken in 1912 and a photo of Roy Chapman Andrews and Kozlov from September 1924. To promote news of what was being accomplished, Kozlov had invited the American to visit the excavation. Back row center in another of these photos, depicting the Scientific Committee of Mongolia in 1926, is a young Nicholas Poppe, who would become a famous if somewhat controversial specialist on Mongolian philology. While he managed to continue his career in the United States after World War II, some of the Russian specialists who worked on

the Noyon uul materials fell victim to Stalin's purges, which then delayed publication of the material.

The description of the new excavation begins then only some 50 pages into the book, the essay of Ch. 2 devoted to a formal description of the tomb structure and illustrated with an extensive set of photographs and drawings showing details of the various levels and the complex stone and wooden structures. This was the first tomb at Noyon uul to have been completedly excavated with modern methods. The bottom of the tomb was some 18 meters down, the deepest of all the Noyon uul burials excavated to date. The tomb structure is quite similar to that of a number of other Xiongnu square ramped tombs, ones which, as this essay emphasizes, seem clearly to follow models of Han Chinese elite burials. The date of the tomb would seem to be early first century CE (a dated lacquer cup of 9 CE provides a *terminus a quo*). At a number of places in the discussion, the authors here indicate some disagreement with analysis by Sergei Miniaev based on his excavations in Buriatiia — for example, they (and, one might note, other scholars) do not accept his idea about Xiongnu satellite burials being sacrificial ones. This, however, is a minor point made in passing (no satellite burials were involved here); in general the results of the excavations both by Miniaev and by Prokopii Konovalov provide important analogues to what was uncovered in Tomb 20.

While the tomb had been robbed in antiquity, a looter's hole having been dug directly down into the center of the burial chamber, and then the double wooden chamber having collapsed, a great many artefacts remained. Of the corpse itself only some teeth survived, on the basis of which it was determined the deceased had probably been a young woman of an anthropological type found in the Caucasus and northwestern India. The hypothesis here is that she may have been a wife of a Xiongnu ruler.

The focus in the description of the artefacts is on the metal plaques which decorated horse harness that presumably had been hung on the walls of the outer burial chamber and on the lacquered objects. The former include gilded iron browband deocrations for bridles and a good many silver breast band and crouper decorations with depictions of fantastic animals (notably unicorns). The lengthy, and I think persuasive, analysis of these silver objects (which are similar to ones found in other Xiongnu burials) concludes that they are all the work of Chinese craftsmen and must have been imports, likely gifts to the Xiongnu ruler.

The unique metal objects found in the tomb are two round silver phalars (that is, breast plates attached to horse harness), one without decoration but of a type known from the Roman world, the other and more interesting one with relief imagery derived ultimately from Hellenisitic art. It seems likely that the latter plaque originally may have served another decorative purpose and then was re-cycled as a phalar. The discussion here situates its depiction on a broad canvas of Hellenistic imagery that then was copied and often re-worked in the Roman period. While the style can be related to the school of Pergamon, such objects were being made in Parthia and Bactria. The essay here argues that the depiction is that of Artemis, warding off the attentions of a satyr, with a curious herm (pillar decorated with a human head but also an erect phallus) off to one side. The imagery then is a kind of composite, for which no exact parallel is currently known. The essay on this remarkable piece concludes with some rather imaginative speculation about how the object might have been carried by the Roman soldiers who were supposedly part of a Xiongnu force defeated on the Talas River and taken off as captives to China. Homer Hasenpflug Dubs's vividly imagined lost Roman legion marches on. In this argument then, the relief silver disk might have come to the Xiongnu in Mongolia as part of a gift of rare objects sent by the Chinese emperor. At very least the possible Parthian (Bactrian?) connections would seem to fit with what is known about the textiles in some of the Xiongnu elite tombs (see, *inter alia*, the article by Sergey Yatsenko elsewhere in this volume of *The Silk Road*).

Among the lacquered objects in the tomb, the most striking is the remains of a light chariot, from which the ribs of its parasol, a part of its basket, and parts of its wheels have been preserved. Of course this is not a unique find, as dismantled Chinese chariots have been uncovered in other Xiongnu elite burials, and we know from the Chinese annals that they were among the gifts sent to the Xiongnu from the Chinese court. The extent of preservation of the parasol here and parts of the chariot basket is impressive. Fragments of leather and cloth remain from where the covering of the parasol was attached to its frame. A sizeable section of one side of the chariot basket shows the cross-hatched decorative appearance created by scoring the lacquer.

Not surprisingly, the other lacquered objects in the tomb included eared cups, two of which have inscriptions indicating they had been made in one of the Imperial workshops in Chang'an. One of the inscriptions has the date 9 CE.[2] Unique in this burial are a lacquered case made to enclose a long lock of human hair, and a wooden fish, decorated with actual fish skin under the lacquer. Fish-shaped "envelopes" for messages written on silk scrolls are known from

Han burials, though whether there was any real functionality of the object in the Xiongnu tomb is not clear.

Appendices to the book detail technical analysis of the metal artefacts, the lacquer and the textiles, although for the last of these the book otherwise provides only rather scanty information and somewhat unsatisfactory images. The technical details derived from microphotography and various kinds of spectral analysis include chemical composition and, for the textiles at least the names of the dyes. The work on the lacquer is of particular interest, since it explores the structure and the exact techniques of its creation and reveals that composition of its raw materials is not that most commonly found in Chinese lacquerware. The appendices are illustrated with graphs of the spectral analysis and a good many microphotographs. As the authors emphasize, the challenges posed by conservation and technical analysis of the objects provided the stimulus to bring together a multi-disciplinary team of specialists, who worked to develop new techinques that may be applied in the future.[3]

An informative two-page English abstract of the book emphasizes the conclusion that "virtually the entire rich content of these [royal Xiongnu] burials was borrowed from other peoples and cultures. The graves of high-born Xiongnu are filled with things mainly made in the Han China and Parthia, as well as in Roman provinces" (p. 181). This includes the horse harness, jade objects (hardly discussed otherwise in the book), and lacquerware (including the apparent lacquering of the exterior walls of the coffin). The fabrics also all seem to have been imported. The authors leave open the question of how we might interpret the role of borrowing and borrowed objects, beyond the obvious fact that they formed such a significant component in burial rituals.

Reports of any substance on excavations often have taken decades to appear in print or languish unpublished in the archives. While what we have here, published with admirable speed, makes no pretense to be a full report on the excavation of this tomb, it nonethless provides an immense amount of valuable detail. To a degree one will want to supplement the book with some of the material that has appeared in separate publications: for example, a good many of the finds are depicted (sometimes with different detail) in the *Treasures of the Xiongnu* exhibition book described below. For those who do not read Russian, an article in English by Polos'mak et al. provides a good summary of the decorative details, the basic construction technique, and the inscriptions on the lacquer cups.[4] Various articles by Iusupova anticipate her essay here about the early history of the Noyon uul excavations. Details of the analysis of the teeth from the deceased are to be found in a separate article. References may be found in this book's bibliography.

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Khunnugiin öv. Nuudelchdiin ankhny tör – Khunnu gurnii soël / Treasures ot the Xiongnu. Culture of Xiongnu, the first Nomadic Empire in Mongolia, ed. G. Eregzen. Ulaanbaatar: ShUA-iin Arkheologiin khureelen; Mongolyn Undesnii muzei, 2011. 296 pp. ISBN 978-99962-55-97-x.

This exhibition catalogue for the commemoration of the 2220th anniversary of the establishment of the Xiongnu Empire is valuable above all for its rich and high-quality photographic documentation of excavations and objects. While there are illustrations of familiar material from the early excavations at Noyon uul back in the 1920s, much of interest here comes from work of recent years, some of it as yet otherwise not published or properly analyzed in print.[5] Among the more spectacular recent finds are embroidered textiles from Noyon uul, shown in their restored form for the first time at this exhibition in 2011. (Some of them are analyzed by Sergey Yatsenko in the current issue of this journal.) There are short essays by leading Mongolian archaeologists introducing the various sections. After a brief introduction on history and territory, the material is grouped under headings that include tombs, settlements, rock art, and various objects of material culture such as clothing, pottery, textiles.... Essays and all the captions are in both Mongolian and English. Rich as this collection is, one might regret that the organizers of the event confined themselves to displaying only that which was excavated within the boundaries of today's Mongolia. It would have been of some interest to compare finds made on the other side of current international borders, especially since the wider territory would have better represented that which was occupied by the "first nomadic empire" (whose theoretical extent is shown on the nice color map on p. 25).[6]

Notes

1. S. I. Rudenko. *Kul'tura khunnov i noinulinskie kurgany*. Moscow-Leningrad: Izd'vo. AN SSSR, 1962.

2. Oddly, missing from the bibliography here is the article by Michèle Pirazzoli-t'Serstevens, "Chinese Lacquerware from Noyon uul: Some Problems of Manufacturing and Distribution," *The Silk Road* 7 (2009): 31-41, even though the immediately preceding article by Miniaev and Elikhina on the chronology of the Noyon uul barrows is cited.

3. Anticipating this multidisciplinary work in Novosibirsk was the project focusing on the analysis of textiles from the Altai burials which produced the important volume by Polos'mak and many collaborators, *Tekstil' iz 'zamerzshikh' mogil Gornogo Altaia IV-III vv. do n.e. (opyt mezhdistsiplinarnogo issledovaniia)* (Novosibirsk: Izd-vo. Sibirskogo otdeleniia RAN, 2006).:

4. Natal'ia V. Polos'mak et al. "Lacquer Ear-Cups from Burial Mound 20 in Noyon uul." In: *Xiongnu Archaeology. Multidisciplinary Perspectives of the First Steppe Empire in Inner Asia*. Ed. Ursula Brosseder and Bryan K. Miller. Bonn: Vor- und Frühgeschichtliche Archäologie, Rheinische Friedrich-Wilhelms-Universität, 2011: 327–32.

5. Among the excavations from which material is illustrated are ones co-sponsored by the Silkroad Foundation at Tamiryn Ulaan Khoshuu in 2005, Tahiltin-hotgor in 2007, and Shombuuziin-belchir in 2008, reported in *The Silk Road* 4/1 (2006), 5/2 (2008) and 7 (2009), and concerning whose finds several additional articles have been published in this journal.

6. See, for example, the articles by Sergei Miniaev and Lidiia Sakharovskaia on the Tsaram excavation in Buriatiia in *The Silk Road* 4/1 (2006) and 5/1 (2007).

Archaeology and Landscape in the Altai Mountains of Mongolia: Celebrating Two Decades of Achievement

Esther Jacobson-Tepfer, James E. Meacham, Gary Tepfer. *Archaeology and Landscape in the Mongolian Altai: An Atlas*. Redlands, CA: ESRI Press, 2010. xvi + 209 pp. ISBN 978-1-58948-232-6.

Archaeology and Landscape in the Altai Mountains of Mongolia <http://mongolianaltai.uoregon.edu/index.php>

Mongolian Altai Inventory Image Collection <http://boundless.uoregon.edu/digcol/maic/>

Readers of *The Silk Road* may first have read about this important project several years ago, before the publication of the *Atlas* and creation of the website.[1] Known as the "Joint Mongolian-American-Russian Project, Altay," the project's initial focus in 1994 was the rock art sites in Bayan-Ölgiy Aimag, the western tip of Mongolia. As the work developed, its scope expanded to include intensive and extensive archaeological survey of all kinds of monuments, documenting them photographically and with GPS measurements that would enable them to be plotted cartographically. This is one of the most extensive and earliest major archaeological survey projects in Mongolia to use modern methods. As with any such undertaking, to a considerable degree analysis of the data collected still lies in the future. However, it has been possible to begin serious exploration of cultural landscapes, that is to determine the relationship between human remains and their surrounding geography and thus try to gain insights into the possible ways people thought about and interacted with their surroundings. The book and the website, which complement each other and should be used together, provide, as Esther Jacobson-Tepfer puts it, "only part of the full story." Underlying them is a massive database, which these publications but introduce. Other, more detailed publications document petroglyphs. But much remains to be done, not least being to undertake serious archaeological excavation in a region where to date there has been little.

The initiative to organize the project was that of Prof. Jacobson-Tepfer, with financial support from American sources (including a major NEH grant for the publications reviewed here). Logistical and other support was provided by the Mongolian and Russian partners. Credit for the photographic documentation belongs to Gary Tepfer, and the sophisticated cartography based on GIS was the responsibility of James Meacham.

The *Atlas* introduces the physical and human geography and provides a brief overview of early efforts to map and explore the region, notably the extensive travels through it by V. V. Sapozhnikov at the beginning of the 20th century. There is a general discussion of cultural landscapes and a helpful reference chronology of ancient cultures. The problem of the chronology of rock art and memorial structures still defies precise solutions, but the *Atlas* groups the materials by type and in some rough chronological sequence from early Bronze Age through the Turkic period. There are some very suggestive correlations of photographs with maps to show the "view shed" from particular monuments across landscape. After this introductory material, the book proceeds by watershed: the Oigor Gol, especially its huge rock art

complex of the Tsagaan Salaa-Baga Oigor; the Sogoo Gol; Tsagaan Gol; Khoton and Khurgan Nuur; Dayan Nuur; Sagsay Gol; Khovd Gol. Within each section is an overview of the geography and the archaeological monuments, and then a chronologically arranged treatment of them. A concluding section discusses various aspects of the cultural significance of the region, among other things emphasizing its connections with adjoining areas of the Altai that are on the other side of the international borders separating Mongolia from Russia and China.

The reference materials include maps, a gazetteer, and a selection of photographs illustrating the various kinds of monuments. The laboriously developed list of place names and their relationship to the archaeology of the region represents the most complete such mapping for any region in Mongolia to date. In large format, the book has superb photographs, in color but for the selective illustrations of the different types of monuments at the end. There are numerous exquisitely drawn topographic maps, with point indications of the locations of the surveyed objects. All in all, the book well deserves the recognition it has received.[2]

While the website covers the same territory geographically, its descriptive pages condense substantially what one finds in the book. The main rubrics cover Altai geography, Archaeology (under which one can find separate sections on the types of monuments, e.g., khirigsuurs, Turkic monuments, petroglyphs), and Cultural Landscapes (whose subsections are: Confluences, Rivers Downstream, Mountains and Ridges, Orientation, Period Overlay, Stone Reuse). For each page under these various rubrics, there is a small selection of illustrative images, which can be enlarged.

All this might seem unexceptional. What is not is the way in which the technology has been harnessed (through Flash animation) to offer interactive versions of the beautifully drawn topographic maps. One can zoom in to fine detail, select various overlays to show locations of particular kinds of monuments, and, where there is a linked photograph, click to bring up the image. Thus, one can, for example, choose the Tsagaan Gol basin, locate in it khirigsuurs (mounds with a surrounding stone perimeter, which date from the Bronze Age), select a sub-type of khirigsuur, and view the locations set clearly on a shaded topographic map. One should remember that the images linked to the maps are only a small selection of the total number available in the picture gallery database.

The other feature the website offers is its link to picture galleries which to date contain more than 2600 images (accessible either by the Gallery Search link or separately through the URL listed above for the Mongolian Altai Inventory). Various kinds of search terms can be entered to narrow down the selection. As with any such search mechanism on the Internet, the user needs to practice a bit for best results. There is a detailed list of the terms for "monument type" (click on the "More" button on the left); for the box labeled "Petroglyph Subject Search" one can also bring up a list of the terms that are used (e.g., "carts," but not "chariots"; "archers," but not "bows" or "arrows."). For the advanced search boxes, there is no equivalent list for the drainages, where it would have been nice to have a nested tabulation of the main ones and under each the secondary ones contained within it. However, if one were to do a very basic search (say, all images of "altars"), by clicking on the headers to the tabulated descriptive data, one can order the result by drainage and/or chronology. As is the case nowadays with many many art museum collections, one can select particular images into a "my favorites" collection. While the images are copyrighted, it is possible to copy and save them, should one wish to use them, say, for personal study or teaching purposes.

As we would expect, the quality of Gary Tepfer's photographs is excellent. (I have seen a stunning exhibition of his enlarged prints which capture the rich textures and colors of the Mongolian landscapes like no others.) That said, the photoshopping of some of the images for the website is rather mixed (in particular, some need brightening and shadow adjustment), though easily adjusted if one wished to use them in a lecture. Similarly, with the maps, while the deliberately washed rendering of the shaded topography on the website works perfectly well for highlighting the site location points, my old eyes have found that darkening by adjusting brightness/contrast levels makes it a lot easier to appreciate details. Of course a lot depends on the calibration of individual computer monitors—what I see on my PC may not replicate that on other machines.

If we place the website alongside other Internet resources for learning about the cultures of Eurasia, it stands out for the beauty of its design, the accessibility of its information, and its innovative use of a GIS database. This is not (at least yet) a project of the scope of, say, the International Dunhuang Project, with its ultimate goal to put the entire documentation for the Chinese end of the Silk Road on line. That said, the Internet-accessible photographic archive of the Altai project is being expanded and presumably may eventually encompass the full collection. It could serve as the nucleus for a much more comprehensive database of rock art in Eurasia. Apart from having the photos, it would be nice to add as well the tracings of the images, which can often clarify details difficult to discern

in photos. True, as Prof. Jacobson-Tepfer reminds us in her studies of this material, tracings by themselves are not enough. They frequently are inaccurate, and they do not capture the details of context — patina, nature of pecking, and so on — which may be important in determining date and distinguishing layering of imagery from different periods.

Would there be other kinds of data which might be added for the online records? Some might wish for GPS coordinates, but here it is important to recognize that the Altai materials are in an unprotected environment (unlike, say, Dunhuang manuscripts safely deposited in the British Library). Providing GPS coordinates on an openly accessible website is not desirable. They can always be made available on request to serious researchers. Given the fact that some of what the Altai project has documented has already disappeared over the years, to publish the detailed data would merely facilitate more depredation.

As I know from having been in some of these areas but briefly, part of the pleasure of seeing the material *in situ* is the excitement of discovery, even if it can sometimes be frustrating to search for a particular image in a large boulder field and not locate it. The *Atlas* and the website provide access points and the encouragement for users to follow up with more detailed study. Anyone viewing the website might well then be encouraged to visit the Altai to see these cultural landscapes, armed, one would hope, with a sense of respect for the material and its preservation. I wish I had had these resources to consult back in 2005, since they would have considerably enhanced my appreciation of what I saw.

For more serious study, at least for the petroglyphs there are some obvious starting points. The gold standard for scholarly publication of Inner Asian petroglyphs is the series *Répertoire des petroglyphes d'Asie Centrale* (part of the *Mémoires de la Mission archéologique française en Asie Centrale*, Vol. V), edited by Jakov Sher and Henri–Paul Francfort. Fascicules 6 and 7 of the series contain the publication of two of the largest and most important petroglyph sites in all Asia, those in the Tsagaan Salaa/Baga Oigor drainages of the Oigor Gol and the area of the upper Tsagaan Gol.[3] Each volume (in two parts) contains analytical essays, followed by drawings of the petroglyphs and a generous selection of high-quality photos.

Since the appearance of these volumes, in which most of the material is in English, other publications of that same material have been appearing in Russian and Mongolian. Unfortunately, the relationship between those and the publications of *Répertoire* is not always explicit and, it seems, in some cases credit is not given where it is due.

The quite impressive Russian version of the publication of the Tsagaan Salaa/Baga Oigor site is in some ways quite different.[4] While I have not done a minute comparison, Jacobson-Tepfer's essays seem to be fairly close translations of hers from *Répertoire*. Kubarev, who assigned himself the credit here as the lead author, has expanded especially his discussion of image types and chronology and presumably was responsible for some re-writing in Tseveendorj's contributions. Although there is no warning to the reader, a few dozen tracings have been added to those other-wise reproduced in their entirety from *Répertoire*, which then means that the image numbers in the two volumes do not correspond (and there is no correlation table to enable one to match them, nor is there the table of descriptive captions found in *Répertoire*). A feature not found in the French volume is illustrations that group tracings of different subjects, so that images with a single subject can be compared directly, rather than requiring the reader to search through the images in the main dataset. Of course, taken out of context, such image comparisons may be limited in their value. The Russian volume has a few dozen color photos, but the photo documentation it provides is much less extensive than that with Gary Tepfer's images in *Répertoire*. Moreover, most of the careful topographic maps of the latter are not in the Russian volume.

The publication of the Tsagaan Gol petroglyphs (*Répertoire*, Fasc. No. 7), has to date spawned two other versions, one in Russian, and the other in Mongolian. The late Vladimir Kubarev's Russian variant[5] is certainly a step backwards compared to his republication of the Tsagaan Salaa/Baga-Oigor material, in that he takes sole authorial credit, gives no indication of how the project came about, who funded it, and so on. In his somewhat mechanical descriptive essay, he has rearranged the material first by drainage and then by subject groupings, drawing on, but not properly acknowledging the mapping done by the University of Oregon team. The elegant maps of *Répertoire* No. 7 have vanished, replaced by a satellite image and rough sketch map of the site, but with no marking of the sectional boundaries. Those seriously interested in trying to interpret the petroglyphs of the upper Tsagaan Gol, especially in reference to the inferred chronology of the different subjects, should not start with Kubarev. Rather, begin with Jacobson-Tepfer's essays, which form the introduction to *Répertoire* No. 7 but have not been translated here for the Russian audience. Understandably Kubarev omits the correlation table of sections and sites in *Répertoire*. And his book further lacks the descriptive caption list for the illustrations. He reproduces all the drawings of *Répertoire*, with the same sequential numbering as in

the original publication. There is but a relatively small selection of photographs though, including ones not in *Répertoire* showing members of the expedition at work.

For the Mongolian version, which seems to be for the most part a translation of Kubarev's Russian publication, the principal authorial credit has been assigned to Tseveendorj, although at least the co-authors of the project make it onto the title page.[6] While the introduction describes the Paris edition, there is no proper citation of the original title, which, curiously, has not even been included in the bibliography. Yet, both the Russian and Mongolian publications add titles to what had originally been a more select bibliography, the additions mainly publications in Russian and Mongolian, which can be useful if one wants a list of everything Kubarev and Tseveendorj have ever published on the subject. The Mongolian publication contains only a small and inferior selection of photographs.

Mongolia is home to some of the most extensive and important rock art sites in all of northern Asia, on landscapes crowded with monuments which invite serious archaeological investigation. Much is being accomplished, especially by international teams, but in a sense we are still in a very early stage of learning about the historical cultures.[7] The Altai project surveyed here is an impressive example of how far we have come, and we can be thankful that its results are being made available both for serious academic study and for broader audiences.

— Daniel C. Waugh

Notes

1. Esther Jacobson-Tepfer, "The Rock Art of Mongolia," *The Silk Road* 4/1 (2006): 5-13. The article is a broad introduction to the subject and does not just concentrate on the area and material which is the focus of the current review.

2. The *Atlas* has been honored by the Association of American Geographers' Globe Book Prize for 2010 and the CaGIS Honorable Mention for the best published atlas in 2010 (beaten out by the new National Geographic world atlas...).

3. Esther Jacobson, Vladimir Kubarev, Damdensurenjin Tseevendorj. *Répertoire des pétroglyphes d'Asie Centrale. Fascicule No. 6: Mongolie du nord-ouest. Tsagaan Salaa/ Baga Oigor.* Avec la collaboration de Gary Tepfer et James Meacham. 2 parts. Paris: De Boccard, 2001; Esther Jacobson-Tepfer, Vladimir Kubarev, Damdinsurenjin Tseveendorj. *Répertoire des pétroglyphes d'Asie Centrale. Fascicule No. 7: Mongolie du nord-ouest. Haut Tsagaan Gol.* Photographies, Gary Tepfer; Cartographie, James Meacham. 2 parts. Paris: De Boccard, 2006.

4. V. D. Kubarev, D. Tseveendorzh, E. Iakobson. *Petroglify Tsagaan-Salaa i Baga-Oigor (Mongol'skii Altai).* Novosibirsk etc.: Izd-vo. Instituta arkheologii i etnografii SO RAN, 2005.

5. V. D. Kubarev. *Petroglify Shiveet-Khairkhana (Mongol'skii Altai).* Novosibirsk: Izd-vo. Instituta arkheologii i etnografii SO RAN, 2009.

6. D. Tseveendorzh, V. D. Kubarev, E. Iakobson. *Shiveet Khairkhany khadny zurag.* Ulaanbaatar, ShUA-iin Arkheologiin khureelengiin khevlel, 2010.

