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edited by A. V. G. Betts, and F. Kidd

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NEW DIRECTIONS IN SILK ROAD ARCHAEOLOGY

Edited by

A. V. G. Betts and F. Kidd

Proceedings of a Workshop held at ICAANE V, Madrid, 2006

University of Sydney Central Asian Programme

Contents

New Directions in Silk Road Archaeology

Silk Road archaeology has, in recent years, faced two key challenges. For much of the 20th century, research in many of the lands along the Silk Roads was hampered by political constraints. In some areas, while local archaeologists were active, the language of publication restricted availability of information to the wider scholarly community. In other countries brief periods of stability permitted occasional international fieldwork, but these intervals were limited and sporadic. As the political barriers began to fall with the end of the Soviet Union, a second challenge still remained. The ancient lands of the Silk Roads crossed vast regions controlled by two quite separate major powers, Russia and China. National archaeologists in each region worked in their own languages, with few scholars able to read the scholarly literature of the other and even fewer westerners able to read either, if they could manage to access it. The lands of the Silk Roads were cleft in two down the middle.

The University of Sydney Central Asian Programme (USCAP) was established in 1992 to address these challenges. The aim of the programme has been to encourage international collaboration and English language publication of Central Asian scholars. With the start of the 21st century a new era of research has begun. International collaborative projects are now widespread across the whole region. New methodological and analytical techniques are being applied with spectacular results, but it is not so often that scholars in these areas have the opportunity to meet. It was with this in mind that in 2006 USCAP proposed a workshop to run at ICAANE V in Madrid entitled *New Directions in Silk Road Archaeology*. The papers in this collection are based on presentations given at that meeting. The papers represent a cross-section of the vast scope of scholarship in this region. The authors are balanced equally between "east and west". Yagodin presents an important study based on a lifetime of largely Soviet sponsored research in the Aralo-Caspian region, now available to an English speaking readership. Yatsenko's work on costume is based on a rich background of Russian scholarship, again presented perhaps to a new audience. Amirov is of the younger generation of Central Asian scholars with an excellent understanding of western archaeological methodology and analysis which he has used to break away from older school historical constructs in Islamic studies. The other three papers represent new approaches by European and American scholars. Kaniuth provides a detailed consideration of Bronze Age long distance trade to examine what this might say about regional inter-relationships. Good has addressed a different aspect of the same problem, difficulties in the interpretation of evidence for contact and exchange, and, in her final discussion, has addressed the theme of the Meetings, "Future Directions for the Archaeology of Central Asia", a series of important observations that should be considered in regard to new research in the region. By contrast, Stark has demonstrated how such new approaches may be implemented by his integrated approach to land use, environment and historical documentation in his study of the high mountain areas of northern Tadjikistan.

Central Asian studies are as yet in their infancy. So much remains to be discovered and much already discovered still remains to be more clearly understood. The doors to China are only just opening, promising a whole new treasure trove of knowledge. These papers represent a few small steps forward in this great endeavour.

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Long distance imports in the Bronze Age of Southern Central Asia: Recent finds and their implications for chronology and trade[1]

By Kai Kaniuth

Keywords: Central Asia, Bronze Age, Long distance trade
Ключевые слова: Средняя Азия, эпоха бронзы, торговые контакты

Introduction

The interregional connections of Central Asia's Bronze Age cultures have been discussed ever since the first remains of highly developed civilizations came to light there **(Fig. 1)**. Over the years, a large amount of evidence has surfaced demonstrating that the regions along the Amudarya river and Kopet Dagh mountains were territories on the margin, but nevertheless part of the Ancient Near East, not only with respect to their common architectural traditions and common subsistence strategies but also linked through economic ties and at times population movements.

A discussion of the Bronze Age 'exotics' in Southern Central Asia within the framework of a conference paper necessarily imposes some restrictions on the part of the author, to avoid the temptation of covering too much ground, much of which has been trodden before, and of stating the obvious in new terminological guise. Here, restrictions will be twofold: chronologically, only the Middle to early Late Bronze Age evidence (hereafter MBA/LBA; in absolute dates c. 2300–1700 BC) will be discussed. The commonly used terms 'BMAC' or 'Oxus civilization' will be avoided in favour of a more neutral reference to sites and periods (such as Namazga V/VI), since both terms are loaded with a number of preconceptions which cannot be clarified within the following pages. Geographically, preference will be given to the nature of connections with the civilizations of Mesopotamia and the Indus, even though it is obvious that interaction with Iran, especially with the eastern half of that country and the adjoining Indo-Iranian borderlands, has been of major relevance and indeed produced the most intensive and persistent evidence.[2] The most notable examples are the spread of Quetta Ware to Baluchistan,[3] the 'trans-elamite' network of the later 3rd Millennium BC described by Pierre Amiet,[4] and the intrusion of Late Bronze Age Bactrian material (and, one assumes, people) into Seistan and Baluchistan during the first quarter of the 2nd Millennium BC.[5] A focus on long-distance relations should provide a clearer picture of Southern Central Asia within its wider setting, one not blurred through the background of local exchange mechanisms. A notion that will not play a role in what follows is the concept of a prehistoric 'Proto-Silk Route' since it has been laid to rest quite effectively by Henri-Paul Francfort,[6] and there is no point in raising it again.

When comparing the aforementioned regions during the end of the 3rd and the beginning of the 2nd Millennium BC the problem of absolute dating arises. Just as is the case for the Indus civilization, the chronology of Central Asia is now tied to a sizeable series of radiocarbon dates,[7] while historical dates for Mesopotamia follow a number of conventional chronologies which differ by as much as 150 years.[8] Here, the Middle Chronology will be used, but the reader should note that recently the consensus among specialists tends towards a shortening of this chronology by anything up to 100 years, with obvious implications for the synchronization of the Near Eastern material.[9]

The importance of contact finds is beyond dispute: they provide information for preliminary cross-dating and were the most widely applicable means of correlating the material remains of prehistoric cultures before the advent of radiocarbon dating. More importantly nowadays, they seem to testify to a certain advancement of the cultures under investigation, because there is an implicit assumption – in an age of connectedness – that a culture not connected with others is somewhat backward and does not have a stake in a general trajectory of cultural development. In other words a regional,

[1] I would like to thank C. Eder, M. Krebernik, A. Löhnert, M. Roaf, K. Rohn, P. Steinkeller and M. Teufer for their comments on the text and for their help with specific questions.

[2] For a recent discussion of contacts between the late-3rd-millennium Helmand Civilisation and the Indus region see, for example, Cortesi et al. 2008.

[3] Lamberg-Karlovsky/Tosi 1973; Jarrige 1996.

[4] Amiet 1986.

[5] Lamberg-Karlovsky/Hiebert 1992; Kohl/Pottier 1992.

[6] Francfort 1990. But see Hiebert 1999, 40–41.

[7] For absolute dates see the compilations in Kohl 1992; Hiebert 1994; Кирчо/Попов 1999; Jungner 2004; Кирчо/Попов 2005; Kaniuth 2006.

[8] For a very useful bibliography see Pruzsinszky 2006, for a new summary of the textual evidence Pruszinsky 2009.

[9] E.g. Reade 2001.

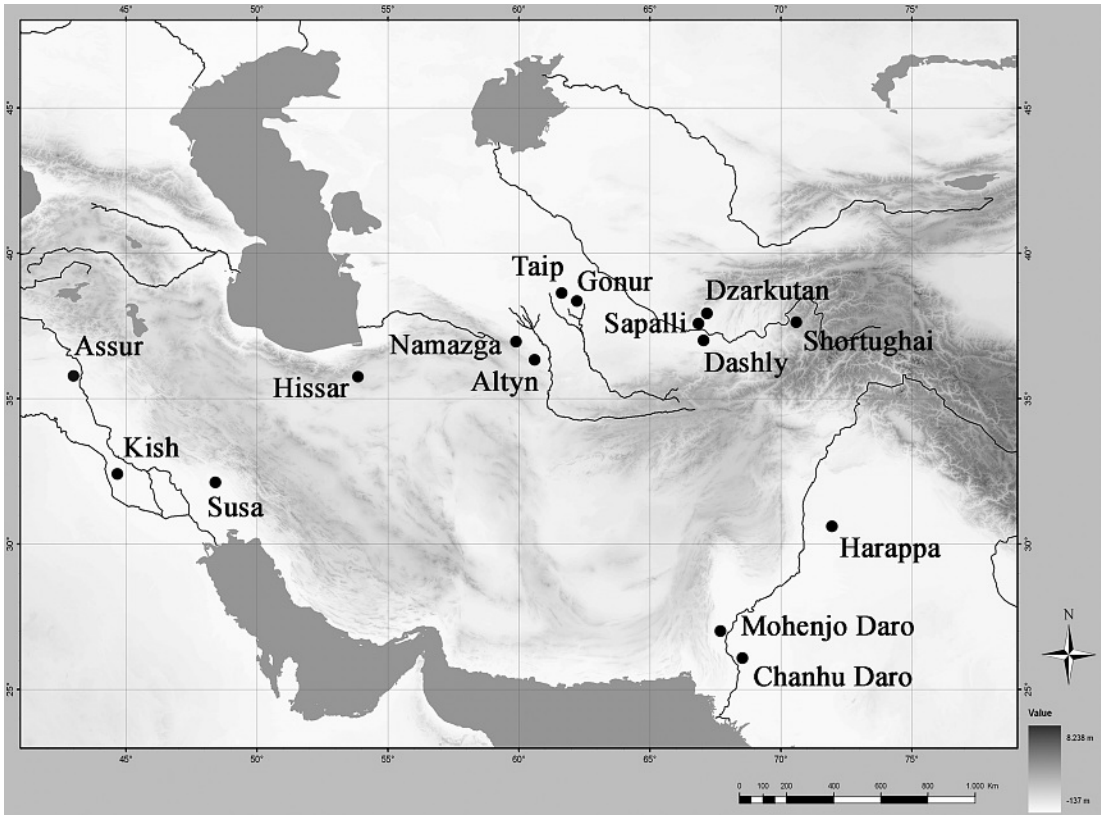

Fig. 1
Map showing the major sites discussed in the text

localized phenomenon is considered less worth researching than an international one. The advantages of the resulting focus on contact finds in publications are manifold, not least because they open up one archaeologist's field to another, and raise interest and stimulate scientific exchange, but there are also dangers: contact finds are frequently considered outside their archaeological context and interpretations are drawn from them as if a kind of external context was created which conveys meaning by itself.

