ANNALES ACADEMIÆ SCIENTIARUM FENNICÆ
HUMANIORA 386

Corpus of Indus Seals and Inscriptions

3.3. Indo-Iranian Borderlands

CORPUS OF INDUS SEALS AND INSCRIPTIONS

SUOMALAISEN TIEDEAKATEMIAN TOIMITUKSIA
ANNALES ACADEMIÆ SCIENTIARUM FENNICÆ
HUMANIORA 386

Corpus of Indus Seals and Inscriptions

Volume 3: New material, untraced objects, and collections outside India and Pakistan

Part 3: Indo-Iranian Borderlands (Eastern Iran, Turkmenistan, Tajikistan, Uzbekistan, Afghanistan)

edited by
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Cover photograph: A Harappan-type stamp seal from Altyn-depe, Turkmenistan, Alt-90 A (600%) (after V. M. Masson 1988, pl. 22, no. 1a). The seal inscription consists of two commonly occurring signs of the Indus script, yet forming a unique sequence not attested in South Asia.

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Preface

What is the purpose and scope of the *Corpus of Indus Seals and Inscriptions* (CISI)? Why should all the about 2350 non-Harappan seals, inscriptions and other objects from the "Indo-Iranian Borderlands" published in this volume appear in that series?

The Harappan/Indus Civilization (2600–1900 BCE) is one of the earliest urban cultures of the world, but in comparison to its counterparts in Mesopotamia and Egypt, little is known about its language, literature, religion, social structure, and many other things. It had a unique script of its own, and thousands of short inscriptions have survived, but the script vanished when the Indus Civilization collapsed. There is no such key as the Rosetta Stone, which opened up the secrets of the hieroglyphic writing. This does not mean that one cannot gain some understanding of the Indus script, but the problem is to be approached with proper methodical framework. The Indus script is most likely a logo-syllabic writing system like all the other earliest scripts, basically pictographic and using the rebus principle to express phonetic shapes of words. Starting from this hypothesis it has been possible to propose externally and internally cross-checked decipherment proposals for some two dozen signs and to identify the language underlying the script as Proto-Dravidian (Parpola 1994 – for the literature referred to in this preface, see the bibliography p. 530ff.).

A serious study of the Indus script requires access to all available material in good images. More than half of the Indus texts have been carved on small stone seals, which usually have some iconographic motif in addition to the text: normally there is a realistically depicted animal, but also for instance anthropomorphic figures probably representing divinities. Actually these small seals are our principal sources of Harappan art and religion. In this respect, even seals without script, also those having just geometric or other symbols, contain valuable information. The seals contribute to knowledge about Harappan administration, trade routes, crafts, and so on, by their find places, their material, and methods of manufacture. Another major inscriptional category consists of graffiti, texts incised on pottery, and also singly occurring "potter's marks", which are no real "texts", but convey some information and are a possible source for script signs.

CISI was created to collect and to publish, in high quality images and as completely as possible, all the seals and inscriptions associated with the Indus Civilization. Vol. 1: *Collections in India* (1987), was produced in collaboration with the Archaeological Survey of India (ASI), and vol. 2 (1991): *Collections in Pakistan*, in collaboration with the Department of Archaeology and Museums, Government of Pakistan.

A third volume (*New material, untraced objects, and collections outside India and Pakistan*) started being prepared in the 1990s. It was soon realised that a single book could not contain all the material that remained to be published. The sites of Mohenjo-daro and Harappa have produced the great majority of the known Indus seals and inscriptions, but many objects excavated in the 1920s and 1930s were not to be found in the museum collections published in CISI 1–2. Still, photographs of lost objects could be recovered by carefully sifting the photo archives of the ASI. Besides, much new material came from the fresh excavations of the Harappa Archaeological Research Project (1986–2007). Vol. 3 Part 1: *Supplement to Mohenjo-daro and Harappa*, was brought out in collaboration with the HARP directors J. M. Kenoyer and R. M. Meadow in 2010.

Seals and inscriptions from Chanhu-daro in Sindh, excavated by Ernest Mackay in 1935–36, were partly published in vol. 1; the remaining Chanhu-daro material, belonging to the Boston Museum of Fine Arts, was included in CISI 3.2. Another section supplementing vol. 1 concerned the site of Kalibangan in Rajasthan, excavated in 1960–69 under the direction of B. B. Lal. A further Indian section consisted of the numerous and until then mostly unpublished "Sorath Harappan" graffiti from Rojdi, excavated between 1957 and 1995 by the Gujarat State Department of Archaeology, partly in collaboration with Gregory L. Possehl's American team. The "Sorath Harappans" had come to Gujarat before the Indus Civilization and did not adopt the Indus script.

Vol. 1 was limited to Harappan material, save for the haphazardly added single seals from Maski, Prabhas Patan (Somnath), Mehi and Shahi-tump. In vol. 2 the scope of CISI was expanded to include systematically also seals and graffiti from Early, Pre-, and Post-Harappan sites in Northern Indus Valley and in Baluchistan. Particularly important for the prehistory of the Indus Civilization are the excavations carried out under the direction of Jean-François Jarrige in 1968–1974 at Pirak (J.-F. Jarrige & Santoni 1979) and in 1975–2002 at Mehrgarh, Nausharo and Sibri (C. Jarrige et al. 1995; J.-F. Jarrige, C. Jarrige & Quivron 2013). All these sites are situated near the strategic Bolan Pass that connects Baluchistan highlands and the Indus Valley. They have provided a continuous archaeological sequence from the Neolithic to Harappan times and (at Pirak) to the Iron Age. They form the backbone for understanding the development of the Neolithic and Chalcolithic villages of the highlands of western Pakistan and their expansion to the Indus Valley and beyond, which led to the birth of the Indus Civilization (Possehl 2002: 23–54). The seals from Mehrgarh, Nausharo and Sibri that had been published by that time were included in vol. 2, and the remaining material from these sites in vol. 3.2.

Also included in CISI 3.2 were seals excavated by Jean-Marie Casal in 1951–58 at Mundigak near Kandahar in southeastern Afghanistan (Casal 1961) and in 1962–65 at Nindowari in Pakistani Baluchistan (published with other Kulli culture material by J.-F. Jarrige, Quivron & C. Jarrige 2011). The iconography of the Kulli pottery has influenced the iconography of the Indus seals. From the end of the fourth millennium until to the middle of the third millennium, Mehrgarh evolved in close contact with the Helmand civilization of southern Afghanistan (Cortesi et al. 2008; Jarrige, Didier & Quivron 2011). This is reflected also in the great similarity of their seals (see below, *fig. 4*). The Helmand civilization extended from Mundigak along the Helmand river to the town of Shahr-i Sokhta just west of the border between Afghanistan and Iran. It was therefore natural to publish the seals of Mundigak in CISI 3.2. Shortly before vol. 3.2 went to press, I wanted to include in it also all the published seals from Shahr-i Sokhta. This proposal was welcomed by Massimo Vidale and Alessandra Lazzari, whom I asked for permission. They not only collaborated in the publication of Shahr-i Sokhta seals in CISI 3.2, but also promised to make available all the remaining, mostly unpublished, hundreds of seals and seal impressions in the archives of the Italian Archaeological Mission (MAI) that has excavated in Shahr-i Sokhta since 1967.

This promise has been fulfilled in the present volume. Alessandra Lazzari sent me the photographs and documentation data of all the remaining seals from Shahr-i Sokhta in the MAI archives under her care. Marta Ameri, who recently published an article on the "female administrators at Shahr-i Sokhta" (Ameri 2020/2022), photographed many previously undocumented reverse sides of seals from Shahr-i Sokhta; they too are published here. Massimo Vidale, Alessandra Lazzari and Marta Ameri have contributed to this volume a new introductory essay on the Shahr-i Sokhta material.

The seals and sealings from Ahar, Balathal and Gilund in Rajasthan do not represent the Indus Civilization, although the Ahar-Banas culture (partly earlier, partly contemporaneous to it) flourished very close to the Harappan area. The Ahar-Banas seals and seal impressions, included in CISI 3.2, have prototypes in seals of the "Middle Asian Interaction Sphere" (Ameri 2010). V. I. Sarianidi pointed out long ago that the Late Harappan Jhukar phase at Chanhu-daro (including its seals) has numerous parallels in the Bactria and Margiana Archaeological Complex (BMAC) alias Oxus Civilization (Sarianidi 1977: 150; 1986: 247; 1990: 91–93 with fig. 16). Indeed, Mehrgarh VIII, Sibri, and the elite grave of Quetta (rescue-excavated in 1985) have conclusively proved the expansion of BMAC people to the southern border of the Indus Valley in the last centuries of the third millennium (Jarrige 1991; Jarrige & Quivron 2008). At Mohenjo-Daro, the presence of BMAC people at this time is attested by compartmented bronze stamp-seals (Franke 2010) and by the impressions of BMAC seals on bifaced "passports" stamped on the other side with Indus seals (Parpola 2005), as well as by a BMAC-type shaft-hole axe-adze (Parpola 2010); BMAC seals

were found at Harappa as well. The first Indian Bronze Age vehicle burial excavated in 2018 at the Late Harappan graveyard of Sanauli near Delhi has shown that the BMAC people advanced further to the Indian subcontinent, founding there the "Copper Hoard" culture (Parpola 2020). The BMAC people have been suspected to be speakers of an Indo-Iranian (Aryan) language, but archaeology suggests that the Aryans came to the Oxus Civilization only in its post-urban phase and to South Asia only after BMAC people (Parpola 2022). The BMAC language appears to survive only in a number of loanwords taken over by the oldest surviving forms of Iranian and Indo-Aryan languages (Lubotsky 2001; 2010; 2020).

