

Intercultural Relations between Southern Iran and the Oxus Civilization.

The Strange Case of Bifacial Seal NMI 1660

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New archaeological evidences of the so-called “Bactrian-Margiana Archaeological Complex” (= BMAC) has invited a change in our knowledge of the cultural relations between Oxus civilization and south-eastern Iran during the III-II millennium B.C. transition period. The new archaeological projects in southern and western Turkmenistan, as well as attested at Gonur Depe, have showed a wider and more articulated relation in Asia Media, not only constrained to the movement of the Central Asian Bronze Age onto the Iranian plateau, Baluchistan, and western coast of the Persian Gulf. At the same time new research and excavations in the Jiroft valley has demonstrated a new cultural horizon in the eastern Iran. In this perspective, the new information from the Oxus (Bactria and Margiana) and Jiroft civilizations invite new interpretations on III-II millennium historical relations among eastern areas. In particular, it is possible to recognize south-eastern Iranian objects or influenced materials by Jiroft civilization in the Bactrian-Margiana archaeological complex. For these reasons the characteristic finds of BMAC recovered in Iran from Susa, Shahdad, Shahr-i Sokhta, Tepe Hissar, Khurab and Tepe Yahya have to be analyzed as part of a wider network and not simply explained with the movement of people from Central Asia towards southern Iran. An unpublished bifacial seal, now placed in the Bastan Museum, is an important line of evidence for a reassessment of the historical relations between two civilizations, representing a conceptual and ideological creation originated by the union of southern Iran and Central Asian cultural developments. This evidence is a new and decisive contribution for the understanding of the intercultural processes between the Oxus and Jiroft cultures; its presence confirms a homogeneous and related-artistic knowledge in a wide territory from Margiana and Bactria to the Lut, Jiroft, and Elam regions in a joint cultural source, but with different indigenous developments.

Keywords: *Southern Iran; Oxus Civilization; Bifacial Seal; Bactrian-Margiana*

Introduction

The archaeological evidence collected in the last year in the Kerman and Turkmenistan regions change our knowledge of the cultural spheres in eastern Iran, reassessing the structure and process of political and artistic relations between Oxus and Jiroft civilizations (Hiebert - Lamberg-Karlovsky 1992a). Starting from a bifacial stamp seal placed in the National Museum of Iran, we would suggest a new perspective in the cultural dynamics between eastern Iran and Bactrian-Margiana Archaeological Complex (= BMAC). The discovery of a new civilization in the Halil valley (Madjidzadeh 2003a; 2003b; 2003c; 2004; 2008) and the new archaeological finds from Gonur Depe (Hiebert 1992; 1994; Salvatori 1994a; 1994b; 1995; 2007; 2010; Sarianidi 1993b; 2002a; 2002b; 2005; 2007) might be decisive to build up new historical

evaluations on the role carried out by Jiroft and the Oxus regions in the creation of a new syncretistic art, identifying a cultural koiné linking eastern Iran to Margiana and Bactria.

The wide evidence of a homogeneous artistic development between southern Iran and the Murghab and the Bactrian territories should be evaluated as a joint cultural transformation, bypassing an expansionist approach to the south-eastern Iran/BMAC interactions where an unidirectional cultural transmission from north to south or vice versa has been suggested (Hiebert - Lamberg-Karlovsky 1992a; 1992b: 135-136 contra Amiet 1986; 2004; Sarianidi 2009: 42-43).

The analysis of interactions among different cultures should be based on the exported/imported materials found in a foreign archaeological complex, but in a historical perspective the evidence of an artistic syncretism originated in a

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joint cultural source could be more important than a simple imported/exported object (Ascalone 2006a: 112-150; 2010: 209-216). For these evaluations, the case of seal NMI 1660 might be considered as new evidence of the artistic syncretism between Jiroft and the Oxus regions as well as attested in numerous others archaeological artifacts dating to the end of 3rd, beginning of the 2nd millennium B.C.

Seal NMI 1660

A bifacial stamp seal, is currently in the National Museum of Iran (NMI 1660) (Ascalone 2011: n. 14.3) (Figs. 1-3). The seal was purchased by the Museum from an antiquary market, its provenience is unknown but the morphology, iconography and style have allowed to suggest the place of primary production.