Foreign objects in Central Asia have been treated with a number of questions in mind. Those involving speculation about ethnogenesis are not discussed anymore with respect to the Middle Bronze Age of Southern Central Asia,[10] since no further evidence in the material culture exists to support interregional population movements during this period.[11] Relatively straightforward inferences have at times been drawn about questions of social organization, by comparing two regions under the assumption that the existence of similar objects would point to a similar level of social development. The Near East usually serves as the benchmark here, and Bronze Age Central Asia is at times compared to Mesopotamia in terms of the social forces and structures at work. These points have been stressed by a number of researchers,[12] most notably Sarianidi, whose excavations have produced the largest and most interesting body of evidence to be considered in this contribution,[13] and it will remain to be seen how far these assumptions can be supported without recourse to textual sources.

The evidence discussed in the following pages involves burial data, seals and sealings (and, in the wider sense, administrative practices), technology and small finds, a selection essentially determined by the preservation, data retrieval strategies and cultural choice involved in the constitution of the archaeological record. Even though we will be concerned predominantly with single objects, there probably was a considerable amount of local and

[10] Массон 1981, 115–118; Masson 1988, 118–122.

[11] Ignoring for the time being the question of the initial settlement of the Bactrian oases from either Margiana or the Kopet Dagh region.

[12] Hiebert 1999, 40–41; Кузьмина 1994; Массон 1981, 109–118; Masson 1988, 111–122.

[13] Sarianidi 1979; Sarianidi 1994; Sarianidi 1998a; Sarianidi 1998b; Sarianidi 1999; Sarianidi 2002; Sarianidi 2007; Sarianidi 2009.

long-distance traffic in perishable goods underlying the interaction visible to us. A confirmation of this assumption is of course difficult in the absence of textual references.

Central Asia and the Indus sphere

Not long after 2500 BC an outlier of the Indus Civilization was established at Shortughai in the Badakhshan Province of Northern Afghanistan.[14] In its initial phases (I and II), Shortughai was an Indus settlement with all aspects of the material culture being of non-local derivation. The reasons for the establishment of this colony in an alien cultural environment and a different ecological niche are not entirely clear, but the natural resources of the region – especially the famed lapis-lazuli of the Sar-e Sang mine – probably played a role, even though we have to concede that lapis appears in large quantity neither in Shortughai,[15] nor in the subcontinent.[16] When comparing it to sites of the Indus heartland, Shortughai would be contemporary at least with Periods IIIA and B at Amri but may have been abandoned during Amri IIIC, in other words before the Mature Phase of the Indus Civilization came to an end.[17] Settlement at the site continued – possibly after a hiatus – in a purely local fashion. The foreign presence thus lasted for no more than three or four Centuries. Further to the west, in Bactria and Margiana, Indus influence is restricted to a few small find categories.

Seals

Two square stamp seals from Altyn Depe have, because of their form and design, been classified as 'proto-Indian':[18] the first seal **(Fig. 2,1 left)** was found in Excavation 9, Room 105. It measures ca. 1.5 cm square, bears two signs of the Indus script on its face and a small lug at the back.[19] The piece is dated to the late Namazga V period.[20] The second seal **(Fig. 2,1 right)** measures 1.2 × 1.25 cm. Its material is given as 'white "faience" (baked steatite?)'[21] and 'white stone (baked steatite?)'.[22] This seal was found in a burial complex from Excavation 7, Horizon 3, Room 7, also referred to as the 'sanctuary'. The face bears a swastika motif, again with a small knob at the back for suspension.[23] The same burial complex also contained jewellery (such as carnelian beads) and 'ivory' sticks of possible Indus Culture origin, as well as local MBA prestige goods (on these see below). This burial has been dated to the early Namazga V period (Altyn 3).[24] Lastly, a similar piece has been published from Kelleli 6.[25]

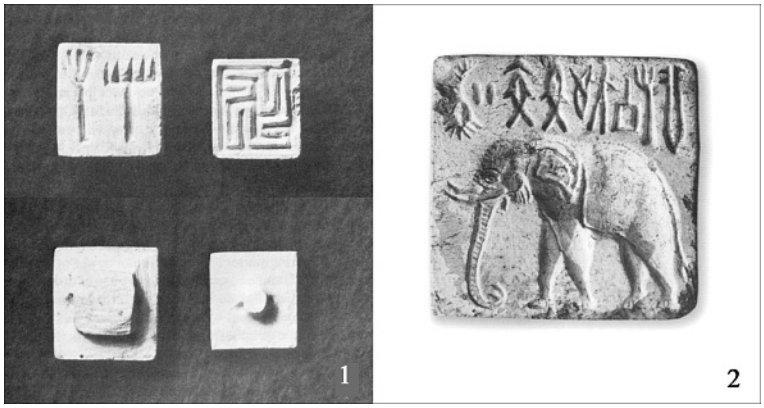

Fig. 2
1 Indus seals from Altyn Depe (after Masson 1981b, fig. 1,2); 2 Indus seal from Gonur (after Sarianidi 2005, fig. 114)

The form and design of both seals is alien to Central Asia and the best parallels for them come from Indus Civilization sites, where they correspond to a sizeable group of small, geometrically decorated stamps.[26] Nonetheless, Possehl has suggested that their 'provincial style' may indicate that they were made elsewhere, possibly at Altyn Depe itself.[27]

A third, this time typical Indus, seal bearing a characteristic animal design, has recently been published from the Gonur 'Temple of Water', Area 9, Room 19,[28] unfortunately without precise dimensions. The image **(Fig. 2,2)** shows an elephant striding to the left, with a nine-character inscription in the Indus script above. The execution of the design and the inscription are of the highest quality and

14 Francfort 1989.
15 Francfort 1985 mentions some working of lapis-lazuli and carnelian.
16 Vidale 2000, 44; Ratnagar 2004, 185–193, especially 190; Kenoyer 2005, Tab. 2, where lapis, serpentine, garnet and amazonite together make up less than 1% of beads and manufacturing debris from the 1986–2001 seasons at Harappa.
17 Francfort 1989 assigns an occupation of 2200–1700 BC for the site, but an earlier beginning has been argued for on the basis of available ^{14}C dates and comparisons with other Indus sites (see Dittmann 2003).
18 Masson 1981.
19 Массон 1981 and Masson 1988, pl. 22,1a.
20 Masson 1988, 93–94; Kohl 1984, 133.
21 Массон/Берёзкин 2005, 99.
22 Массон/Берёзкин 2005, 407.
23 Masson 1988, pl. 22,1b; Массон/Берёзкин 2005, pl. 45.6.
24 Массон/Берёзкин 2005, pl. 42, 6. For the entire burial and its date see Массон/Берёзкин 2005, 98 and fig. 18, 14–46.
25 Masimov/Salvatori 2008, fig. 7.8. Nr. 8, with further parallels from surface collections and the art market (103).
26 Compare Mackay 1938, pl. 90,1–5; for the swastika motif see Mackay 1938, pl. 91,1; pl. 94,383; Marshall 1931, pl. 114,500–515. But note the metal stamp seal with a swastika-type motif from Gonur (Sarianidi 2002, 288) and the regular occurrence of square stamps already in NMG IV contexts (Кирчо 1990, fig. 2).
27 Possehl 2002a, 229–230.
28 Sarianidi 2005, 258 fig. 114. For the find-spot see Sarianidi 2005, 183–185 fig. 53.

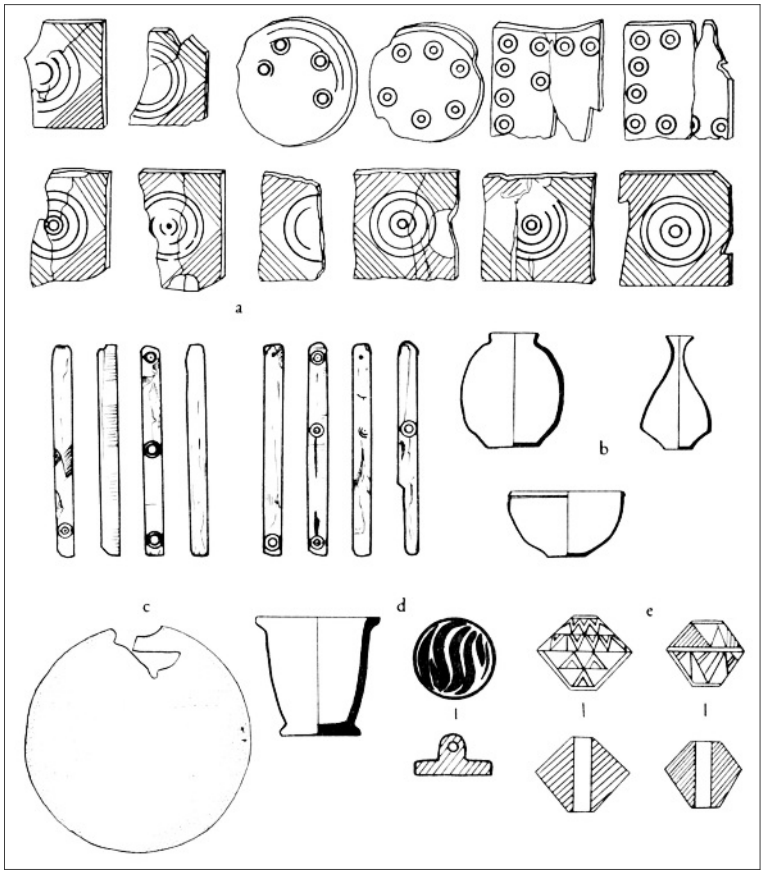

Fig. 3
Altyn Depe Hoard 1 (after Masson/ Sarianidi 1972, fig. 29)

compare well with the best pieces from Mohenjo Daro and Harappa.[29] No accompanying finds are described in the publication, but judging from previously published material from Gonur, this extraordinary object was presumably recovered from a mid-Namazga V to early Namazga VI context.