The term "Indo-Iranian Borderlands" has been used somewhat loosely for the highlands of western Pakistan and the neighbouring areas in Afghanistan, Uzbekistan, Tajikistan and China. It has been chosen as the title of this volume in a somewhat extended meaning to include also Eastern Iran (east of, and including Tepe-Yahya, Tall-i Iblis and Tepe Hissar) and Turkmenistan, as a near synonym for the "Middle Asian Interaction Sphere" as defined by G. L. Possehl (2002: 215-236; 2007), though this latter term includes also the Gulf region (which will be part of the final volume CISI 3.4). Only three Indus-type seals have been excavated in the far-off southern Turkmenistan, two at Altyn-depe (Alt-49 and Alt-90, the latter on the cover of this volume) and one at Gonur, along with Indus-type dice and other ivory objects (Frenez 2018). Impression of an Indus seal on a pottery sherd (TY-106) comes from Tepe Yahya at the southwestern corner of the Iranian Plateau. Few as they are, these seals nevertheless document the participation of the Indus Civilization in the trade and interaction between the different cultural partners of the "Middle Asian Interaction Sphere". The Harappan colony of Shortughai in northern Afghanistan near the lapis lazuli mines of Badakhshan further testifies to the role that the Indus people played in the important international lapis lazuli trade, which extended to Mesopotamia and Egypt.

Originally this volume was to include also the westernmost coastal and highland regions of Pakistan, traditionally a central part of the "Indo-Iranian Borderlands". The relevant section has long been ready for publication, including material from and introductory essays on Kech-Makran coast by Aurore Didier and Benjamin Mutin; and on Gomal Plain and Bannu Basin by K. D. Thomas, Farid Khan, J. R. Knox, J. C. Morris and C. A. Petrie. However, the book has grown to such an extent that it is not possible to print it as one volume without making a major cut. The Pakistani portion was chosen as most suitable for a transfer to the final volume, which will deal with the new finds from South Asia (especially from Dholavira in Kutch, Gujarat) and with West Asia including the Gulf region. We sincerely apologize to our colleagues for this additional delay in the publication of their work. The excavations at Gonur, the capital of Margiana in southern Turkmenistan, have so far produced around 400 seals, which were kindly promised for this volume by Nadezhda A. Dubova, the late Viktor I. Sarianidi's "right hand" and the present director of the Gonur digs. However, Dubova has been too busy to be able to fulfil her promise so far. Anyway, the Gonur seals would not have had room here, so their publication too is transferred to vol. 3.4. Among the Gonur material is a magnificent Indus seal excavated by V. I. Sarianidi in 2004. It bears the image of an elephant and an eight signs long inscription in the Indus script whose sign sequences are paralleled in the Indus Valley (Parpola 2006).

The Indo-Iranian Borderlands or the Middle Asian Interaction Sphere is important as the source of repeated eastward migrations that culminate in the evolution of the Indus Civilization. Reference has already been made to the close connection between Shahr-i Sokhta, Mundigak and Mehrgarh in 3000–2500 BCE. Some signs of the Indus script are clearly based on a pottery motif ('three-branched fig tree with a single stem') that occurs on Mundigak (period IV.1) beakers as well as Early to Late Harappan pottery (Parpola 1994: 235–236). Stuart Piggott (1950: 75) already suggested a historical connection between the Quetta culture of Pakistani Baluchistan and the early cultures of southern Turkmenistan; after Walter Fairservis' excavations in the Quetta Valley (1956), V. M. Masson (1960: 30–32 with fig. 12) could list close parallels between these cultures (*fig.1*). The seals compared by Masson are from Damb Sadaat (period III) in the Quetta Valley (Fairservis 1956: 229, fig. 23 b) and Kara-depe (Kara-14) of the Late Copper Age NMG III period (c. 3150–2700 BCE).

In 2011 Akinori Uesugi clearly demonstrated that seals of western origin were introduced into the Early Harappan and Harappan cultures. At my request, Uesugi kindly sent two of his illustrations (2011: 366, fig. 4 & 365, fig. 3) for publication here, the former in a slightly modified form (*figs. 2* and *4*, the latter placed at the end of this preface).

One seal type to which Uesugi (2011: 370–371) pays particular attention is that of square, circular and quatrefoil shapes having the design of concentric circles, often one placed in each of the quadrants plus/minus a fifth in the

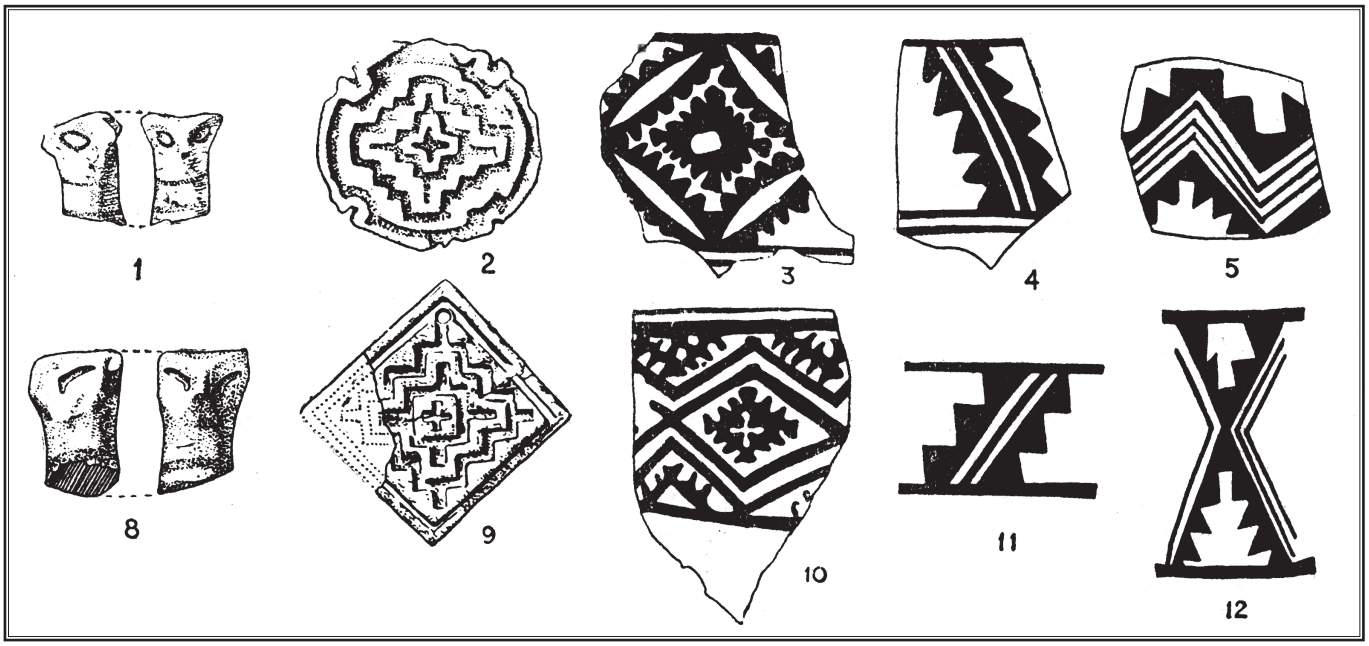

Fig. 1. Parallels in figurines, seals and painted pottery between the Quetta culture of Pakistani Baluchistan and southern Turkmenistan c. 3150–2700 BCE. After Masson 1960, fig. 12, first of the three parallel lines of comparisons.

centre. He notes that this type of seal is found in association with seals having other geometric patterns similar to Iranian geometric designs, and that it spread with these over the northern part of the Indus Valley. Uesugi considered this type of seal as unique, but noted that "the present state of our information does not permit us to conclude that this type of seal was created in the Indus Valley" (p. 371). The collection of seals from all over the Indo-Iranian Borderlands in CISI 3.3 shows that the motifs of "dot in circle" and "concentric circles" are widely found in this area, and that concentric circles arranged in sets of four or five in square are found already in Period I at Tepe Hissar (TH-122, TH-198) and for instance in southeastern Iran at Spidej (Spj-4 B) and Chegerdak (Cgk-19) as well as Altyn-depe in Turkmenistan (Alt-93). However, a concentration of that type of seal mapped by Uesugi in northern Indus Valley is found particularly among the seals coming from illegal robbery digs in Bactria. Six such seals have been published by Viktor Sarianidi (1998: 244–247; see *fig. 3*). One of them (no 1354) offers a very close parallel to a seal from Adam Basan 10 in Margiana (AmB10-1), even in its shape and in the motif depicted on the other side. One seal is circular and has three concentric circles divided by broken lines (no. 1324). The rest are square and have either four or five concentric circles put within the lines of a cross, the fifth in the centre. An Early Harappan seal from Rahman Dheri has the motif of "rays around concentric circles", and a Faiz Mohammad style grey ware bowl from Mehrgarh has the motif of "sun in the four quadrants". The motif of four (or five) concentric circles probably depicts the daily and yearly movement of the sun through the four directions (plus/minus zenith) (Parpola 2015: 190-194). The geometric seals with the symbols of swastika and cross, which also make a prominent appearance in the late phase of the Indus Civilization, have the same solar symbolism. Their prototypes have a dominant position in the glyptics of the Indo-Iranian Borderlands.