The morphology (bifacial and rectangular in shape) and the material (soft-stone) follow the so-called «murghab-style» of production. This class of artifacts is often characterized by having a cut



Fig. 1: ICS period in the regional archaeological sequences.



Fig. 2: Bi-facial stamp seal (NMI 1660, Photo by author).



Fig. 3: Bi-facial stamp seal (NMI 1660, Photo by author).

on both sides with motifs in flat reliefs. Generally the Margiana workshops used small drilling tools, broader chisels, cutters and gravers; the iconographic images are most commonly snakes, manes, limbs, tongues, wings, feet, tails, floral or geometrical patterns. In particular lions and eagles are the zoomorphic representations most used in the Murghab glyptic repertory; the same animals are often depicted in profile, while the geometric motifs are strongly stylized and they are represented as swastikas, guillochse and an endless knot.

The “Murghab-style” seems to be widely diffused in the Murghab plain, although it has been recently advanced in wider and earlier production areas including the Bactrian culture and in the Afghanistan and Uzbekistan region (Winkelmann 2004: 115).

However the style and iconographies of seal should be related to the Anshanite glyptic corpus where closest comparisons can be found. The seal is engraved on both sides, on one side two crocodiles and a dog (?) are represented in profile, and on the other side six frogs are depicted on the surface. The representation and style have no parallels in the Murghab stamp seals, while it has comparisons with an Anshanite cylinder seal (Rutten 1950: 176, tab. V, n. 51; Amiet 1972: n. 1943; Connan - Duschene 1996: n. 376; Ascalone 2011: n. 3B.123) (Fig. 4) and a Dilmunite rounded stamp seal engraved by the Anshanite workshops (Amiet 1972: n. 1722; Connan - Duschene 1996: n. 300; Ascalone 2003: figs. 19-20; 2011: n. 11.8) (Fig. 5), both seals coming from Susa. The style and the iconography seem confirm a production realized in the Anshanite workshops



dating first centuries of the II millennium B.C. The use of carving is very similar to the contemporary Anshanite seals and the same iconographies cannot be considered a Central Asia production; if the crocodiles are well known in the Harappan seal corpus, this specific representation should be attributed to the Elamite engravers.

The seal should be considered as an evidence

of artistic syncretism originated by the union of the Murghab cultural experiences and the southern Iranian cultural complex with iconographical influences coming from the Indus valley or Indo-Iranian borderlands.

Unfortunately the seal has no an archaeological context, but according to the Murghab seal corpora and the comparisons with the Anshanite specimens,



Fig. 4: Anshanite cylinder seal from Susa (After: Amiet 1972: n. 1942).



Fig. 5: Anshanite-Dilmunite stamp seal from Susa (After: Amiet 1972: n. 1722).

the seal should be dated to 2000-1800 B.C., probably made in an Elamite cultural context, in the Fars or Jiroft region.

Historical evaluations

In the past many scholars pointed out the relations between eastern Iran and Central Asia principally on the base of BMAC materials found in Baluchistan, Makran and the Persian Gulf (Hiebert - Lamberg-Karlovsky 1992a).

The excavations of A. Stein at Khurab (Stein 1937: pl. I), in the so-called "Tomb of Li", allowed to know ceramics related to the Central Asia production (principally found at Dashly, southern Bactria) as trumpet shaped bowls, open bowls, footed bowls and goblets in red wares (Hiebert - Lamberg-Karlovsky 1992a: 6, fig. 2. See also Lamberg-Karlovsky 1969 and Lamberg-Karlovsky - Schmandt-Besserat 1977) (Fig. 6). At the same time compartmented stamp seals or their impressions were found at Konar Sandal (Pittman 2008: 28d-f, i), Tepe Yahya (Lamberg-Karlovsky