7. For a good overview of archaeology in Mongolia, see the proceedings of the first international conference devoted to the subject: *Current Archaeological Research in Mongolia*. Bonn Contributions to Asian Archaeology, 4. Ed. Jan Bemmann et al. (Bonn, 2009), briefly reviewed in *The Silk Road* 8 (2010): 125–27.

(right) View east down the Tsagaan Salaa in the far western tip of Mongolia, looking across the rock outcropping TG04132, whose huge surface is covered with petroglyphs (cf *Répertoire* Fasc. 7, Pl. 522).

Photos © 2005 Daniel C. Waugh

(left) Closeup of one of the images, showing a large cervid, a dog and a rider (cf *Répertoire* Fasc. 7, Pl. 551).

Farewell to the Marauding Nomad

Nomads and Networks. The Ancient Art and Culture of Kazakhstan. Eds. Sören Stark and Karen S. Rubinson with Zainolla S. Samashev and Jennifer Y. Chi. Including contributions by Nursan Alimbai, Nikolay A. Bokovenko, Claudia Chang, Bryan K. Hanks, Sagynbay Myrgabayev, Karen S. Rubinson, Zainolla S. Samashev, Sören Stark, and Abdesh T. Toleubaev. New York: Institute for the Study of the Ancient World and New York University; Princeon and Oxford: Princeton University Press, 2012. 195 pp. ISBN 978-00691-15480-0.

Steppenkrieger. Reiternomaden des 7.-14. Jahrhunderts aus der Mongolei. Ein Ausstellung im LVR-LandesMuseum Bonn. Ed. Jan Bemmann. Bonn: LVR-LandesMuseum; Darmstadt: Primus Verlag, 2010. 416 pp. ISBN 978-3-86312-011-5.

We can't seem to get enough of "nomad archaeology" these days, which, I think, is a good thing. Perhaps eventually public misperceptions of the role of nomads in history will catch up to the increasingly sophisticated understanding of pastoral cultures which has been changing our ideas about the broader patterns of interactions across Eurasia. The idea first fostered in early Greek and Chinese texts about rapacious marauders who were the antithesis of everything sedentary and "civilized" has finally been supplanted by an ever more sophisticated understanding of social and economic complexity and the nature of steppe–based polities. The two very different exhibitions enshrined in these volumes contribute in important ways to publicizing the recent discoveries which are helping to revise old paradigms.

Nomads and Networks, which opened at the New York University's Institute for the Study of the Ancient World, has now moved to the Smithsonian Insitution's Arthur M. Sackler Gallery in Washington, D.C., through to mid-November of this year. Unfortunately, I have not yet seen the exhibition itself. The Steppe Warriors (*Steppenkrieger*) exhibition which opened in Bonn is now in Amsterdam at the Allard Pierson Museum (through January 13, 2013) and will then be at the Kelten Römer Museum Manching from May through November. My comments on *Steppenkrieger* are based in part on seeing the exhibition and participating in the accompanying symposium, "The Complexity of Interaction along the Eurasian Steppe Zone in the First Millennium AD. Empires, Cities, Nomads and Farmers," whose papers will be published.

Even though *Nomads and Networks* is being welcomed as presenting new material from Kazakhstan, in fact it was preceded in 2006-7 by a more modest exhibition in San Diego and Houston that included material from the same excavations. Its catalogue (*Of Gold and Grass: Nomads of Kazakhstan*) anticipated ideas which now have been developed more fully in the essays in *Nomads and Networks*. One of the virtues of the new exhibition is its display of objects which have now been fully cleaned and restored and had not been available in 2006. Many of the objects are "repetitive" — thus, 15 carved horn plaques with facing griffins from Berel Kurgan 36, multiple examples of carved horn bars from bridles, a dozen examples each of similar arrowheads, several three–legged trays of similar design. While there are a few gold plaques, some with inlay and ganulation, unlike in the typical exhibitions of "art of the Scythians," they do not occupy center stage. More than half of the exhibition is material from the Berel kurgans. *Of Gold and Grass* included artifacts of modern pastoral culture in Kazakhstan, whereas the the focus of *Nomads and Neworks* is on the Iron Age in, roughly, the first millennium BCE.

The essays in *Nomads and Networks* have been aimed, appropriately, for a general audience. Nikolay Bokovenko and Zainolla Samashev provide some context on "The Roots of Iron Age Pastoral Nomadic Culture," focusing in particular on the important excavations of the burials at Arzhan I and II, sites which "share characteristics with those at Berel: the deceased, buried under mounds, are accompanied both by rich grave goods and often by many horses, which are sometimes highly ornamented..." (p. 28).

Samashev then describes the Berel excavations, his essay illustrated by some good photographs and drawings. The material culture embodied in these elite burials certainly speaks to a range of important economic activities in which non-elite groups must have been involved, but there is curiously little here in support of some of the broader conclusions about social organization and nothing much about the cultures of everyday life. Abdesh Toleubaev's essay on the excavations of Kurgan 3 at Shlikhty focuses on the gold, and reaches a still somewhat tentative conclusion that it was mined in the Shlikhty valley. Of course we have seen plenty of other examples of gold from nomad elite tombs. What is of perhaps greater interest here is the rare find of painted imagery on wood. Sagynbay Myrgabayev's essay on rock art, illustrated with some good photos and drawings of material that for obvious reasons could not be exhibited in New York, is of interest for contextualizing "animal style" art and suggesting some of the distinctive features of it found at sites in Kazakhstan. One wonders, of course, about his basis for the dating of the imagery.

The book arguably becomes much more stimulating in the essays by Rubinson (on burial practices and social roles), Hanks (on mounted warfare), Stark (on network connections to "the outside world") and Chang (on cycles of mobility and sedentism). All of these draw upon some of the newer interpretive strategies which are contributing to our understanding of nomad societies but are not much reflected in the essays by the Kazakh archaeologists. Rubinson's essay poses interesting questions about why the burials at Berel and in the Pazyryk tombs across the northern borders in the Altai contain wooden structures that replicated or at least drew upon the materials from ones used in daily life. One may also speculate on the question of what the "non-verbal communication" of complex imagery and trappings (for horses) may tell us about the ideas of the elites in those societies. Rubinson largely leaves the answers for further study. Hanks reviews the still disputed evidence about early horse domestication, which led to the development of mounted warfare and it in turn to sociopolitical change, enabling successful practitioners to consolidate and extend political power over larger areas and command resources in ways that had not been possible earlier.

In a sense, the key essay here is that by Sören Stark, since he addresses specifically the subject of what the material evidence reveals about long-distance networks. Much here is not really new — for example, we have known for a long time about the Chinese and likely "Achaemenid" connections of those buried in the Pazyryk kurgans in the Altai. One might have thought he would cite in his supporting evidence the new analysis of textile dyes, which takes us beyond a discussion of motifs in proving that even some of the felts may have been imported. Stark reminds us of how important were the Wusun in the introduction of Chinese motifs in Central Asia, a fact which is sometimes obscured by the focus on the Xiongnu in discussions of the origins of the "Silk Roads." Among the more intriguing ideas here (perhaps less well known) is the suggestion some have made recently about possible Indian sources of material found in the Pazyryk burials, the new evidence coming from the application of technologically sophisticated analysis which was not available at the time of many of the earlier excavations. He does a particularly good job of outlining the various mechanisms by which prestige goods could have come to the northern nomads, but is also careful to point out the ways that objects evidently of local manufacture drew upon but did not simply replicate the imports. The illustrations here enable us to compare visually the material from Kazakhstan with the analogous objects from outside its borders.

Claudia Chang's essay, focusing on the excavations at Talgar in which she has participated, fills in some of the gaps left in the earlier discussion of the elite burials and takes us well beyond most of what is in the exhibition. For the remains at Talgar (including domesticated animal bones and domesticated cereals) really give some substance to ideas about socio-economic complexity. She invokes David Sneath's views about "headless states" as a way to relate such evidence to the emergence of larger political units. Here is the reverse side of the coin on which Stark imprinted the evidence about long-distance connections, for Chang's emphasis is on regional and local economies that maximized the resource potential of the alluvial fans on the north slopes of the Tian Shan. Hers is the essay that arguably is the most far-reaching in its promise for our learning more about this world of what were really semi-nomadic societies of some complexity.

The concluding essay in the volume, by Nursan Alimbaev, bringing the discussion of Central Asian nomads down to the present, is anticlimactic, if suggestive of ways that ethnographic research may support hypotheses about such societies in earlier centuries. This epilogue moves us rather far from any serious consideration of the excavation material from the Iron Age.

One wonders whether in Germany there are higher expectations of the audience for museum exhibitions than in the United States. There is a certain density to the presentation in *Steppenkrieger* which would make it less appealing to a general audience than *Nomads and Networks*. Yet this is easily explained (and justified) by the specific nature of the exhibition, which grew out

of close Mongolian–German archaeological collaboration, with the Germans offering to do the conservation work for some remarkable recent finds. While not highly technical, the book nonetheless represents a substantial report on the excavations themselves, the restoration work and the related reconstructions of some of the objects. It would be tempting to say that the title of the book and its cover illustration of an armored Turkic warrior drawing his bow merely reinforce our old stereotypes about nomads. But that is hardly the purpose here. What is really significant is the window this recently discovered material opens on what appear to have been ordinary members of nomadic societies in Mongolia from the Türk Empire (7th century) to the Mongol Empire (14th century).

The opening essays provide context, starting with Peter Golden's impressively compressed overview of Central Asian history from the 6th to the 11th centuries, based primarily on the evidence from the written sources. I can think of no other scholar who could pull off this feat. Those who would wish to place the specific objects and excavations featured in the rest of the book in the broadest chronological context, will find in an appendix an extensive chronological table encompassing everything from Europe to China.

The essay in the book which confronts most directly the stereotypical views of nomads as barbarians is that by Johannes Gießauf, exploring the outside perceptions regarding the supposed antithesis between nomads and sedentary civilization. I assume that to a large extent his account summarizes what is in his book-length *Barbaren – Monster – Gottesgeisseln. Steppennomaden im europäischen Spiegel der Spätantike und des Mittelalters* (Graz, 2006), though here he does consider as well the perspective of the Chinese annals.

Fig. 1. Felt deel. *Cave burial at Dugui Tsakhir, Baiantsagaan sum, Baiankhongor aimag, Khitan period (late 10th-early 11th centuries).*

Fig. 2. Mounted archer. Iran, early 15th century. Diez A fol. 72,S.13

In contrast to Bryan Hanks' discussion of horses in *Nomads and Networks*, which is concerned with the archaeological evidence, here Veronica Veit focuses on the cultural perceptions of those in Mongolia for whom horses became an essential part of their lives. She includes in her purview literature and folk tradition, and concludes with a few comments regarding the *Morin khuur*, the horsehead fiddle, which segues into the specific discussion of the objects on which the exhibition and the rest of the book focus.

Annemarie Stauffer's essay on equestrians' clothing shows how the recent finds from Mongolia (Fig. 1) illustrate a broader pattern of the development of clothes suitable for horsemen which can be documented from a variety of other sources spread across Eurasia. In particular, some of the finds from tombs in the Caucasus, from excavations in the Tarim Basin and Noyon uul in Mongolia illustrate basic types of coats or kaftans, trousers and boots which are analogous to the objects in the exhibition. One could easily find other analogies (e.g., the clothes of the Bactrian/ Yuezhi discussed by Sergey Yatsenko in this issue of *The Silk Road*).

While the illustrations of Middle Eastern paintings certainly complement the rest of the exhibition, in that they depict horsemen, their clothing and their equipment, in some ways the exhibit's nice selection of the famous miniatures from the Dietz Collection now in Berlin is the odd man out (Fig. 2). Christoph Rauch's essay on the pictures provides a

conventional overview of the collection's history and some comments on the milieu in which the paintings were produced. The images include illustrations presumably prepared in the Ilkhand workshop of Rashid al-Din for his World History, as well as some later ones from the Timurid period. I personally was thrilled at my first viewing of these drawings in the flesh, having seen so many reproduced over the years in exhibit catalogues and histories of Islamic art. My appreciation was enhanced when I was told this may well be the last time they are allowed out on tour, presumably because overexposure is now threatening their effective preservation.

While removed by some centuries from the earliest objects in the exhibition, the evidence from Xiongnu burials of the 2nd century BCE through first century CE is extremely important for documenting the development of a capacity for mounted warfare in the steppe. Ursula Brosseder and Bryan Miller, who have done important work in recent Xiongnu archaeology, effectively highlight the contributions of the Xiongnu, both with regard to riding and harness and with regard to weaponry, where the bows, arrows and quivers all preview the ones so remarkably preserved in the later burials.

To provide the immediate setting for the oldest objects in the exhibiton, Gleb Kubarev summarizes what we currently know about the archaeology of early Türks, primarily from regions outside the borders of today's Mongolia. Much of this material presumably summarizes that in his book on the culture of the early Türks published in Novosibirsk in 2005. He illustrates burials of humans accompanied into the afterlife by the horses that were sacrified and buried with them, comments briefly on ornament, belt plaques, armor, evidence of broader cultural and trade connections, and finally stone sculpure and petroglyphs. His focus then complements the following essay by Tsagaan Törbat and Tserendorj Odbaatar on excavations of Türk period graves in Mongolia, which suggests that, despite some statements to the contrary, quite a bit has been done to document the Türk period material there, and not just for the monumental complexes with the famous "Orkhon inscriptions" at Khöshöö Tsaidam in the Orkhon valley.

Arguably the most striking of all the objects illustrated in the exhibition is the largely well-preserved harp found in the Türk period cave burial at Zhargalant (Fig. 3).[1] Susanna Schulz explains clearly why it is a harp, analogous to the angle harps known from Middle Eastern and Chinese sources. Her reconstruction of the instrument as it might originally have appeared was displayed in the exhibition alongside original (Fig. 4). Its decoration is especially noteworthy — at the end of the "neck" is a carved horse head (anticipating the horse head on the Morin khuur). Carved into the body of the instrument are scenes of an animal hunt, whose analogies to depictions in petroglyphs are explored here in a separate essay by Esther Jacobson–Tepfer. Of even greater interest are the old Turkic runic inscriptions whose possible interpretation (still rather unclear) is discussed by Peter Zieme. While the date of the harp is imprecise, it would seem to be from the same period as the Orkhon inscriptions (ca. 8th century), possibly even earlier, and in any event, it is the oldest musical instrument yet found in Mongolia. Among the many attractive illustrations that enhance our imagination about the contexts for the archaeological finds is Dmitrii Pozdniakov's painting showing the harp being played by its owner, sitting on the grass in front of his grazing horse (pp. 154-55).

Since the exhibition came about largely because the objects in it had been sent to Germany for restoration and conservation, it is appropriate to learn here a bit about the technical challenges involved, summarized effectively by Holger Becker and Regina Klee. In general, the preservation of both the organic material and the metalwork was quite remarkable, thanks to its being protected from the elements at a fairly high altitude in a largely dry environment. Yet there were accumulated layers of dirt, encrustation with foreign accretions, insect damage, and so on. Various kinds of analyses were undertaken (including x-rays and

Fig. 3. The horse-head harp found at Zhargalant.

Fig. 4. Susanna Schulz's reconstruction of the harp.

Fig. 5. The bow and arrows from Tsagaan Khad.

microscopic examination) before cleaning and the application of some modern restoration techniques. While conservation and prevention of any further deterioration of the objects was the primary goal, the conservators also had to keep in mind what might make possible the exhibition of the fragile material without subjecting it to any further damage. The before and after comparisons show dramatically the effectiveness of the conservation techniques. Later sections of the book provide details regarding the work on specific objects.

Since so many important aspects of the history of Central Asian nomads are connected with their effective use of archery, the materials in this exhibit are particularly rich for the well preserved bows, arrows and quivers. The examples here range from the early Türk burial to the Mongol period grave found at Tsagaan Khad, in which the bow was still strung (Fig.5) (!). Quivers included ones shaped from wood and birchbark and the later example of one made of leather that had been decorated with an appliqué (Fig. 6). The arrowheads are of several types; of particular interest are the broad-bladed ones that may have been used for hunting game and birds without seriously damaging the targets.

Fig. 6. The quiver from Tsagaan Khad.

Apart from conservation of the original material, a great deal can be learned from reconstruction attempting to replicate the materials and techniques used by the craftsmen of centuries ago. This kind of experimental archaeology then provides information on construction techniques and on the capabilities of the finished equipment. Holger Reisch, Joachim Rutschke and Ulrich Stehli analyzed and then replicated and tested the Turk period bow, arrows and quiver from Zhargalant. The results reinforce the message of so much of the other evidence we now have regarding the impressive ability of the nomads to maximize the benefit of the resources in the natural environment. While the authors do not attempt to do so, it is of some interest to compare this Turkic period equipment with that from the Xiongnu period, about which we have now learned a lot more thanks Michaela Reisinger's analysis (published in *The Silk Road* 2010) of the bows and arrows unearthed in the recent excavations at Shombuuzin Belchir.

An introduction to the immediate archaeological context for all this fascinating material comes halfway into the book, in the essay by Jan Bemmann and Gončigsüren Nomguunsüren surveying what is currently known about cave burials in Mongolia, several dozen of which have been discovered. The essay illustrates some of them and shows all their locations on a map. Details on the specific caves from which the exhibition's artifacts came are in the introductions to each section of the catalogue which follows, the finds being grouped by location. Unfortunately, to date none of the cave burials remained undisturbed prior to their study, which means that important information on the positioning of the artifacts (and, of course, some of the arifacts themselves) has been destroyed. The most frequent scenario has been the accidental discovery of the caves by herders or hunters, who have tended to dig around a bit, remove some objects, and then, perhaps, report the discovery so that archaeologists might do a proper excavation. Sometimes in the interval, additional looting has taken place. We have so much to see here probably only thanks to the fact that some of the organic material which is of greatest interest to us has no obvious monetary value.

Fig. 7. Wooden and leather saddle. From Zhargalant, Mankhan sum, Khovd aimag. Türk empire period.

Apart from the musical instrument and archery equipment, the burials preserved saddles (some quite intact, e.g. Fig. 7), horse harness (stirrups, bridle decoration), some pottery, metal buckles and hooks, knives, a unique bag made of fish skin containing fire-starting equipment and an astragalus (the sheep knuckle bone used for divination) (Fig. 8), and clothing. The fish skin bag is a reminder of the importance which fish (or at least depictions of them), somewhat unexpectedly for us, seem to have had for steppe peoples, as Karen Rubinson noted in her essay in *Nomads and Networks*. The clothing from the cave burials in Mongolia includes a largely preserved felt coat, a silk *deel* and leather and felt boots (10th–11th centuries). In the collections of the Inner Mongolia Museum in Hohhot there are some very well preserved examples of silk coats also from the Liao period, and at least one striking *deel* from the Mongol Empire which might be compared with the one here.[2] Several of the burials contained remains of what likely had been the cart used to transport the body to the burial site, a practice likely followed by the Xiongnu, as discussed by Bryan Miller in this issue of *The Silk Road*.

Anyone wanting to learn about nomad culture in earlier Mongolian history will need to consult this volume, with its rich illustrations, some providing closeup details, and its careful description of the materials, the state of the original finds and the processes of their conservation. Jan Bemmann had warned me (almost somewhat apologetically, it seemed) that the exhibition was really quite small —

Fig. 8. Fish skin bag and astragalus. From Chonot uul, Bulgan sum, Khovd aimag. Khitan period, ca. 11th century.

this is not one of your blockbuster shows that will bring in the teeming masses to help shore up the shaky budgets of the hosting museum. But small can be ever so rewarding and important, since it encourages us to look closely at the details. Even if *Steppenkrieger* lacks the dazzle of some of the objects from the elite burials featured in *Nomads and Networks*, it really brings us much closer to an intimate understanding of nomadic culture than does the latter exhibition. But each contributes in important ways to the ongoing process of questioning the old paradigms about rapacious and unsophisticated nomads.

— Daniel C. Waugh

Notes

1. An earlier report on the Zhargalant finds is Tsagaan Törbat et al., "A Rock Tomb of the Ancient Turkic Period in the Zhargalant Khairkhan Mountains, Khovd Aimag, with the Oldes Preserved Horse Head Fiddle in Mongolia—A Preliminary Report," in *Current Archaeological Research in Mongolia*, ed. Jan Bemmann et al. (Bonn: Vor-und Frühgeschichtliche Archäologie Rheinische Friedrich-Wilhelms-Universität, 2009: 366–83. Note the identification there of the musical instrument as a horse–head fiddle.

2. For the Mongol Empire example, see Adam Kessler, *Empires Beyond the Great Wall: The Heritage of Genghis Khan* (Los Angeles: Natural History Museum of Los Angeles County, 1993: 158–59. For other Mongol period examples, see Ildikó Oka, "Three Mongolian coats from the 13th–14th Century Grave at Burkhiin Khoshuu," in *Current Archaeological Research*, pp. 487–503.

"...DESTROYED, [THE SILK ROAD] IS NO MORE."

Valerie Hansen. *The Silk Road: A New History.* Oxford etc.: Oxford University Press, 2012. xvi + 304 pp. ISBN 978-0-19-515931-8.

So might one adapt the words of a famous "ancient Sogdian letter" with reference to the most forceful conclusions of this important and long-awaited book. In the author's own words (p. 234): "The Silk Road was one of the least traveled routes in human history and possibly not worth studying — if tonnage carried, traffic, or the number of travelers at any time were the sole measures of a given route's significance." The qualifier here is crucial though, leading to the next sentence: "The Silk Road changed history." Indeed, the contemporary documents which are the focus of the book contain very little on large-scale, long distance trade and the engagement in it of private merchants. Yet, as we also learn (and have long known), the same locations where these documents were found contain ample evidence about cultural exchanges embodying long-distance transmission of ideas, religions, languages, art and much more. So it is not as though the Silk Road has been destroyed. Rather, one may need to re-calibrate what one might have thought it involved.

The book is written, it seems, for a general reader, but as the dense notes in the back indicate, it is based on substantial research, much of it in Chinese sources, and at every turn, the author is impressively generous in acknowledging her personal debt to many experts. Serious students of the Silk Roads will find much of value here, whether or not they read some of the key languages. My review will focus on the economic aspects of the subject, while admitting that there is much more here which should draw our attention.

To a considerable degree, the image of the Silk Road which Hansen disputes is a straw man. Yes, the NTK-CCTV extravaganza of a quarter century ago opened with images of a camel caravan plodding across the desert keeping pace with the monotonous strains of Kitaro's music and concluded each of the thirty segments with the litany that the roads all led to Rome. The grand finale shows the NTK vehicles arriving at the Colosseum. Popular images, but hardly the focus of most serious work on the subject designated metaphorically by Richthofen's evocative phrase, one which he himself quickly abandoned. Surely few have been so reductionist as to distill the Silk Road merely into the activity of private merchants traveling in large caravans loaded mainly with silk westward and all the way across Asia. Rhetorical exaggeration may be valuable to highlight the argument and make readers sit up and take notice. However, there also is a danger here that flogging a putative "large" scale of commerce may unduly diminish the significance of something that indeed may have been much "smaller." Her designation of merchants as "peddlars" is accurate in its own way, but, as we know from the historiographic disputes over the application of that term in other contexts, may be misleading about the scope and sophistication of what many of them did.

The book deserves an ovation for its emphasis on the value of studying local or regional history, something which arguably has not been sufficiently appreciated in previous attempts to encompass the "Silk Roads." Hansen structures her account around the histories which can be documented from a few key centers of activity, all but one (Sogdiana, in what is now Uzbekistan and Tajikistan) located in what is today China. Her criterion for the selection is places from which there is local, written documentation, however fragmentary and chronologically narrow it may be. Thus we start with Kroraina (the kingdom whose centers included Niya and Loulan in the Tarim Basin), from which some of the earliest such documentation has survived in the period from roughly 200 to 1000 CE, and eventually end up back in the Tarim at Khotan where the Karakhanid conquest and imposition of Islam allegedly marked the beginning of a new era. There is a kind of loose chronological and thematic progression here, though each chapter lurches often wildly over the centuries, and from detailed summary of a single document through excurses on modern discovery, asides on what the modern visitor might see, and so on. At times a bit more discrimination in the selection of detail would have been in order, but overall the account is eminently readable in part because so much of it emphasizes the human and mundane dimensions of the history. Hansen has an enviable ability to elicit from the often fragmentary written sources evocative images of real life. The documents tell about the size of caravans (invariably small), a range of products (mostly local, practically no silk), domestic dramas, the roles of local officialdom, language usage, and much more. Again and again we are reminded that individuals designated as merchants rarely appear in the sources,

and the ones that do generally seem to be involved in "short-haul" trade. Whether we should expect some of the documentation to refer to merchants (and thus find their absence to be significant) is a good question though.