Objects of ivory

A second group of objects has been described as 'Indian' on the basis of their material, thought to be elephant ivory. These are either rectangular, square or round disks of c. 5 × 5 cm with incised ornamentation (lines and dot-in circle-motifs) or 10–15 cm long sticks, also with incised ornamentation (lines and cross-hatching, sometimes dot-in-circle).[30] Their function is as yet unknown, but they are habitually referred to as 'gaming pieces', 'fortune-telling sticks' or 'stick dice', and very similar types appeared in some number in Mohenjo Daro,[31] Harappa,[32] and Chanhu-Daro.[33]

At Altyn Depe, a stick 12.4 cm long with an incised pattern filled with a dark paste was discovered above the head of Burial 252 in the 'Vyshka' (summit) area of the depe, dated to late Namazga V (Altyn 0).[34] Five sticks with similar designs turned up in Gonur.[35] A fragmentary stick is reported to have come from the Gonur necropolis Grave 575 and yet another from Grave 1898. A comb, also described as made of ivory, was discovered in Grave 2228,[36] while Grave 2900 contained an ivory comb and spoon.[37]

The largest number of ivories surfaced in the 'Ganyalin Hoard 1' at Altyn Depe **(Fig. 3)**: thirteen rectangular and round plaques ('gaming pieces') of ca. 5 cm square and several sticks 10–12 cm long were discovered in a hoard buried in a wall in the 'Vyshka', just below the modern surface.[38] The excavator's proposed date of deposition is the end of the MBA (late Namazga V) or the initial LBA (early Namazga VI), but the possibility that the hoards are actually intrusive and postdate the known occupation at the site was raised by Kohl.[39] From the recent excavations at Gonur, similar caches were discovered in burials 3220[40] and 3155,[41] while several other small plaques were published without context: a round plaque with four incised dot-in-circle motifs and a square plaque with 13 dot-in-circle motifs regularly spread over the 25 fields of an incised 'checkerboard' design from Gonur North.[42] All the published finds from these latter graves lead us to the same dating within the time-span of middle Namazga V to early Namazga VI.[43]

[29] See Marshall 1931, pl. 112, nos. 362–375; Mackay 1938, pl. 96, no. 512; pl. 97, no. 590; Franke-Vogt 1991, pl. 29, nos. 187–190 (all from Mohenjo Daro); Vats 1940, pl. 91, nos. 226–231 (Harappa).

[30] Щетенко 1970, 59–60. Shchetenko's further assumptions, especially concerning a link between Central Asian and Indus Civilization pottery (61; reiterated in Masson/Sarianidi 1972, 124) are baseless.

[31] Marshall 1931, pl. 134 no. 3 (disk), pl. 132 nos. 22–26 (sticks); Mackay 1938, pl. 138,41–61; pl. 143,19–54 (sticks); the little disk-like object on pl. 110, 30 is pierced and thus probably of formal resemblance only.

[32] Vats 1940, pl. 95 no. 388 (disk), pl. 119 (sticks).

[33] Mackay 1943, 171 pl. 60,12.16 (two sticks).

[34] Массон/Берёзкин 2005, 101, 417, fig. 21, 57 pl. 56,5.

[35] Sarianidi 2002, 151; Sarianidi 2005, 118, fig. 29. For the entire group see now Sarianidi 2007, 122.

[36] Сарианиди 2001, 73; for the comb see pl. 5, 13 and Sarianidi 2007, 122 fig. 239.

[37] Sarianidi 2007, 152 fig. 34.35.

[38] Ганялин 1967, 214–216; Masson/Sarianidi 1972, fig. 29.

[39] Kohl 1984, 133. The 'kubok' mentioned in Ганялин 1967, 214 would normally be a reference to an early Namazga VI pedestalled goblet.

[40] Sarianidi 2009, 195 fig. 107, consisting of probably 12 disks and fragments of three stick dice; add here the round plaque with floral ornament and a scorpion on its back (Sarianidi 2005, 231 fig. 92 in combination with p. 251).

[41] Sarianidi 2005, fig. 65.

[42] Sarianidi 1998b, fig. 22,8.9; 2002, 153.

[43] Sarianidi 2004, fig. 7–9; 11.

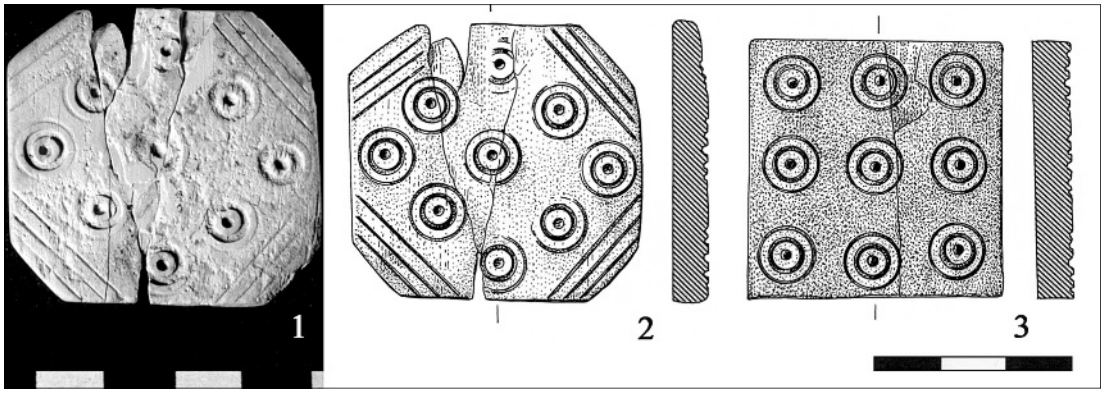

Fig. 4
Ivory disks from Dzharkutan [author's original]

Lastly, two comparable disks made of ivory, antler or bone were discovered in the Northern Bactrian site of Dzharkutan.[44] An octagonal piece measuring 4.5 × 4.4 cm, decorated with incised lines and nine dots-in-circle **(Fig. 4,1–2)**, was discovered in 1996 in a refuse pit dug into natural soil in Tepe IV Trench 4. The accompanying pottery (lot 96.4.4.5) dates the entire assemblage to the early LB I period (late 20th/19th Century BC). A secondarily burnt rectangular disk of 3.9 × 3.8 cm **(Fig. 4,3)** turned up two years later not far away in another pit in Trench 20 on the slope of the same tepe. In this case too, the pottery (lot 98.4.20.12) dates to the initial LB I occupation. Since the analysis of the Dzharkutan ceramic assemblage has not yet been concluded, these dates must be regarded as provisional and may be refined in the future.

Nonetheless, it is beyond doubt that the small disks continued into the Late Bronze Age (Namazga VI). Given the uncertainties regarding the dating of both the Ganyalin hoard and the Gonur finds, they could theoretically even be exclusively of Late Bronze Age date (there are no such disks from Altyn Depe where the overwhelming majority of excavated burials predate Namazga VI). For the sticks a MBA (Namazga V) date is certain, with a possible extension into the early second Millennium BC (LBA/Namazga VI).

Thanks to the discovery of these new bone or ivory items, the Central Asian pieces now outnumber those from Pakistan and India, raising the question whether we should indeed assume a non-local production, or consider the possibility that we are actually dealing with imports into South Asia from the north. The case of the sticks looks ambiguous, even though the larger variability of ornamentation observable in the Indus region militates against a Central Asian production.[45] Nonetheless, a South Asian provenience can be proven only when scientific analyses show the pieces to be of elephant ivory.

Carnelian beads

The recent publication of the Altyn Depe graves offers an opportunity to assess the scale of carnelian use in the Early and Middle Bronze Age of the Kopet Dagh.[46] Carnelian beads appear – in small numbers (three pieces) – for the first time in middle Namazga IV, but were mostly found in middle to late Namazga V burials (40–50 pieces: the figures given in the original excavation records and in the final publication differ occasionally). Only two beads were of the etched variety,[47] and can thus definitely be considered finished imports from the subcontinent.[48] In Gonur, the presence of etched carnelian beads is also attested:[49] of special importance are seven etched beads from the élite burial 1999/2001,[50] which lay in a small 'basket pit' also containing a spouted vessel comparable to pieces from Shahdad.[51] The burial was disturbed in anti-

[44] These pieces were recovered during the German Archaeological Institute's excavations in Dzharkutan (1995–2003). I would like to thank Dr. Dietrich Huff, head of excavations, for his kind permission to publish the small finds. For the absolute dating of the Dzharkutan settlement see Görsdorf/Huff 2001, Kaniuth 2006, 47–52.

[45] One should keep in mind, here, that find registration and publication were much more selective in the early days of Indian archaeology than they are today. It would require a thorough search of find registers to determine, whether the above estimates for the occurrence of ivory 'gaming pieces' from the enormous area opened at Mohenjo Daro, for example, are anywhere close to the real figures.

[46] Массон/Берёзкин 2005, 390–400.

[47] For etched carnelian beads in general see Reade 1979; Ratnagar 2004.

[48] Массон/Берёзкин 2005, pl. 56,9a (burial 252) and pl. 74,2 (burials 403-409).

[49] Rossi-Osmida 2002, 81 (grave 011); 118, fig. 3; Sarianidi 2007, 116 fig. 211 (grave 2710). Tubular and other carnelian beads are quite common at Gonur, see Sarianidi 2007 115–117 with fig. 221.

[50] Francfort/Rossi-Osmida 2002, 129–130.

[51] Compare Francfort/Rossi-Osmida 2002, 126 no. 10 and Hakemi 1997, 630 nos. Gf. 1.2.4.