1972: fig. 4; Hiebert - Lamberg-Karlovsky 1992a: 13, tab. IIb), Damin (Tosi 1974: 43-44, figs. 20-21), Bampur (de Cardi 1967a: 134; 1967b: fig. 2; 1968: 148; 1970: figs. 47: 15 and 51), Shah-i Tump (Piggott 1950: 219, fig. 26) and Susa (Amiet 1974: 97; Tallon 1987: nn. 1249-1250), in not primary production context. The compartmented seals were a production originated in the so-called "Turanian basin" (Tosi 1977: 47; 1979: 151-154; 1986: 154-155), where Tepe Hissar (Schmidt 1933: tabs. CVII, CXXIX-CXXX; 1937: tab. XXVIII, fig. 118) and Shahr-i Sokhta (from Period II; Tosi 1968: figs. 99-100; 1969: fig. 276; 1970: 189; 1976: 168; 1983: figs. 73-75, tabs. 65: 5, 66: 6; Piperno - Tosi 1975: 196; see also Ferioli - Fiandra - Tusa 1979: 7-12) respectively represented the western and southern geographical limits. Different evaluations should be made on Shahdad where compartmented seals were widely produced and used on its territory (Hakemi 1972: tabs. XXI: B, XXII: B, XXIII: B e XXIV: B-C; 1973: tab. X; 1976: 137, 138, fig. 8; 1997: 659-660; Hakemi - Sajjadi 1989: 146; Salvatori - Vidale 1982: figs. 5: 19, 6: 5-6). The site of Takab plain could be considered a meeting point between the Jiroft cultural developments (many cylinder seals related to the south-eastern Iranian group were found) and the Margush region.

Furthermore the Oxus culture has been well

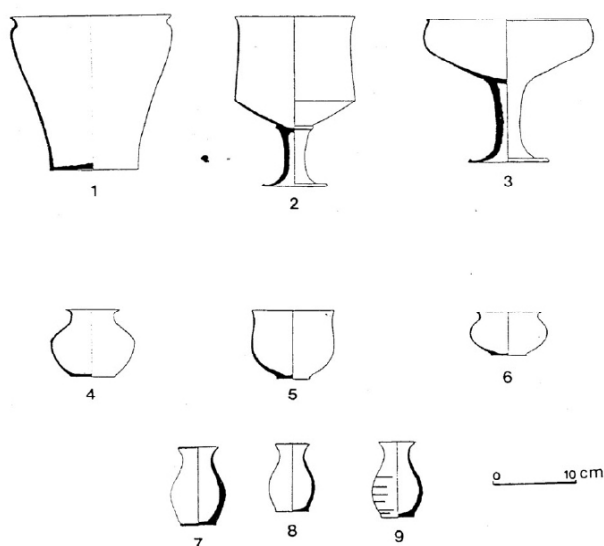


Fig. 6: Pottery vessels from Khurab, Tomb of Li (After: Hiebert-Lamberg-Karlovsky 1992a: fig. 6).

identified at Susa in a gold eagle pendent (de Mecquenem 1934: 210, fig. 53: 3; 1946: 85; Amiet 1966: 260, fig. 189; 1986: 147, 201, figs. 97, 106) (Fig. 7), an alabaster gypsum statuette (Amiet 1966: 156, fig. 112; Spycket 1981: 124, pl. 87) (Fig. 8), alabaster columns (Amiet 1986: 147-148, figs. 97: 4 and 101-102) (Fig. 9) and a zoomorphic axe (Amiet 1966: fig. 307; 1986: 149) (Fig. 10), and in the Gorgan plain and Lut region where the Oxus distinctive bronze trumpets (Lawergren 2003: 48-49; 2004) were found at Tepe Hissar (Schmidt 1937: 210, fig. 121), Astrabad (Caubet - Bernus-Taylor 1991: 21) and Shahdad (Hakemi 1997: 245-246, 635) (Figs. 11-13).

However the last year of research at Gonur Depe has been crucial for change in our evaluation of the process and structure of southern Iran/BMAC interactions (Hiebert 1992: 1994; Salvatori 1994a; 1994b; 1995; 2007; 2010; Sarianidi 1993b; 2002a). The recent knowledge of southern Iranian artifacts in foreign cultural contexts, as well as attested in the Gonur excavations, has allowed us to suggest a reciprocal model on the interaction cultural dynamics between Oxus and Jiroft civilizations, not simply focused on a unidirectional movement of peoples from Central Asia onto southern Iran or vice versa.