Her thread connecting regions into a larger picture of interaction is people, in the first instance those whom she sometimes mis-labels as "refugees." People moved, settled, brought with them ideas, religions, skills, languages, and, in some cases did maintain connections with the places of their (or their ancestors') origins. There are no real surprises here — the Kuchean translator Kumarajiva, pilgrim monks such as Xuanzang and Faxian, Sogdian functionaries in Chang'an who had absorbed some aspects of Chinese culture while retaining (if in altered ways) some of that from their ancestral homeland in Central Asia.

Hers is not an argument *ex silentio*, which leaves those who might wish to defend ideas about large-scale, long-distance Silk Road commerce with a challenge. One cannot simply say it must have existed even if the sources are silent. Yet are all the sources really silent? Much of what she says would seem beyond dispute, even if her interpretive emphasis is a bit one-sided. That is, she insists that the local economies were largely "self-contained," even as a great deal of her evidence perforce invites us to consider how they may in fact have had much wider connections. Some of her merchants ranged from what is now the western end of Xinjiang down into nearly central China. (No one I can think of ever said they went to Rome.) The Sogdian networks crisscrossed Asia. At one moment, a product of Khotan in Dunhuang is "local," yet in the next breath we are reminded the two towns are separated by 1325 km. of treacherous desert terrain. Objects made in Chang'an end up in Turfan. Fragments of Chinese silk (accompanied even by a bit of Chinese writing) have been found as far away as the northern Caucasus, raising at least the outside chance Chinese brought them there. I treasure having her two and a half pages tabulating one year's scale fee tax receipts at a single checkpoint near Turfan ca. 600 CE (pp. 100-2) with its breakdown of goods, quantities, names of buyers and sellers (a great many of them apparently Sogdians). However, I find it hard to obtain a clear picture of what the "collapse" of the regional economy may really have meant with the end of the huge T'ang military subsidies in the 8th century.

There are some pretty loose generalizations about a monetized economy being replaced by barter exchange (even granting that, in certain circumstances, silk or grain were the equivalent of "money"). Everyone probably can agree that at least for a time Sasanian silver coinage may have actually been used as money in the Turfan region — a fact of some significance for an understanding of larger commercial exchange networks — but we miss here some of the subtleties which details of the find distributions reveal. That the few Byzantine gold coins in China were never used as money or provide no evidence regarding trade with Rome may hardly merit discussion. Yet was the situation any different in Panjikent, where she cites approvingly authorities who feel the few Byzantine coins and their imitations found there attest to the actual use of them in trade? Her specific examples in fact point to just the opposite (p. 123).

In these discussions of the economy, the role of the government looms large. As she makes clear, if there was such a thing as large-scale, long-distance trade, more likely than not it is to be connected with official initiatives. Perhaps indeed conventional ideas of the scale of Silk Road trade need be given some credence. I think it has long been recognized that official embassies and gifting in many cultures can be a form of commerce. As her examples make clear, the evidence in the "Silk Road" region though is quite mixed. Some embassies, it seems, involved pitifully small quantities of "gifts," whose importance may have been mainly symbolic, though possibly the commercial activities of the participants on the side could have been greater and undocumented. There are a few documented cases of very large embassies and what would appear to be huge gifts that presumably would have had substantial commercial value, even if we can know at best only indirectly what happened to them on reaching their destination. "Large" and "small," of course, are fuzzy concepts. At certain periods, the Chinese government shipped huge quantities of silk and coin to the borderlands to support garrisons. Undoubtedly Hansen is right to emphasize that much of these subsidies seems to have been spent on local provisioning and services. Yet there are unanswered (and perhaps unanswerable) questions as to whether all that investment just disappeared like a river into the desert sands. There is little attempt here to explore possible transactions which would have connected sedentary oasis centers with others located in the steppe or mountain pasturelands. We know that very substantial quantities of silk and other valuables paid for horses, for example. Did the pastoralists simply redistribute the luxuries within their polities? Even if we cannot quantify things, we certainly know that they obtained products produced in distant places.

For many important questions about economic exchange, we probably have to admit we will never have really hard evidence beyond that which documents immediate and local transactions. In general for the pre-modern world, there is a paucity of records to document the mechanisms of international

trade. Yet any attempt to discuss whether or not there was really meaningful economic exchange over long distances across Asia cannot simply focus on the few regions in East and Central Asia for which there is local documentation. There is still much to do in trying to test models of networking connecting the regional centers into larger patterns of exchange. Hansen's book provides a building block which can be used in the foundations for such a larger study.

Even if we agree that her rather circumscribed account of the overland "Silk Roads" indeed demonstrates they were economically insignificant, what are some of the missing parts of the larger picture of Eurasian exchange which invite elaboration? The "steppe roads" certainly need attention, as do the maritime routes. Hansen is not oblivious to the maritime routes. Yet, the evidence regarding them which she discusses mainly revolves around the human interest tales of two pilgrim–monks. It might have been more rewarding (and, I think, useful for the larger argument in the book) to have devoted greater attention to evidence about maritime economic exchange, especially since the work of historians dealing with that subject contains stimulating conceptualization of networks and how they interact. Yet admittedly, fitting this into the structure of the book as she has defined it would have been impossible.

Apart from the economic issues, she is concerned especially with religions and language but deliberately avoids saying much about art (a subject, she argues, that has been the focus of a great many other "silk road" studies). So in her section on Dunhuang, which she rightly touts as the single most important Silk Road center one might visit, she devotes a lot of space to the so-called "library" of Mogao Cave 17, spending perhaps a bit too much time on the tale of how Aurel Stein connived to obtain a good chunk of it, and discussing some of what its manuscripts reveal. The visitor to Dunhuang will see, of course, the empty room where the manuscripts and banners were, but otherwise will be exposed primarily to the remarkable paintings, which are not really discussed here. Yes, we see perhaps the most famous depiction of a merchant caravan (in one of the T'ang–era paintings of the miracles recorded in the *Lotus Sutra*), and learn about the depiction of Mt. Wutai in Cave 61, which correlates with various indications in texts about pilgrimage there, but there is no serious effort to explain why Mt. Wutai was so significant. To the extent that she refers to the paintings, it is primarily for what they reveal about local patronage and the wider connections of those who ruled Dunhuang in the waning days of the T'ang Dynasty, important topics to be sure. In her chapter on the Sogdians, her discussion of the imagery they left behind at Afrasiab and Panjikent is similarly limited and will disappoint those who would wish to learn more about Sogdian culture. I, for one, am not persuaded that the near absence in those paintings of anything relating directly to commercial activity deserves the significance she attaches to it. Fortunately, as Hansen recognizes, other sources can easily be accessed to supplement her account.

One of the book's great virtues is its maps, drawn with crystal clarity. Yet, curiously, geography sometimes is ill served. While on the one hand Hansen enlivens her narrative with personal impressions from having visited many of the sites she discusses, there are occasional infelicities about locations. Today's Tokmak (if indeed that is where Xuanzang visited the Türk qaghan) is not right on Lake Issyk Kul. As annotators of his account have noted, when Xuanzang then headed south to Samarkand, there is no reason to think he would have gone out of his way to traverse the Kizil Kum desert, even though he mentions it. Sven Hedin certainly could not have floated on to Kucha had the onset of the winter ice not stopped his progress by boat down the Tarim (cf. p. 60): to get to Kucha from where he stopped would have meant backtracking and then going up a tributary to the foothills. Stein crossed the Kilik, not the Mintaka Pass on his way into Xinjiang, and "Karakoram Pass" normally refers to one on the route between Leh and Yarkand, not to one at the north end of the Hunza Valley.

Of course any book on the "Silk Roads" invites the picky critic, anxious to flaunt the little he knows, to complain about details or ask for something that is not there. While Hansen's focus here is on particular regions and often fairly narrowly defined periods in their history, she demonstrates a laudatory concern to try to explain changes in patterns of exchange over nearly a millennium. One of the more important topics she might have addressed in this connection is climate change, where we are beginning to obtain data that can be correlated with the rise and fall of certain routes and centers of activity. One might cavil about her rather abrupt ending of Khotan's history with the imposition of Islam by the Karakhanids, given the fact following upon the extension of Muslim rule in Central Asia were periods in which the overland trade routes seem to have flourished. And, if one accepts the arguments of Johan Elverskog's recent book on Islamic–Buddhist interaction, there may not be such a sharp cultural break as it is customary to assume. Of course to get such matters requires writing a very different and much larger book.

On a more trivial note, I can never forgive the absence of a bibliography, leaving the reader to search through the notes to find the first and full citations

of a book or article. One can always, of course, think of some additional resources which might have been cited to cater to the interests of general readers. It is not as though in saving a few pages Oxford otherwise stinted on production values. There are a good many quite decent black-and-white illustrations (many being historic photos from the early excavations), and there is an insert section of high-quality color plates. The Silk Road Timeline is nicely laid out.

Everyone interested in the Silk Road should read this book, even if not as the first introduction to the subject. It is remarkable in its thoughtful distillation of a large topic and the vigor of its arguments, which I hope will indeed be the stimulus for re-thinking how we might best continue to explore a subject of endless fascination. Any number of developments may have "changed history." Whether the Silk Road merits special distinction in this regard remains an open question, which is all the more reason for us to continue to follow its multiple branches leading to yet unanticipated discoveries.

— Daniel C. Waugh

Epilogue to the Silk Roads?

Stephen Frederic Dale. *The Muslim Empires of the Ottomans, Safavids, and Mughals*. Cambridge, etc.: Cambridge University Press, 2010. xiv + 347 pp. ISBN 978-0-521-87095-5 (hardback); 978-0-521-69142-0 (paperback).

Giancarlo Casale. *The Ottoman Age of Exploration*. Oxford: Oxford University Press, 2010. xx + 281 pp. ISBN 978-0-19-987404-0 (paperback).

These books — a textbook survey and a scholarly first monograph — complement one another in interesting ways. Both should stimulate readers to re-think the convenional periodization which ends the history of the "Silk Roads" in the late 15th century with the advent of the European "Age of Discovery." The Ottomans, Safavids and Mughals all controlled significant economic resources and invested in their development. They engaged in cultural exchanges in ways that suggest continuities with what has been documented for earlier periods of Eurasian encounters.

Published in a series entitled "New Approaches to Asian History" whose books are "intended as introductions for students to be used in the classroom," Steven Dale's volume is an impressive feat of compression, lucidly written and offering some interesting ideas even for those who might have some previous knowledge of the subject. Whether it really achieves the stated goal for the series is another matter — writing a successful "textbook" presents challenges that are not always readily overcome, expecially when the subject is as complex as the one tackled here.

Dale brings to the task substantial expertise. His book on Indian merchants in the Eurasian trade published nearly two decades ago opened for many a new and very important subject. His more recent book on the founder of the Mughal empire, Babur, has been warmly received. He defines the subject of the volume under review as

> a short history of culturally related and commercially linked imperial entities from their foundation, through the height of their power, economic influence and artistic creativity and then to their dissolution. It focuses on monarchs and the aristocratic elite... It necessarily gives short shrift to a variety of topics, most particularly the daily life of non-aristocratic urban and rural Muslim families, their religious rituals and social life... Women and members of non-Muslim communities also receive relatively little attention... Finally, limitations of space have made it impossible to do justice to the full range of architecture in these empires or to discuss gardens... [pp. 7–8].

Indeed, in many ways his approach might seem old-fashioned, though I think he is absolutely on the mark to focus on particular reigns and rulers under whom these empires achieved their greatest success. While he gives a passing nod to Max Weber's pronouncements on bureaucratic rule, he wisely dismisses as largely inaccurate such labeling as "gundpowder empires" and "early modern." Even if a great deal here concerns political history, one of the virtues of the book is its serious attempt to discuss important aspects of high culture: religion, architecture, literature, and painting.

Many readers will find the abundant details of political history here to be a tough slog — I am afraid

too much of it reminds one of why a "textbook" can dampen, rather than stimulate student enthusiasm. The compensation is Dale's emphasis on explaining the basis for political success and in particular his discussion of the various ways in which the rulers sought to legitimize their rule. Despite the fact that the ruling elites (and the states themselves) were "Muslim," to a considerable degree religion was subordinated to practical, secular priorities of attaining and staying in power and managing economic resources. While all three empires drew upon a common Turkic political, linguistic, and tribal heritage, there were substantial differences in how they developed politically. In his telling, the role of religion in politics was signficant, ultimately, only the case of the Safavids. To say that, however, may be to understate the importance for the Ottomans of their control over the Muslim holy cities in Arabia. The exhibits even today in the Topkapi Saray (and some of the discussion in Casale's book) suggest that the Ottomans were very serious in their role as successors to the Caliphs..

Perhaps the best chapter, for its distilling of what was really important, is the one on the economies, highlighting the importance of natural resources and agriculture, but at the same time underscoring the ways in which all three regimes promoted commerce. The governments invested in infrastructure. Political borders and frequent episodes of hostility (especially between the Ottomans and Safavids) were no obstacle to international commerce. Importantly, as Dale stresses, only in the case of the Ottomans might one make the case that the empire's decline economically might be connected with the depradations inflicted by the growing European presence in the Asian trade. (Casale's different perspective here largely reflect his focus only on the period of Ottoman flourescence, not the subsequent decline.)

Dale's treatment of what we might loosely term "cultural" history is somewhat uneven, reflecting perhaps accurately the level of the author's investment in the various subjects. We learn quite a bit about the importance of Sufism, though the conscious decision not to delve into aspects of daily life leaves us with little feel for what this may have meant in practice. Dale gives due emphasis to the Persianate literary traditions in all of the empires and provides at least some sampling of poetry. Architecture is one of the areas in which he readily acknowledges his dependence on a few key secondary treatments, but then, unfortunately, the result often reads like a catalogue rather than a considered analysis derived from standing back from those sources and viewing the buildings in their settings. The impression left by his discussion of painting is similar — somewhat mechanical.

Perhaps the problem here is the format, with its inevitable restrictions of space and production cost. Including cultural subjects is laudatory and essential if we are going to be able to appreciate why these empires should attract our interest. Yet, can one really convey a feel for the culture effectively, especially if it is impossible to illustrate properly its visual components? Yes, the book has a good many illustrations, the architecture in photos taken by the author, the painting mainly from work in the Sackler and the Los Angeles County Museum. At least in the paperback edition of the book the grayscale reproductions are often muddy. One might wish for some different choices — "interiors" means here courtyards, but not the real interior spaces under the domes, where, in the case of the famous Ottoman architect Sinan (represented here by only a portion of an external façade) one finds some of the most striking evidence of his genius. For Isfahan, to choose not to discuss "city planning" is certainly unfortunate; the grayscale views of the mosques simply cannot convey the stunning visual impact of their tiles. Given the importance of Firdawsi's Shahname and its illustration, it is unfortunate that we see so little of its visual evocations, and then only indirectly via Nizami.

It seems likely that Cambridge will eventually make this book available electronically, as it has done for others in the same series. That, however, is unlikely to meet the needs of today's students, for what we have here is what we might characterize as an "old-fashioned" textbook, not something that ultimately might take advantage of the possibilities offered by, say, an iPad. Now don't get me wrong — I still believe in print books and reading text; I would be the last person to advocate we abandon them for an ephermeral world of often superficial visual experience. It is possible to imagine how this good book could fit into a course which also required primary source readings, had its own website with links to good image collections, and provided the inspiration of lectures by a broadly expert professor such as Dale, who would undoubtedly incorporate rich visual material into a compelling narrative. Cambridge could have provided some of the necessary support for this, but at least so far, has chosen not to. The book has, thank goodness, a good many clear, if small, maps, a glossary, dynastic lists, index and a fairly generous bibliography. Yet unlike what we find in analogous textbook series from Oxford University Press, nary a website is listed, even though there are some good choices of ones that have some of the first-hand accounts from which Dale cites snippets and have generous selections of images in brilliant color for the arts.

Comparing a textbook by an established scholar with a first monograph that is not too many years removed from a dissertation may seem a bit unfair to both. Perhaps somewhat surprisingly, if anything the comparison works in favor of Casale's superbly written book. Of the two, his is by far the more compelling read, something that too rarely can be said about most first scholarly monographs.

Not confined to the straightjacket of a textook, Casale is able to focus sharply on a forceful argument, and a provocative one indeed. By analyzing the development of Ottoman policy regarding the Indian Ocean in the 16th century and contextualizing this with reference to the development of Ottoman geographical knowledge, he asserts that we should

> put to rest once and for all the notion that the empire was somehow a victim of the first era of European overseas expansion. Quite to the contrary, the Ottomans were among the most direct beneficiaries of that expansion, and in the end were victims of only one thing: their own success [p. 203].

Conventional discussions of Ottoman expansion focus on the concern over the empire's land frontiers, with a supposed lack of vision about the wider world or any significant maritime involvement with it. By contrast, the story of the rise of Portugal and its role in opening the age of European Discovery casts Henry the Navigator in visionary terms, reading back into the beginnings the commitment which led to the creation of a farflung colonial empire. Casale does not shy away from the terminology used to discuss the Age of Discovery. Indeed, he finds striking parallels between the Portuguese and Ottoman experience: both began with little knowledge of Asia, and in both cases the initial steps which ultimately led to its "discovery" and economic engagement were limited in scope and vision. Casale questions whether there was an economic advantage to the sea route around Africa; in fact, the Portuguese really were hoping to be able to take control of the Red Sea route via Egypt to the Mediterranean, recognizing that it had distinct advantages. In both cases, part of the rationale for expansion was religious. I think Casale is quite right (*pace* Dale, whose book he could not have read) that Ottoman control of the Muslim holy cities was extremely important in the development of an Ottoman rationale of world empire.

Before reading Casale, I had never appreciated the degree to which it was the Ottomans in the first instance, not the emerging European maritime powers, who provided the main threat to Portuguese interests in the Indian Ocean. While it may be that he too readily identifies distinct Ottoman political factions advocating or opposing a forward policy in the Indian Ocean, clearly the success or failure of the Ottoman efforts depended a lot on court politics; certain individuals played a key role in devising visionary plans for what the Ottomans might be able to achieve. In the end, logistical challenges, overreach in conquering distant provinces that proved to be ungovernable, and the pressures of trying to wage war successfully on too many fronts doomed the efforts to maintain a foothold on the Indian Ocean and expand Ottoman influence even to Southeast Asia. For a time though, some remarkable successes were achieved, and there was a real potential for a different historical outcome.

Despite what we might term political failure, the Ottomans had considerable success and economic benefit from controlling a significant part of the spice trade — either by direct government intervention or by creating favorable conditions for private enterprise. Part of Casale's argument is that the private involvement became so successful as to obviate the need for continuing government involvement in the Indian Ocean. The Portuguese seem never to have been able to cut off the trade through what had now become Ottoman territory. It is not Casale's purpose to go very deeply into the economic history, which is too bad, as we are left wanting to know a lot more details about this trade.

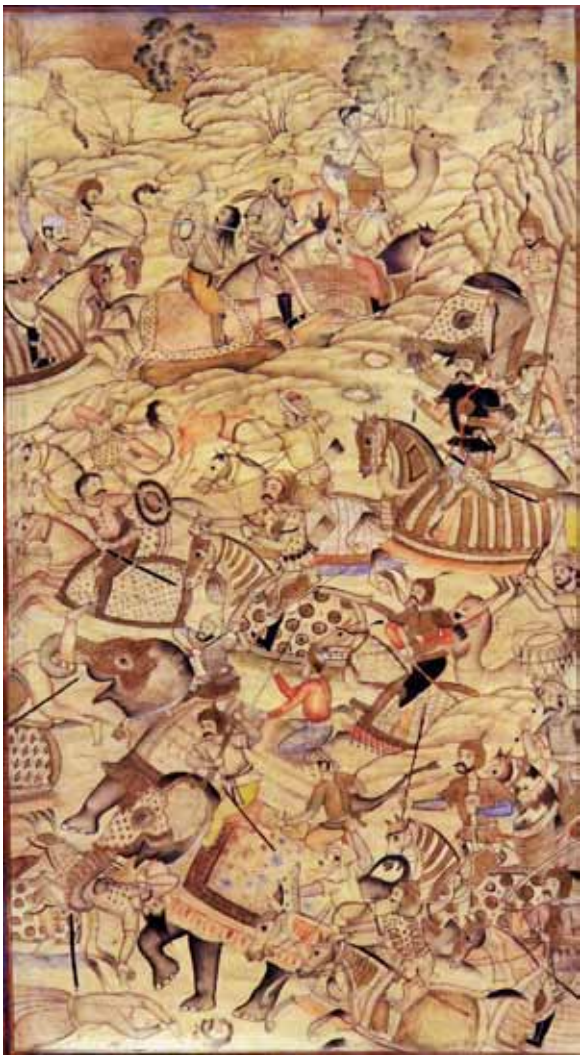
Casale's treatment of Ottoman geographic knowledge should also open many eyes. There has long been awareness of some striking achievements in 16th-century Ottoman cartography, combined though with a tendency to dismiss Ottoman geographic knowledge for what it apparently did not include. He makes the case that there was impressively rapid change from a situation in which the Ottoman rulers and elite had a very limited understanding of the wider world (not even knowing much about the very substantial accomplishments of medieval Arab geography) to one in which they not only translated some of the Arab and Persian classics but also began to keep abreast of the latest European discoveries. Even what were ostensibly secret Portuguese records of voyages came into the Ottomans' hands with little delay. It turns out that the Ottoman government had descriptive accounts of the Indian Ocean and even China which were better than most of what was available in Europe. And that was what was important for Ottoman policy, not the acquisition of details about the Americas. There is suggestive evidence that this interest in the wider world was not just confined to policy makers but spread more widely amongst the educated Ottoman elite. While these are not Casale's comparisons, my impression is that in England, where at the beginning of the 16th century there was a similarly limited interest

in the wider world, it took somewhat longer to reach the level of awareness the Ottomans achieved, even if by the end of the century, thanks to the fact the English had printing and the Ottomans did not, the spread of geographic knowledge in Britain took off. For parallels with a culture where printing of geographic literature still lay long in the future, we might look at Muscovy. Muscovite "backwardness" makes the Ottomans look very good indeed.

One of the virtues of the book is its extensive use not just of Turkish material (including manuscripts) but of major published series of Portuguese archival documents. So, while we might instinctively impute to Casale some rhetorical exaggeration about Ottoman accomplishments from his read of the often frustratingly incomplete Turkish materials, the Portuguese sources fill in many gaps and provide contemporary assessments which certainly support his argument about the impact of what the Ottomans attempted. Some decent schematic maps, images of 16th century maps, illustrations from manuscript depictions of sea battles and engravings of port cities complement the discussion.

The boldness of Casale's conclusions should prod others to take his arguments seriously, even if to argue with him. Both Casale and Dale should prompt those interested in the larger patterns of Eurasian trade to consider more carefully the interrelationship between the maritime and overland routes, to examine more closely the history of specific regions and not just generalize for larger polities, to take seriously the active role of governments in developing infrastructure to support trade, and above all to reexamine the impact the European "Age of Discovery" on what we call for convenience the "history of the Silk Roads." Perhaps the end of the 17th century is more defensible than the end of the 15th to mark the closing of an era. Of course whether we can ever agree on a periodization is less important than how much we can learn about mechanisms of exchange and cross-fertilization of cultures.

— Daniel C.Waugh



(left) Babur (1483-1530), founder of the Mughal Empire, in his conquest of India in 1526. Miniature from late 16th-century manuscript of the Akbarnama. *Seattle Art Museum, Eugene Fuller Memorial Collection 46.28.*

(above) Ottoman Sultan Selim I (1467-1520), whose conquests in the Middle East paved the way for the Ottomans to move into the Indian Ocean. Modern statue in Selim's home town of Trabzon, Turkey.

(below) Safavid Shah Abbas I (1587-1629) receiving Vali Muhammad Khan of Bukhara, who came to Isfahan seeking aid. Chihil Sutun Palace, Isfahan, 17th century painting renewed in the early 18th century.