Apart from their importance for understanding the evolution of the Indus Civilization, a good reason for collecting the seals and texts of the Indo-Iranian Borderlands into a separate reference volume is that no such collection exists at the moment. S. Baghestani's book (1997) only records the compartmented seals made of metal, and is typologically arranged, while the present volume is sitewise ordered. The texts and seals are an important source for reconstructing the general history of the area. They trace the expansion of the Elamite culture from Susiana to Tepe Yahya (27 Proto-Elamite tablets) and Konar Sandal (four tablets containing Linear Elamite script including a new type of "geometric script") – and according to ceramic evidence (Proto-Elamite bevel-rim bowls) the Elamite influence extended eastward along the coast to Miri Qalat in Pakistani Baluchistan (Besenval 2011: 51). Even Shahdad has

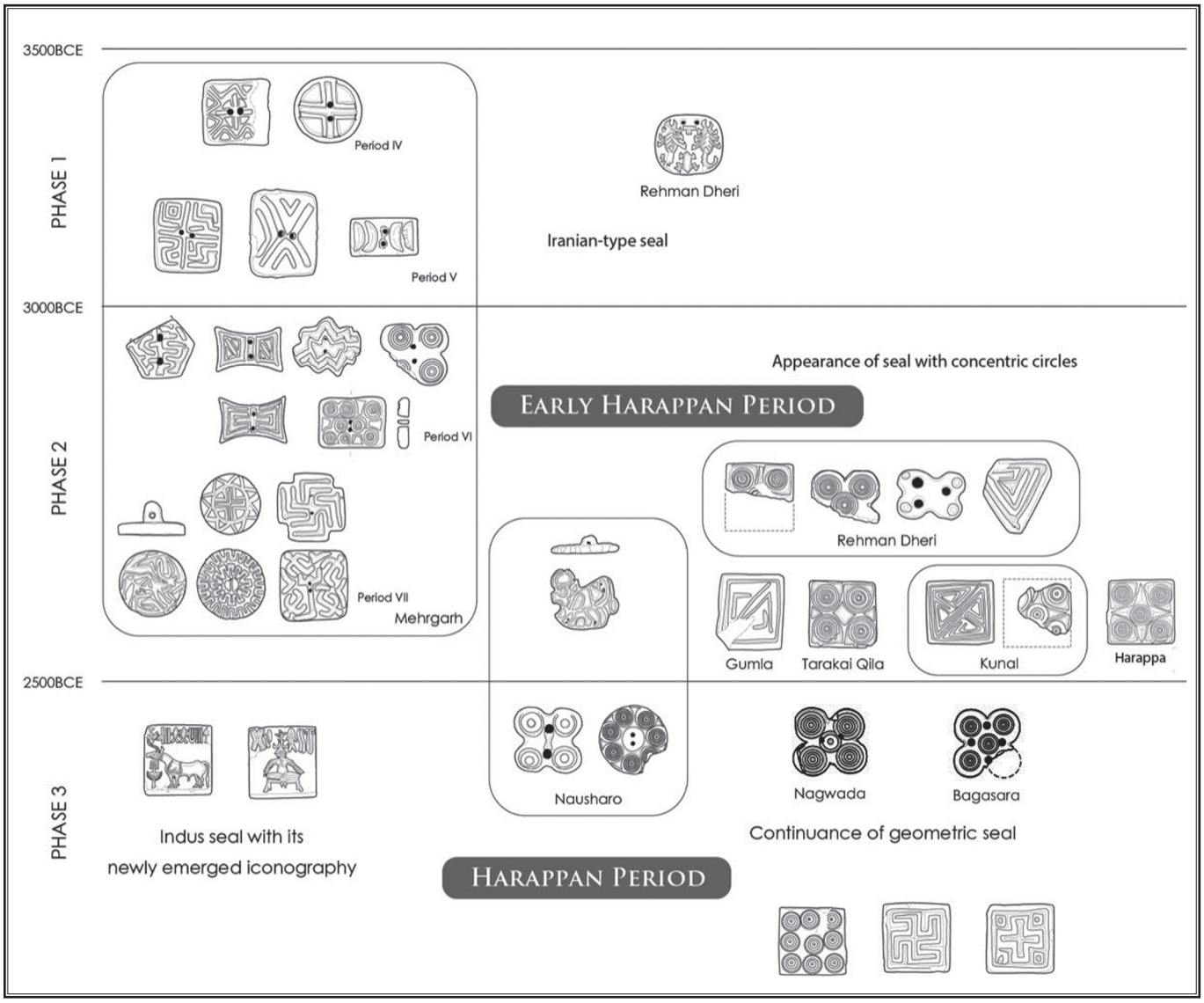

Fig. 2. Indus seal chronology according to A. Uesugi (2011).

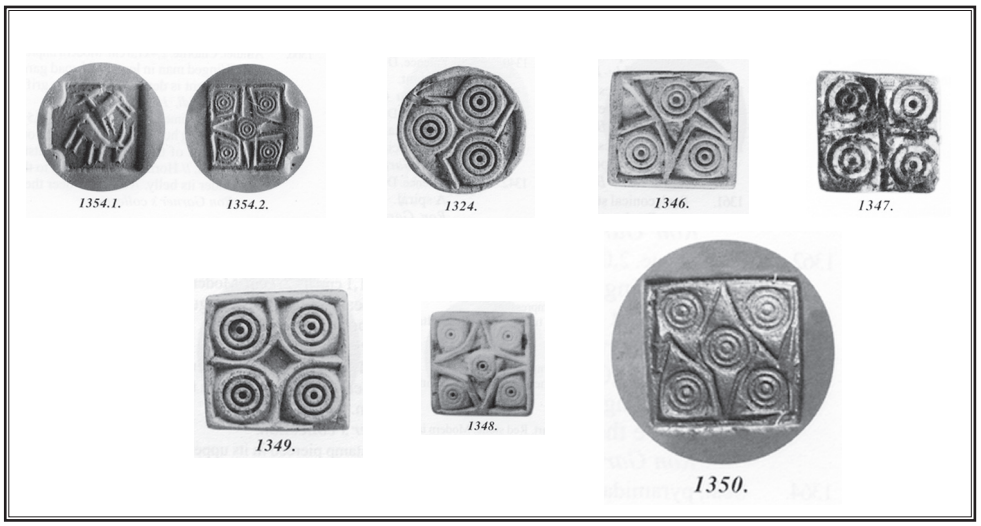

Fig. 3. Circular and square seals from Bactria with 3, 4 or 5 concentric circles (in 100%). After Sarianidi 1998, nos. next to the images.

one Linear Elamite inscription (Shd-1) and six cylinder seals (Shd-2 to 7); an apparently Proto-Elamite cylinder seal comes from as far as Sarazm in Tajikistan (Sz-1).

Thus literacy spread from Susiana to southeastern Iran first in the form of the Proto-Elamite writing (3300–3000 BCE) and then in the now deciphered purely phonetic Linear Elamite writing (2300–1880 BCE). An illiterate wave of influence, clearly evidenced in the stamp seals, came from the Late Ubaid and Uruk period northern Mesopotamia and Syria/Anatolia to the central highlands of Iran via Tepe Giyan and Tepe Sialk, reaching Tepe Hissar after 5000 BCE, and spreading further to southern Central Asia. This spread has been charted by Mahmoud Rashad in his dissertation of 1990.

In the mostly illiterate cultures of the Indo-Iranian Borderlands, the seals and painted pottery record their ideology. The religion of the BMAC people has been studied on the basis of seal iconography especially by Viktor Sarianidi (1998) and by Sylvia Winkelmann (2021), who convincingly argues for a strong Elamite influence, especially from the Jiroft culture of southeastern Iran, represented by the seals of Konar Sandal. The decipherment of the Linear Elamite script (c 2300–1880 BCE) with the help of recently discovered new inscriptional material by François Desset and his team has shown that it is already a purely phonetic writing system (Desset et al. 2022). Internal development of the cuneiform script has made such an advance possible some 300 years after the birth of the Indus script.

In this volume it has not been possible to record potter's marks systematically except in the case of the Harappan colony of Shortughai. However, a fair selection has been included from Shahdad, and one gets an idea of the potter's marks from Tepe Yahya from the article of Daniel T. Potts republished here with the author's kind permission. An interesting category of incised and painted marks from southern Turkmenistan consists of those occurring with some regularity on the anthropomorphic female figurines, which probably represent the goddess of earth and fertility. Incised or painted images of animals and human beings on pottery have in some cases been included in the catalogue, for example in the case of the earliest periods at Kara-depe and Altyn-depe: conveying definite meanings, they may be useful for interpreting glyptics. For the same reason several iconographically interesting objects from Shahdad have been added at the end, such as a metal dish with a pair of antelopes facing opposite directions (Shd-294), a motif occurring on the foreign seal M-353 from Mohenjo-daro (CISI 3.1, p. 411), and in the Bactrian seal no. 1354 in *fig. 3* above; or a metal "flag" forming a sort of "text" (Shd-306). Naturally a catalogue of seals cannot include many such non-glyptic objects. To sum up, a comprehensive record has been attempted in this volume only for real texts and for seals/amulets. Yet, this cannot be any final publication, for there is plenty of scope for further archaeological research, and new material is constantly being found.

The plan to collect all the texts and seals of the Indo-Iranian Borderlands in this volume has been well received, and many colleagues have helped us substantially.

Reference has already been made to the hundreds of mostly unpublished seals from Shahr-i Soktha, whose raw images and data were sent to us by Massimo Vidale, Alessandra Lazzari and Marta Ameri.

With the kind permission of Yousef Majidzadeh, Holly Pittman has published here for the first time the entire glyptic material from the 2002–2008 excavations of Konar Sandal. All the photographs and drawings as well as the data records and the order in which the material is presented are by her, and she has also written an introductory essay on the material. We just had to prepare the images for printing and do the layout.

Kai Kaniuth and Alisher Shaydullaev have similarly provided all images, their data records, the order of the material, and an introductory essay in the case of the Sapalli culture of Uzbekistan.

The Iranian archaeologist Ali A. Vahdati and his Italian colleague Raffaele Biscione likewise have supplied excellent photographs of seals coming from several little known sites, their data, and an introductory essay. These BMAC-type seals were only recently discovered in Khorasan in Iran.

Mohammad Heydari, François Desset and Massimo Vidale have permitted us to republish here, with a summary of their related essay published in 2020, the recently found very interesting 29 silver and copper seals and 19 impressions of stamp seals in terracotta from three little known sites in Iranian Baluchistan, Chegerdak, Spidej and Keshik, all disturbed by illegal digs.

Benjamin Mutin and Omran Garazhian have a collaborative archaeological project around the city of Bam in Iran. We are happy that they wanted to publish their recent finds in this volume, supplying us the images, their data and an introductory essay.