Three cylinder seals originated in the south-eastern Iranian workshops were found at Gonur



Fig. 7: Eagle pendent from Susa (After: Amiet 1986a: fig. 199).





Fig. 8: Alabaster statuette from Susa (After: Amiet 1986a: fig. 98).



Fig. 9: Alabaster column from Shahdad (After Hakemi 1997a: 609).



Fig. 10: Zoomorphic bronze axe from Susa (After: Amiet 1986a: 149).

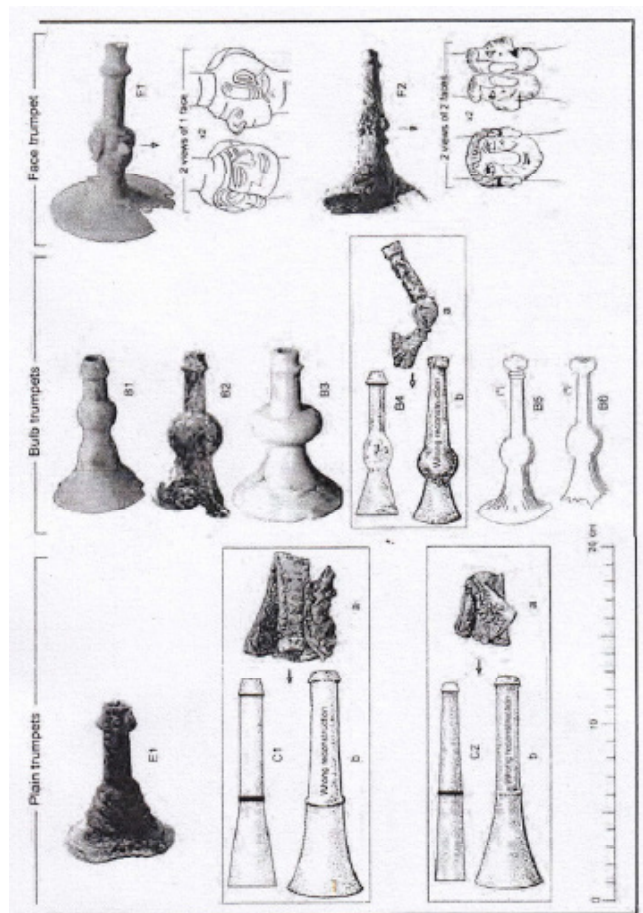


Fig. 11: Bronze trumpets (After: Lawergren 2003: fig. 3).



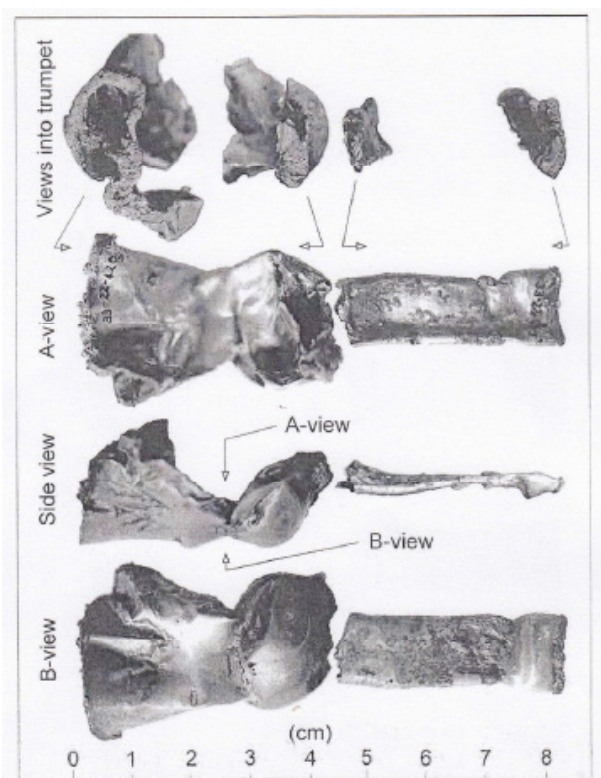


Fig. 12: Bronze trumpets (After: Lawergren 2003: fig. 4).