Revisiting Borderlands of Empires in Western Asia: Reviews and a Photo Essay

Daniel C. Waugh
University of Washington

As students of the Silk Roads are aware, often the most interesting evidence regarding cultural and economic exchange is to be sought on the margins of the great political entities which occupied the various parts of Asia. Of course seeking such evidence may be one thing, finding it and interpreting it another matter. Early explorations too frequently were burdened with the baggage of pre-conceptions, which shaped the focus of the search and the interpretation of the finds in ways that have had a lasting, if at times unfortunate, impact on later understandings of the material. Moreover, it was a common feature of early excavations to employ methodologies which, by today's lights, were crude and often ignored or destroyed evidence which, with modern analytical techniques, might prove hugely informative. Few major sites have ever been exhaustively examined, which then leaves a great deal to be discovered by renewed work on them, work which may include new excavation, but also, importantly, a careful review of the evidence contained in often un-published or only partially published earlier excavation records. New techniques of conservation may recover evidence obscured by older methods and encourage us to take a fresh look at important material as we ask questions never posed by the original discoverers. And, of course, there are still stunning new discoveries to be made even if under the irrational timelines imposed by modern development. The books examined below, which focus on important, but very different sites in western Asia, provide insights into all these issues. For each case I have supplemented these review notes with a selection of photographs taken on site or in museum collections in 2010.[1]

I. "Pompeii on the Euphrates"

Dura Europos: Crossroads of Antiquity. Edited by Lisa R. Brody and Gail L. Hoffman. Chestnut Hill, MA: McMullen Museum of Art, Boston College, 2011. 406 pp. ISBN 978-1-892850-16-4.

Edge of Empires. Pagans, Jews, and Christians at Roman Dura-Europos. Edited by Jennifer Y. Chi and Sebastian Heath. New York: Institute for the Study of the Ancient World, New York University; Princeton: Princeton University Press, 2011. 124 pp. ISBN 978-0-691-15468-8.

Even if not another Pompeii, as enthusiastic headlines labeled it back in the 1930s, Dura Europos is arguably one of the most important urban sites on the routes of Western Asia whose remains date to Hellenistic, Parthian and Roman times. Located in what is now Syria and strategically situated on the Euphrates River, the city was in the first instance a military outpost founded on a site of much earlier habitation by Seleukos I Nikator, Alexander the Great's successor in the Middle East. Dura's location on routes of communication (one leading westward to the famous caravan city of Palmyra) meant that it was also a crossroads for merchants and throughout much of its existence was what we would term "multi-cultural."

The visitor to Dura today arrives at the ruins of its western walls (the main defensive rampart on the side not protected by topographic features) after a long drive through a flat desert landscape. As with so many important urban remains of antiquity, especially those constructed of now eroded mud brick, what is left inside does not impress, beyond the extent of the space enclosed by the walls and the small citadel overlooking the river. A view from the air (see the photos in the catalogues here) is needed to encompass everything in a single glance and appreciate the local topography of the position on a high bank above the river and defended on north and south by ravines. The maps and archaeological reconstruction drawings (reproduced in the NYU volume, *Edge*), which have been refined by the most recent excavations, inspire an appreciation of how the settlement developed from a single castle to a Hellenistic town on a Hippodamian grid plan, to a densely populated Roman city. Except for a modest selection of artefacts and drawings to be seen in the small on-site museum, the major collections from Dura Europos must be viewed elsewhere.

The books under review here were produced for exhibitions of material from the Dura Europos collections at Yale during the renovations of the Yale

University Art Gallery, which, when re-opened this December, will provide them with the permanent space they so richly deserve.[3] While the modern discovery of Dura Europos in 1920 was by British military men, the ecavations there were begun in the 1920s by the French and then continued down through the 1930s under the supervision of archaeologists from Yale. The artefacts were divided primarily between Yale and the National Museum in Damascus. Since the mid-1980s, new excavation and study at Dura Europos has been carried out by a joint Franco–Syrian project. Material from the current excavations goes to the collections of the museum in Deir ez-Zor, the nearest sizeable modern city, where one hopes they will survive the civil war that is raging in Syria. The excavations of the 1920s and 1930s were summarized in a series of preliminary reports and at least partially analyzed in detailed topical final report volumes appearing ever since.[4] Preliminary reports of the recent excavations have been published, but more detailed studies are only beginning to appear. The volumes under review consciously have been planned to complement one another and taken together introduce for a general audience the history and importance of Dura Europos and its modern study. The essays in the Boston College volume (*Crossroads*) are in many cases very substanial examinations of specific topics where modern re-interpretation is questioning the emphasis of the earlier studies. As the curators of the exhibitions hoped, the occasion of mounting them was an opportunity to assess the current status of the study of the site and its artefacts and to suggest directions for further study.

For the history of the discovery and excavations, one might still wish to read the classic narrative, *The Discovery of Dura Europos* (1979) by Clark Hopkins, who for a time directed the excavation. In *Crossroads*, Lisa Brody summarizes the Yale involvement and Carol Snow discusses conservation of the material on site and when it first arrived at Yale. For the renewed excavations and conservation work, Pierre Leriche et al. (in *Edge*) provide a clear summary in which, in passing, he notes his disagreement with what he terms "speculations" about whether the Sasanians briefly held the city before the final conquest and whether they employed "chemical warfare" during its siege (as argued compellingly in *Crossroads*, with evocative illustrations, by military historian Simon James). While many of the original excavation photos are reproduced in both volumes, those in the selection at the back of *Edge* are larger and the far more elegantly printed. Margaret Olin's general essay in *Crossroads* on the sometimes blinkered interpretations of the first excavators and analysts of the material makes for particularly interesting reading and is essential background for any who would consult some of the early studies of the Dura Europos material.

A lot of attention in these volumes is directed to issues of identity — ethnic, religious, linguistic — although the authors wisely avoid jumping into the quicksand of weighing competing theoretical models in order to devise some new interpretive scheme. Rather, the emphasis is to move inquiry into new directions by a re-examination of specific topics and their historiography in ways that simply will illustrate the complexities which still invite full analysis. There are no simple answers to many of the difficult questions; in a sense what we are left with here is not an impression of how much has been learned, but how rudimentary our knowledge still is.

To a considerable degree, it was the discovery at Dura of important early murals and related sculpture from several religious traditions which first excited the scholarly world and some of the broader public. Ironically, the material had been preserved thanks to the desperation of the city's defenders as it was about to fall to the Sasanians in the middle of the third century. To prop up the western walls, they built an earthern ramp that covered substantial parts of the buildings that had been built close to them on the inner side. While in the process parts of those buildings were destroyed, that which was buried survived and was protected from the elements and from human depredations. Here the excavators found some of the earliest Christian art in a small house that had been converted to worship space for an arguably small population of Christians. Not far away was a larger synagogue, whose walls displayed the earliest known Jewish pictorial imagery related to scriptures. This discovery was truly revolutionary, in that previously it had been thought such imagery had been forbidden by Jewish strictures against idolatry. Further along the wall were the remains of a Mythraeum, with imagery devoted to the god particularly favored by the Roman military, and beyond that was a major temple dedicated to the regional Semitic gods, with depictions including worshipping members of the local elite. Quite apart from the now substantial literature debating the relationsship between image and scripture and attempting to contextualize the imagery with reference to visual representations found elsewhere, the religious art of Dura raises important issues about the degree to which the local residents of the city may have interacted, despite their religious differences. Among other things, graffiti on the walls of the buildings raise questions about the ethnicity of the devotees.

To a considerable degree, all of the essays focusing on religious practice and imagery in *Crossroads* ask

us to revise older views about religious rivalries and instead to consider that there may have been some fluidity in religious identities, especially where the visual evidence reveals discrepancies with what from a later perspective might be deemed canonical norms. Pamela Berger and Tessa Rajak address different aspects of the interpretation of the synagogue paintings, where certain details might seem to be "un-canonical" for Judaism and whose inclusion might have been a deliberate affront to adherents of the other faiths as well, should they have seen the imagery. As they explain, there are various ways to imagine viewer response and audience which do not necessarily contradict any assumption that the various communities within close proximity of one another interacted peaceably. Michael Peppard reminds readers that the Christian paintings found in the room that was the baptistery were made at a time when there was still no stable canon of the New Testament. Thus one should not assume (as most have done) that women depicted on part of the wall are processing to the tomb of Christ. Rather, he argues with ample textual support, it can logically be interpreted as a procession to a bridal chamber. A theological emphais on baptism as death developed at a later time. Charles McClendon's comparative essay on the relationship between the imagery and architecture in the Christian building and in the synagogue moves us beyond purely iconographic considerations into an understanding of sacred space. Maura Heyn's careful delineation of the layers and placement of the images in the Temple of the Palmyrene Gods shows how important it is to keep in mind the chronology of an evolving set of images and to consider the placement of particular images within the architectural space. This then explains why earlier analysis failed to uncover a coherent iconographic scheme — there probably never was one. Patricia DeLeeuw's attempt to find common elements in the worship spaces and rituals of the Christian building, synagogue and the Mythraeum also invites us to consider carefully the relationship between architecture and its decoration, even if she really ends up without clear proof of her contention that the prevailing mood in the Roman period (at least in Dura in the 3rd century) was indeed one of mutual tolerance of others' religions, not resistance and competition. While there is important evidence regarding the presence of Palmyrenes in Dura (the Roman legion stationed there near the end was a Palmyrene one), as Licinda Dirven shows in her summary of her separately published monograph, the Dura material does not indicate they simply replicated the religious beliefs of their home city. In her argument, merchants away from home might readily be influenced by beliefs and worship of the region in which they were living, and the soldiers could just as easily accomodate themselves to prevailing beliefs in the Roman army.

Most of these essays make full use of the excavation photos, some of which preserve details subsequently lost or obscured. *Crossroads* illustrates the synagogue paintings from the color reproductions made at the time of their discovery by Herbert Gute and now housed in the Yale collection (the original paintings, but for some of the ceiling tiles, are in the National Museum in Damascus and have not been publicly accessible during its major renovation). Thelma Thomas's consideration (in *Edge*) of broader art historical issues regarding the paintings and some of the other visual material from Dura serves as a very timely reminder of the importance of the archival records, since, as she illustrates, one of the key images from the Temple of the Palmyrene Gods has tended to be analyzed from a version of the first photo that had been altered by removal of "extraneous" detail and colorized — photoshopping before the digital age, if you wish. One of the tasks of the recent Franco–Syrian collaboration has been to do a proper restoration of this image of Conon and his family performing a sacrifice (compare Ill. 1-19, p. 32, with Ills. 2-1, 2, 3, p. 43).

As several essays point out, any consideration of "identity" must perforce examine languages. Yet such evidence can be misleading, as names of individuals may not reflect their ethno-linguistic origins, and vagaries of preservation (as with the preponderance of Roman-period written material at Dura, much pertaining specifically to military matters) can provide a skewed perspective on language use. Jean Gascou's essay (in *Edge*) on language diversity at Dura explains very clearly, with some well-selected examples, the nature of the evidence. One of the reasons Dura is so important is its having yielded so much written material, not all of which (notably the epigraphic material) has yet been properly published and analyzed.[5] While around a dozen languages are attested, Greek was the "lingua franca" even in the Roman period; so he feels it is inappropriate to speak of the "Levantization" of the city. There was a clear hierarchy of languages, with all but Greek confined mainly to spheres of private life and some of them probably rapidly falling out of use.

We really could use more here on many of the other subjects which the rich finds at Dura could illustrate. Jennifer Baird's essay on houses at Dura (in *Crossroads*) opens a fascinating subject which can be studied properly only by a careful re-examination of all the earlier expedition materials and by the results of new excavations. For it is critical to place artefacts in their original context and study the assemblage of the material, which must be reconstructed (for the

earlier excavations) on the basis of the unpublished field notes. The buildings were substantially altered and their uses often changed dramatically over time. If considered out of context, artefacts may seem to tell a very different story about their possible owners and the way they were used than if contextualized in what often turns out to be a complex mix of styles, origins, and identifiers. As Baird suggests, we have barely begun to get a full picture of life in Dura. While there is precious little specific to Dura in another of the essays, by Ann Olga Koloski-Ostrow on the varied landscape of Roman practice and culture regarding water, latrines and baths, she poses interesting issues about the likelihood that Roman innovations might have faced considerable obstacles in entrenched local cultural practices.

Given that Dura was not first and foremost a commercial emporium, it is perhaps appropriate that evidence of long-distance exchange receives so little attention in these essays. What is here though is suggestive. Richard Grossmann offers a brief discussion of glass objects, opening for discussion the possibility production even at Dura might have served other locations along the Roman frontier such as Zeugma on the upper reaches of the Euphrates.[6] A few distinctive bronze fasteners (of what is now best termed La Tène style) found at Dura point to some interesting possible connections as far away as Britain. Here though, as Nancy Netzer suggests, we are probably not talking about commerce but rather objects transported by Palmyran legionnaires who returned home after assignment on the northern Roman frontier. Sebastian Heath's all too short survey of some of the other evidence we might use to discuss external contacts of Dura focuses on ceramics and coins. Unfortunately in early excavations, there was no systematic and complete recording and preservation of potsherds, but what we have points to connections all along Rome's eastern frontier, from distant locations in the Mediterranean, and, surprisingly, the Pontus area in the Black Sea. Coins from Dura have been carefully preserved and catalogued; the site yielded several sizeable hoards.

The excavations at Dura, which surely rank amongst the most important archaeological projects of the 20th century, began in conditions of political instability, which, unfortunately, has returned to the region and very likely is interrupting the fruitful continuation of that pioneering work. One can hope though that eventually we will have an even fuller understanding of the site than we do to date on the basis of so much serious scholarly effort. Integrating the material into the broader patterns of Eurasian history is a very important task for the future.

II. Saved from the waters

Belkis/Zeugma and Its Mosaics. Ed. Rifat Ergeç. Istanbul: Sanko Holding, for the Gaziantep Museum, 2007. 224 pp. ISBN 978-975-9011-08-6.

Although now in print for several years, this book, of a genre that is designed to empty the wallets of visitors to the museum shop, is worth noting as an introduction to a spectacular assemblage of material recovered from recent archaeological salvage excavations. The site is that of Belkis/Zeugma, located in Turkey at a point on the Euphrates River where it separated into channels around some islands, thus facilitating easy crossing. The remains there first were identified in the 1970s as belonging to Zeugma and its sister city across the river, Apamea (not to be confused with Apamea in Syria, though named for the same lady). Evidence of looting and then the threat posed by the imminent construction of a dam just downriver led to serious excavations in the 1990s, which were just in time to salvage striking material from villas destined to be submerged in the rising lake. The material was taken to Gaziantep, restored, and can now be viewed in a new museum, to which the mosaics were transferred in 2011 from the old Archaeological Museum where I viewed a good many of them in 2010. (One might note the comments in this book about the museum exhibition space are now dated and somewhat confusing.) Since much remains at Zeugma above lake level, the expectation is that further excavations will reveal a lot which then will be left *in situ* in the protected environment of an open-air museum.

The book is of value first of all for its excellent color images, showing photos of the material *in situ* and then the mosaics after restoration. The arrangement is by individual villa; accompanying text describes what is in the mosaic and provides at least cryptic information on the excavation of it along with a sketch map of the building and the location in it of the mosaic. There is a useful chronology of the history of Zeugma as reported in the ancient sources, and a too short narrative account of why the site was important.[6] The couple of pages on the excavation projects are cryptic, but at the end is a bibliography of publications concerning the site (through 2006).

While the city owes its formal establishment to Seleukos Nikator, Alexander's successor, the mosaics all date from the Roman period — probably late 2nd–early 3rd centuries — not long before the Sasanian conquest which also swallowed up Dura Europos downriver. Specialists on the Roman East presumably would find little suprising at Zeugma, since it was long known to have been an important hub on the

routes of communication and an administrative (later, in the post-Roman period, a church) center. Isidore of Charax's itinerary in his "Parthian Stations" (1st century CE) started here. For those of us new to this material, to find such striking evidence as mosaics of superb quality out along the frontiers of empire is a revelation. While Zeugma was only one of many possible crossing points on the Euphrates, it seems to have been of particular importance, often preferred to a more direct route east from Antioch (modern Antakya) via the desert route and Palmyra, given the logistical and political difficulties that could impede that latter road.[7] For this northerly route, one might see Zeugma and Antioch as pivotal locations, the one pointing the way down into Mesopotamia, the other into the Mediterranean. In the excitement over the mosaics from Zeugma, it is easy to lose sight of the other important evidence which the excavations have yielded and which was included in the displays in the old Archaeological Museum along with other interesting material found elsewhere in this archaeologically rich region of southeastern Turkey. For example, there were large quantities of coins and seals, attesting to the city's prosperity and trade connections.

A close comparison of the material from Zeugma undoubtedly will reveal connections with Antioch, where the material we see in the museum there is primarily that unearthed by the Princeton excavations of the 1930s. In the more than half century since the Antioch mosaics went on display, a great deal has changed in thinking about museum exhibitions. Assuming that the Zeugma exhibits as I saw them in 2010 have retained their best features in their new home, the visitor will learn a great deal more about the context of the panels than is currently possible in Antakya. At Zeugma, where possible, some effort was made to preserve the walls around each mosaic floor, since many of the walls were decorated with murals. The sites around Antakya apparently were less well preserved and did not lend themselves to that kind of display. The Antakya museum thus crowds every inch of the high walls with panels which do not have an obvious connection to one another, and the captioning provides little help in understanding. In Gaziantep, apart from the careful reconstruction of the contexts of some villas allowing us to see the mosasics as if *in situ*, the captioning contains a lot of helpful information not only on the images themselves but on their location at the site, in each case reproducing the site plan for the villa in which the mosaics were found.

Of course both locations — Zeugma and Antioch — with their rich array of elite Roman villas are not exceptional for the Roman East. Above all what I think we learn from the inspiration of seeing this material is how important it would be to develop a full understanding of the "eastern frontiers" of the Hellenistic, Roman and Byzantine worlds. These zones were ones of conflicting political ambitions, as evidenced in the substantial investment made in fortresses such as Dura, Halebiye and Resafa whose remains still impress. Some of the newer interpretations of the Roman frontiers see such fortifications which have survived to this day as more than defensive barriers protecting the empire against foreign incursion. Rather, they can be viewed as locations from which border communications might be monitored and exploited and from which Roman influence could be projected into the regions beyond.[8] These were the zones of cultural and economic interaction. The Byzantine presence from the time of Justinian is very important, coming precisely when we learn of overtures from the Turk Empire which allegedly brought silk to Constantinople. What we call the Silk Roads did not stop somewhere in Central Asia but went on West; the objects of Hellenistic and Roman provenance which made their way into East Asia surely must have passed through these frontier zones and probably in most cases originated just west of them, not way off in the central Mediterranean.

III. "Let us weep, recalling a love and a lodging by the rim of the twisted sands"[9]

Claude Vibert-Guigue and Ghazi Bisheh, with a contribution by Frédéric Imbert. *Les peintures de Qusayr 'Amra. Un bain omeyyade dans la bádiya jordanienne*. Beyrouth: l'Institut français du Proche-Orient, 2007. x + 228 pp. ISBN 970-2-35159-049-2.

I first heard of Qusayr 'Amra in a lecture by Oleg Grabar as part of his survey course in Islamic Art in the 1960s. When the opportunity finally came to travel in Jordan in 2010, seeing this remarkable site was no less exciting a prospect than visiting Petra. In the history of early Islamic art, Qusayr 'Amra occupies an important place. Though hardly unique for what it reveals, its extensively preserved murals are important, as Ghazi Bisheh states in his introductory essay, "in that they offer a wealth of iconographic themes unrivalled in any other contemporary monument and because they represent a key historical period when Islamic art was still in its formative stage" (p. 14). Even though located in the heart of the Umayyad empire, Qusayr 'Amra was still very much in a cultural "frontier zone." First discovered by a European in 1898 and first published in 1907, it is certainly well known (having received World Heritage Site designation in

1985), but its interpretation is as yet controversial. As at the Mogao Caves, some pieces of the murals were cut away and taken off to Western collections. Also, as at Mogao, the soot from those who camped out in the enclosure blackened some parts of the walls. Modern efforts at conservation and restoration have both helped and hindered our understanding of what was there. Hence the need for the volume under review, which seems to have escaped the attention it so richly deserves.

One drives about an hour away from Amman or Madaba into an increasingly stark desert terrain to arrive at the site, which would easily be missed if one happened to sneeze or momentarily glance in the opposite direction. In the spring a nearby wadi has flowing water, but otherwise its residents had to rely on a deep well, whose apparatus has now been reconstructed. The building is a bath house, built probably for the libertine Caliph Al-Walid II in the early 740s CE, a retreat in an area where he might have enjoyed hunting.[10] Its murals would suggest that here he would entertain important guests (and thus was concerned to have imagery reflecting his pretensions as a ruler), and the entertainments might well involve libertine excess (as witnessed by the several images of naked or semi-naked women entertainers and bathers). The imagery draws on various traditions — notably late Roman/Byzantine, but also with some apparent influence of Sasanian themes. Some scenes seem to pertain to particular dynastic concerns of the Caliph, others to his larger world-view of his position in a very broad political landscape. There are scenes of the hunt, depictions of craftsmen at work, scenes drawn from stock imagery of Classical art (even if the sources were not always understood). A remarkable domed ceiling depicts a sky map with constellations and zodiac images.

The substance of this book is the large-format catalogue of illustrations, based on Vibert-Guigue's dissertation research in which he carefully documented the structure and its decoration. This undertaking had long been needed: some of what had been depicted in the first photographs taken a century ago in very difficult conditions had since been damaged or removed, and the Spanish conservators in the 1970s often went overboard in their "restorations." As his brief introduction explains in its review of this earlier history, what Vibert-Guigue has done is to try to peel back (figuratively and by photography and drawing) the accumulated damage, and then reconstruct as best possible what can be reasonably documented about the original images. Thus, he has meticulous "archaeological drawings" showing what is currently visible, which then can be juxtaposed with reconstructions to which he has brought all the evidence available from the earlier documentation and his minute examination of every square centimeter of the surface. He separates out the unfortunately abundant later graffiti, which have damaged the surface; he provides the clearest possible renderings of the important inscriptions in Arabic and Greek (concerning which Frédéric Imbert contributed here); his photos, in color and black and white provide closeup detail; and he has drawn hypothetical renderings of what he thinks was their original color scheme.

Even though for the casual visitor (such as I was in 2010) there is much that is clearly visible (see my photos below), important imagery is often quite difficult to make out without the assistance of the reconstructions. I think it is safe to conclude that few will question Vibert-Guigue's visual documentation. It will be indispensable for any future analysis of the imagery, which will continue to invite a range of interpretations. Rarely, I think, has any effort at visually documenting an important site been done with such meticulous care and been so well published.

Some of the introductory material in the book — most importantly Ghazi Bisheh's essay — is printed here in French and English (his essay also in Arabic). Otherwise, everything is in French. However, for those who do not read the language, that should serve as no impediment to mining the book for its impressive visual documentation. In the visitor center at Qusayr 'Amra, there are very informative trilingual displays, illustrated in part with some of the same drawings found in this volume and obviously a product of the project, in which Vibert-Guigue played an important role, co-sponsored by the Institut français du Proche-Orient and Department of Antiquities of Jordan.

Notes

1. My site visits were made possible thanks to a generous Emeritus Fellowship from the Andrew W. Mellon Foundation.

2. In connection with the exhibitions in 2011, the Yale Art Gallery created a very informative website, which includes a lot of the original excavation photographs and drawings: "Dura Europos: Excavating Antiquity" <http://artgallery.yale.edu/duraeuropos/>.

3. A bibliography listing the excavation reports, preliminary and final, and a selection of the other literature on Dura Europos may be downloaded from: <http://artgallery.yale.edu/duraeuropos/Dura-Europos-resources.pdf>.

4. Descriptive cataloguing (and in many cases the full texts) of the papyri can be accessed by searching under P.Dura at <http://papyri.info/>. Good images of a few are in Gascou's article.

5. Grossmann has compiled an informative guide to ancient glass in the Yale collections, which may be downloaded at

<http://artgallery.yale.edu/pdf/perspect/ancient_glass.pdf>.

6. For a lot more detailed information, including a chapter containing a compendium of the ancient sources, see David Kennedy, *The Twin Towns of Zeugma on the Euphrates: Rescue Work and Historical Studies.* Journal of Roman Archaeology, Supplementary Series No. 27 (Portsmouth, RI: 1998).