Benjamin Mutin together with Abdurauf Razzokov and Farhod Razzokov submitted images of seals from Sarazm in Tajikistan as well as their data and the related essay. Before that, I had consulted Henri-Paul Francfort for a good photo of the Sarazm cylinder seal; he referred me to Frédérique Brunet, currently in charge of the French excavations at Sarazm. Brunet graciously sent an excellent photograph of the seal and its impression (Sz-1 A and Sz-1 a) taken by Thierry Olivier for Musée Nationale des Arts Asiatiques Guimet in connection with a recent exhibition on Sarazm.

Other sites required more work from us, but nonetheless our efforts were met with a lot of good will.

Henri-Paul Francfort had already long ago permitted us to publish the two seals and the plentiful graffiti from Shortughai. We scanned the images from the excavation report and from a few photos lent by Francfort, collected the data record, and organized the material. Francfort kindly checked the resulting layout and submitted an introductory essay on Shortughai. Besides the introduction to Brunet, we thank him also for the contact with Vahdati.

C. C. Lamberg-Karlovsky kindly granted us permission to republish the relevant material from the 1967–75 excavations of Tepe Yahya. The seals were scanned mainly from the publications of Thomas Beale (the early periods) and Holly Pittman (Period IV, mainly Proto-Elamite), supplemented from other sources, and leaving out some less important drawings of reverse and side views. The Proto-Elamite tablets and their drawings were reproduced from the edition of Peter Damerow and Robert Englund (1989). Shortly before his untimely death Englund sent us digital versions of the drawings, which we however could not use. Unfortunately the numbering of the tablets, originally TY 1–27, had to be changed (TY-8 to TY-34) because objects from earlier periods (TY-1 to TY-7) preceded the tablets in the catalogue.

The Shahdad seals and graffiti excavated in 1968–77 by the late Ali Hakemi (1915–1997) were scanned from the excavation report published by the Istituto Italiano per il Medio ed Estremo Oriente (1997). The drawings of the types of seals which were too numerous to be published otherwise were included as separate items.

Gian Luca Bonora who has excavated at the oasis of Adji Kui has made it possible to publish the seals from Adji Kui 1 and 9: he has kindly sent me the late Gabriele Rossi Osmida's book on Adji Kui (2011) and the images of the seals published in Bonora et al. 2021b. Bonora has also clarified that all the seals in Rossi Osmida 2011 are from Adji Kui 9 (and not partly from Adji Kui 1 as stated in Winkelmann 2021: 220).

Barbara Cerasetti, director of the Togolok Archaeological Project, kindly permitted us to republish the new seals/amulets from Togolok-1 (Tgk1-5, Tgk1-26 and Tgk1-27).

Grateful acknowledgement is made to Pierre Amiet, centenarian in 2022: his superb drawings of cylinder seal impressions have been republished here whenever existing.

Some sites call for longer comments. Courtesy of University of Pennsylvania Museum and Holly Pittman, who contributed an introductory essay on Tepe Hissar, we publish here for the first time all the seals and seal impressions from the 1931–32 excavations by Erich F. Schmidt. Schmidt himself published in 1933 and 1937 altogether 109 seals and seal impressions, mostly only in drawings; these were all scanned. But we are now often in a position to add photographs to these drawings, and to provide better images than the photos published by Schmidt – these include the famous cylinder seal impression depicting a "proto-chariot" (TH-148 a). We also more than double the number of seals known from Tepe Hissar – the total figure is 280, including a handful of items from the 1976 restudy of Tepe Hissar by Robert H. Dyson and his colleagues. How come? The book "Tappah Hesār restudy" (Dyson & Howard 1989) contains a short article "The seals of Tappeh Hesār, 1931–1932" by Leslie Bennett (1989, pp. 127–130). From this article it appeared that the University of Pennsylvania Museum has in its archives unpublished photographic plates of seals and sealings. Holly Pittman kindly arranged for high resolution scans of these altogether 94 plates of good quality to be made by the archive – thanks are due also to the Senior Archivist, Mr Alessandro Pezzati. It turned out that all the excavated seals were photographed when the excavations were finished, but before the objects were divided between the UPM and the IBM. UPM accession numbers were afterwards added in ink at the respective objects on the plates, while "Persia" was written at the objects that remained in Iran. A few items have the abbreviation DIC of unknown meaning. The holdings of the University of Pennsylvania Museum have been separately photographed by the Museum and made digitally accessible, but not otherwise published so far. These "Penn Museum Collections" (PMC) digital photographs have been downloaded and used to supplement the other sources in order to publish the Tepe Hissar seals as well and as completely as possible. The seals have been arranged

chronologically, following the revised chronology established by Dyson and his colleagues after the 1976 restudy (Dyson & Remsen 1989: 108–109; Dyson 2009):

I A	(after 5000 BCE)
I B	(about 4000 BCE or earlier)
I C	(3980–3865 calBCE) & ephemeral II A (c. 3600–3380 BCE)
II (II B)	(3365–3030 calBCE) & ephemeral III A (c. 3000–2400 BCE)
III B	(c. 2400–2170 BCE)
III C	(c. 2170–1900 BCE): influx of BMAC/Oxus-related material

Most of the seals dated by Schmidt to Period I C have been attributed to Period I B in PMC, and this reattribution has been followed here, putting Schmidt's dating in parentheses in the data list. The revision is probably due to Ayşe Gürsan-Salzmann, whose book *The New Chronology of the Bronze Age Settlement of Tepe Hissar* (2016) became known to me too late to be taken into consideration.

The 1976 excavations produced a "tablet" or "label" (exc. no. H76-122) from Period II(–III A) approximately corresponding to the Proto-Elamite Period. This was published and discussed by Maurizio Tosi & G. M. Bulgarelli (1989, pp. 38–40, fig. 6:8). Photographs of the object were asked for, delivered by the UMP archives, and published here (TH-132): from them it appears doubtful that any "writing" is involved – natural cracks seem more likely. – The salvage excavation of Tepe Hissar 1995 is said to have produced additional unpublished tablets with signs (Dyson 2009).

Lyubov' B. Kircho from the Institute for the History of Material Culture in St. Petersburg is currently the best expert of the cultures and seals of the Kopet Dagh region of southern Turkmenia, especially the site of Altyn-depe ("the Golden Hill") excavated systematically by Russian scholars from 1965. Kircho readily accepted the invitation to publish the seals of this region in CISI 3.3. As a first step in this task, she published an article on the oldest seals of the Kopet Dagh sites (Kircho 2020). Unfortunately, other tasks – such as redaction of the journal of her Institute, preparation of an important article (Kircho 2021) – and repeated illnesses including covid-19 have prevented her from fulfilling her promise. Fortunately the manifold publications of V. M. Masson and Kircho et colleagues have made it possible to edit the material here. Greatest difficulty in this task was posed by the chronology of Altyn-depe, which is really complicated, because each of the seven main excavations at different spots of the mound have differing horizons (see Masson & Berëzkin 2005: 315–323). Following Kircho, it has been possible to give an "Altyn period" date only to relatively few objects. The respective layers are dated as follows:

Altyn 0 & later	Late NMG V	Late MBA	2100–1900 BCE
Altyn 2 & 1	Middle NMG V	MBA	2200–2100
Altyn 3	Early NMG V	MBA	2300
Altyn 4 A & B	Late NMG IV	Late EBA	2500–2400
Altyn 6 & 5	Middle NMG IV	Middle EBA	2600–2500
Altyn 8 & 7	Early NMG IV	EBA	2800–2700
Altyn 10 & 9	Late NMG III	Late Eneolithic	2900–2800

In the early 1950s Louis Dupree, an anthropologist working for the American Museum of Natural History (AMNH), examined the cave site of Shamshir Ghar about 15 miles WNW of Kandahar as well as the nearby mound of Deh Morasi Ghundai. He discovered a few seals from both sites, all published in CISI 3.3. Dupree assigns the Shamshir Ghar seals to a "Late Kushan" layer; he has probably erred, as he compares the iconography of the seals to Kushan art. Most of the seals look like belonging to the Bronze Age. The reproductions in Dupree's report are not good. In 1992 I visited the AMNH with the Finnish photographer Jyrki Lyytikkä in order to get better pictures of Dupree's and Fairservis's material. Jyrki's pictures of the seal casts kept at the museum are published here. Shamshir-6 from "Islamic layer" does look late, but is included for safety's sake.

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The mound of Said Qala Ghundai 15 km southwest of Kandahar was first briefly examined by Walter A. Fairservis Jr in 1951. "Stamp seals" (how many?) were found in the levels of the latest occupation, which represent the "Morasi culture", known from the Deh Morasi Ghuṇḍai examined by Dupree (four miles east of Panjwai in the Kandahar Plain). The earlier "Said Kala culture" levels yielded one potsherd bearing "the imprint of a rectangular stamp seal on its exterior. The design consists of a series of concentric diamonds" (Fairservis 1952: 24). Out of these finds, just one compartmented stamp seal of stone has been published (Fairservis 1971: 123, pl. 6), now included in CISI 3.3 as SQG-2.

A later archaeological mission of the AMNH in Afghanistan led by Jim G. Shaffer excavated Said Qala Tepe from the middle of December 1970 to the end of February 1971. The Bronze Age occupation of the site (Periods I to III B) corresponds to Mundigak Periods III.5.6-IV.1.