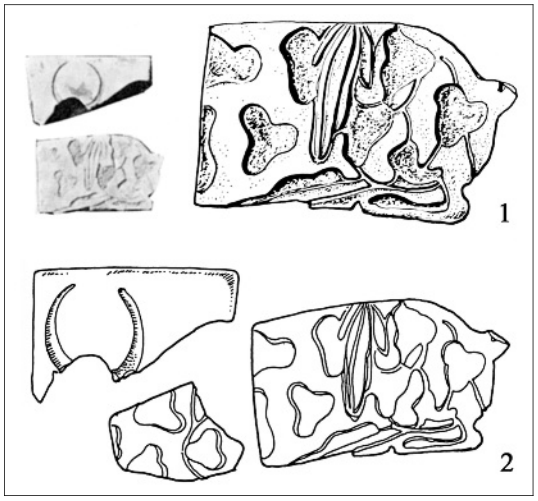

Fig. 5
The Dashly alabaster vessel fragments. (1 after Sarianidi 1979, fig. 5,17; 2 from Ardeleanu-Jansen 1989, fig. 20)

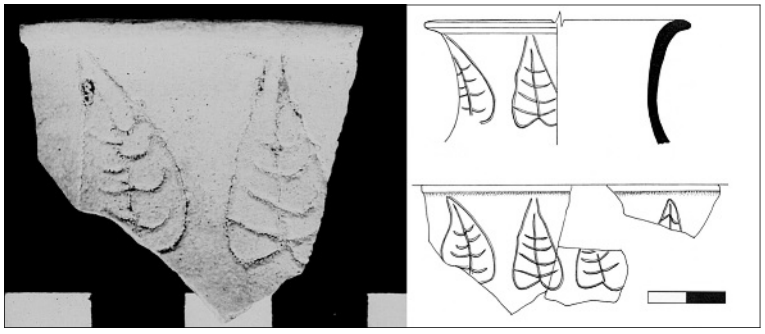

Fig. 6
Faience vessel fragment from Dzharkutan [author's original]

quity, and there appears to be no relationship between the deposit and the late radiocarbon date taken from another pit along the north wall. The best date for the entire assemblage is supplied by two silver conical bowls which find ready parallels in Altyn 2–0 (late Namazga V). Carnelian beads appear elsewhere and in later contexts as well, but only one of them, from Rannij Tulkhar, may be an etched one.[52] Their temporal distribution (last third of the 3rd and first quarter of the 2nd Millennium BC) roughly agrees with the ED III – Isin/Larsa date of etched carnelian beads in Mesopotamia.[53]

Other finds

From the Southern Bactrian site of Dashly 3 comes the remarkable find of an alabaster mosaic with inlays **(Fig. 5)**:[54] the almost circular curvature of the horns and the trefoil-shaped floral elements recall Indus seal designs and particularly the robe of the Mohenjo-Daro 'priest-king' (DK 1909).[55] The mosaic is attributed to the oldest building phase of the Dashly 3 'fortress' and may therefore date back to the MBA (late 3rd Millennium BC). The pottery of the main building phase and the burials dug into the abandoned buildings would certainly provide a *terminus ante quem* within the first quarter of the second Millennium BC. Similar work has now been discovered from Gonur: Burial 3220 contained in its Chamber 1 a gypsum wall decoration with heart-shaped inlays, which may likewise be compared to Indus motifs,[56] as can the inlays from grave 3225.[57] These burials probably date to late Namazga V or early Namazga VI. More strongly reminiscent of South Asian pipal leaf decoration are a number of softstone bowls with a leaf ornament from Gonur.[58] Floral designs which should also be of Indus Civilization or Indo-Iranian inspiration,[59] if not manufacture, have also come to light on a faience vessel from Dzharkutan, Tepe IV, Trench 9 **(Fig. 6)**. As in previous instances at this site, the fragments were associated with early LB I pottery (lots 97.4.9.7 and 00.4.9.4).

The occurrence of other faience objects, among them the famed Indus-type bangles,[60] more directly raises the point of import vs. technology transfer. For the time being, the typological similarities and the small number of bracelets from Gonur vis-à-vis the large number of South Asian ones[61] would leave an import of the finished goods the more likely alternative.

Of potentially much greater importance is the fragment of a kneeling figure from Gonur North, Royal Sanctuary Room 132, which Sarianidi likens to the 'priest king' from Mohenjo Daro.[62] His conclusion that the comparatively numerous representations of semi-crouching figures in the Indus Civilization 'reflect [the] presence of Bactrians in Mohenjo-Daro' is, however, not borne out by the

[52] Мандельштам 1968, pl. 20,3 bottom.
[53] See the literature quoted in note 47, above.
[54] Сарианиди 1977, 43 fig. 19; Sarianidi 1986, 158–159.
[55] Ardeleanu-Jansen 1989, 207; Sarianidi 1986, 159–160.
[56] Sarianidi 2005, fig. 91; 251; Sarianidi 2009, 218 fig. 131. This ornament joins a group assembled already by Possehl 1996, 170 fig. 24, with parallels in Tell Asmar and Mohenjo Daro.
[57] Sarianidi 2009, 219; 224 fig. 134; 137.
[58] Sarianidi 1998b, fig. 17,6.9; 2005, 274 fig. 128.
[59] Most true pipal leaves have an in-turning base, but there are also examples more closely resembling the form of the Dzarkutan leaves, for example Mackay 1943, pl. 32,1–1a (Chanhu Daro); Mackay 1938, pl. 68,13 (Mohenjo Daro). A seal from Mohenjo Daro offers another close parallel (Marshall 1931, pl. 112,387); see also Possehl 1996, 181, fig. 31.
[60] Sarianidi 2007, 95 fig. 129 (grave 1799); 152 fig. 36 (grave 2900); Vidale 2007, 248 fig. 7 (grave 2700).
[61] Marshall 1931, 529–531 pl. 134,1.7; 157,22.48; Mackay 1938, 535 pl. 140,57–58; Vats 1940, 448–449 pl. 138,10–17.23; for metal types see Yule 1985; for the production process Vidale 2000.
[62] Sarianidi 2005, 121–123 fig. 30. For the findspot see the plan given in Sarianidi 2005, 113.

evidence, as the occurrence of persons in this posture is a typical feature of 3rd Millennium south-eastern Iranian art.[63]

Further examples of contact finds listed by Possehl,[64] for example daggers without a midrib, are not specific to the Indus region, but were spread widely in Iran and Central Asia during the 3rd Millennium BC.

Central Asian imports in the Indus Civilization

The presence of Central Asian metal objects (compartmented seals, weapons, pins) at Indus sites is generally accepted,[65] and it need only be stressed here that they predominantly derive from a late phase within the Mature Indus period. The possibility exists, therefore, that they reached the subcontinent not as a result of direct contacts between Bactria and the Indus region, but in the context of more localized exchange, as a side-effect of the Namazga expansion into Kerman and Baluchistan in the early 2nd Millennium BC.[66]

This author would suggest adding cylinder seals found at Indus sites, especially those from Mohenjo Daro, to the number of Central Asian imports, since iconographically and typologically (some of them are stamp-cylinders) the links with Central Asia are much closer than those with Mesopotamia.[67] Also, with the exception of some toiletry articles,[68] no true Mesopotamian imports (as opposed to Mesopotamian-related artefacts) are attested, while Bactrian ones are relatively abundant.

The Gulf trade

When discussing the westerly trade of the Indus Civilization, which is comparatively well-researched, one is struck by a stark imbalance between the two regions: in Mesopotamia and the Gulf, Indus-related artefacts appear in some number, but hardly any Near Eastern objects found their way to South Asia, even though the textual evidence is strongly suggestive of major trade links between the two regions.[69] We are surely dealing with an example of perishable and therefore archaeologically invisible trade goods. Considering the often-cited examples of Central Asian objects in the Gulf, we have to concede that there are fewer of them than usually thought: the pedestalled cups normally referred to in this context may equally well be inspired by Iranian prototypes,[70] as the recent finds from Jiroft have shown,[71] which would make them the result of a more local interaction.[72] A somewhat better case was presented in the example of an (ivory or bone) comb from Tell Abraq bearing an ornamentation that suggests a Central Asian provenience.[73]

Mesopotamia and Central Asia[74]

The main 3rd Millennium BC import into Mesopotamia of clearly Central Asian derivation is lapis-lazuli, which, on current knowledge, came exclusively from Badakhshan. The Mesopotamian evidence is relatively uneven, with some 74% (by numbers, not weight) of all pre-Iron Age lapis found in the Near East deriving from the excavation of the Royal Cemetery at Ur.[75] Even though the archaeological picture can hardly be called balanced, textual references do suggest a substantial and continuous influx of this raw material from the east.[76]

Tin is another commodity thought to have been traded to Mesopotamia from either Central Asia or Afghanistan in the later 3rd and early 2nd Millennium BC. Although the Zerafshan deposits in Central Asia were mined by the mid-2nd Millennium, they are an unlikely source area of the Mesopotamian tin. Tin-bronze was not used in 3rd Millennium

63 Winkelmann 1994.

64 Possehl 2002a.

65 During-Caspers 1994a; Franke-Vogt 1995; Possehl 2002a; Ratnagar 2004.

66 Lamberg-Karlovsky/Hiebert 1992; Kohl/Pottier 1992. The recent discovery of sealings from Gilund (Rajasthan) with compartmented seals of Central Asian or Iranian type, but a complete lack of Indus designs may prove a very instructive case for the diffusion of seal types within the 'localization era' Indus sphere (see Shinde et al. 2005).

67 Possehl 1996, 176–177; Collon 1996, fig. 5–7; Mackay 1938, pl. 96,488; pl. 89,376; see also During-Caspers 1994b. The seal from Kalibangan does not belong to this group. Connections with Bactria become even clearer when considering the pieces from Akra and Sibri (see the comparisons drawn in Collon 1996 and Maxwell-Hyslop/Mallowan 1994).

68 Possehl 2002a, 227–228 fig. 12,28.

69 Tosi 1987; Heimpel 1987; Michalowski 1988; Possehl 1996; Vogt 1996; Méry 2000; Possehl 2002b; Ratnagar 2004; Weeks 2004.

70 During-Caspers 1994a; During-Caspers 1994c.

71 Majidzadeh 2003.

72 For further evidence of contacts across the Gulf see Potts 2003.

73 Potts 1993.

74 Shortly before this paper was going into print, two articles have appeared linking the MBA/LBA cultures of Central Asia with territories mentioned in Mesopotamian texts, namely Šimaški (Potts 2008) and Marhaši (Francfort/Tremblay 2010). Especially the latter contains a very detailed discussion of the archaeological data which necessarily covers much of the same ground as this paper. These identifications, if sustained, would have important implications for our topic, but see Steinkeller (2006; 2007; in print) for a different view of the Bronze Age geography of Iran. My sincere thanks goes to P. Steinkeller for making the latter publication available to me in manuscript form.