7. A detailed exploration of the routes on the Euphrates around Zeugma, based on aerial photographs and ground survey is Anthony Comfort et al., "Crossing the Euphrates in Antiquity: Zeugma Seen from Space," *Anatolian Studies* 50 (2000): 99–126; idem, "Following the Euphrates in Antiquity: North-South Routes around Zeugma," *Anatolian Studies* 51 (2001): 19–49.

8. See the discussion in a very recent popular account, Andrew Curry, "Roman Frontiers," *National Geographic* 222/3 (September 2012), esp. pp. 117, 122. He goes on to cite Dura Europos as a prime example of a town on the Roman frontier (pp. 122-3, 126).

9. Imru' al Qays, *Mu'allaqa 1–2*, tr. Arberry, quoted by Garth Fowden, *Qusayr 'Amra: Art and the Umayyad Elite in Late Antique Syria* (Berkeley etc.: University of California Press, 2004), p. 85.

10. I am following here the fascinating if often highly speculative account by Fowden, who was aware of Vibert-Guigue's dissertation that served as the basis for the volume under review here.

Dura Europos

(left) The Palmyrene (west) Gate. (above) The Palace of the Dux Ripae, looking south along the Euphrates

(below) Two composite images: 1) The Citadel; 2) View to the west across main part of the city.

The now denuded remains of the Christian house (left) and the synagogue (right)

Two ceiling tiles from the synagogue. Collection of the National Museum, Damascus.

Mural depicting an onager hunt, with details showing Palmyrene graffiti and the Greek inscription dating the painting to 194 CE. Musée du Louvre, Paris. Gift from Yale University, 1935. AO 17310.

(left) Cult stele to the god Aphlad from the Temple of Aphlad at Dura, ca. 53/54 CE. Damascus National Museum.

(right) Statue of Aphrodite from the Temple of Artemis, at Dura 2nd-3rd century CE. Musée du Louvre, AO 20126.

(below middle) Cult relief of Shalman's son from the Temple of Bel. Deir ez-Zor Museum.

(bottom) Mural depicting Conon's sacrifice from the naos of the Temple of Bel. Photograph made from a hand-colored negative, on display in the site museum at Dura.

Zeugma

All photographs © 2010 by Daniel C. Waugh,
taken in the Archaeological Museum in Gaziantep

An aerial view of the salvage excavation

The "Gypsy Girl" (a maenad), the fragmentary mosaic that has become the symbol of Gaziantep

(above) Poseidon
(below) Okeanos and Tethys

A bronze statue of Mars

Three views of the room in the Poseidon Villa displaying on its floor the Birth of Aphrodite

(left) Cupid and Psyche

A dolphin

Euphrates and the river gods

The Abduction of Europa

Qusayr ʿAmra

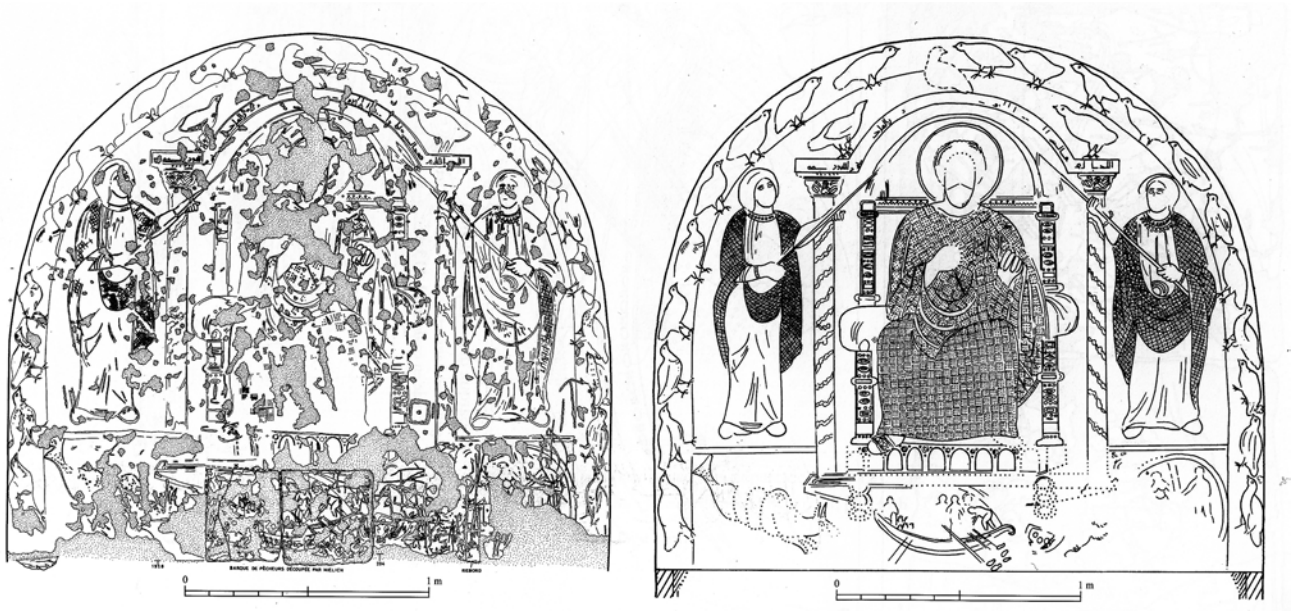
Photographs *in situ* © 2010 Daniel C. Waugh

View from the north

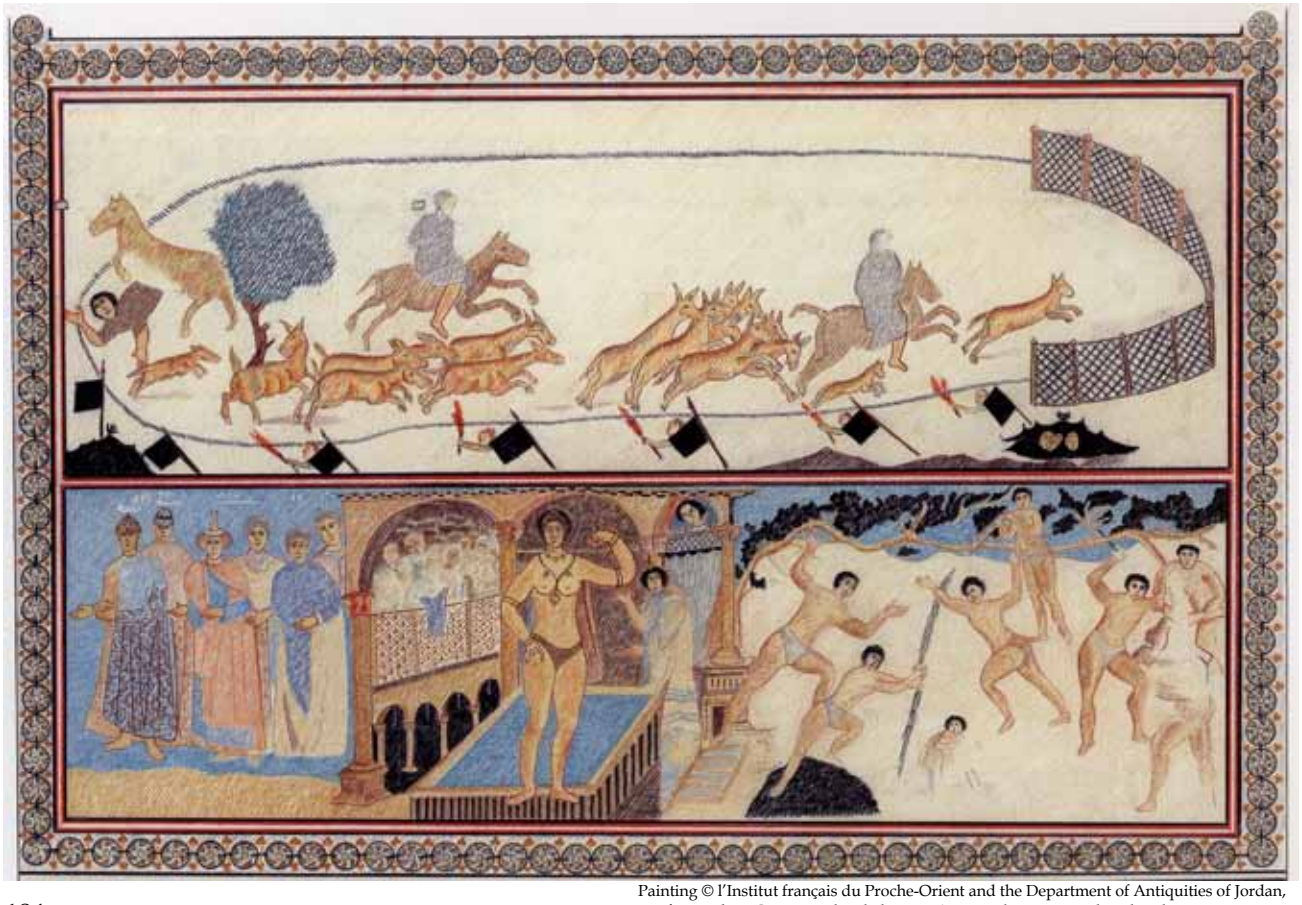
In the central aisle of the reception hall:

(above) detail of the vault painting.

(left and below) the enthronement scene on the south wall — below the photograph is Vibert-Guigue's "archaeological drawing" and next to it his reconstruction drawing.



Murals on the west wall of the reception hall. Along the top is a hunting scene, with animals being driven into a net around which are men with torches. Below on the left is a poorly preserved group of the six kings symbolic of those whose territories the Umayyads claimed. To their right is the bathing scene with the semi-naked woman Fowden thinks is a captive Sasanian princess. Further to the right are gymnasts.
The image below is Vibert-Guigue's reconstruction of the original appearance of the mural..

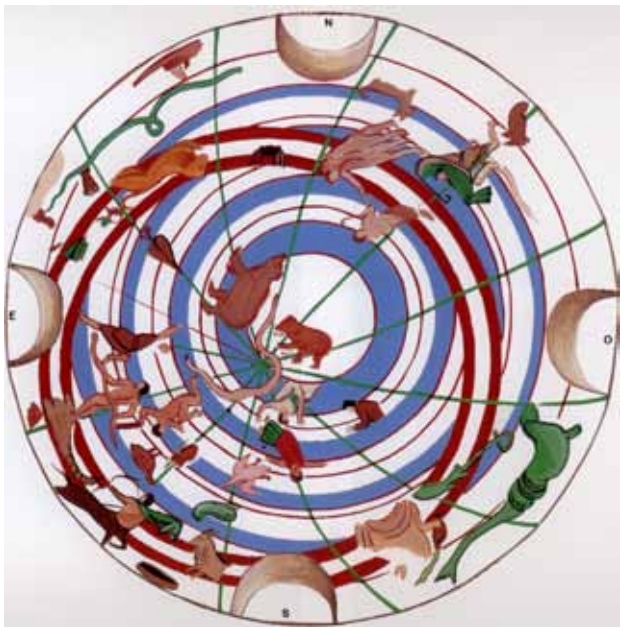


(above, left to right): the "Sasanian princess" on the west wall; a woman bearing a dish on the south soffit of the east arch; a dancing girl on the south soffit of the west arch.

(right) carpenters, one of a set of images of craftsmen on the vault of the east aisle.

(below) pensive woman with Eros, central aisle, northwest spandrel.

Bathing scene on the southern lunette of the tepedarium (warm room of the bath).



Cupola of the caldarium (cold room) with the sky chart and signs of the Zodiac; on right Vibert-Guigue's reconstruction; below details including (left) Andromeda and (right) Orion.

REVIEWS

Luo Xin 羅新 (Editor) Roger Covey (Translation editor). *Chinese Scholars on Inner Asia*. Indiana University Uralic and Altaic Series No. 174. Bloomington: Indiana University, Sinor Research Institute for Inner Asian Studies, 2012. xxiv + 707 pp. ISBN: 978-0-93307058-5. Available from: Sinor Research Institute for Inner Asian Studies, 1011 East Third Street, Goodbody Hall 101/102, Indiana University, Bloomington, IN 47401-7500 <www.indiana.edu/~srifias>.

This volume, more so than any other book in a Western language, conveys the experience of reading Chinese-language scholarship to readers who cannot read Chinese. To tell the truth, it is even more informative than reading an article in Chinese because of the thorough annotation provided by the editors.

With footnotes on the bottom of each page, both the running text and the notes provide Chinese characters for people, place names, and terms. The 42–page bibliography gives the pinyin romanization, characters, and the English translation of every book and article title, while the 33–page index includes personal names, place names, and terms. The index also cites all primary sources (by their English title, with cross references from the pinyin) so that one can quickly locate all the essays citing a particular source. The scholarly apparatus is impeccable — which means that, in addition to the value of the essays, the book serves as a first-rate English-Chinese dictionary to the field of Inner Asian history.

This volume contains 15 essays that originally appeared in Chinese: one on the Turks (Wu Yugui), three on the Sogdians (Jiang Boqin, Zhang Guangda, Rong Xinjiang), three on the Kitan (Wang Xiaofu, Liu Pujiang and Kang Peng, Cai Meibiao), six on the Mongols (Yekemingghadai Irinchin, Zhou Qingshu, Han Rulin, Chen Dezhi, Liu Yingsheng, Luo Feng), one on Xiongnu titles (Luo Xin), one on the Manchus (Yao Dali).

Because the first four articles will be of greatest interest to readers interested in the Silk Road, this review will focus on these, and highlight a few discoveries that have been made since these essays were first published in Chinese.

Two of the authors, Zhang Guangda and his student Rong Xinjiang, have published widely on Silk Road topics in Western languages and are well known to readers of this journal. Zhang Guangda's essay, "The Nine Zhaowu Surnames (Sogdian) in the Six Hu Prefectures and Other Places in the Tang Dynasty," published in 1986, is a remarkably prescient study of the Sogdians, the people who originally lived in the vicinity of Samarkand, before Chinese archeologists began to discover their tombs in different Chinese cities and before the resulting boom in Sogdian studies. Characteristically, Zhang's first footnote on the Sogdians cites scholarly work in Chinese and Western languages, as he is one of the few Chinese scholars in his generation (those who received their undergraduate degrees after World War II) who consistently reads the work of foreign scholars (this article cites research in Arabic, English, French, German, Japanese, and Russian). The essay stands as a good introduction to the Sogdians, particularly the Six Hu Prefectures in the Ordos, where many Sogdians settled, and to other settlements as well. Zhang published his study before the important discovery by the Japanese scholar Yoshida Yutaka, "On the Origin of the Sogdian Surname Zhaowu and Related Problems," *Journal Asiatique* 291, nos. 1–2 (2003): 35–67. There, Yoshida demonstrated conclusively that the meaning of *zhaowu* was "jeweled," and that *zhaowu* is most likely the Chinese transcription of the Sogdian word **camuk*.

Rong Xinjiang originally presented "The Religious Background to the An Lushan Rebellion," in 1996 and revised it for this volume. A key passage from *The Factual Traces of An Lushan* (*An Lushan shiji*) shows that An's Zoroastrian background shaped his relations with his Sogdian followers:

> Whenever merchants came to him An Lushan would sit on a large couch wearing foreign clothes, and he would burn incense and set out precious treasures, and command 100 foreigners to serve him on his left and right. The assembled foreigners surrounding him bowed down to him and supplicated themselves asking for blessings from heaven. An Lushan grandly set out livestock for sacrifice, and all the magi would beat drums, sing and dance, which went on until dusk when all dispersed.

This passage indeed constitutes clear evidence of An's religiosity, which earlier Marxist historians often overlooked. Rong is a master of collecting vast amounts of data and presenting them clearly; this article gives capsule biographies of 28 of the leading rebels, many of whom were Sogdian. It also surveys the evidence of Zoroastrian temples throughout China during the Tang.

The Zhang and Rong articles represent the type of Chinese article that draws on a deep source base to present an overview of a broad topic, whether of Sogdian settlement or belief. The two articles by Jiang Boqin, a historian at Zhongshan University in Guangzhou, and Wu Yugui, a historian based at the Institute of History Studies at the Chinese Academy of Social Sciences, typify a very different type of article that explicates a single document, often a handwritten document found at Turfan posing multiple Sinological challenges: the author has to decipher each character, correct any mistaken characters, identify the people mentioned, and — most important of all — situate the document in a larger historical context.

Wu Yugui's "Turks in the Gaochang Provisioning Texts," (1991) examines six undated texts, dating between 591 and 632, and all listing envoys and refugees and the provisions given to them by the Gaochang Kingdom, which ruled Turfan from 500 to 640. Wu Yugui, one of China's leading experts on the Turks (in Chinese, Tujue), identifies three kaghans mentioned in the texts and explains what is known of them from Chinese sources. He also documents the marriage relations between the Gaochang Kingdom and the Turks. Apart from a handful of inscriptions, sources in the Turkic languages are scarce, and the Chinese documentary record, particularly in the dynastic histories, is especially informative. The years at the end of the sixth and the beginning of the seventh century were a particularly confusing period when kaghanates split into different groups. It is a very important period, too, in Chinese history: the Sui dynasty (589–617) took power and fell to the Tang forces. Anyone who has tried to make sense of these events will be very grateful for Wu Yugui's clear exposition.

Jiang Boqin's "The Chinese Persia Expeditionary Force as Referenced in the Turfan Documents," (1986) examines two documents closely: one found by Aurel Stein and previously studied by the French scholar Henri Maspero, and one found at Turfan by Chinese archaeologists in 1964. The first document is from the leader of the army to the emperor, while the second concerns a single enlisted man who fell ill and requested leave. Jiang uses these two documents to clarify what happened after the fall of the Sasanian empire to caliphate armies in 651 when the Tang extended help to the deposed royal family. Artfully he draws on the official histories to locate the armies and identify their leaders (he is unable to find the name from the Turfan document in the official sources) and to date them to the late 670s. His most important contribution is to show that the Tang actually dispatched troops from Turfan to Sūyāb, in modern Kyrgyzstan where they had to fight the Western Turks; from there, the hope was that the deposed Iranian royal family would lead the army through Afghanistan and take back the throne. In actuality, of course, they never succeeded.

These essays all display the strength of evidential scholarship, to use Benjamin Elman's translation for *kaozheng*, the detailed textual studies done by traditional Chinese scholars, as it is practiced in the twentieth century. The authors write for other experts; they assume interest in their topic, and they focus on specific details that illuminate larger issues, which they do not always address directly. The essays are of enormous value to anyone working on related topics, and the high level of the translations and annotations in this volume grant everyone full access to a representative sample of Chinese scholarship. This sample shows why Chinese scholarship is so important and so worth reading — which was, of course, one of the editors' goals in producing such a volume.

Valerie Hansen
Professor of History
Yale University

Samuel N. C. Lieu, Lance Eccles, Majella Franzmann, Iain Gardner, and Ken Parry. *Medieval Christian and Manichaean Remains from Quanzhou (Zayton)*. Corpus Fontium Manichaeorum, series archaeologica et iconographica (SAI 2). Turnout, Belgium: Brepols; Ancient Cultures Research Center, Macquarie University, NSW, Australia, 2012. x + 282 p., 127 b/w ill + 73 color ill. ISBN: 978-2-50352187-8. 125 Euro.

In 1346 or 1347, a Florentine traveler named John of Marignolli arrived in the port city of Zayton on the south coast of China in Fukien province. Like Marco Polo and other Europeans who passed through Zayton in the same era, John marveled at the scale and bustling international trade of this *mirabilis civitas*. He was particularly proud of the city's "three very fine churches" held by the local Franciscan community and the custom–made bells that they had installed in the "very middle of the Saracen community" (p. 9).

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John neglects to mention the existence of Zayton's non-European Christian population, in particular its polyglot Nestorian community, which achieved its greatest extent and influence as allies of China's Mongol rulers under the Yüan dynasty (1271–1368). In this splendid new volume, a team of Australian scholars led by Samuel N. C. Lieu offers a window into the history of this medieval Christian community, drawing upon the results of their meticulous research in the modern city of Quanzhou (medieval Zayton) between 2001 and 2008. The book that has emerged from this ambitious collaboration is a testament not only to these scholars' erudition and insight, but also to their ability to work effectively with Chinese scholars, museum directors, and other officials. Appropriately, the book is dedicated to the memory of Wu Wenliang (1903–69), the local biology teacher and archaeologist whose dedicated research saved many of his city's medieval Christian artifacts from destruction.

The story of how these Christian monuments resurfaced is itself instructive. Their discovery began as an inadvertent result of modernization and war. In 1938, in the early phases of the second Sino-Japanese War, the Nationalist government of China ordered the demolition of the medieval walls of Quanzhou and ten other coastal cities in Fujian to deny their use to the Japanese forces that were preparing to invade the province. A portion of Quanzhou's city walls had already been leveled in the 1920s to make way for a railroad; now the job was completed, exposing dozens of inscribed tombstones and other stone artifacts that had been used as foundation blocks or infill for the walls (p. 15). Wu Wenliang began collecting and photographing these monuments in the late 1930s, storing many of them in his backyard during the turmoil of the war. His catalogue of the artifacts, published in 1957, became a standard reference work for Chinese historians of the Yüan, but received little attention outside China until his son published a revised and expanded edition in 2005. Today, most of the tombstones and related monuments (including nine items found since 1975) are on display in the Quanzhou Maritime Museum, which opened in 1991, although some of the original stones have been moved to Beijing and replaced with copies.

The present book presents a catalogue of the decorated and inscribed Christian and Manichaean artifacts of medieval Quanzhou. This diverse and complex corpus of material features more than seventy-five objects that are or could be Christian (14 headstones, 36 inscribed tombstones and sarcophagus–panels, 6 column drums or other cylindrical stones, and 18 "Islamic style sarcophagi with Christian motifs"). The majority of these objects bear no inscriptions, and the catalogue organizes them by shape and decoration: the most common image is a cross floating on a lotus cloud, often held by a single angel or supported by a pair of winged figures. The inscriptions are mostly in Syro-Turkic — that is, medieval Uighur written in a Syriac script — a writing system used by Christians throughout much of Asia in the fourteenth century. As Eccles and Lieu explain in an invaluable introductory essay to the epigraphy (pp. 151–69), the closest parallels for the Quanzhou inscriptions come from the roughly contemporary tombstones from Semirechye (Kyrgyzstan), which often employ other similar phraseology.

Many of the Quanzhou epitaphs, as also in Semirechye, include dates rendered in the Seleucid calendar, sometimes juxtaposed with the equivalent date computed according to the Turkic or Chinese calendar. In a curious bit of antiquarianism, some of the Quanzhou inscriptions attempt to make the Seleucid dating formula even more precise, citing the year according to the reckoning of "Alexander the Great King (*ilig xan*), the son of King Philip from the city of Macedonia" (p. 163). The faulty identification of Macedonia as a city (*balïq*) shows how Turkic speakers misunderstood the original Syriac dating formula, which identified Alexander simply as the "Macedonian" (as attested, for instance, in an eighth-century inscription from the Syrian village of Kefr Lab). Here and elsewhere in their commentary on the Quanzhou inscriptions, Eccles and Lieu demonstrate the pan-Eurasian horizons required for the decipherment of these Christian epitaphs. This decipherment — which Majella and Lieu modestly describe as "an ongoing process" (p. 179) — has been greatly aided by the discovery in 1981 of the bilingual (Chinese and Syro–Turkic) tombstone of a certain Lady (*xatun*) Elizabeth, the consort of Ioannis Sam–Sha of Dadu (Beijing), who was laid to rest "in the year 1628 of the reckoning of King Alexander, in the Turkic reckoning of the Snake Year," i.e., in 1317 CE (pp. 172–74). A recently published Syro-Turkic inscription from Inner Mongolia, whose language and phrasing closely resembles that of the Quanzhou epitaphs, provides further evidence of the strong linguistic and cultural links between the Christian communities of Inner Asia and southern China. As Eccles and Lieu observe, we must remember that the port at Zayton was only the "southernmost major outpost" of this larger world of Turkic–speaking Christians under Mongol rule (p. 169). Other Christian inscriptions from Quanzhou written in various combinations of Latin, Uighur, and Chinese — the last sometimes written in the Phagspa (Mongol–Tibetan) script — underscore the ethnic diversity of the city's churches (pp. 129–42).