> Several examples of compartmented geometric seals were found, all within the habitation area. Only three examples were not made from steatite and these were manufactured from bone and a grey-brown silicious stone. All had two central perforations and were predominantly rectangular or square. Other shapes identified were: circular, triangular, lozenge and oval. One example had deeply serrated edges. Several examples of worked steatite were found which must have represented blanks for the manufacture of such seals. (Shaffer 1978a: 160)

Altogether 22 seals were found: none from the earliest Bronze Age Period I, six from II A, six from II B, three from III A and seven from III B (Shaffer 1971). Until now, no photos or drawings of these seals have been published, however. I have been unable to get in touch with Jim Shaffer, but Gregg Jamison has kindly checked for me that Shaffer's unpublished doctoral thesis at Madison, Wisconsin (1972), is equally laconic about seals as the printed version of the thesis (1978b), which contains only these two references: "At Mundigak, Said Qala Tepe, and Shahr-i Sokhta, compartmented seals had a very high frequency" (p. 135); and Table 1: "Compartmented steatite seals: Said Qala Tepe (Shaffer 1971, 1972); …".

The sites in the Geoksyur oasis on the Tedjen River and the sites in Margiana (old delta of the Murghab River) as well as the oasis of Dashly in northern Afghanistan have mainly been excavated by Viktor Sarianidi and their seals have been chiefly scanned from his numerous publications, many of which I possess thanks to the liberality of Sarianidi. Some of the older ones like the monographs on Dashly (1977) and especially the excavation report on the Togolok oasis (1990), have been printed with very poor quality, and the images are often quite small. I. S. Masimov has extensively surveyed the Murghab delta, collecting a number of seals from the surface. Masimov's material has been partly taken into consideration by Sarianidi in his catalogue of 1998, but it was properly shifted with site locations by Sandro Salvatori (Masimov & Salvatori 2008).

I want to thank Gregg Jamison (University of Wisconsin-Milwaukee) and Sergej V. Kuz'minykh (Institute of Archaeology, RAS, Moscow) for help with literature. In spite of all efforts to make this book as comprehensive as possible, there are bound to be omissions. Many publications were simply not accessible. For instance, a seal from Shor-depe is said to have been published in I. S. Masimov's paper "Nakhodki s Shor-depe" in *Pamyatniki Turkmenistana* 1978.1. If colleagues come across items missing in CISI 3.3 and they are willing to send images of the respective objects together with their measures, source, and other relevant data, such omissions could be repaired in CISI 3.4, which is planned to appear in the latter half of 2023.

A few words about our editorial work. The images and the related information, if we did not get them ready from our collaborators, have been searched and collected by Asko Parpola, who has also mostly prepared the images for publication and determined the order in which the material is presented. Petteri Koskikallio, my trusted coeditor from a number of publications, has been responsible for the layout of both the images and the text, for the formatting of the book, and for checking all data for accuracy and consistency.

Finally, our thanks are due to the publisher, the Finnish Academy of Science and Letters, in whose Humaniora series this volume is appearing like the previous volumes of the Corpus of Indus Seals and Inscriptions. All volumes are available at the internet bookshop Tiedekirja, http://www.tiedekirja.fi.

Helsinki, December 2022

ASKO PARPOLA

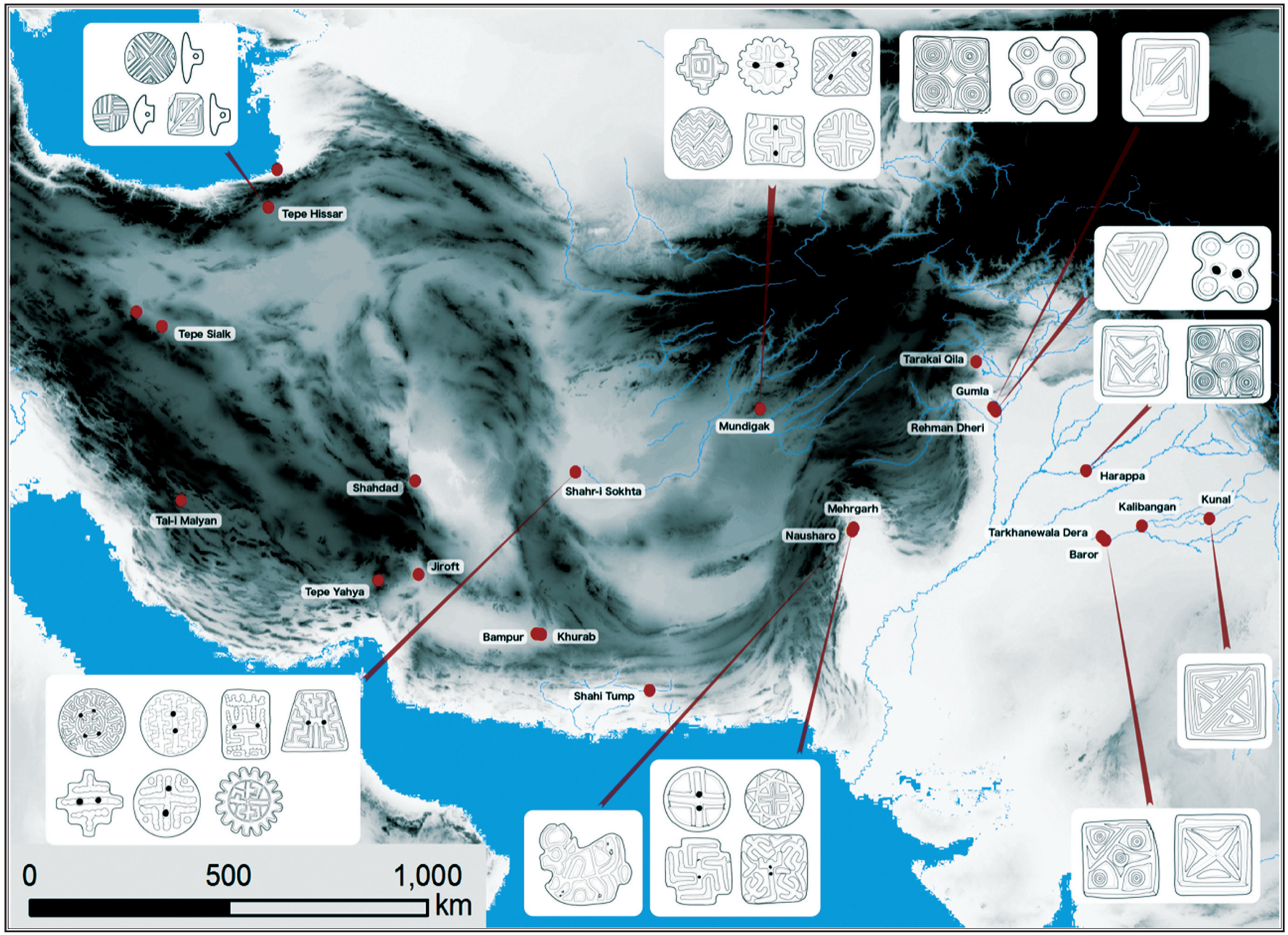

Fig. 4. Pre-urban Indus seal map by A. Uesugi (2016).

Bronze Age Writing in South-Eastern Iran (ca. 3300–1880 BCE)

François Desset[1]

The Bronze Age of South-Eastern Iran (the current Kerman and Sistan-Baluchistan provinces) can only be understood within the broader context of the Iranian Plateau. The Proto-Iranian writing system is attested in this area in its two stages, the more ancient Proto-Elamite (PE), dated ca. 3300–3000 BCE, and the more recent Linear Elamite (LE), dated ca. 2300–1880 BCE. The area under scrutiny here is huge – 1255 km as the crow flies separates Susa from Shahr-i Sokhta (see *fig. 1* for the sites mentioned in the text). Such distances make it understandable that South-Eastern Iran has specific regional practices and graphic variants distinct from a supposed "Susian norm". The Proto-Iranian writing system may therefore be considered to consist of a Western variant (Susiana and Fars) and an Eastern one (Kerman and Sistan). Furthermore, Eastern Iran was never subject to any Mesopotamian scribal influence, as the most ancient cuneiform texts in this area only date back to the first millennium BCE.

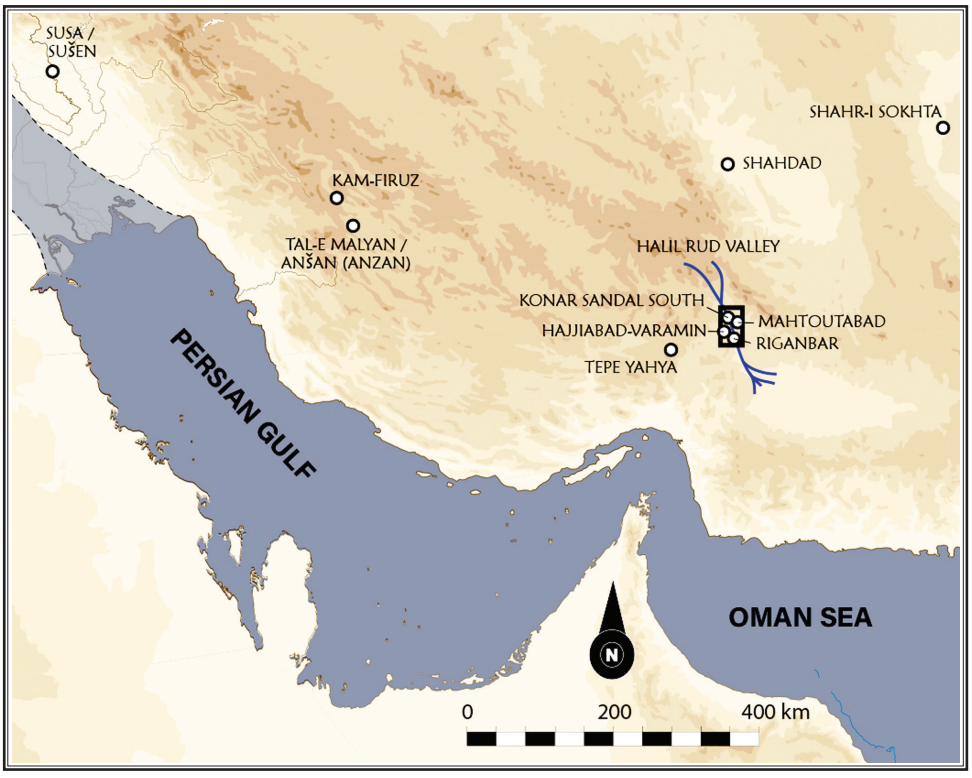

Fig. 1. Map of the sites mentioned in the text.