75 Casanova 2000.

76 Herrmann 1968; Röllig 1983; Casanova 1994; Moorey 1994; Steible/Yildiz 2000; Michel 2001.

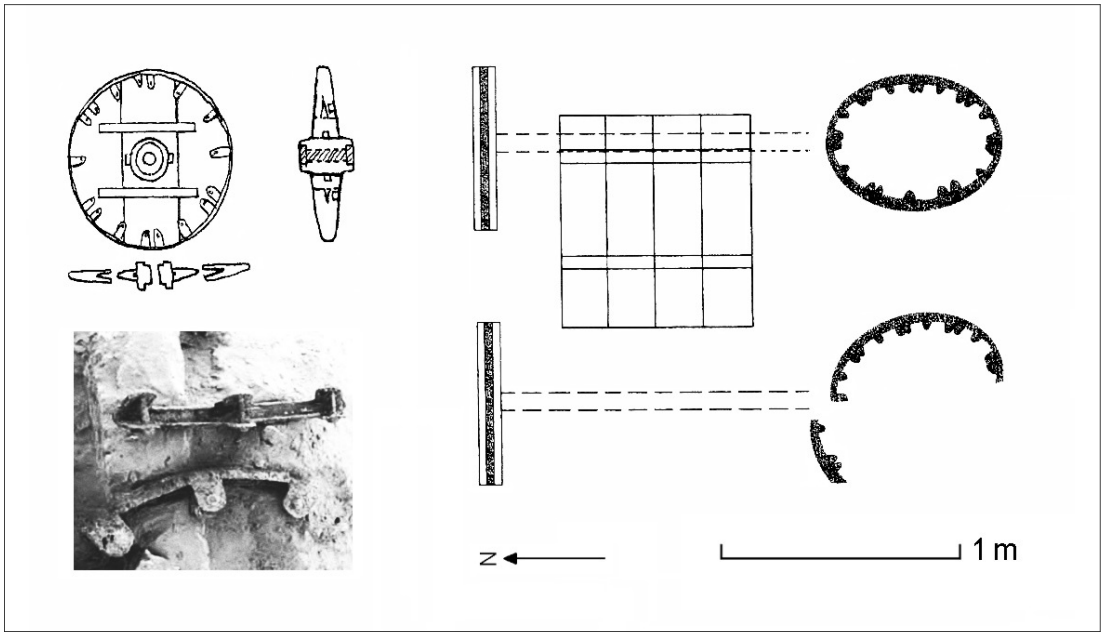

Fig. 7
Segmented tyres from Gonur (after Sarianidi 2004, fig. 17,41–42)

Central Asia, nor did sites along the possible trade routes through northern Iran make use of the material. Lastly, the highest dates for the Zerafshan mines are still too late for connecting them with the Old Assyrian *karum* trade. Instead, Eastern Iranian and Afghan deposits should be considered.[77]

Moving beyond raw materials, a number of chlorite objects discovered in Near Eastern sites and a single compartmented seal from Mari might conceivably be of Central Asian provenience, but neither class of objects must necessarily have come from further than Eastern Iran.[78] Of probable Central Asian provenience are small limestone birds of prey with outstretched wings, originally worn as central pieces of necklaces, which have been found from Southern Uzbekistan (Tilla Bulak) through Turkmenistan (Gonur), Iran (Susa) all the way to Western Syria (Ebla) within a very narrow timeframe.[79]

All these incidences are of a coincidental nature, much as the isolated Akkadian seal from Gonur (see below). But it is the intriguing new finds from Sarianidi's excavations at Gonur that go quite some way in changing our picture of Mesopotamian-Central Asian relations, by linking the technological traditions of Margiana and Mesopotamia.

Metal segmented tyres

Several high-status burials have been excavated in Gonur in the area called the 'Royal Necropolis', at least three of which preserved remains of carts.[80] For the first time this links Southern Central Asia with a custom of funerary display widely known from the Levant to the Eurasian steppes, but extremely rare in each of these regions, and points to some ideological common ground with respect to the post-mortem treatment of elites, ground not shared, for example, by the Indus region populations.[81] But comparisons go much further than that, because the Gonur carts display a particular type of wheel construction, where the U-shaped tyre-segments are folded around the wheel rim and secured with three rivets through elongated clamps extending towards the centre of the wheel **(Fig. 7)**.[82] In Burial 3200 (the 'House of the Dead') four such wooden wheels were discovered, reinforced on their surface by tyres made up of six segments each.[83] The diameter of the wheels was ca. 75 cm, and the axle width approximately 110 cm.[84] Asso-

[77] Kaniuth 2007.

[78] Beyer 1989 compares the Mari piece (found in the 'palais présargonique' in an Akkadian context) with compartmented seals from Shahr-i Sokhta III, but similar examples are known from Margiana (Baghestani 1997, 257–262).

[79] See the discussion in Kaniuth, Tilla Bulak 2009 – Vorbericht zur dritten Kampagne (this volume).

[80] Sarianidi 2004, 139–140; Sarianidi 2005, 204–259. Another, partial, chariot burial from Togolok 1 may be alluded to in Сарианиди 1990, the report of a rich, but robbed burial (Grave 20). The author describes the burial of two oxen and a 'driver' next to the main interment (of a woman?). A miniature column and an animal frieze were also found in this grave.

[81] Kenoyer 2004.

[82] These tyres were first assembled by Littauer/Crouwel 1989.

[83] Sarianidi 2004, 139; Sarianidi 2009, 197–200.

[84] According to Sarianidi 2004, 139; reconstruction drawing in fig. 42; plan of the burial in Sarianidi 2009, 151 fig. 63.

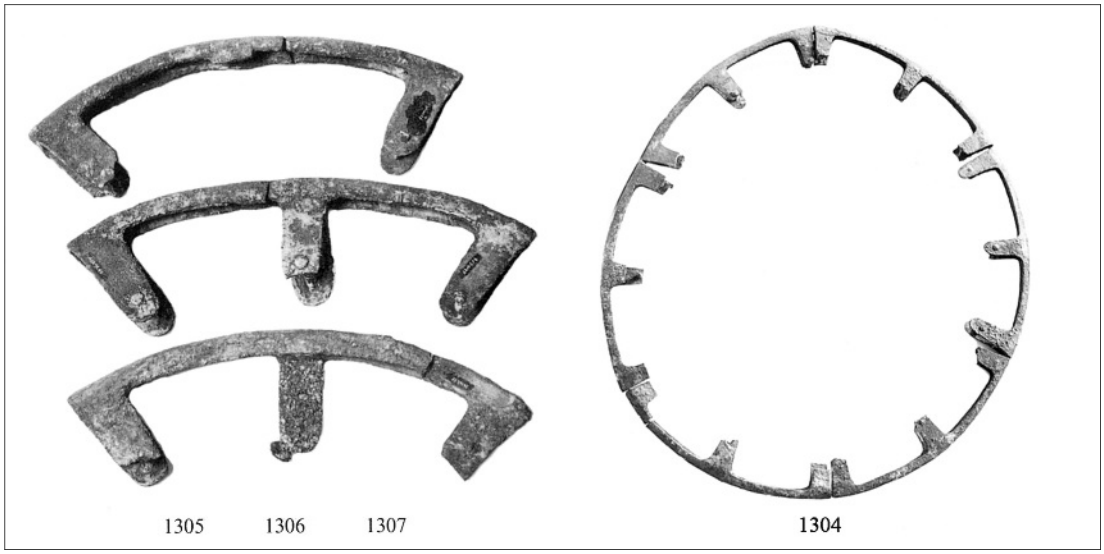

Fig. 8
Segmented tyres from Susa (after Tallon 1987, 336–336 nos. 1304–1307)

ciated skeletons of a horse and a camel may be the remains of draft animals. Although the grave was robbed, the recovered grave furnishings leave no doubt about the original importance of the inhumation. The second grave, no. 3225, shows four wheels lying on their side. The structure of the wheels, with six-segmented tyres, is clearly seen in the published photograph, as is the position of a skeleton lying partially above one of the wheels.[85] The diameter of the wheels was 90 cm, and the wheels themselves were constructed of three wooden planks each, confirming the assumption that this type of tyre reinforcement is only useful for disk or cross-bar wheels and precludes the use of spokes. Apart from the remains of ten individuals, no finds were made in this grave. Of the cart from Burial 3240, only the wooden parts remained, but a green residue indicated where the (subsequently plundered?) bronze tyres had once been. No other finds were made in this burial.

As to the date of the Gonur cart burials, not much information can yet be extracted from the preliminary publications. All pottery and metal vessels published belong to other graves (nos. 3210 and 3220 especially), and would indicate a date in the late Namazga V or the very early Namazga VI period.[86] The prestige goods are of little value in assigning a date, since they are much more likely to be heirlooms. Also, Sarianidi explicitly considers the possibility of multiple interments, at least for Grave 3200, which further complicates the dating issue.[87]

The Mesopotamian parallels for this type of wheel construction are numerous **(Fig. 8–10)**, and the resemblance is so close, that they are undoubtedly part of one and the same technological tradition. Several burials containing vehicles or parts thereof are known from Susa.[88] From the area of the 'Palais Achéménide' come 6 segments,[89] each 49–50 cm long, which have been reconstructed to form a single wheel with a diameter of 97 cm. The pieces are, strictly speaking, without reliable archaeological context, but Mecquenem describes them as found 'close to a structure of Attahushu'.[90] Analyses showed contents of 1.35–1.85 % tin, and 0.6–1.1 % arsenic.[91] In Burial A 89 of the Donjon area, a grave with some metal vessels and weapons, amongst which was an 'Attahushu-axe',[92] lay 12 or 13 such segments.[93] They are 46–50 cm long

[85] Sarianidi 2005, 252; Sarianidi 2009, 320 fig. 180.

[86] See Sarianidi 2005, figs. 89; 94; 98. This latter silver vessel has very good analogies in Hissar IIIC (cf. Schmidt 1937, H2773, fig. 126 pl. 60), indicating that it was produced sometime around 2000 BC.

[87] Sarianidi 2004, 138.

[88] The 'early 2nd-Millennium BC' dates given by Tallon (1987, 301–306) supersede the '23rd Century' ones given in the original publications (Mecquenem 1922; Mecquenem 1943).

[89] Louvre Sb 6829, published in Tallon 1987, 301–306 no. 1304. Original publication in Mecquenem 1922, 137 fig. 14; also Littauer/Crouwel 1989, 111, nos. A1–6, pl. Ib.

[90] For Attahushu, a date in the late 20th/early 19th Century BCE is now widely accepted (Vallat 1996; Potts 1999).

[91] Malfoy/Menu 1987, 127.

[92] For Attahushu-axes see Calmeyer 1969, 46–48 ('Old Babylonian'); Amiet 1976; Tallon 1987, 82–88: Susa B VI–V (20th/19th Century BCE) with a possible extension into A XV (18th Century BCE).