This publication also provides suggestive new evidence for the potential antiquity of Zayton's

Christian community. The Christian tombstones of Quanzhou all date to the Yüan era, but their imagery and language preserve echoes of much earlier phases of Nestorian culture in China. As Parry argues in his analysis of the iconography (pp. 243–62), the imagery of the cross being carried by a pair of winged spirits has easily identifiable roots in Hellenistic and early Christian art. An inscribed Christian pillar discovered at Luoyang in 2006 confirms that very similar imagery was already being used in China in 829 when the pillar was erected. In other words, the Yüan–era grave markers at Quanzhou clearly built on a tradition of Chinese Christian funerary art with roots in the Tang dynasty (618-907). Linguistic markers in several Syro–Turkic and Chinese inscriptions from Quanzhou hint at the same legacy. For example, the bilingual epitaph of the bishop Mar Solomon, who died in Quanzhou in 1313, refers to his jurisdiction over "the *Yelikewen*, the followers of the Qin–sect, and the Light–sect." Lieu suggests (p. 33) that the first two terms refer to different segments of the Christian community at Quanzhou. In this interpretation, the followers of the "Qin–sect" — *Qinjiao*, an archaic term alluding to the Church's origin in the Roman Empire (*Da Qin*) — may have had local roots in Quanzhou extending back to the Tang era, while the *Yelikewen* (a term of uncertain etymology) consisted mainly of Turkic-speaking foreigners who multiplied in Quanzhou with the advent of Mongol rule. Lieu's reconstruction here, while speculative, has much to recommend it. The identity of the third group placed under Bishop Solomon's jurisdiction is more certain: they were Manichaeans.

The Manichaean material from Quanzhou offers an especially intriguing case of religious survival and transformation. The religion of the prophet Mani (pp. 216–76), introduced to China by the end of the seventh century, gained an extensive following in South China during the Song dynasty (960–1279), where it was known as the *Mingjiao* or "the Religion of Light." As Lieu explains (pp. 62–65), building on the arguments of his pioneering 1985 monograph, the adoption of two major Manichaean treatises into the Daoist canon (compiled in 1019) ensured the dissemination of Manichaean teaching in new hybrid forms. It is not known when "the Religion of Light" arrived in Quanzhou, but the survival of a Manichaean shrine on Huabaio Hill, 27 km southwest of Quanzhou, is indicative of the religion's tenacity in the area. The shrine, apparently founded in 1148 (p. 75, n. 35), is still in operation today, although its main temple has been completely rebuilt and its cult refocused on Mani in his guise as the Buddha of Light. Eccles and Lieu provide editions and translations of five Manichaean inscriptions found at the shrine or in nearby villages. These include a shallow ceramic bowl, probably from the late Song period, incised with the Chinese characters *Mingjiao hui*, literally, "Society of the Teaching of Light" (p. 146). The discovery of some six hundred fragments of similar bowls in the same area offers strong support for Lieu's hypothesis that these bowls were once used for the sect's ritual vegetarian meals — a habit that drew derision from the Confucian scholars who denounced the followers of the *Mingjiao* as "vegetarians and demon worshippers" (p. 70). A dedication stone erected at the same shrine in 1445 implores visitors to recite "Purity, Light, Great Power, Wisdom, the highest and unsurpassable truth, Mani the Buddha of Light" (p. 143). Thus, echoes of Manichaean hymns first formulated in third-century Mesopotamia could be heard on the shores of the South China Sea in the mid-fifteenth century.

By this period, the Nestorian community of Quanzhou had long since fallen upon hard times. Although no literary source describes this decline, a report from another city suggests that the troubles may have begun already in the early decades of the fourteenth century. In the reign of the Yüan Emperor Buyantu (r. 1311–20), Buddhist monks in the city of Zhenjiang successfully petitioned for the return of properties that had been seized by an abusive Christian official named "Mar Sargis" (a good Syrian name) and the destruction of Christian images in the monasteries "which the heretic *Yelikewen* trusting in their strength [had] built" on the property confiscated from the Buddhist monks (p. 47). In this context, it may be significant that none of the dated Syro–Turkic inscriptions of Quanzhou postdates Buyantu's reign. Some of the undated monuments are presumably later — for instance, the four funerary inscriptions engraved in Phagspa script, which cannot be earlier than the late fourteenth century — but it appears that no Christian remains from the city can be securely dated later than ca. 1400. The xenophobic atmosphere of the early Ming Dynasty, which replaced the Yüan in 1368, ensured that medieval China's most international port lost its official status and fell into rapid decline. As Lieu observes, "The writing was clearly on the wall for Quanzhou when the Maritime Trade Commission was moved to its traditional rival Fuzhou c. 1472" (p. 13). It was probably during the early Ming, if not before, that the gravestones and other monuments of the city's Nestorian community were reused as construction material for the city's walls, placing them in an archaeological storage chest from which they would re-emerge only in the early twentieth century.

Finally, it must be noted that this book's scope is considerably larger than its title indicates. A series of wide–ranging historical essays explicates the place of the Quanzhou material in its broadest Eurasian

context. Lieu's essay on the "Church of the East in Quanzhou" (pp. 25–48), for example, constitutes an important synthesis of recent work on Christianity in medieval China. Gardner's essay on the Franciscan mission to China (pp. 53–60) chronicles the formation of the Catholic diocese of Zayton; incidentally, he finds little evidence for missionary success beyond the forty slave boys whom Bishop John of Montecorvino (c. 1247–1330) bought and baptized. Finally, a lengthy essay by Franzmann, Gardner, and Parry (pp. 215–42) explores the connections between South China and India under the Yüan. Here, we learn of yet another dimension of Zayton's religious pluralism, since the city possessed at least two medieval Hindu temples: a Shiva temple implied by a bilingual (Tamil and Chinese) inscription discovered in 1956 and a Vishnu temple attested by the survival of its decorated stone pillars. In total, some "300 sculptural and architectural fragments relating to the Hindu monuments" of Quanzhou have been identified (p. 224). Noting the strength of the maritime ties with India implied by these finds, the authors ask whether Manichaean and Nestorian teachers may have traveled the same routes. While this question takes them into speculative territory, their discussion includes a notably well–informed review of our earliest evidence for Manichaeans and Syrian Christians in India.

The book is beautifully produced in a large format (210 x 297 mm) with extensive black-and-white and color illustrations of the artifacts. Its price, while hefty, is not unreasonable given the complexity of the book's production elements. The catalogue presents each of the Syro–Turkic inscriptions in Syriac script, transliteration, and translation, and all Chinese names and key terms are given in both transliteration and Chinese characters. The authors and publisher have thus done a commendable job of making the book accessible to those with or without their cumulative philological expertise. Color maps of the region and the city make it relatively straightforward to identify the find spots of individual artifacts. Although the index is somewhat cursory, in all other respects, the production quality is exceptional. In sum, this is a scholarly tour de force that deserves to reach a wide audience of advanced readers in the fields of medieval Eurasian history, archaeology, and philology.

Joel Walker
Associate Professor of History
University of Washington, Seattle

Tjalling H. F. Halbertsma. *Early Christian Remains of Inner Mongolia. Discovery, Reconstruction and Appropriation.* Sinica Leidensia, Vol. 88. Leiden; Boston: Brill, 2008. xxix + 356 pp. + ill. ISBN 978 90 04 16708 7.

Seredipity may contribute more to the initiation of worthwhile research projects than academia often cares to admit. As Dr. Halbertsma readily confesses a third of the way into this important book, he "stumbled upon the Nestorian heritage in Inner Mongolia by accident" when he came across one of the rare early publications about it in a Beijing antiquarian bookshop. His initial forays into Inner Mongolia were more with journalistic intent than scholarly, but then this became the subject of his doctoral research. The present book is a revised version of his dissertation, a major appendix to which appeared in *Monumenta Serica* in 2005. Readers may still wish to consult the Leiden dissertation for images which could not be included in this already richly illustrated book.

His goal in this work is to document before it is too late the rapidly vanishing but once significant Christian remains in areas of Inner Mongolia occupied historically by the Turkic Öngüt. Without really explaining clearly enough for unintiated readers what exactly was the "Church of the East," as its preferred name is today, he opens with an explanatory justification for using instead the more familiar (but problematic) designation, "Nestorian." He proceeds to some contextualizing background, first regarding the evidence of medieval travel accounts, and then concerning the history of "Nestorian" Christianity in East Asia. While the Church first was established in China in the 7th century, its flourishing period at least in "greater" Mongolia, was under the Mongols. After them it quickly disappeared.

The real meat of the discussion begins in Part 2 (pp. 71 ff), where he systematically explores the modern discovery and documentation of the Nestorian remains. Despite the incompleteness and misunderstandings of those early efforts, what records they left are invaluable, given the fact that so much of the material has now been displaced or vanished entirely. In many ways this is a familiar story for any interested in the early history of Eurasia: settlement remains and cemeteries once found but not securely mapped have then been confused with others, relatively rich groupings of artifacts *in situ* were no longer there by the time serious efforts at excavation and systematic recording finally were undertaken, and even today depredations are destroying cultural heritage. Colonization, local economic development,

looting and other kinds of "appropriation" (including that carried out with academic intent) have all played a significant role in this.

This lengthy "historiographical" section behind him, Halbertsma then provides a descriptive catalogue of sites, which enables him to incorporate fully the results of his field work. Over and over again he has to conclude that little if anything is now left at the locations where significant Christian remains had earlier been documented, though he holds out the hope that additional archaeological work might turn up new material. To date the most serious archaeology and scientific survey of key sites is that by Gai Shanlin, available only in Chinese and extensively quoted here.

Halbertsma's synthesizing analysis of the evidence focuses in particular on grave markers, since it is these, with their inscriptions (in Syriac script, even if in the Uighur language) and images that include crosses which provide unequivocal proof of Christian provenance. Some aspects of the remains though point to varying degrees of cultural syncretism, the emphasis in the first instance being on Turkic and steppe traditions, even if some Islamic and Chinese influence then seems to grow. Some of the distinctive features of the burials and their monuments can best be explained by the looseness of the organization of the Church and the distance of its congregations in Mongolia from the center of Church administration in Baghdad. He is selective in discussing inscriptions and artistic motifs, since in the case of the former, many still need to be deciphered and analyzed by philologists, and in the case of the latter, to do a full analysis of possible sources would require massive additional comparative study. Perhaps the most interesting of the concluding sections of the book regarding "appropriation" of the Nestorian remains in Inner Mongolia is his record of the oral traditions about some of the sites, much of this based on interviews with local farmers and herders. The book is valuable for reproducing some key images of grave markers and sites published in rare early accounts about the discoveries and for more than 120 excellent color photos taken by the author and an assistant during field work between 2001 and 2005.

While this may seem like carping, I would wish that a stern editorial hand had taken the manuscript in hand and excised a substantial amount of verbal excess ("dissertationese," if you wish) and repetition, not all of which really can be justified by the choices made in blocking out the otherwise logical organization of the material.

All in all the book is inspiring, for Halbertsma has documented thoroughly valuable material that was disappearing as he wrote. His record of it will make possible the still necessary deeper study which he hopes may follow. The book is in the same breath depressing, for the inexorable march of destruction has already taken a huge toll, and there is no reason to be optimistic that it will end any time soon. Indeed, those whom he interviewed (many of them directly or indirectly involved in "appropriating" the remains to sell or use for construction material) almost unanimously reported that there was nothing of value left to take.

Daniel C. Waugh
Professor Emeritus of History
University of Washington

The Search for Immortality: Tomb Treasures of Han China. Ed. James C. S. Lin. Cambridge: The Fitzwilliam Museum; New Haven and London: Yale University Press, 2012. xviii + 356 pp. ISBN 978-0-300-18434-1.

Reviews — be they of musical performances, museum exhibitions, or books — often tell a reader more about the reviewer's limitations than about the subject being reviewed. Back in June of this year, *The New York Times* published a review of the exhibition represented in this catalogue, an exhibition which, according to the headline, "rewrites the history of Han Civilization in China."[1] The reviewer, Souren Melikian, spared no hyperbole: "one of those landmark shows," "tour de force," "startling revelation," "the most intelligently conceived exhibition of ancient Chinese art within living memory." Well, even if the review could be faulted for exaggeration and inaccuracy, all that enthusiasm did get me to order a copy of the book. After reading through it, I do still hope to catch the exhibit before it closes at the Fitzwilliam Museum in Cambridge on November 11.[2] While it certainly is true that we are continually being firehosed with new, spectacular and revelatory archaeological finds from China, and one can always welcome the opportunity to see (or re-visit) their artefacts, a little perspective is in order.

The exhibition includes objects from the tombs of the Chu kings in the region around today's Xuzhou (central China, roughly midway between the Yellow and Yangze Rivers), which is the ancestral home of the Han Dynasty emperors. So the Chu kings were royal relatives, and their tombs have to be of some interest in part because the Imperial Han tombs have yet to be scientifically excavated. The second major

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section of the exhibition highlights one tomb, from the distant, southern kingdom of Nanyue in Guangdong Province. Unlike the Chu kings' tombs, this one has the rare distinction that it was not looted. While some of the artefacts in these tombs are "heirloom" pieces dating to an earlier period, the burials represented here all seem to date from the second century BCE.

As curator James C. S. Lin writes (p. xv), "This exhibition is the first time that such a large number of precious Han materials has been exhibited in Britain," and, as Timothy Potts, the Fitzwilliam's Director, adds (ix), "This is the most ambitious exhibition mounted to date on the treasures discovered in the tombs of the Han royal family at Xuzhou and the first time that this material has been brought together with the spectacular finds from the tomb of a contemporary King of Nanyue discovered in Guangzhou in 1983." Indeed, the excavations began back in the 1980s, some three decades ago, and the interest of the Nanyue king's tomb was such that a selection of some of the same objects now on display in Cambridge was in an exhibition shown in three locations in the United States more than a decade ago. Oddly, I cannot seem to find a reference here to its catalogue, where the object descriptions (by Jessica Rawson) are more informative than the short ones in the book under review.[3]

The objects include tomb figurines, bronze vessels, and a great deal of jade, most spectacularly two complete burial suits and a coffin. I see little evidence of real surprises in the material from Xuzhou, although the artifacts demonstrate clearly enough the traditions and prestige we associate with the Imperial elite were shared by a regional kingdom (granted, ruled by relatives of the Imperial family). As various catalogue entries point out, objects analogous to those in the Xuzhou tombs have been found elsewhere, in some cases being of "higher quality." What is important here is that at least there is an archaeological context for the Xuzhou finds, even if precise locations within the tombs were not always recorded. Too often the really spectacular Han period artefacts displayed in museums around the world are of unknown provenance. One of the most interesting aspects of the Xuzhou burials is the tombs themselves, horizontally cut into hillsides and containing complex architecture replicating, it would seem, something like palace interiors. Quite apart from the inclusion of all the supplies and attendants needed for the afterlife, some even came equipped with latrines. One of the nice features of the catalogue is to provide perspective drawings and plans of a number of the tombs; the exhibition itself in the museum apparently leads the visitor from room to room, viewing the artefacts found in each.

In many ways, the Nanyue tomb is the most important one, given the fact that it dates from the period before the final Han conquest of the region, when the kingdom retained its autonomy. In fact, one of the striking things is the local ruler's claim (as reflected on a seal shown here) of the imperial title. There seems to be a much more eclectic cultural mix in Nanyue than we see in Xuzhou, which makes perfect sense, given the distance from the imperial capital, the fact that the rulers were a local dynasty, and the opportunities they had to connect with the wider world of Southeast Asia via (as is argued here) the beginnings of the "Maritime Silk Route."

In this connection, the essays in the catalogue which will be of greatest interest for students of the larger patterns of cultural interactions across Eurasia are those by Hong Quan ("Archaeological Discoveries Relating to the Martime Trade of the Kingdom of Nanyue," pp. 37–41) and Jessica Rawson ("The Han Empire and Its Northern Neighbours: the Fascination of the Exotic," pp. 23–35). Readers should be warned though that there are some far-reaching claims here, especially by Hong — e.g., regarding possible architectural influences from the West. There is a long history of hypothesis regarding the migration of artistic motifs (one focus of Dame Jessica's essay, which, one assumes, anticipates what we may hope to see from the larger project for which she has received major funding). But, as she surely appreciates, we still are a long way from understanding the processes of cultural exchange. At very least, common perceptions about "borrowing" may need to be re-considered.

The book contains a usual array of other essays for such a catalogue — those by Michael Loewe providing some historical context, others describing the tombs and the relationship between funereal customs and beliefs about the afterlife. The illustrations are excellent — often multiple photographs of individual objects and (somewhat unusual and most welcome) line drawings so that one can see clearly the detail of decoration. It does seem a bit odd that the material for the Xuzhou tombs is organized thematically ("Guardians of the Afterlife," "Defence," "Social Status," "Luxury Burial Objects," etc.), where the categories overlap and intersect in such obvious ways. This organization then challenges the reader who wishes to understand the objects in their original burial context, but perhaps was unavoidable given the impact of looting and the perceived need to group analogous materials from several tombs. For the Nanyue tomb, there is an opening "tour" with excavation photos showing each room with the objects still *in situ*. Of course even there, one has to recognize that "undisturbed" is a relative term, as the tomb

was flooded, causing most of the wood (and other organic materials) in to disintegrate. To exhibit certain of the artefacts thus, inevitably, has involved some substantial restoration: e.g., the thousands of jade plaques in the burial suits having to be reconnected with new gold or silk threads and silk backing. It is too bad that we don't learn more about the restoration process. One of the most interesting finds in the Nanyue tomb was the remains of a lacquered screen, whose original bronze fittings can be seen here along with a modern reconstruction of what the whole screen would have looked like in its pristine glory.

It would be a leap of faith to argue that this one exhibition enables us to "rewrite the history of Han Civilization in China," however much that makes for good press. The objects are certainly worth seeing, the book is splendid, and, as with any good exhibition, it all raises important questions about which we should be eager to learn more.

Daniel C. Waugh

Notes

1. Souren Melikian, "Exhibition Rewrites the History of Han Civilization in China," *The New York Times*, 6 June 2012, online at <http://www.nytimes.com/2012/06/09/arts/09iht-melikian09.html>, accessed 26 August 2012.

2. For those who cannot make it, assuming the museum does not remove the web pages, there is a nicely conceived, if limited, online introduction at: <http://www.tombtreasuresofhanchina.org/>, accessed 26 August 2012.

3. *The Golden Age of Chinese Archaeology: Celebrated Discoveries from the People's Republic of China*. Ed. Xiaoneng Yang (Washington, D. C.: National Gallery of Art; New Haven; London: Yale University Press, 1999). The exhibition was shown in Washington, Houston and Los Angeles between September 1999 and September 2000. The section of the catalogue containing the Nanyue material is pp. 410–37.

Shipwrecked. Tang Treasures and Monsoon Winds, ed. Regina Krahl, John Guy, J. Keith Wilson and Julian Raby. Washington, D. C.: Arthur M. Sackler Gallery, Smithsonian Institution; Singapore: National Heritage Board and Singapore Tourism Board, 2010. 307 pp. ISBN 978-0-934686-18-1 (pb); 978-1-58834-305-5 (cloth).

As the map on pp. 3-4 of *Shipwrecked* vividly illustrates, its perspective being the view to the northwest from over the Indian Ocean, with the historic overland Silk Roads relegated to the background of the maritime routes, the history of Eurasian trade must give due weight to its maritime component, something that is too often ignored in treatments of the "Silk Roads." For those who have not followed the story since its discovery in 1998, the Belitung shipwreck, found off an island east of Sumatra, provides some of the most remarkable evidence to date with regard to the Asian maritime trade in the 9th century CE. The vessel itself, even in its fragmentary state of preservation, is the earliest documented ship from the Middle East (its hull was sewn together using wood that apparently originated in East Africa). The cargo includes the largest collection of Tang Chinese ceramics ever found in one location (an estimated 70,000 items) and contains as well superb examples of Chinese metalwork. While dating is somewhat uncertain, it is definitely after the year 826 (a date inscribed on one of the dishes) and most likely some time in the 840s. Now, finally, there is concrete material evidence to document a trade previously known from written sources and from archaeological finds at various destination points on land (among them Siraf, on the Iranian shore of the Persian Gulf, and Samarra, which served as the Abbassid capital upriver from Baghdad for a time in the 9th century).

Apart from its superb illustrations, the book is of value for some substantial essays, the most of important of which include Michael Flecker's chapter on the ship itself and its excavation, and the several essays on the ceramics contributed by one of the great experts, Regina Krahl. There are other good contributions, e.g., on the ceramics, on the metalwork and, interestingly, on the reconstruction of a full–sized replica of the ship which was carried out in Oman. We now can be sure that ships from the Islamic world were traveling all the way to China in the Tang period. We have now a huge amount of new material for analyzing the interconnection between Chinese and Middle Eastern ceramic production — already this early, it seems, production in China was aimed at satisfying significant demand and meeting the special requirements of customers in the Islamic world. Some preliminary results of chemical analysis of the ceramics demonstrate the possibility of being able to determine exactly which kilns produced the wares.

The story of the Belitung wreck and the recovery of its objects is fraught with controversy.[1] Originally the intent had been that the Smithsonian, which was involved in the production of this book, would host a traveling exhibition of the artefacts. But protests on the part of some scholars who objected to the way the excavation had been carried out under the auspices of a commercial company and to the possibly commercial intent underlying a traveling exhibition led to that show's being cancelled. The catalogue is for the exhibit as it was mounted in Singapore, where most of the

collection is now permanently housed. How much data might have been lost before archaeologists were brought in on the recovery operation is impossible to determine. Those who defend what was done suggest that quick recovery was essential to avoid losses to looting (some of which occurred anyway); there is something to be said for the fact that much of the material has been preserved in one major collection, rather than scattered around the world through random sales. Threats to the integrity of archaeological sites are everywhere, with the oceans being particularly vulnerable in this era of commercial treasure hunting. Indeed it is rare that shipwrecks have been subject to carefully controlled archaeological investigation.[2] While there are legitimate ethical concerns and lessons here for the future, we cannot now re-wind the tape to the moment when sponge divers first came across the wreck. We can, however, revel in the evidence which has been preserved, stunning in its scope and its historical importance.

Daniel C. Waugh

Notes

1. On the controversy, see Kate Taylor, "Treasures Pose Ethics Issues for Smithsonian," *The New York Times*, April 24, 2011 <http://www.nytimes.com/2011/04/25/arts/design/smithsonian-sunken-treasure-show-poses-ethics-questions.html?pagewanted=1&_r=2>, accessed 29 July 2012.

2. For examples reported in this journal, see Xu Yongjie, "The Dream and the Glory: Integral Salvage of the Nanhai No. 1 Shipwreck and Its Significance," *The Silk Road* 5/2 (2008): 16–19; Michèle Pirazzoli-t'Serstevens, "The Brunei Shipwreck: A Witness to the International Trade in the China Sea around 1500," *The Silk Road* 9 (2011): 5–17.

Jonathan Karam Skaff. *Sui-Tang China and Its Turko-Mongol Neighbors. Culture, Power and Connections, 580-800*. Oxford, etc.: Oxford University Press, 2012. xx + 400 pp. ISBN 978-0-19-973413-9.

Historians of China (who will need to provide a proper, detailed review of this book) have in recent years increasingly been moving away from China-centered approaches to their subject, those heavily influenced by the Confucian perceptions enshrined in most of the dynastic annals. We can no longer talk about a monolithic, Middle Kingdom which was the font of all civilization, and around which was a barbarian world that could only pay tribute to the imperial center. Of course a lot of this history has always been obvious, given the foreign origin of so many of the Chinese dynasties and the changing borders which have at times encompassed a huge and varied swatch of East Asia and at other times shrunk to an agricultural heartland that fits more within the traditional perceptions about Chinese ethnicity and culture. What has been needed is to tease out the details in many of the traditional sources, bring to bear newly discovered materials, many from the "borderlands," and take the history of those borderlands and what lay beyond them seriously. Jonathan Karam Skaff's book does all this in impressive ways.