[1] UMR 5133 Archéorient / Tehran University.

I have proposed dismissing the use of the Mesopotamian toponym *Elam* when one is dealing with the Iranian Plateau, as this is not in accordance with the local documentation and the point of view of the Plateau's own inhabitants (Desset 2017). Using *Elam* as the label, one is no closer to the emic conceptions of the inhabitants of the area than in applying a modern name like the Iranian Plateau; actually one is even farther off, since the term *Elam* misleads us to think that it might have had specific historical value for the people who lived there, while this actually was not the case. Instead, the still somewhat mysterious notion of *Hatamti,* attested since at least the time of Puzur-Sušinak (22nd century BCE), could play the role of a specific cultural, ethnic, and historic referent. For these reasons and with due respect for all the scholars who were and are involved in this field, new terms are proposed in order to be able to study the history of this specific part of the Ancient Near East with less misleading, less biased, and better-adapted tools:

- Proto-Elamite writing > Early Proto-Iranian writing (EPIW)
- Linear Elamite writing > Late Proto-Iranian writing (LPIW)
- Elamite language > Hatamtite language

1. Early Proto-Iranian Writing: The Proto-Elamite Tablets

The Early Pro-Iranian Writing alias the Proto-Elamite script, the Mesopotamian proto-cuneiform and the Egyptian hieroglyphs are the three most ancient writing systems in the world, all dated to the last quarter of the fourth millennium BCE (see Desset 2012: 63–81; 2016: 88–96 for the contemporaneity of these scripts). Only a small fraction of the about 1700 Proto-Elamite tablets currently known have actually been found in Eastern Iran: 26 or 27 tablets at Tepe Yahya [TY-8 to TY-34 in CISI 3.3] in a phase IVC2 building (Damerow & Englund 1989) and one document from Shahr-i Sokhta [SiS-1 in CISI 3.2] (Amiet & Tosi 1978: 20, 24, fig. 16) (*fig. 2*). In excavations of November–December 2021, a fragmentary "accounting tablet" of clay was found from the earliest occupation layers (phase 10, ca. 3000 BCE) of Shahr-i Sokhta; it bears numerous rectangular incisions in regular rows and a seal impression (Tehran Times 23.1.2022). One has to wait for the full publication of the find to decide whether this identification can be confirmed or not.

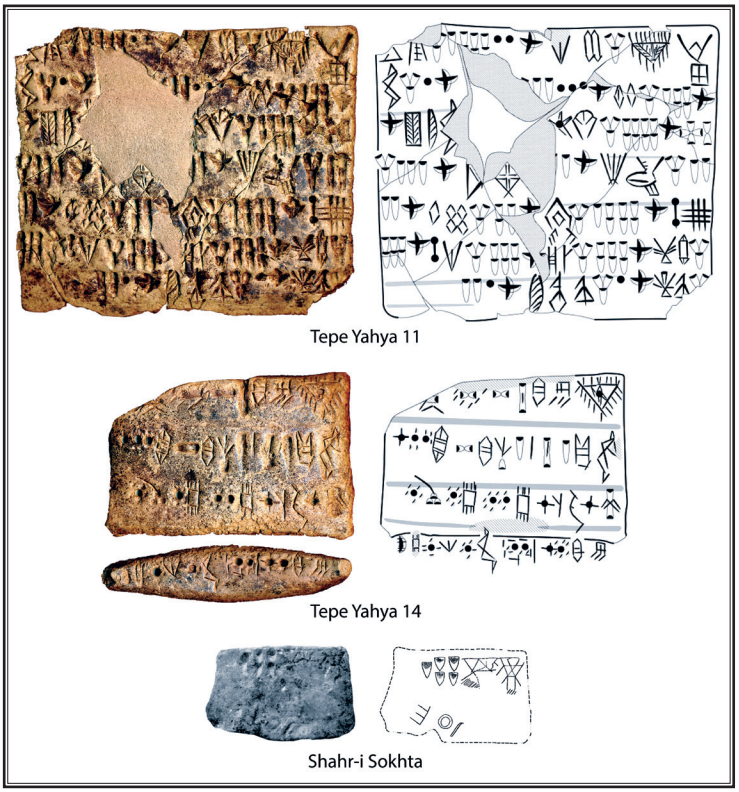

Fig. 2. Some EPIW/PE tablets from Tepe Yahya (Damerow & Englund 1989, pls. 2B and 3B and CDLI) and Shahr-i Sokhta (Amiet & Tosi 1978, fig. 16).

[The Proto-Elamite tablets from Tepe Yahya have the numbers TY 1 to TY 27 in the edition of D&E 1989. Due to the inclusion of earlier objects from Tepe Yahya, they had to be renumbered in CISI 3.3 as TY-8 to TY-34 (note the dash between TY and the number). Thus TY 11 = TY-18 and TY 14 = TY-21 (for a concordance, see the data list). The tablet from Shahr-i Soktha is SiS-1 in CISI 3.2 (2019) p. 1.]

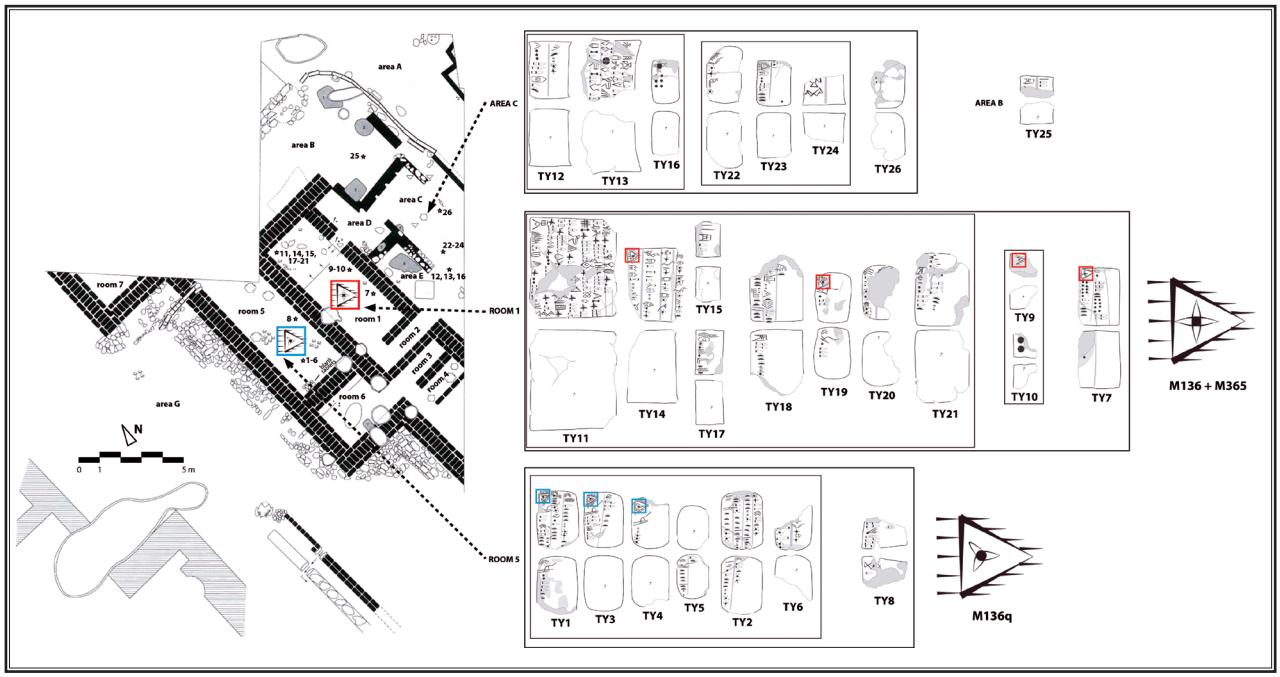

Fig. 3. Discovery context of the EPIW/PE tablets at Tepe Yahya in the phase IVC2 building (Desset 2016, fig. 31).

The texts of Tepe Yahya come from one of the best archaeological contexts ever documented for EPIW/PE tablets (*fig. 3*), as they probably partially preserve their original archival arrangement. Tablets with the header (M136+M365) were notably found in room 1, tablets with the header (M136q) in room 5. Like the other EPIW/PE tablets all over Iran, these texts mostly deal with grain (M288) and (M297/M298) management, as proven by the use of the capacity accounting system in some cases (TY 7, 14, 15, 17, 18, 21, 23, 25 [= TY-14, 21, 22, 24, 25, 28, 30, 32 in CISI 3.3], as well as perhaps TY 22 [= TY-29]), and the use of the plough-like sign (M56: surface area?) in some of them (TY 1, 2, 3, 4, 5 and 19 [= TY-8, 9, 10, 11, 12,2 6]). (M219) and (M44) may have played a specific role in the Tepe Yahya grain management tablets. Administration of animal (M346) and (M367) herds is also attested in a few tablets (TY 8 and 11 [= TY-15, 18], as well as perhaps TY 13 [= TY-20]).