[93] Four pieces in the Muse-ye Iran Bastan, Teheran and Louvre Sb 14672–14679 (published in Tallon 1987, 302–306 nos. 1305–1307, without depicting the fragmentary elements Sb 14672-6 and another unnumbered piece in the Louvre, which would bring the overall count to 13); original publication by Mecquenem 1943, 89–90 fig. 74,2–3; see also Littauer/Crouwel 1989, 111 nos. B1–12 pl. Ia.

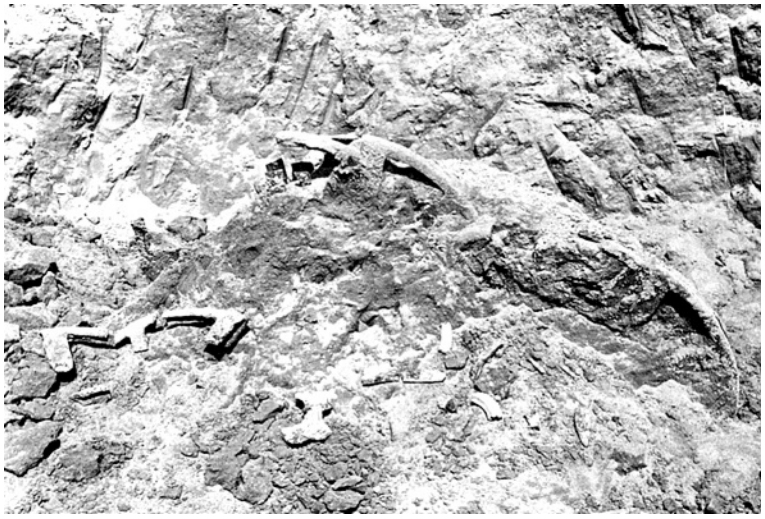

Fig. 9
Susa Grave A89 (after Tallon 1987, fig. 45). Note the Attahushu-type axe in the foreground centre

and are reconstructed to form wheels with diameters of 67 and 70 cm, each tyre being made up of four segments.[94] One segment (Sb 14762) was found to contain 5.14 % tin.[95] Although the dating of the wheels depends entirely on the association with the aforementioned axe (shown in **Fig. 9**), it agrees well with our other evidence.

Below the oldest datable level of the Assur temple cella in Assur, a hoard of copper objects (the 'Kupferfund Ass. 16317') was discovered in a ceramic vessel buried in an ashy layer in 'prehistoric strata'. This assemblage, possibly a cache of disused temple inventory, included three fragmentary tyre segments **(Fig. 10,143–145)**.[96] According to Assyrian tradition, the first temple for the god Assur was built under Ushpia (late 21st Century BC), but architectural remains of the temple were found to date back only to Irishum I. (ca. 1974–1935 BC).[97] This would indicate a mid-20th Century BC *terminus ante quem* for the 'prehistoric strata', which are furthermore separated from the Irishum I construction by a putative 'Schicht E'. Accordingly, a date for the deposition towards the end of the 3rd Millennium BC has been widely accepted.[98] X-ray fluorescence analysis showed that the tyres were made of pure copper with 0.35–0.75 % of arsenic.[99]

A further tyre segment from Mesopotamia, now in the Iraq Museum, comes from the YW sounding in Kish **(Fig. 10, 654)**.[100] The piece is fragmentary, but its original length must have been close to 54 cm (assuming that the middle clamp was placed symmetrically, as all others, with the exception of Sb 14678, are). It was made of pure (99 %) copper.[101] Since nothing is known about the context of the Kish tyre, it can only be dated through analogy with the other pieces.

In the Kabul bazaar, M.-H. Pottier noted 14 identical tyre segments measuring some 40 cm length each, reconstructing wheels of 80–85 cm diameter made up of seven segments **(Fig. 11, left)**.[102] No analyses have been run on these pieces. Also without archaeological context are five segments that were acquired in the 1960's in Teheran **(Fig. 11, centre and right)**, and which, it has been suggested, come from de Morgan's excavations in Susa.[103] They apparently belong to at least two sets, with lengths of 48–49 (2 pieces), 51 and 55 cm. The fifth is fragmentary, but must belong to the larger variant due to the length of its clamps. The reconstructed wheel diameters are 92 and 102 cm respectively. Chemically, the two analyzed tyres are tin-bronzes (Sn 6–8 %).[104] In their discussion of the entire group, Littauer and Crouwel were inclined to doubt the purported Bactrian provenience of the Kabul segments, suggesting that these might also ultimately have derived from Western Iran, an unnecessarily cautious position now that the new finds from Gonur put Bactria practically within the archaeologically attested distribution range of the segmented tyres. The conclusions reached by Littauer and Crouwel with respect to the developmental sequence of Near Eastern wheel types are, however, valid and to a certain degree supported by the information now available from Central Asia.

Accordingly, the initial appearance of cart burials in Mesopotamia in the later Early Dynastic period is marked through the finds in the Royal Cemetery of Ur[105] and the Susa and Kish ceme-

94 Tallon 1987, 305, contrary to Mecquenem's reconstruction.
95 Malfoy/Menu 1987, 128.
96 Ass. 16317, e.f.s (now Vorderasiatisches Museum Berlin, VA 5020, 5024, 5027): Andrae/Haller 1955, 11–12, pl. 26, f and pl. 27, e.s; Littauer/Crouwel 1989, D1–3, fig. 2, right; Müller-Karpe 2004, 9, pl. 12,143–145.
97 Veenhof 2003.
98 'Ur III period' in Müller-Karpe 2004, 9. A supporting argument for the date was put forward by Braun-Holzinger 1984, 14–15, nos. 43–44, who showed that the bronze statues inside the hoard were also of Neo-Sumerian (as opposed to Early Dynastic – Andrae/Haller 1955, 12) date, suggesting a relatively narrow (21st Century) timeframe for the entire deposit.
99 Lutz 2004, 112.
100 Excavation number K.817 (Iraq Museum number IM 18814); Müller-Karpe 2004, 29 no. 654.
101 Lutz 2004, 119.
102 Pottier 1984, 49 no. 326 fig. 44 pl. 44; Littauer/Crouwel 1989, E1–14.
103 Littauer/Crouwel 1989, C1–5, fig. 1.
104 Littauer/Crouwel 1989, Appendix II. A bolt still inside the rivet-hole was found to be of pure copper.
105 Woolley 1934; Moorey 1977; Pollock 1991; Zettler/Horne 1998.

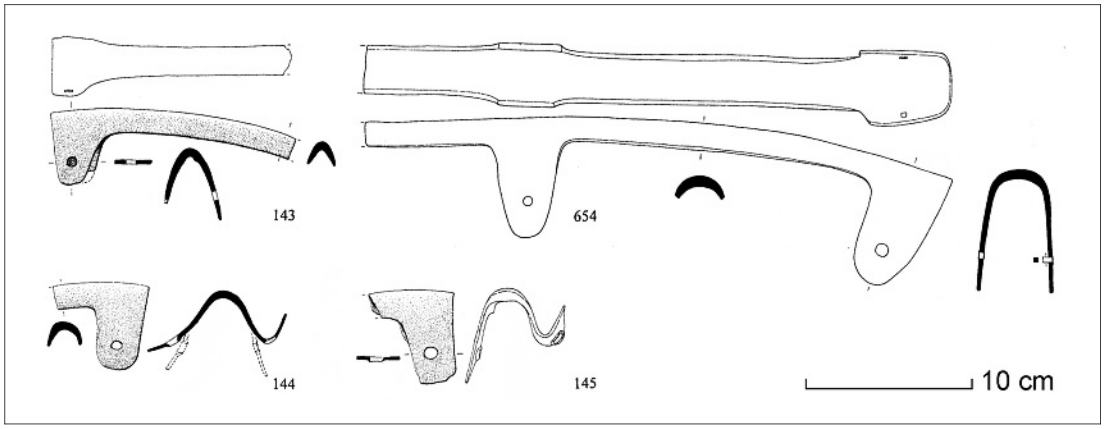

Fig. 10
Tyre fragments from Assur and Kish (after Müller-Karpe 2004, pl. 12,39)

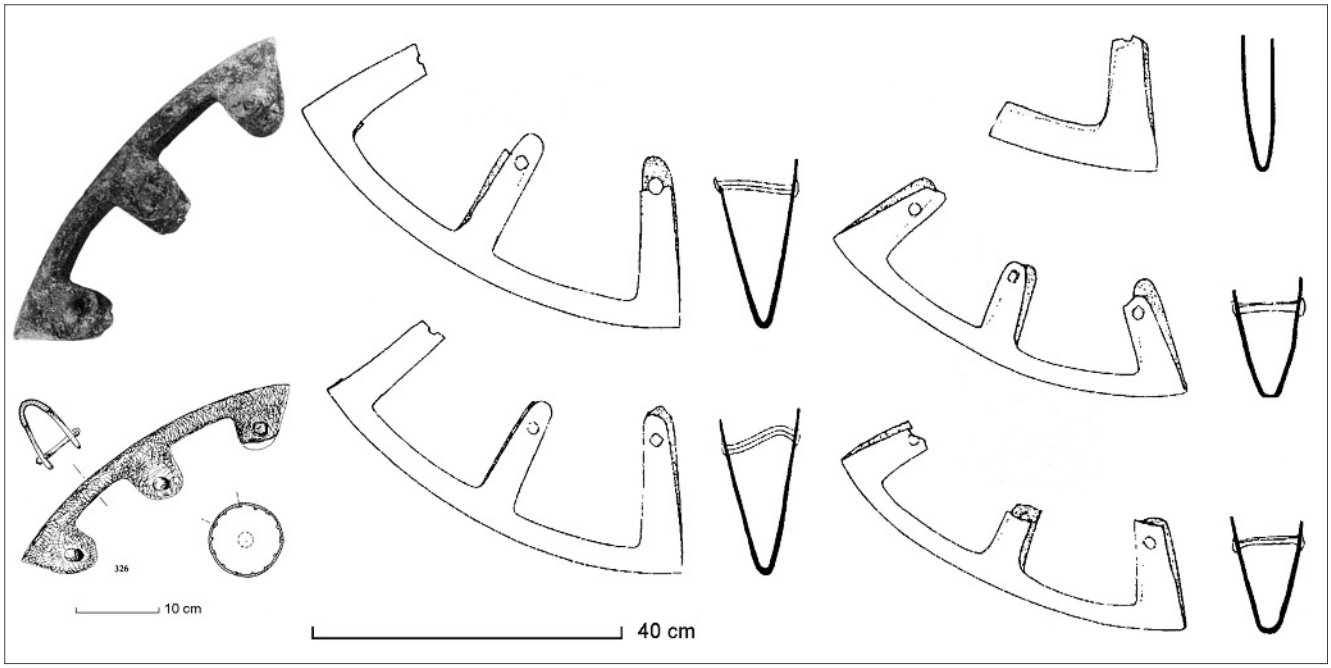

Fig. 11
Segmented tyres from the bazaars in Kabul (left; after Pottier 1984, pl. 44,326) and Tehran (centre and right; after Littauer/Crouwel 1989, figs. 1–2 and pls. I–II)