While he is very much concerned here with the ecology and control of borderlands, his analytical emphasis is on politics, in which he applies Max Weber's ideas about patrimonialism as a framework for understanding the complexities of elite interaction between the Sui and Tang rulers and their Turco-Mongol subjects and neighbors. His is an "integrationist" perspective, contrasting with the traditional approach of suggesting that there were impenetrable cultural barriers separating two worlds. What integrates those worlds is shared elements of Eurasian political culture that can be documented everywhere from the Byzantine West to the Chinese East. He deliberately avoids trying to explore the origins of this shared culture (that would be another big book), but rather elicits systematically from the extensive written records of the Sui and especially the Tang periods the evidence which can document the way in which it provided the basis for strategies of political integration and the mechanisms to achieve it. A lot of this evidence is to be found in the biographies of key political and military leaders, which show how important were individuals in Tang service of Turco–Mongolian origin or mixed ethnicity. The greatest successes in integration, from the standpoint of the Chinese rulers, were when China controlled the borderlands, the areas suitable to a mixed or pastoral economy. The failures, with consequent political weakness or chaos, were related to loss of control of those borderlands, which then invited encroachment by the external Turco–Mongolian polities.

The patrimonial and thus personal nature of politics might be expressed in many different ways. Diplomatic protocol in this regard is very revealing, as one can discern from a close examination of the contemporary descriptions a refined understanding of the hierarchy of relationships. Both at the Chinese court and the courts of the various Turco–Mongol rulers there was a clear understanding of the values and protocols of the opposite side. There are noteworthy examples of how the Tang might adapt and incorporate rituals that were not indigenous to China, even over the protests

of Confucian–educated bureaucrats. Rituals involving investiture were very important, with concomitant ceremonial hospitality and gift exchange. Among the more interesting kinds of evidence explored here is that concerning color coding of clothing and the nature of the garments themselves. The evidence for cultural sharing goes well beyond just superficial taste for luxuries and exotica.

Skaff devotes considerable attention to titulature, which reflected views about the place of the respective rulers in the larger political (and heavenly) universe. Of particular interest here is when in the 7th century the Tang Emperor Taizong adopted the syncretic title (drawing on the political ideologies of both worlds) of "Heavenly Qaghan." Changes in political pretensions and titulature were closely related to changes in political realities and the balance of power.

In a number of places, Skaff conveniently tabulates the kind of data he has extracted from the Chinese records. So we have tables of royal marriages and marriage proposals that may have been refused. There are tables listing exchanges of embassies, summaries of gifts exchanged. The appendices include a tabulation of attacks on northern prefectures, population statistics for North China, and a long and detailed table identifying the northern administrative units and the nature of their economies as reflected in such evidence as tribute payments. It is on the basis of this last table that Skaff is able to construct his map of the northern administrative districts, showing how much of the borderlands were in fact under Imperial control at the height of the Tang.

Control of those borderlands had an important economic dimension. In contrast to those who have previously studied the trade which provided the Chinese with cavalry horses, where the emphasis has been on purchases or tribute from the northern nomads outside the boundaries of Chinese political control, Skaff emphasizes that for much of the period he is covering the more important sources of horses were the government–supported stud farms in the grasslands of the borderlands. It was only when control of those grasslands was lost that the government had to resort to the major and costly purchases, as, for example, was the case following the An Lushan rebellion in the middle of the 8th century.

His source base goes well beyond just the Chinese records — he has used the evidence from Turkic inscriptions; for comparative purposes draws upon some of the Arabic histories and Byzantine records. So there is much here to stimulate thinking about other parts of Eurasia. I, for one, began to imagine how one might apply this kind of analysis about borderland politics and culture to re-frame the history of relations between the East European Rus' princes and their steppe neighbors to the southeast.

In his conclusion, Skaff invokes a somewhat limited definition of how the concept of the "Silk Roads" has been employed to discuss trans-Asian exchange, arguing that instead of some concept of east–west trade routes, we need to look at north–south interactions and discuss among other things, the impact of political culture, especially in situations where there is political competition. It is precisely in such circumstances that he sees some of the most fruitful exchanges of ideas and norms of conduct occurring. To locate this history firmly in the physical landscape and regional ecologies is critically important if we are to achieve a real understanding of political events and shared experiences.

Daniel C. Waugh

Rashmita Jadav. *Understanding the Morphology of Leh Town*. Ahmedabad: CEPT University Press, 2012. 117 pp. ISBN 978-81-920187-3-7. To purchase the book, contact <publications@cept.ac.in>.

It would be a shame if this gem of a book went unnoticed. Rashmita Jadav, who is now an architect at HCP Design and Project Management Pvt. Ltd., in Ahmedabad, India, submitted the work as her Bachelor of Architecture thesis at CEPT (Center for Environmental Planning and Technology) University in Ahmedabad in 2008. The work was supervised by Prof. Pratyush Shankar. Lest one think that bachelor degree theses are not to be taken seriously, here is what the CEPT Faculty of Architecture website says about them:

> The final semester for all programmes at CEPT University is the dissertation semester where students undertake a time bound independent research study/project–oriented work leading to a thesis/dissertation. A Faculty Member or External Guide approved by the institution takes the student through the process. A carefully selected evaluating committee called a jury is constituted for this purpose, before whom the thesis is presented and defended. Successful completion of the dissertation is integral to all programs as it is in lieu of a final examination. The students are encouraged to explore multi-disciplinary issues helping them to develop analytical skills, critical thinking while contributing to the knowledge base.

Judging from the thesis synopses, also on the website,[1] many of them would be of considerable value for scholars interested in the history of India.

Leh, the subject of Ms. Jadav's thesis, located in Ladakh in northern India, has a long and interesting history. The town lies on historic trade routes, one, leading north over a series of high mountain passes, being the most important route connecting northern India with western Xinjiang, another, heading northeast into Tibet.[2] The caravans between Leh and Yarkand ceased only with the closing of the borders following the establishment of the Communist regime in China. Ladakh is home to important Buddhist monasteries, the one at Hemis housing a significant and little-known library, the one at Alchi famous for its remarkable 12th-13th–century murals and sculpture.[3] The artistic legacy of Tibetan Buddhism in Ladakh is badly in need of recording and conservation.

As one's plane descends to the small airport at Leh, one is struck by the lush barley fields lining the upper Indus, highlighted in relief against the grays and browns of the surrounding mountain desert. Leh itself is set against a dramatic backdrop of mountains (see the picture below) — one of the routes north lays claim to being the highest vehicular road in the world, crossing an 18,000 ft. pass. The town spreads below the imposing palace of the last independent rulers of Ladakh, above which on the same rocky spur is the monastic complex of Namgyal Tsemo.

Ms. Jadav began her work on Leh while documenting the traditional architecture there for a German NGO, The Tibet Heritage Fund.[4] Given the pace of modern development in the town, which in the summer is overrun with tourists and is home to military bases, the historic environment is threatened. Her book, which presumably draws heavily on some of the resources of the THF project, thus represents a valuable contribution to our understanding of traditional urban configurations, their growth and functions. She is not concerned with architectural details, but rather with development over time (even if it was unplanned) and interrelationships of the buildings and their surrounding streets and spaces.

The text here in many ways is quite basic — starting with general information on the history, culture and environment, and then proceeding to description of the component parts of the town. She delineates clearly the various factors which influenced the urban development. What really stands out is the illustrations. There are dozens of quality, if somewhat small color photos, some of the more interesting being panoramic composite images. More significant are the maps and diagrams, often spread across the full page in large format (in two cases, fold-outs), which highlight with crystal clarity the features being discussed. There are detailed plans of small blocks, vertical section drawings of some of the buildings, maps illustrating the hierarchy of streets and the relationship of major public buildings to surrounding residences. This is a tour de force of visual documentation.

Daniel C. Waugh

Notes

1. At <http://www.cept.ac.in/index.php?option=com_content&view=article&id=117&Itemid=245>, accessed 31 August 2012.

2. For the history of Ladakh and its trade, see Janet Rizvi, *Ladakh: Crossroads of High Asia*, 2nd ed. (Delhi: Oxford Univ. Pr., 1998) and especially idem, *Trans-Himalayan Caravans: Merchant Princes and Peasant Traders in Ladakh* (Delhi: Oxford Univ. Pr., 1999).

3. While there is still much to be done, especially in regards to conservation, at least some of the important Buddhist sites in Northern India have been properly photographed and published. For Alchi, there is the magnificent record of the Sumtsek temple: Roger Goepper. *Alchi: Ladakh's Hidden Buddhist Sanctuary. The Sumtsek.* Photography by Jaroslav Poncar with contributions by Robert Linrothe and Karl Dasser (Boston: Shambhala, 1996). Just south of Ladakh in the Spiti Valley is the "oldest continuously functioning Buddhist monastery in India and the Himalayas with its original decoration and iconographic program intact," which is the subject of Deborah E. Klimburg-Salter, *Tabo: a Lamp fo the Kingdom. Early Indo-Tibetan Buddhist Art in the Western Himalaya* (New York: Thames and Hudson, 1998 [first ed., Milan: Skira, 1997]). The paintings at Tabo date between the late 10th and mid-11th centuries. These two sites are among those discussed in the broader geographic area by Christian Luczanits, *Buddhist Sculpture in Clay: Early Western Himalayan Art, late 10th to early 13th centuries* (Chicago: Serindia, 2004).

4. For a report on some of the work of the International Tibet Heritage Fund in Leh, see André Alexander, "Leh Old Town, Ladakh — A Participatory Approach to Urban Conservation, Community-based Upgrading and Capacity-building [2005]" <http://www.tibetheritagefund.org/media/download/leh05_sml.pdf>, accessed 31 August 2012.

View north across Leh toward the palace.

Book Notices

by
Daniel C. Waugh

Lev Rafailovich Kontsevich. *Khronologiia stran Vostochnoi i Tsentral'noi Azii. Addenda* / Chronology of Far Eastern and Central Asian Countries. Addenda. Moskva: Izdatel'skaia firma "Vostochnaia literatura" RAN, 2011. 687 pp. ISBN 978-5-02-036479-0.

The second volume of this valuable reference work, whose first volume was described in *The Silk Road* 9 (2011), pp. 170-71, contains on the first 112 pages selected bibliography, first general, then grouped under the various countries (China, non-Han States, Vietnam, Mongolia, Korea, Japan). The final section of the bibliography is selected electronic resources on history and chronology. Section II (pp. 113–599) is indexes of rulers — in each section listed first by hieroglyphs, with equivalents in standard transcriptions, reign dates and references to their place in the chronological tables of Vol. 1; then reversing the order so that they can be searched by Russian transcription. There is a separate index of reign titles, ordered first by hieroglyphs, then by Russian transcription. Here each entry contains source references. Pp. 600–38 tabulate historic capitals, including their equivalent modern names and locations. On pp. 639–83 are outline historical maps of the several states over the centuries. The book concludes with four pages of corrections to the first volume. While I am not competent to critique Kontsevich's work (I suspect no single individual would be able to do so in any event), my impression is that his accomplishment is unlikely to be superseded soon, if ever. His volumes belong on every reference shelf.

Aleksandr Vladimirovich Simonenko. *Rimskii import u sarmatov Severnogo Prichernomor'ia* [Roman Imports among the Sarmatians of the Northern Black Sea Littoral]. Sankt-Peterburg: Filologicheskii fakul'tet Sankt-Peterburgskogo gos. un-ta.; Nestor-Istoriia, 2011. 272 pp. + ill. ISBN 978-5-8465-1029-6; 978-5-98187-873-2.

This is a revised Russian version of the author's study and catalogue which was first published as part of *Römische Importe in sarmatischen und maiotischen Gräbern zwischen Unterer Donau und Kuban* (= Archäologie in Eurasien, Bd. 25) in Mainz in 2008. The work is part of a project jointly sponsored by the German Archaeological Institute and the Ukrainian Academy's Institute of Archaeology. Together with the studies by B. A. Raev for the lower Don and Volga regions, and by I. I. Marchenko and N. Iu. Limberis for the Kuban, we will now have systematic data for an important sector of imports excavated in Sarmatian sites between the 2nd century BCE and 4th century CE. As a result, the author has proposed a more refined chronology for Sarmatian burials than has previously been established and correlates it with particular historical events, some of the boundaries established by the appearance of new groups of migrants in the region. For those who would wish to skip the details, this is all summarized in one convenient chronological chart on p. 156, but, of course, one has to read the details to know which artefacts are characteristic for which period.

The analysis is organized by type of object (armaments, fibulae, metal dishes, etc.), in the discussion of which we learn that at least in some instances attributions to the Roman period have sparked quite acrimonious debate with other specialists. The shorter second chapter summarizes the conclusions revising earlier chronologies. A catalogue of finds is organized by location and provides details of the excavations. The book is well illustrated with maps, generally good quality black/white photos and drawings and a set of excellent color plates. There is a four-page summary in English and an extensive bibliography.

How much here is relevant even for a broadly defined concept of the "Silk Road"? Arguably little, unless we can connect some of the material with broader patterns of Roman-period trade. There are some analogies to objects found as far east as Afghanistan; it seems likely that certain objects were made in the Roman East (Syria, Palmyra). Those not already familiar with it might wish to read the author's earlier article "Chinese and East Asian Elements in Sarmatian Culture of the North Pontic Region" (*Silk Road Art and Archaeology* 7 [2001]: 53–72).

Nikolai Iur'evich Kuz'min. *Pogrebal'nye pamiatniki khunno-sian'biiskogo vremeni v stepiakh srednego Eniseia. Tesinskaia kul'tura / Grabdenkmäler der Xiongnu- und Xianbei-Zeit in den Steppen des mittleren Jenisej. Die Tes'-Kultur.* Sankt-Peterburg: Izd-vo. Aising, 2011. 456 pp. + CD with illustrations and correlation tables. ISBN 978-5-91753-040-6.

This large-format publication of the author's doctoral thesis, defended in 2005 at the Humboldt University in Berlin, deserves close attention. The middle Enisei River area in southern Siberia (the Minusinsk Basin) has long been recognized as one of the most important regions of northern Asia for its archaeological record of cultures going back several thousand years. The author had previously published a major study of the late Tagar culture; this volume represents its chronological continuation based on new excavations. The subject here is the Tes' culture, which emerged as the result of the fusion of local populations (the late Tagar culture)

with migrants from Central Asia (most probably the Altai region). Distinctive features of the regional Tes' culture can be established from study of hundreds of graves and dozens of large tombs which chronologically fall within the Xiongnu period down to the point when the Xianbei drove out the Xiongnu, that is, the third century BCE to the mid-third century CE. The Tes' culture then merged into what is known as the Tashtyk culture. There seems to be no direct evidence of a Xiongnu presence in the middle Enisei region, a Chinese-style palace excavated near Abakan probably in fact having been built for a Chinese mission to the region, not for a Xiongnu governor.

The first part of the book is the analytical studies of what the excavations have revealed, one of the most interesting chapters dealing with burial rituals. There is an extended appendix summarizing individual excavations. The book contains many drawings of tombs, graves and artifacts, and in the accompanying CD Excel spreadsheets of correlation tables and dozens of color photos. There are summaries in German and English.

Elena Borisovna Barinova. *Vliianie kul'tury Kitaia na protsessy inkul'turatsii Srednei Azii i Iuzhnoi Sibiri v domongol'skoe vremia* [The Influence of the Culture of China on the Processes of Inculturation of Central Asia and Southern Siberia in the pre-Mongol Period]. Moskva: Institut etnologii i antropologii RAN, 2011. 450 pp. ISBN 978-5-4211-0042-3.

While the subject of Barinova's book is obviously of considerable interest, it is unlikely that those who do not read Russian should rush to have someone translate what she has done. Whether in its sinocentric emphasis or in its apparently limited understanding of what might constitute "influence" and how we might determine that, the book seems curiously out of touch with current interpretive stances. It is odd, for example, to see her downplay Chinese influences on the peoples of the North in the Liao period, under the excuse that the Liao blocked the transmission of Chinese cultural values. The nomads seem capable of absorbing culture but lack agency. She does use a fair range of both Russian and non-Russian western literature (including translations of the main Chinese dynastic histories), but her reading seems to have stopped upwards of two decades ago. Thus, for example, she relies on Rudenko for Noyon uul and cites Davydova's preliminary reports on Ivolga, but not the full publication of her results.

Barinova does not pretend to provide an exhaustive catalogue of relevant archaeological finds, whose existence of themselves provides her main evidence to demonstrate "influence." That said, the most useful part of the book will be the tabulation that occupies about half of it, listing finds of Chinese mirrors, money, dishes (both ceramic and lacquered), and various metal objects unearthed in excavations from Uzbekistan to Mongolia (outside of the borders of China itself). The listing of mirrors and mirror fragments is impressive, even lacking the ones found in recent years at Tsaram, Gol Mod, Tamir, and other locations. She describes each item, indicates where it was found, whether it is published or what its museum inventory number is (a good many of the items are in the Minusinsk Museum). However incomplete, this list may prove to be a useful reference, especially for items found in excavations which either have not been published or on which information is not readily available. Of course what would really be nice to have is a website containing continually updated information on such finds, rather than having to rely on a book such as this which was outdated before it ever appeared in print.

Jason Neelis. *Early Buddhist Transmission and Trade Networks. Mobility and Exchange within and beyond the Northwestern Borderlands of South Asia.* Dynamics in the History of Religion, 2. Leiden; Boston: Brill, 2011. xviii + 371 pp. ISBN 978-9004-18159-5.

The opportunity to participate in a program at Ruhr University Bochum entitled "Dynamics in the History of Religions between Asia and Europe" helped Jason Neelis transform his excellent but relatively narrowly focussed University of Washington dissertation into a book of broad vision which should be of lasting value to anyone concerned with early routes of communication within Southern Asia and between it and the wider world and more specifically with the process of the early spread of Buddhism. While Neelis's Ph.D. focus was specifically on the northern routes leading to Central Asia through the mountains, concerning which he assembled convincing evidence to document how even what may seem like little traveled paths ("capillary routes") facilitated the spread of Buddhism, here he has expanded his scope to include other areas of South Asia and their interrelationship with, among other things, the maritime routes. Unlike some historians of the "silk routes," he has a superb grasp of geography and how the use of specific routes cannot be properly understood unless one looks, inter alia, at the physical environment.

Political history and patronage form an important part of this story, though he provides a lot of commonsense caution about accepting at face value traditions which may have attributed to rulers such as Ashoka and Kanishka major roles as patrons of Buddhism above other religions. He addresses the apparent paradox of Buddhists' withdrawal from the world at the same time that there is clear evidence that their economic activity provided the support for the spread of the faith. Institutionalization of the religion required it have a firm base in a productive local economy, at the same time that areas of little promise economically could serve as routes for long-distance transmission. In this Neelis is fruitfully building on ideas of the noted historian of the spread of Buddhism to China, Erik Zürcher, who, unlike earlier scholars who emphasized gradual contact transmission along the major routes of economic exchange, argued that long–distance transmission, in effect leaping over the (as yet) economically and politically insignificant regions, helps to explain the emergence of distinctive regional variations in the adoption of the faith.

The book will be an invaluable guide to the massive literature on early South Asian political history, routes of trade, development of cities, and sites with Buddhist archaeological remains and the seemingly less substantial but crucially important evidence of inscriptions and graffiti. Neelis consciously does not explore doctrinal development and treats early Buddhist art only episodically. As one might expect from a student of Richard Salomon's he is particularly well informed about the recent disoveries of early Buddhist manuscripts and among his strengths is his use of epigraphic material, for which he reads all the relevant Indic languages. At times his book reads a bit like an annotated catalogue, but is clearly written and at every turn is stimulating, even when only summarizing "well known" material. This is ground where there are many still un-resolved academic controversies, through the minefields of which he moves judiciously to form his own conclusions.

It is too bad that most underpaid academics and their impoverished libraries will not be able to afford Brill's prices.

Evgeniia Borisovna Smagina. *Manikheistvo po rannim istochnikam* [Manichaeism According to the Early Sources]. Moskva: "Vostochnaia literatura" RAN, 2011. 519 pp. ISBN 978-5-02-036474-5.

Judging from the relative paucity of citations to literature in Russian (as opposed to the preponderance of references in other language), Russian readers should welcome this book as a substantial guide to an understanding of the origins and doctrines of Manichaeism, a subject on which the author has been publishing since the 1980s. She acknowledges having benefitted from a Humboldt Fellowship, which enabled her to work in Germany (especially in Münster), and from opportunities to consult Coptic materials in Cairo.

The book opens with extensive comments on the nature of the source base, then reviews what can be reconstructed about Mani's biography and sketches the spread of Manichaeism after his death. There is a chapter sequentially describing the various Manichaean books and the doctrines they contain. Three long chapters then examine systematically and reconstruct the various components of Manichaean belief. A lengthy appendix contains translations of the most important texts regarding the religion, ones emanating from its opponents as well as ones originating within Manichaean communities.

There is a two-page summary in English, from which I quote the most significant part of her conclusions:

> In Part II, a reconstruction of the Manichaean teaching (chiefly on the basis of Coptic sources) and an analysis of many basic elements and persons of the Manichaean myth are presented. The investigation shows that they are to be traced mostly to some Biblical texts and expressions. The Manichaean myths show very close parallels with apocryphal stories on the Biblical material and with some Talmudic and Midrashic exegetical legends.
>
> We can conclude that Manichaeism originates in a teaching of the Gnostic type, i.e. an early Christian one enriched with large apocryphal material. Perhaps it was the teaching of the Jewish-Christian sect of "baptists" in Mesopotamia where Mani was raise[d] and educated. The sources show no theoretical controversies among Mani and "baptists": their polemics concern some practices and rituals. Thus the Zoroastrian element in Manichaeism is very important but secondary. It is confirmed by the fact that, in different Iranian sources, there is no unity in the identification of Manichaean deities and demons with the Iranian ones [p. 519].

I assume some of this may be controversial but not necessarily new. Specialists on Manichaeism should, I think, certainly want to read her book. Also, it would be of some interest to compare her work with that of A. L. Khosroev, who, as Smagina acknowledges, published in Russian his "fundamental" *History of Manichaeism: Prolegomena* in 2007 after she had finished her own manuscript. Given the late date at which she had seen his book, she elected not to undertake what she suggests might have to have been some substantial revisions of her own work. Perhaps then a second edition will be in order.

Hajj: Journey to the Heart of Islam, ed. Venetia Porter. London: The British Museum Press, 2012. 288 pp. ISBN 978-0-7141-1176-6; 978-0-7141-1175-9.

Between January and April of this year, what was once the historic round reading room in the British Museum's courtyard was transformed imaginatively into an exhibit space to accommodate *Hajj: Journey to the Heart of Islam*. What could have been a somewhat pointless exercise in multi–cultural good feeling as a run–up to the Olympics was in fact a remarkably moving and enlightening experience for Muslims and non–Muslims, from an opening video to a closing section with intriguing modern evocations of the swirl of pilgrims around the Ka'ba and a selection of artefacts a pilgrim might bring back today, having fulfilled one of the five obligations expected of all Muslims, at least once in a lifetime to undertake the pilgrimage to Mecca.

The catalogue, with essays by a number of distinguished scholars, has at its core chapters that treat the history of the Hajj from its beginnings to the present. The introductory chapters explain the place of the Hajj in Islamic belief and practice; the concluding chapters deal with the modern art of Hajj and the textiles of the Muslim holy cities. There are sections devoted to each of several main pilgrim routes converging on Mecca from different directions in Eurasia and Africa. A virtue of the narrative is the extensive quotation of contemporary pilgrim accounts, including ones from the early centuries of the Hajj. I am now inspired to go read the 11th-century Nasir-i Khusraw and late 12th-century Ibn Jubayr.[1] The book includes shorter essays on subjects such as Sacred Geography, Hajj Forts, Tiles, and Early Photog-

raphers of Hajj. Indeed, one of the most interesting aspects of the exhibiton was the generous selection of early photographs.

There was no pretense here of making this an exhibit of Islamic art in a narrow sense, the point being to provide a broader idea of the religious and cultural experience. So artefacts were very carefully selected, e.g.: a few examples of ceramics including Iznik tiles depicting the sanctuary in Mecca; some manuscripts, among them ones with striking illuminations; historic maps; a couple of *qibla* indicators (to determine the direction of prayer); and a very generous selection of curtains that draped the Ka'ba. I was particularly struck by Ahmed Mater's etchings of his installation created with magnets and iron filings around a black cube that represents the Ka'ba, evoking the swirl of movement of pilgrims circumambulating it.

Note

1. Both have been translated into English: *Nasir-i Khusraw's Book of Travels [*Safarnama*]. A Parallel Persian-English Text.* Ed., tr. and annotated by Wheeler M. Thackston Jr. (Costa Mesa, CA: Mazda Publishers 2001); *The Travels of Ibn Jubayr*, tr. and annotated by R. J.C. Broadhurst (New Delhi: Goodword Books, 2001; repr. of London 1952 ed.).