Anthroponyms (*fig. 4*) are attested in TY 11 and 13 [= TY-18, 20]. They display variations compared to the "Susian norm":

- the sign M388 seems to display Western and Eastern (Tepe Yahya) variants;
- more than 15 of the 21 well-preserved Tepe Yahya anthroponymic sequences are recorded with only two signs (if the sign M388 is not considered as a direct onomastic element in TY 11 [= TY-18]), while they are predominantly (more than 70% of the corpus) recorded with three to four signs in Susa;
- in the whole EPIW/PE corpus, five signs are only attested in the anthroponymic sequences of Tepe Yahya (see *fig. 5*);

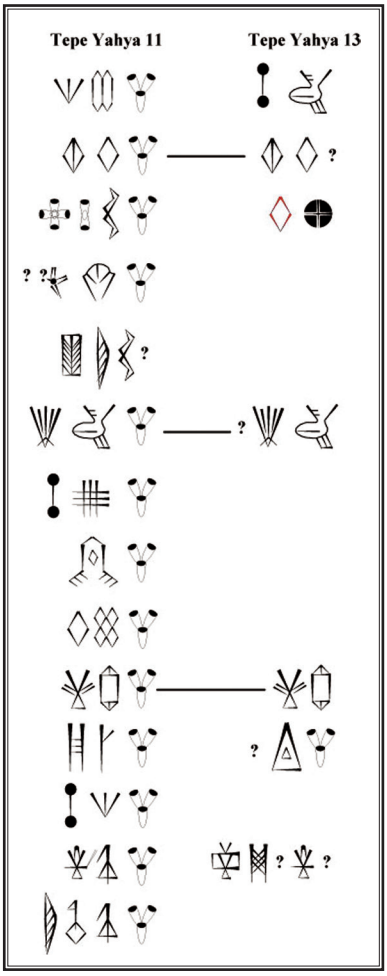

Fig. 4. Anthroponymic sequences attested in the EPIW/PE tablets of Tepe Yahya (to be read from right to left).

Fig. 5. EPIW/PE signs attested only in Tepe Yahya anthroponymic sequences (Desset 2016, fig. 20).

- while the sign M72 is usually attested in Susa as an accounted sign-object ("female slave/low-status worker"?), it is used in Tepe Yahya as an element of two anthroponymic sequences in TY 11 [= TY-18];
- besides the anthroponymic notations, some of the numerical signs used in the capacity accounting system at Tepe Yahya display also minor graphic variants (Damerow & Englund 1989: 22, 30).

While some of these discrepancies may be explained as due to diverging scribal practices, others could point to real differences in the linguistic background of South-Western and South-Eastern Iran.

2. Late Proto-Iranian Writing: The Linear Elamite Texts

After an apparent gap, the Proto-Iranian writing system is attested in Eastern Iran in its more recent Linear Elamite stage dated to ca. 2300–1880 BCE (see *fig. 6*). Short LPIW/LE inscriptions are reported from Shahdad (inscription S; *fig. 7*) [Shd-1 in CISI 3.3] and Konar Sandal (B′, C′, D′ and E′ [KSS-381, 382, 383, 380 in CISI 3.3]; see below *figs. 11–12*), while two unprovenanced seals with LPIW/LE inscriptions (*fig. 8*) can be ascribed to the Persian Gulf (V) and to Central Asia (G′) on the basis of their inner features and iconography.

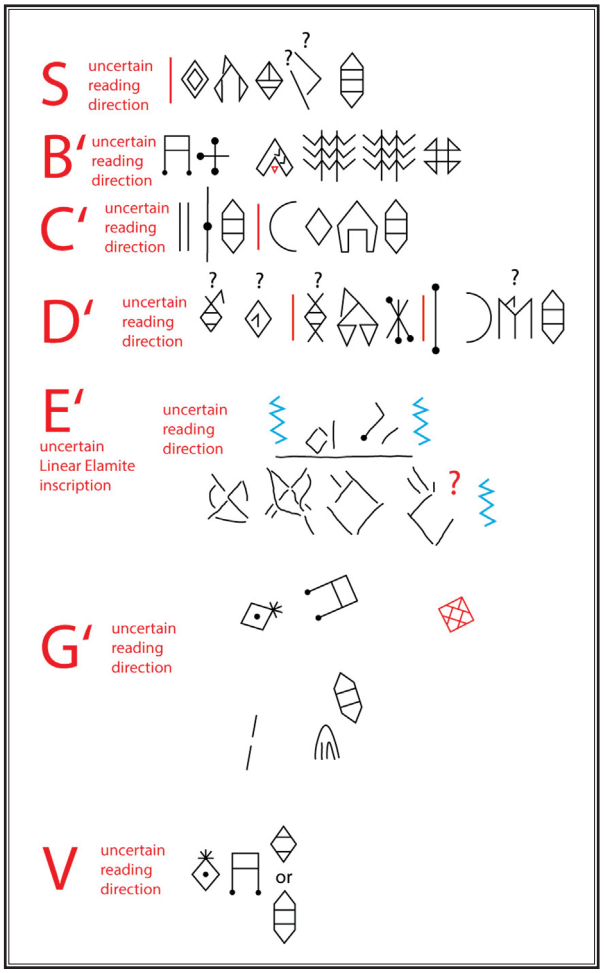

Fig. 6. Eastern Iran LPIW/LE inscriptions: S is from Shahdad [Shd-1], B′, C′, D′ and E′ from Konar Sandal / Jiroft [KSS-381, 382, 383, 380]; V is related to the Persian Gulf area, while G′ displays Central-Asian iconography (Desset et al., in press b).

Fig. 7. A ceramic vessel from Shahdad, graveyard A, grave 30 (Hakemi 1997: 182–183), bearing the LPIW/LE inscription S [Shd-1] (National Museum of Iran; Desset et al., in press b).

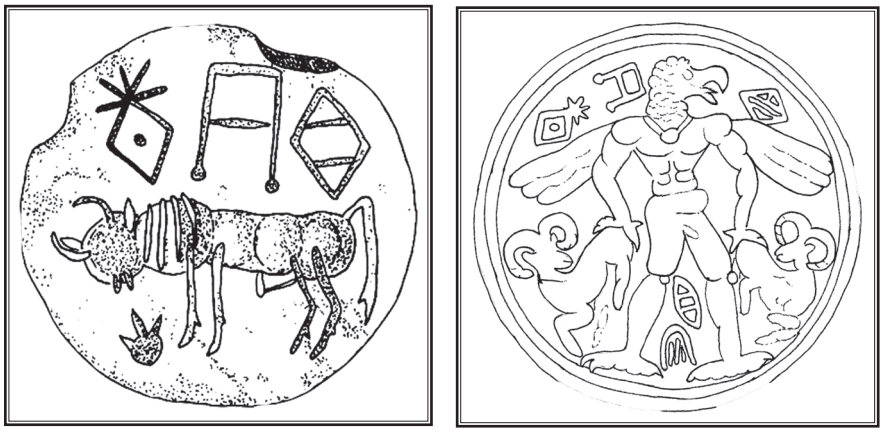

Fig. 8. On the left, drawing of the Persian Gulf related seal bearing the LPIW/LE inscription V (Winkelmann 1999: 25, figs. 1–2); on the right, drawing of the impression of the Central-Asia-related golden seal with the LPIW/LE inscription G′ (Mäder 2021, fig. 1).

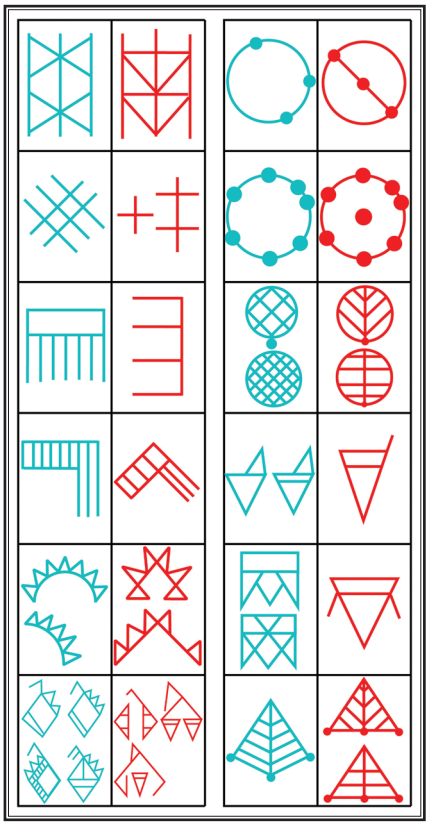

Fig. 9. Main Western (blue) and Eastern (red) LPIW/LE sign variants.

Theoretically the LPIW/LE writing works with some 77 signs (5 vocalic, 12 consonantal and the corresponding 60 syllabic signs; see Desset et al., in press a & b). The few inscriptions known from Eastern Iran help in identifying graphic variants specific to this area for a dozen signs (see Desset 2018, fig. 3 for sign *n*; and above *fig. 9*). These variants made it possible to determine the geographic origin of five unprovenanced inscriptions, previously known (W and A′; Mäder et al. 2018) or to be published (M′, N′, O′; Desset et al., in press b), all inscribed on metallic vessels (see *fig. 10* for O′). Due to their variant signs, these five inscriptions (M′, A′, O′, N′ and W) can all preliminarily be ascribed to Eastern Iran.

Fig. 10. A newly "discovered" LPIW/LE inscription, O′, probably related to Eastern Iran (Desset et al., in press b).

3. The "Geometric" Documents of Konar Sandal South

The text fragment bearing the inscription E′ (see *figs. 11–12* [KSS-380 in CISI 3.3]) was found in 2005 at the entrance of the architectural complex crowning the southern *tepe* of Konar Sandal (Madjidzadeh & Pittman 2008: 81; see Madjidzadeh 2011 and Desset 2014 for the circumstances of this discovery). Previously described as a brick fragment, its width (between 3 and 3.5 cm) and the size of its signs (only slightly larger than the other three texts) indicate that it was perhaps the top right-hand or bottom left-hand portion of a large tablet. After this discovery, a villager gave the tablet bearing the inscriptions γ/D′ (measuring 11.5 x 7 x 1.8 cm) [KSS-381] to the archaeological mission, and showed the location in his garden where he found it in 2001. In November/December 2006, Trench XV (5 x 5 m; approximate geographic coordinates 28°27'16" N, 57°46'45"E), was opened in this garden, 550 m northward from Konar Sandal South; tablets α/B′ (18 x 10 x 2.2 cm) [KSS-382] and β/C′ (13.5 x 8.5 x 2.2 cm) [KSS-383] were discovered in this excavation at a depth of 1.10 m, near a rectangular bipartite kiln and a piece of an unbaked blank tablet. As three out of these four documents (E′, α/B′ and β/C′) actually come from regular excavations, there can be little doubt of their authenticity (contra Lawler 2007).