teries.[106] These mid 3rd Millennium carts are characterized by a different construction of the wheel, with nails driven through the thin (leather or metal) tyres for additional strength. In Neo-Sumerian times, segmented tyres appear: Assur and possibly Susa are the earliest examples, with a fragmentary stela of Gudea showing a transition between both types of tyre construction, the two bolted segments being additionally nailed.[107] The Susa wheels may theoretically be dated as late as the earlier part of the Sukkalmah period (19th–18th Centuries BC), while the Kabul pieces should fall into the time bracket of Namazga V to VI (early), or 2300–1700 BC.[108] A precise dating of the Gonur wheels – either through the associated ceramic finds, radiocarbon or dendrochronology – is therefore of prime importance for a discussion of the origin and subsequent spread of this technological innovation.

No connections with the cart burials of the steppe cultures (Sintashta/Petrovka, around 2000 BC) are apparent at this time. In the Ural region, wheel

[106] Three graves with chariot burials were identified by Watelin 1934, 30–34. Moorey (1978, 104–110) cites four more possible 'cart burials'; all date to ED II/IIIa. The best-preserved 'chariot' was found in grave Y-237. It has a wheel diameter of 50 cm, and an axle width of 90 cm.

[107] Littauer/Crouwel 1989, 114 fig. 3; Börker-Klähn 1982, no. 45a.

[108] This is the most reasonable timeframe for the decontextualized Bactrian bronzes. For Bactrian metalwork see Pottier 1984.

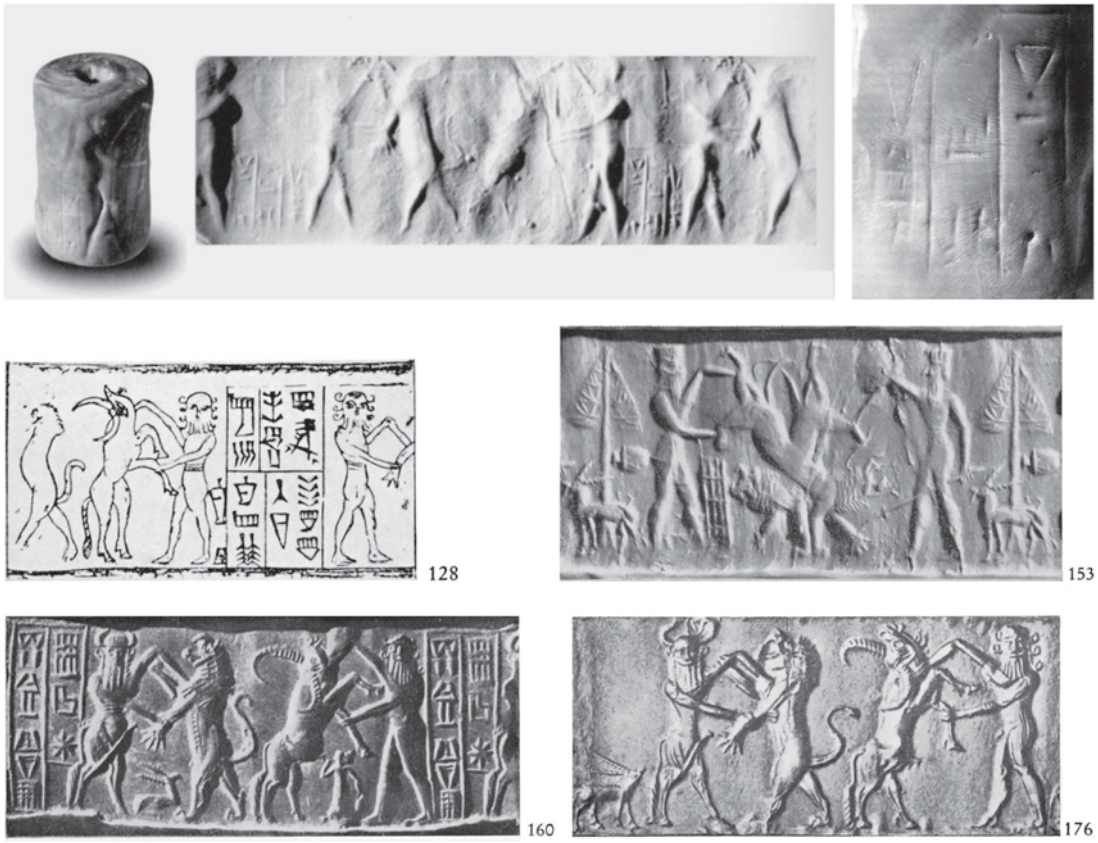

Fig. 12
The Old Akkadian seal from Gonur (top row; after Sarianidi 2002, p. 326) and comparisons (centre and bottom rows; Boehmer 1965, pls. 12; 14–16)

construction moved from disk to spoked types without the intermediate step of segmented tyres.[109] This next advance in vehicle technology, the spoked wheel, which prohibits the use of segmented tyres, reached the Near East along a different route, possibly through the Caucasus, since the first spokes turn up in 19th–18th Century Anatolia (seals of Kültepe Karum II-period,[110] and a model from Acemhöyük III[111]). The seal from Tepe Hissar showing a two-wheeled chariot is not dated well enough to argue for a 3rd Millennium use of spoked wheels in Northern Iran,[112] and in Syria and the Mesopotamian lowlands they appear more regularly on seals from the 18th Century BC onwards, becoming widespread in the Levant only during MB III/IIC (17th Century BC).[113] The Indus Civilization vehicle technology does not take part in this particular development.[114]

Glyptic art

An Old Akkadian cylinder seal was discovered in the Gonur necropolis in 2001 **(Fig. 12, top)**.[115] The inscription is quite worn, but the composition is mostly intact: it consists of a contest scene with two pairs, each confronting a human with a wild animal. On the left, the hero fights a lion (with its claws and upturned tail), on the right a bull (the faint lines of the horns are just visible and the ani-

[109] Генинг et al. 1992; Anthony/Vinogradov 1995; Epimachov/Korjakova 2004.

[110] Özgüc 1965, nos. 9 and 24. Both cases are doubtful owing to their lack of detail, while Porada 1948, no. 893e, pl. 134n is dated to the 'Provincial Babylonian' group on stylistic grounds only.

[111] Littauer/Crouwel 1986, 395–398.

[112] Schmidt 1937, 199 fig. 118; the seal, H.892, was discovered "...with a group of burials of presumably Hissar IIIB origin. No alabaster vessels of Hissar IIIC were found", in other words no definite dating criteria can be put forward.

[113] For references and illustrations see Littauer/Crouwel 1979, 50–55; earlier Levantine seals with chariots are listed by Nagel/Eder 1992; see also Moorey 1986.

[114] Kenoyer 2004.

[115] Сарианиди 2001, pl. 10,7; Sarianidi 2002, 326–334; Sarianidi 2004, fig. 1. This seal has been referred to repeatedly since its initial publication, and most researchers correctly stress its Old Akkadian provenience (pace Salvatori 2008c, 114, who, for reasons unknown considers it to be in "Akkadian provincial style, presumably Iranian", a label fully appropriate when referring to the seal from 'Site 1220' published in Сарианиди 2001, fig. 8,2a–d; 8,3).

mal lacks an upturned tail). The human figures appear to be naked save for a belt, but their heads are difficult to make out. Since neither the hairdo of the classical hero with his side-locks nor the horns of the bull-man are clearly visible, we may be dealing with a rarer figure, the hero with the flat cap **(Fig. 12,153)**.

The best comparisons for the composition fall within the later part of the Akkadian empire (reigns of Manishtushu, Naramsin and Sharkalisharri – 23rd/22nd Centuries BC).[116] Of the two-columned inscription, only the second **(Fig. 12, top right)** preserves some traces. It gives the name of the seal owner as [(x).L]Ú-inim-g[i.(x)]/sagi/ìr.z[u] – "Lu(gal?)-inim-gi(-na?),[117] cupbearer,[118] his servant". The personal names Lugal-inim-gi-na, Lu-inim-gi-na and Lugal-inim-gi are attested in Old Akkadian and Neo-Sumerian (Ur III) times.[119] There is a single reference to a cupbearer, Lugal-inim-gi-na, of early Ur III date,[120] which would make a case for a recut inscription.[121] To be sure, there are no known impressions made with our seal, enabling us to identify 'our' Lugal-inim-gi-na beyond any shadow of a doubt.[122] Unfortunately, the first column of the inscription is practically erased, so we miss our best dating criterion, the mention of a royal name.

Again, no associated finds are known, and we cannot determine how much time elapsed before the seal was deposited in a grave in Gonur. Its condition suggests, however, that it had been used (or worn) for some time before burial, be it in the Near East or in Margiana. The likelihood that it reached Central Asia via the Indus Civilization is minimal.[123]

To assess the wider implications of this find, it will be worthwhile to review the evidence for sealing, i.e. for MBA/LBA administrative practices in Central Asia. Among the predominant stamp seals, the most distinctive is the compartmented type, which has evolved there and in Eastern Iran since the Early Bronze Age. Ultimately derived from Mesopotamian prototypes are cylinder and stamp cylinder designs, but again these were probably introduced via Eastern Iran.[124] Since Sarianidi's monumental publication of Central Asian Seals,[125] we have a good idea about the range of forms and styles. Out of 1802 entries in his catalogue, 254 are from sites in Margiana, mostly from his own excavations at Gonur and Togolok. Of these, only 15 seals are of the (stamp-) cylinder type (compared to 213 stamps), but a disproportionately high number of them was used for sealing (5 cylinders as opposed to 15 stamps).[126] Among the (stamp-) cylinder seals, six were discovered on the surface of Taip 1 (a Namazga VI site),[127] three at Togolok 1 and 21 (both Namazga VI), four at Gonur South and two at Gonur North.[128] The majority of sealings come from Gonur South, a fortified settlement of the first quarter of the 2nd Millennium BC, and not from Gonur North, where earlier strata exist.[129] Another sealing of Late Bronze date was found on Tepe VI at Dzharkutan. The fragmentary impression was made with a cylinder seal bearing rows of snakes as surface decoration (**Fig. 13,1)**.[130] Similar designs, while rare, are known throughout the distribution range of Central Asian glyptic art, all the way to South Asia **(Fig. 13,3)**, while they appear to have been most popular in Bactria **(Fig. 13,2.4)**.