Dan Gibson. *Qur'anic Geography. A Survey and Evaluation of the Geographical References in the Qur'an with Suggested Solutions for Various Problems and Issues.* Saskatoon, Canada: Independent Scholar's Press, 2011. xii + 470 pp. ISBN 978-0-9733642-8-6.

Lest readers think I am making things up, here in his own words (p. 379) is the author's conclusion:

> ...Islam was founded in northern Arabia in the city of Petra. It was there that the first parts of the Qur'an were revealed before the faithful were forced to flee to Medina. Thus, the prophet Muhammad never visited Mecca, nor did any of the first four rightly guided caliphs. Mecca was never a centre of worship in ancient times, and was not part of the ancient trade routes in Arabia. All down through history the Arabs made pilgrimages to the holy sites in the city of Petra, which had many ancient temples and churches. It was in Petra that 350 idols were retrieved from the rubble after an earthquake and set up in a central courtyard. It was in Petra that Muhammad directed the destruction of all the idols except one, the Black Stone. This stone remained in the Ka'ba in Petra until it was later taken by the followers of Ibn al-Zubayr deep into Arabia to the village of Mecca for safe keeping from the Ummayad armies. And today it is to this stone that Muslims face, rather than to their holy city and the qibla that Muhammad gave them.

One might well ask, is there anything in this rambling, self-published book that is to be taken seriously? There certainly is plenty to annoy (yea, even offend Muslims, though I do not believe that such is the author's purpose). Gibson has immersed himself in Nabataean history and over many years acquired an impressive on-the-ground knowledge of the geography related to it. He has a previous self-published book on the Nabataeans and maintains nabataea.net, a very substantial website devoted to his passion. If there is a Nabataean "nationalist" alive today, then surely it is Dan Gibson. From the standpoint of scholarly argument though, the book will invite serious criticism, as there are leaps of faith which leave even a non-specialist reader like myself gasping. A good deal of the effort goes to identifying what vague scriptural references to tribal groupings may mean and where they were in northwestern Arabia. Important parts of the argument exploit the silences of the sources, not the least being the total absence of Petra in early Muslim traditions about the Muhammad. Arguments *ex silentio* are rarely convincing.

That said, there is a lot here which might give us pause. He is certainly not the first to point out the problems in interpreting the relatively few and cryptic references to what we might term "geography" in the Qur'an or the possible contradictions which arise in trying to establish the factual basis for information contained in the hadiths and early Islamic histories, all of which he repeatedly quotes *in extenso*. The geography and pre-Islamic history of Mecca are of themselves puzzling. One of the more intriguing conundrums, which surely begs for explanation, is the fact that the *qibla* (direction of prayer) of the earliest mosques apparently does not point toward Mecca (and may indeed seem to indicate Petra). A more or less consistent orientation toward Mecca indeed seems to come only later. One might well ask how accurate and consistent are Gibson's own data here, which serve as the basis for a convenient chronologal chart illustrating the shift. It is an accepted part of Islamic belief that Muhammad changed the direction of prayer. The fact that the key passage in the Quran (2: 143–5) seems to be missing in most of the earliest known copies does not, however, have to suggest (*pace* Gibson) it is a later interpolation. Gibson's own tablulation of early Quran manuscripts (whose dates, in any event, are far from well established) indicates all those lacking the indicated verses are woefully incomplete. Moreover, he is less than convincing in his attempt to persuade us that early Arabs' ability to navigate and determine geographic locations with some precision, even if he is right that one should not merely explain away the oddities of early *qibla* directions as evidence of an inability to determine a bearing. Certainly one should be cautious in extrapolating from the later achievements of Arab science and astronomy to a time for which there is no written documentation.

What if Gibson is right? Established Muslim belief and practice is certainly not going to change. Nor will those for whom the centrality of Mecca is not an object of faith be convinced by the arguments here. At very least though, this volume might inspire readers to take another look at the history of the Nabataeans, the rise and fall of the incense trade, and the sacred precincts of Petra, subjects which will continue to reward exploration.

Richard W. Bulliet. *Cotton, Climate, and Camels in Early Islamic Iran. A Moment in World History.* New York: Columbia University Press, 2009. xiv + 167 pp. ISBN 978-0-231-14837-5.

Since this publication of Bulliet's provocative Yarshater Lectures at Harvard has been much reviewed,[1] this note will focus on why students of the Silk Roads should add it to their essential reading. Known for many earlier pathbreaking (a.k.a., controversial) studies, Bulliet argues that a relatively brief efflorescence in the development the Iranian plateau and then its rather marked decline may be explained to a considerable degree by the introduction of cotton as a summer crop for export. This contributed to substantial urban development, but then the cotton-based prosperity fell victim to unfavorable climate change beginning in the 10th century. The impact of that decline had important consequences for politics, economics and culture in the wider Islamic world. There are stimulating observations here regarding changing norms of elite identity, the location of centers of intellectual activity and the development of New Persian literary culture. He makes effective use of evidence from ceramic design to reinforce his arguments about cultural change. Among the significant hypotheses of the book is its reassessment of the emergence of the Seljuqs, connecting this with their importance as camel breeders and less with the political events in the Central Asia from which they came.

While he has been criticized for a too narrow focus on cotton, Bulliet makes important points about the changing significance of the "Silk Road" trade, and certainly his emphasis on cotton is a good antidote to the often too exclusive focus on silk found in the work of other scholars such as Xinru Liu (whom he criticizes but who has not really responded to his point in her review of this book).[2] His effort to tease out of the sources information on the ground–level realities of social and economic history provides an interesting parallel to what Valerie Hansen's new book has done, mining a different source base, with its own unique problems, for Xinjiang (see my review in this journal). Bulliet's argument is a forceful reminder of the need to incorporate meaningfully climate data into any analysis of the broader patterns of Eurasian history. He makes a persuasive case for correlating evidence of climate change in western Mongolia (for which we do have some important time series) with weather patterns affecting the Middle East, even if for the latter much of the evidence so far is that found in narrative texts.

Bulliet's critics have suggested that his presentation of the broader impact of the events in Iran fails to convince (even if he may be right) because he has not fully enough articulated developments in other parts of the Islamic world. His focused emphasis in fact is a salutary reminder that any effort to discuss developments across Eurasia (and in this case adding Islamic North Africa) over many centuries will fail unless the distinctive histories of particular regions have first been carefully examined.

Notes

1. See especially the reviews by Michael Morony in *Speculum* 85/4 (2010): 944–45, and by Maya Shatzmiller in *Iranian Studies* 45/2 (2012): 308–11.

2. In *Journal of Economic and Social History of the Orient* 54 (2011): 793–96.

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al-Ia'kubi. *Kniga stran (Kitab al-buldan*). Introd., translation, commentaries and indexes by L. A. Semenova. Moskva: "Vostochnaia literatura," 2011. 365 pp. ISBN 978-5-02-018468-8.

This is the first complete translation of Akhmad b. Abi Ia'kub (a.k.a. al-Ja'kubi)'s *Kitab al-buldan* / Book of Countries into Russian. The standard edition of the Arabic text is that of M. J. de Goeje (in *Bibliotheca geographorum arabicorum*, Vol. VII, 1892); a translation into French was published by Gaston Wiet in 1937. To date only excerpts had appeared in Russian translation.

The text, compiled in its current form probably in 889–91 CE, is of interest for its sometimes unique information on important cities of the Abbassid world and on Arab Indian Ocean trade. The author was interested in physical and human geography, but unlike his contemporary Ibn Khodadbeh, was not trying to describe routes of communication. The opening section on Baghdad and its history is especially detailed. Semenova, whose earlier scholarly work focused on Fatimid Egypt, has provided a helpful introduction, nearly 200 pages of notes (for the 100 pages of the text translation) and indexes of personal and dynastic names, geographical names, terms and ethnic groups.

Valentina Dmitrievna Goriacheva. *Gorodskaia kul'tura tiurkskikh kaganatov na Tian'-Shane (seredina VI-nachalo XIII v.)* [Urban Culture of the Turkic Kaghanates in the Tian-Shan (mid-6th–Beginning of the 13th Centuries)]. Bishkek: Kyrgyzsko–rossiiskii slavianskii universitet, 2010. 303 pp. ISBN 978-9967-05-620-6.

This volume is a fitting landmark in the author's long career as an archaeologist, her first published work having appeared nearly four decades ago. The nearly 50-page bibliography in large format attests to the scope of the enterprise, in which she pulls together the results of much of the archaeological work which has been done in "urban" sites on the territory of today's Kyrgyzstan and contextualizes it with reference to evidence from adjoining regions. She does engage the work of some western scholars (e.g., Grenet on Zoroastrianism and Klein on Christian remains), but understandably, the greatest part of the material is based on Russian–language scholarship.

While in her introduction she stresses the importance of her "cultural studies" methodology, in practice this seems to mean little beyond her emphasis on how the evidence suggests that the "urban" entities that flourished under various Turkic dynasties were indeed multi-cultural and multi-

confessional. Major sections of the book review the evidence regarding economic life, architecture (one of her special interests), religious life (another of her specialties) and artistic culture. A fair amount of this is purely descriptive — reading like a historical encyclopedia — but that is hardly a bad thing. Indeed, the scope of the coverage would make the book of some value for those who do not read Russian, were it to be translated in something like the BAR International Series. Her few articles in English and French (cited here) introduce some of the more significant aspects of her own work, in the study of Buddhist monuments, on the identification of Burana as Karakhanid Balagasun, and on the evidence from the important necropolis she helped excavate at Krasnorechenskoe.

She makes it clear that many of the topics she discusses are still very much subject to debate, where her conclusions have not necessarily been accepted by other major scholars. In a good many cases, the evidence we have is provisional; much more excavation will be needed. Not the least of the challenges lies in the imperfect preservation and only partial publication of some important excavation reports. There are thorny problems of determining "influence" and the degree to which some component of the local culture can be said to have come from Turkic nomadic traditions (as opposed to, say, Iranian sedentary culture). Expert opinion is still divided on the degree to which Sogdiana (as opposed, say, to East Turkestan) may have been the source for some of what the record of material culture reveals.

Her source base includes standard historical texts — she draws heavily on Xuanzang's account of his visit with the Turkish kaghan; Yusuf Hass-hajib and Mahmud Kashgari also are important here. One might question, however, whether sources particular to areas outside the region of her focus can reliably illuminate the culture within that region — examples being Sogdian legal documents from Mt. Mug or the philosophical writings of al-Farabi.

The book contains a good many illustrations, the line drawings quite clear (if sometimes a bit small), but some of the photos, given the inexpensive mode of reproduction, so dark as to be worthless. The one-page summary in English here is far too general to be of much value. There is no index.

Emma Davidovna Zilivinskaia. *Ocherki kul'tovogo i grazhdanskogo zodchestva Zolotoi Ordy. Monografiia* [Essays on the Religious and Civil Architecture of the Golden Horde. A Monograph.]. Astrakhan': Izdatel'skii dom "Astrakhanskii universitet," 2011. 253 pp. ISBN 978-5-9926-0452-8.

The laudatory purpose of this volume is to analyze all the current data about architecture across the entire territory once occupied by the Golden Horde (Ulus Jöchi), which extended from the steppes of Ukraine well into Central Asia. Trained as an archaeologist (her mentors included G. A. Fedorov–Davydov and V. L. Egorov), the author has published extensively on the subject, some of her work appearing in English in conference volumes of the British Archaeological Reports series. Her recent work at the important site of Samosdel'skoe on the lower Volga, where there are major remains from the Mongol era, involves controversy over whether or not this may also have been the site of the Khazar capital Itil' in earlier centuries.

As Zilivinskaia indicates, no one previously has attempted an overview of all the architectural remains of the Golden Horde, and in fact histories of Islamic architecture pay no attention to the subject. The more focused work which has been done on particular sites emphasizes the influence of architecture in Iran and especially Seljuk Anatolia, though she cautiously suggests that one may be able to distinguish some unique features of a "Golden Horde" style. Civil architecture in her classification is of two basic types, one deriving from Islamic urban architectural models, the other having evolved from mobile nomadic traditions translated into settled contexts.

The book is organized around functional building types and then within each section discusses what is found at particular sites. There are 120 plates, fortunately mostly drawings and plans, since the few black-and-white photos are poorly reproduced by the inexpensive printing process. There is a substantial bibliography but no indexes.

Igor' Konstantinovich Fomenko. *Obraz mira na starinnykh portolanakh. Prichernomor'e konets XIII–XVII v.* [The Image of the World on Old Portolans. The Black Sea Littoral from the End of the 13th – the 17th Centuries]. Moskva: "Indrik," 2011. 424 pp. + ill. ISBN 978-5-91764-145-2.

The emergence of modern scholarly interest in the "Silk Road" has been intertwined with the study and creation of maps and/or their underlying data. Ferdinand von Richthofen and especially Albert Herrmann struggled with trying to match Ptolemaic data with the geographic realities of Eurasia. Explorers such as Sven Hedin, who stumbled across the buried cities of the Taklamakan, advanced the mapping of Inner Asia. Among the multi-faceted contributions of Aurel Stein's expeditions was the mapping which he and his assistants contributed to the Survey of India. As Igor' Fomenko's book suggests though, there is still a great deal to be learned from a study of historic maps that encompass various parts of the Eurasian routes.

Fomenko's book, based on his *kandidat* dissertation, provides a rather general introduction to portolans and, of greater value, a more specific analysis of their data for the Black Sea region. He emphasizes that apart from their function as practical navigation charts, these maps of the late Middle Ages are signficant for their data on how their makers viewed the wider world. That is, one can learn a great deal about the knowledge they reflect regarding the changing political and economic map of the regions encompassed by European maritime trade. Given its importance in the history of Eurasian exchange, the Black Sea region makes for a particularly interesting case study.

Fomenko's comparisons of dozens of the portolans reveal a

remarkable conservatism in the repetition of data, combined with efforts to update information so that the maps in fact would provide practical current guidance on the political landscape. Despite the fact that navigation and cartographic data were, at least on the official level, jealously guarded secrets, in fact underlying most of the portolans is a common body of information, to which individual schools of mapmakers might add some distinctive elements. The famous Catalan Atlas of Abraham Cresques (dated 1375) is known, of course, for his having drawn on information in Marco Polo, although the compass of the then known world (as opposed to the region typically covered by portolans — the Mediterranean and Black Sea) makes it unusual. It was, after all, a royal presentation copy. The typical, more narrowly focussed portolans often relatively quickly incorporated new information about economic and political geography. Would we today try to travel using a Baedecker printed in the 19th century?

The nomenclature on the maps embodied various chronological strata: toponyms invoked features of physical geography, ethnic, religious, economic and other factors. A perhaps surprisingly large part of the nomenclature is Greek, some of it apparently in place ever since Greek colonies had been established on the Black Sea littoral more than two millennia ago. Fomenko leaves sorting out all the earliest layers for future research. Rather, he focuses on changes that can be documented especially in the 14th and 15th centuries, that is, the period for which the earliest portolans have been preserved. By the 16th century, even though portolans continued to be copied and used, increasingly they were superseded for practical navigation and came to be of interest as collectors' items. Some of the obvious anachronisms (for example, maps which chose to ignore the reality of the Turkish conquest of Constantinople) seem to reflect a kind of wishful thinking of the mappers regarding a possible reconquista by the Christians.

The book will be of particular value for its tabulations of the variant place names on the Black Sea littoral as represented both in the texts of navigation manuals and on the maps. Where possible, they have been matched with their modern designations and summarized on some elegantly drawn "reconstructed" maps. An interesting aspect of Fomenko's analysis is his focus on the flags drawn on the maps, which indicated to their makers the political affiliation of particular locations. His tables include drawings of all the flags with identifications of their political referents.

Elegantly produced in medium format, with numerous generally good quality black-and-white illustrations and a generous selection of color plates, the book is not without its problems. There is no excuse for the absense of indexes, which would be essential for locating particular data in the discussion of the evidence from specific maps and regarding specific locations on them. All too often the illustrations bear no obvious relationship to the places in the text that refer to them, and the use largely of overall depictions of maps, instead of focusing on details which might be legible, means that many of the pictures end up being merely decorative. The book is impressive for its drawing upon sources in a broad range of languages, although curiously never seems to use the standard multi-volume history of cartography by J. B. Harley and David Woodward (one volume is merely listed in the bibliography). A proper review of Fomenko will certainly want to compare what he has done with a book I have not seen by A. Iu. Gordeev which appeared two years earlier and, judging from a single laudatory descriptive paragraph here (p. 15), would seem to overlap with Fomenko's work in important ways. That he seems otherwise never to have used it may be explained by his having received it while his own book was already in production.

Shakh-Makhmud ibn Mirza Fazil Churas. *Khronika.* Kriticheskii tekst, perevod, kommentarii, issledovanie i ukazateli O. F. Akimushkina. 2-e izd. Fontes scripti antiqui. Sankt-Peterburg: Peterburgskoe lingvisticheskoe ob-vo., 2010. 496 pp. ISBN 978-5-4318-0001-6.

This is a second (apparently unchanged) edition of the late Oleg Fedorovich Akimushkin's critical text, translation, and commentary of the Chronicle focusing on the history of East Turkestan compiled by Shah Mahmud ibn Mirza Fazil Churas around 1676–7. The first edition appeared in the series *Pis'mennye pamiatniki Vostoka* (vol. 45) in 1976. The lone manuscript of the work is now in the Russian State Library in Moscow. Akimushkin was a much-published specialist on Persian manuscripts in the Institute of Oriental Studies of the Russian Academy of Sciences in St. Petersburg.

The book contains the second, original part of Churas' Chronicle, which is a continuation of the well-known *Tarih-i Rashidi* of Mirza Muhammad Haidar Duglat. The first part of Churas' work is derivative and thus of little independent historical interest, whereas the second part, covering from the 16th century down well into the 17th contains much new information, especially regarding the Black Mountain Khojas. Apart from its substantial introduction about the author, the relationship of his text to the sources, the historical value of what it contains, the manuscript, etc., the book has extended commentaries to the text itself and in appendices a tabular summary of the participation of Churas' family members in the political history of Mogulistan and the Persian text of Churas' *Anis at-talibin*, published here from MS Bodleian Ind. Inst. Pers. No. 45. A four-page summary in English describes the historical value of the Chronicle.

This new edition should make the text more readily accessible, given the fact that the first edition is long out of print.

Art, Architecture and Religion Along the Silk Roads, Ed. Ken Parry. Silk Road Studies, XII. Turnout: Brepols; Ancient History Documentary Research Center Macquarie University, NSW Australia, 2008. vi +275 pp. + ill. ISBN 978-2-503-52428-3.

Although this volume has been out for several years and probably is well known, it is worth noting, in no least part

to call attention to the valuable series of "Silk Road Studies" which Brepols has been publishing at somewhat irregular intervals over the years. Most of the volumes are collected essays from conferences; but some, such as Wassilios Klein's on the "Nestorian" monuments in Kyrgyzstan (Vol. III) and Craig Benjamin's on the Yuezhi (Vol. XIV) are substantial monographs. Several of the volumes, including the one under review here publish primarily the work of scholars based in Australia, where Macquarie University has hosted conferences of the Australasian Society for Inner Asian Studies. This volume contains the papers of the fifth such conference, held in 2004, whose appearance in print took a long time, though, as the editors point out, the authors did have the opportunity to update their material in those intervening years. As in the previous cases, the papers of the conference were quite diverse in their topical and chronological coverage, ranging from Bronze Age archaeology in Choresmia to ethno-religious issues in Xinjiang today.

The contributions here which probably will have the most lasting value are those which survey the state of scholarship and publication on an important topic even if they make little pretense to present any kind of forceful argument. I might single out in particular the essay by the distinguished specialist on Manichaeism, Samuel Lieu, "Manichaean Art and Architecture Along the Silk Road" (79–101), which not only offers a good guide to the publications of Manichaean art but includes an appendix with publication details of the main Manichaean texts. Lieu, of course, has been one of the key figures in the project to document Christian and Manichaean remains in Quanzhou, the impressive results of which have just appeared in the volume reviewed elsewhere in this volume of *The Silk Road*. The other essay which stands out for its value in surveying the field is Mark Allon's "Recent Discoveries of Buddhist Manuscripts From Afghanistan and Pakistan and Their Significance" (pp. 153–78). Allon has had a long association with the Early Buddhist Manuscript Project based at the University of Washington, which is analyzing and publishing many of these finds. He has a volume in its text series and, inter alia, has contributed to the study of the manuscripts in the Schøyen and Senior Collections. Apart from describing the various collections and what so far has been done on them, his article here provides a very clear (if preliminary) idea of the considerable importance of this material for our understanding of the early history of Buddhist texts and their transmission.

Of the other essays, all of which cannot be reviewed here, one that struck me as having particular value for posing some widely ranging questions and hypotheses is that by Michelle Negus Cleary, "Walls in the Desert: The Phenomenon of Central Asian Urbanism in Ancient Chorasmia" (pp. 51–79). In it she examines what has been written to date on the major walled enclosures of that region (in the area near the Aral Sea between the Amu Darya and Syr Darya rivers), which, despite their extent, seem to show little evidence for what might be characterized as "urban" development. This essay anticipates the doctoral dissertation Cleary was in the process of writing and which shows some promise for raising new questions about the nature of settlement in that region and the relationship between settled and nomadic or semi-nomadic populations.

Other contributions in the book include two essays on specific archaeological sites in Central Asia (one by Alison Betts and V. N. Yagodin; the other by Fiona Kidd), ones which raise, respectively, interesting questions about early Zoroastrianism and about trade connections of Ferghana. I have always found Geoff Watson's contributions to these volumes, on modern travel and descriptive accounts of Central Asia, to be of interest. Here (pp. 127–52) he treats the rather inconsequential British missionary activities, which, at least for Xinjiang, pale in comparison to what the Swedes were doing (the latter's activity is barely mentioned though). Peter Edwell's essay on evidence about Palmyrenes and especially their religions at Dura Europos (pp.232–46) is a somewhat thin introduction to an important subject. For an update by Lucinda Dirven (in part summarizing her monograph on the subject that Edwell cites), one can consult the essay in the recent *Crossroads of Antiquity* volume reviewed elsewhere on these pages. Lastly I would note Jonathan Markley's "What Huo Qubing Did: The Problem of the Feng-Shan Sacrifice" (pp. 247–58) as an installment which might raise anticipation for his monograph on how Sima Qian treated the subject of Han-Xiongnu relations, a book that is shortly to appear in Brepols' *Silk Road Studies*.

The "Silk Roads" in Time and Space: Migrations, Motifs, and Materials. Ed. Victor H. Mair. Sino-Platonic Papers, No. 228, July 2012. 308 pp. ISSN 2157-9679 (print) 2157-9687 (Online at <http://www.sino-platonic.org/complete/spp228_silk_roads.pdf>) .

This series, which has made so much stimulating new research readily (now freely) and rapidly available, is a tribute to its founder and energetic editor Victor Mair, who is known for his active encouragement of scholars at all stages of their careers and with quite varied backgrounds. The volume here is a selection of what he considers the best papers turned in by students who took a course he offered in spring 2011 on one of his favorite topics, "The Mummies of the Silk Road." As he notes in his brief introduction one goal of the course and this volume is to encourage re-thinking of traditional, narrow ideas of what the Silk Road was all about, to move us away from any idea that it might have been a single route, primarily for trade and especially in one product, silk. As one might expect, the papers offer a considerable range in originality and depth of research (there are sometimes glaring omissions of "obvious" resources), but all certainly testify to the inspiration Professor Mair must provide for his students and all are worth reading. It is too bad we do not learn anything about the authors beyond their names and the fact they took the course. Many of them read Chinese; where it is relevant, some show an impressive range of knowledge about visual materials. Several of the articles have been provided with illustrations of excellent quality.

Contents:

Bulletin of the Asia Institute. Vol. 21 (2007/2012). 214 pp. + 16 color plates. ISSN 0890-4464.

Contents:

西域文史. Literature and History of the Western Regions. Vol. 6 (2012). Ed. 朱玉麒 Zhu Yuqi. 366 pp. + 4 pp. plates. ISBN 978-7-03-030424-7.

All articles are in Chinese, with short summaries in English. The Chinese table of contents may be found at <http://www.serindia.org.cn/post/221.html>.

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