Fig. 11. The Konar Sandal/Jiroft tablets (Desset 2014, pl. 1; B′, C′, D′ and maybe E′ are LPIW/LE inscriptions; α, β and γ display "geometric" signs).

[In CISI 3.3, these tablets from Konar Sandal South are, in the order of *figs. 11* and *12*, KSS-382, KSS-383, KSS-381 and KSS-380.]

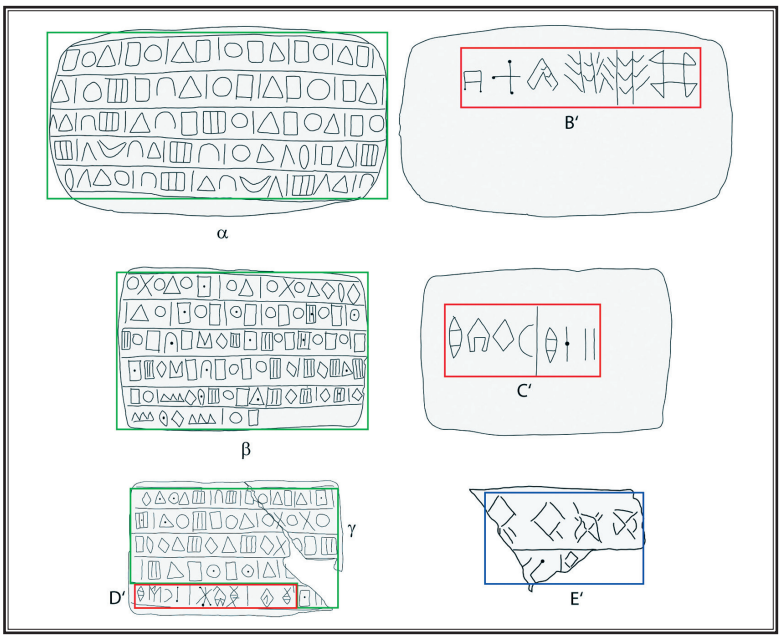

Fig. 12. The Konar Sandal/Jiroft tablets (Desset 2014, pl. 2; in green the "geometric" system; in red LPIW/LE script; in blue possible LPIW/LE script).

These four tablets, attributed to the 2nd half of the third millennium BCE, display short LPIW/LE inscriptions (B′, C′, D′ and perhaps E′) along with a "new" system with 19 documented "geometric" signs (Desset 2014). The layout of the "geometric" signs in inscriptions α and β seems to follow a pattern of doubled sign sequences (see *figs. 13–14*); thus the signs were inscribed in boustrophedon fashion, that is, the direction of writing/reading changes line after line, from left to right then right to left. Semantic units might consequently have stretched over two lines.

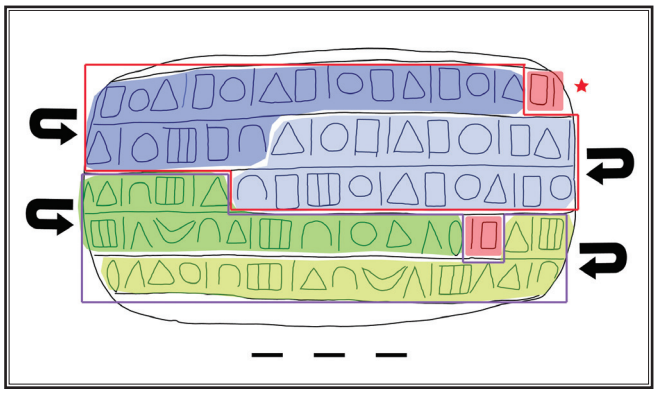

Fig. 13. Semantic structure of α, with sign sequence repetitions and boustrophedon writing (Desset 2014, pl. 10).

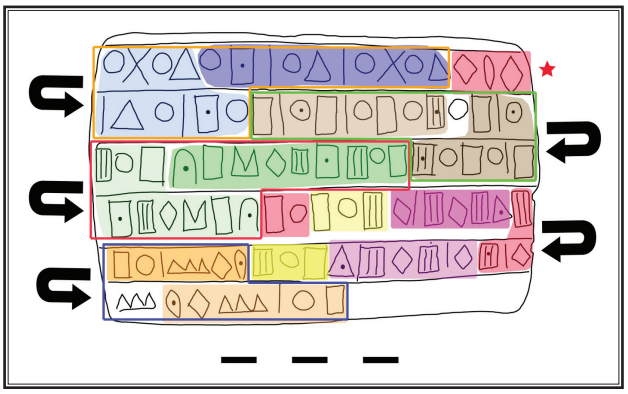

Fig. 14. Semantic structure of β with sign sequences repetitions and boustrophedon writing (Desset 2014, pl. 11).

Conclusion

Around 2000 BCE, the Mesopotamian cuneiform writing continued its geographic expansion, spreading from Northern Syria to Anatolia, from Mesopotamia to Western Zagros and to the Persian Gulf and from Susiana to Fars, cuneiform documents being attested then in Tal-i Malyan. It is probably at this phase that the cuneiform was adopted as a writing option for recording also the Hatamtite language in South-Western Iran (along with the traditional LPIW/LE writing). This ushered in a transitional period from 2000 to 1850 BCE during which both systems were considered as adequate to record the Hatamtite language. The LPIW/LE writing system was finally abandoned in the 19th century BCE, probably due to the then growing favour of the cuneiform writing among the Hatamtite scribes (as illustrated by the Hatamtite cuneiform inscriptions of Širůk-tůh and Sewe-palar-hůhpak in the late 19th/early 18th centuries BCE; see Desset et al., in press b).

More or less at the same time, around 1850/1800 BCE, the eastern part of the Ancient Near East experienced an unprecedented urban collapse (end of the mature phase of the Ancient Greater Khorasan/Oxus civilization; end of the Indus civilization; urban collapse of all Eastern Iran) which probably explains the disappearance of both the Eastern tradition of the LPIW/LE and of the Indus script. The increased influence of the Mesopotamian cuneiform in South-Western Iran and the almost simultaneous urban collapse in Eastern Iran thus brought to an end the age of other writing alternatives in the Near East. The cuneiform writing would dominate for the next 1000 years, save for the development of the Luwian hieroglyphic system in mid-second millennium BCE Anatolia and the alphabetic innovations in the second half of the second millennium BCE Levant.

The spread of the cuneiform writing in Susiana around 2250 BCE and in Fars around 2000 BCE opened the way for a succession of Western-derived writing systems used in the Iranian territory since then: the cuneiform, the Greek alphabet, and the Aramaic-derived alphabets (Parthian, Pehlevi, Avestan), the Arabic-derived alphabets, and the Latin alphabet (the current *Fingilish* phenomenon). Consequently, after 1850 BCE, no writing system used in Iran can really be qualified as Iranian any more, in the full sense of the term, as a creation of the native societies who occupied this territory.

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Basic data for the objects illustrated

Scaling and labelling of the images. Inscribed sides (here: sides with a motif) of an object without any size specification are in 200% size, the other sides in 100% size; deviations from this scheme are specified. If the measures are unknown, this is indicated with "(scale?)" Codes for the object sides: A = obverse, B = reverse, sides around A: C upper side, D right side, E bottom side, F left side. The three sides of triangular prisms are A, B, C.

Abbreviations and bibliography

??? = data not available

— = no number available

AAV = (photo/drawing by) Ali A. Vahdati

Afghanistan 2001 = Afghanistan: Une histoire millénaire. Barcelona: Fundación "la Caixa" – Paris: Réunion des Musées Nationaux, 2001.

AIS = Archaeological Institute, Samarkand

AL = (photo by) Alessandra Lazzari

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clay = unbaked clay

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CS: see MNAO

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diam. = diameter

DIC = abbreviation in Tepe Hissar excavations field photographs in the archive of the Penn Museum for objects not assigned to UPM nor IBM

dr. = drawing

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EB = (photo by) E. Baldari

EF = (photo/drawing by) Enrica Fiandra

exc. = excavation

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HA = (photo by) Hossein Abbaszadeh

HaF = (drawing by) Hamideh Fakhr

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hor. = horizon

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ICAR = Iranian Center for Archaeological Research, Teheran

ICHHTO = Iran's Cultural Heritage Handicrafts and Tourism Organization

impr. = impression

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MP = (photo by) Marcello Piperno

MS = (photo by) Mohammad Sheikh

MSH = Museum Sherabad

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MV = (drawing by) Massimo Vidale

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NT & NF = (photo by) Neda Tehrani & Nima Fakurzadeh

OG = (photo by) Omran Garajian

OG & MAb = (photo/drawing by) Omran Garajian & Mohammad Abdullahzadeh

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PM = (drawing by) Piero Meriggi

PMA = Penn Museum Archives. Courtesy of the Penn Museum.

PMC = Penn Museum Collections (digital). Courtesy of the Penn Museum.

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pr = plot record

PRWB = Plain Red Ware Bowl

PRWJ = Plain Red Ware Jar

PZ = (photo by) Patrizia Zolese

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RMS = Registan Museum Samarkand

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S. K. = South Kurgan

SMS = Sarazm Museum, Sarazm

SPACH = Society for the Preservation of Afghanistan's Cultural Heritage, Kabul

SS = (photo by) Sandro Salvatori

st. = steatite

TAM = Termez Archaeological Museum

t.c. = terracotta

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UJ = (drawing by) Ursula Jansen

UMP = University of Pennsylvania Museum (Penn Museum), Near Eastern Section

UMS = University Museum, Samarkand

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y. = years old

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ZM = Archaeological Museum of South-Eastern Iran in Zahedan (Sistan-Baluchistan Province)