To sum up, seals from the Indus civilization, Iran and Mesopotamia found their way in small numbers into Southern Central Asia, where they turn up in the same high-status contexts of Namazga V (late) to Namazga VI (early) date as other exotic goods such as ivory objects and beads of semi-precious stone. As far as we know, none of these seals was used in administrative procedures. While a very prolific stamp seal industry had developed in Central Asia since the Early Bronze Age (Namazga IV),[131] local production of cylinder seals and instances of actual sealing are extremely rare and date late within the horizon dealt with here, possibly not before the beginning of the 2nd Millen-

116 Boehmer 1965. While similar designs were produced and reused into Ur III times (the so-called 'post-Akkadian A'-group of contest scenes, see Boehmer 1966, Collon 1982, Dittmann 1994), our piece would for its composition and proportions be at home in an Old Akkadian environment.

117 There is not much space for a GAL in front of the LÚ, and the same is true for the end of the line, so the final -na is purely conjectural.

118 Sagi (SÌLA.ŠU.DU_8) – cupbearer.

119 Limet 1968.

120 Levy/Artzi 1965,12 no. 72, obv. col. 1,3 and 6.

121 P. Steinkeller kindly shared his impression, that the inscription was definitely Ur III.

122 Boehmer 1965; Edzard 1969.

123 The lack of Mesopotamian seals from Indus sites was noted above.

124 Here, the group of seals from Yahya and Shahdad springs to mind (compare Amiet 1986, 165–168 with Sarianidi 1998a, no. 1786 and Sarianidi 2005, 280–281 fig. 137).

125 Sarianidi 1998a.

126 Sarianidi 1998a, nos. 1745–1764.

127 Масимов 1981; Salvatori 2008b, 76 fig. 6,1.

128 At Gonur North, Sarianidi 1998a, no. 1778 is a surface find, while no. 1786 is an Iranian import (see note 111) and thus does not tell us much about local seal production and use. Note that Salvatori 2008a, 59 considers Gonur North to be exclusively Middle Bronze (Namazga V) in date.

129 Gonur South, Temenos (SW-quadrant): Rooms 207, 597. The sealings from Room 207 are on bullae and jar stoppers, securing mobile containers potentially brought from elsewhere.

130 Шайдуллаев et al. 2002, fig. 2. Comparisons for the distinct snake motif come from nearby Sapallitepe and Akra, a site in the Bannu basin, Pakistan.

131 Кирчо 1990 charts this early development of stamp seals throughout the Altyn Bronze Age levels.

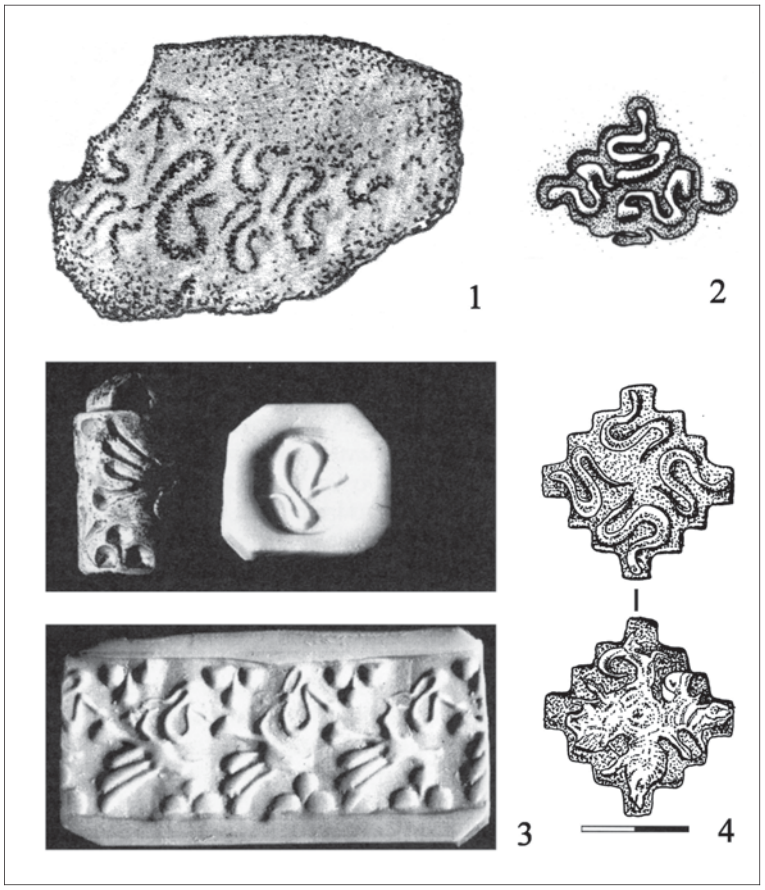

Fig. 13
Sealing from Dzarkutan (1 after Shajdullaev et al. 2002, fig. 2) and comparisons from 'Bactria' (2 after Baghestani 1998, no. 327) Akra (3 after Maxwell-Hyslop/Mallowan 1994, pl. I) and Sapalli Tepe (4 after Kaniuth 2006, 78 no. 33)

nium BC.[132] There is practically no evidence for a sealing practice contemporary with the Old Akkadian period and the small overall number of recovered sealings makes their use in public administration unlikely, suggesting a relevance on the household level instead.[133] While emulation may be the motivation behind the acquisition and prominent deposition of foreign seals, administrative practices were not introduced on any scale.

Lastly, another case of emulation is present in the form of a reclining stone duck with back-turned head.[134] Whether this is a local imitation of a duck-shaped weight[135] or an import from Mesopotamia or Elam will particularly depend on the weight of the piece. There certainly is no functional context apparent which would suggest the operation of a Near Eastern system of weights.

Concluding observations

During the second half of the 3rd Millennium BC, trade relations connected the regions from the Indus all the way to the Mediterranean, but the place of Central Asia within this network is difficult to assess and we cannot really go beyond stressing its proximity to the sources of a number of traded raw materials. The traffic in finished goods appears to have been negligible. All contact finds constitute isolated occurrences within a local environment and can therefore be understood most easily in the context of an irregular elite exchange based on central places, rather than as directional trade. The influx comprised both the import of exotic and, judging from their archaeological contexts, highly prized and prestigious objects (seals, semi-precious stones, possibly ivory) and an emulation of elite practices (in this case cart burial), coupled with the adoption of very specific manufacturing techniques (segmented tyres, cylinder seals). The caveats of Lamberg-Karlovsky,[136] who warned against over-interpreting such contact finds, are thus still valid. While the presence of imports is certainly not accidental, it is in no case demonstrably connected with the introduction of new 'cultural subsystems' (administrative techniques, social structures), let alone full-scale migrations. Nonetheless, the Gonur finds change our perception of Middle to Late Bronze Age relations as they point to an active network on the Iranian highlands capable of transmitting materials and concepts between Mesopotamia (or Susiana) and Southern Central Asia throughout the second half of the 3rd and lasting into the early 2nd Millennium BC. This qualifies Potts' suggestion that Mesopotamia was entirely cut off from the Iranian exchange system after ED III, and that contacts basically took the form of booty-taking forays into the uplands, while strengthening his assertion that gift exchange, tribute and other forms of relation continued to play a role.[137] In the early 2nd Millennium BC regionalizing tendencies are visible, contempor-

[132] Masimov/Salvatori (2008, 107), on the other hand, consider the impressions of both stamp and cylinder seals a relatively widespread artifact category in Margiana, citing impressions on pottery and the Gonur South evidence.

[133] All impressions from Margiana are on single containers, but none indicates bulk storage, as is the case, for example, in Shahr-e Sokhta. In both regions, seals are restricted to women's graves and their use for marking/sealing up household provisions ties in well with ethnographic reports on seals of the Oxus group (cited in Baghestani 1997, 152; similarly Кирчо 1990 who argues that sealings were used for securing personal possessions and family property).

[134] Sarianidi 2007, 119 fig. 226.

[135] Duck-shaped weights appear during the Old Akkadian period and reach their height of distribution in Ur III and Old Babylonian times. See Ascalone/Peyronel 2003 (weight systems in Iran, the Indus Culture and the Persian Gulf) and 2006 (Eblaite weights with a useful summary of the Mesopotamian evidence), both with further literature.

[136] Lamberg-Karlovsky 1986.

[137] Potts 1994, 279–286.

ary with the appearance of Eurasian steppe material (surface pottery and burial finds) in Southern Central Asia,[138] and of Namazga-related material in Baluchistan (which, in turn, is probably the reason behind the appearance of many Central Asian artefacts in the subcontinent). These may indeed be the results of population displacements, but whether they helped to sever the links that existed in the MBA or were a consequence of their termination must, for the time being, remain an open question.

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[138] For recent reviews of steppe/agricultural interaction see Shishlina/Hiebert 1998; Kohl 2002; Cattani 2008.

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Long distance imports in the Bronze Age of Southern Central Asia

The contribution reviews the external relations of Southern Central Asia in the Middle- and Late Bronze Age (late third and early second Millennium BC) through its contact finds with the Mesopotamian and Indus Civilizations. It is concluded, that interaction between these regions took the form of a continuous, elite-oriented exchange of exotic objects, concepts and technologies.

Дальний импорт на юге Средней Азии в эпоху бронзы

Статья посвящена внешним связям юга Средней Азии в эпоху средней и поздней бронзы (конец III – начало II тыс. до н.э.) на примере находок месопотамского и хараппского происхождения. Автор приходит к заключению, что взаимодействие между указанными регионами было постоянным, ориентированным на элиту общества обменом экзотическими предметами, концепциями и технологиями.