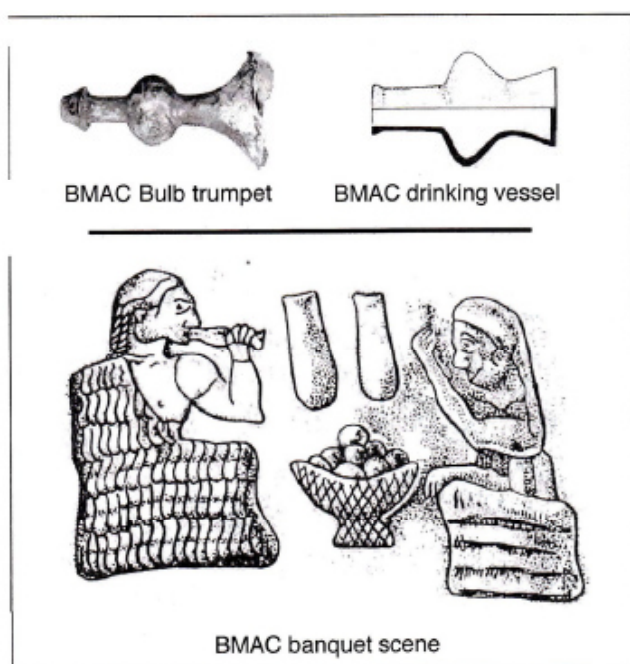


Fig. 13: Bronze trumpets (After: Lawergren 2003: fig. 26).

(respectively in Sarianidi 1998: fig. 27: 3; Salvatori 2000: fig. 15: 8; Amiet 2004: 15, fig. 5; Ascalone 2003: fig. 9g; 2006b: fig. 181; 2008: fig. 9g; 2011: n. 4B.17; 2012: fig. 3k; the second seal in Sarianidi 2005: 283, fig. 137; Amiet 2005: fig. 17; Ascalone 2011: n. 4B.23; 2012: fig. 3i; the last seal in Sarianidi 2002b: 278; 2007: 105-107, fig. 181, tab. 245; Francfort 2010) (Figs. 14-16); same iconography, style and shape are widely attested in the specimens collected in private collections or coming from Yahya, Shahdad and Konar Sandal excavations (Ascalone 2011: 331-345, 447-450, nn. 4B.1-34). From the same site, an Akkadian seal (Sarianidi 2002b: 326-334; Francfort 2005b: fig. 6a) (Fig. 17) and a Mesopotamian-type duck-shaped weight (Lamberg-Karlovsky 2013: 26, fig. 4d) were found in necropolis area, while two epigraphic signs in Linear Elamite on a sherd were recently again published by D.T. Potts (Klochkov 1998: fig. 1; Potts 2008: 174-178) (Fig. 18).

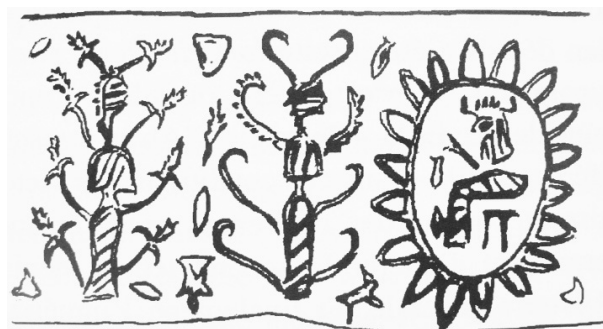


Fig. 14: Gonur seal (After: Sarianidi 2005: fig. 137).



Fig. 15: Gonur seal (After: Sarianidi 1998: fig. 27: 3).



Fig. 16: South-eastern Iranian cylinder seal from Gonur Depe (after Francfort 2010: fig. 1).



However, as described above, the evidence of imported or exported materials in foreign contexts cannot be enough for a deeper analysis on the models explaining the cultural interactions among far regions. We should analyse the cultural interference on the archaeological material in order to identify the role played by each single region in the creation of each single artefact. If the imported material is an evidence on the commercial contacts among states, regions or sites, the artistic syncretism of an object is a proof of the cultural relations among



Fig. 17: Akkadian cylinder seal from Gonur Depe (After: Francfort 2005b: fig. 6a).

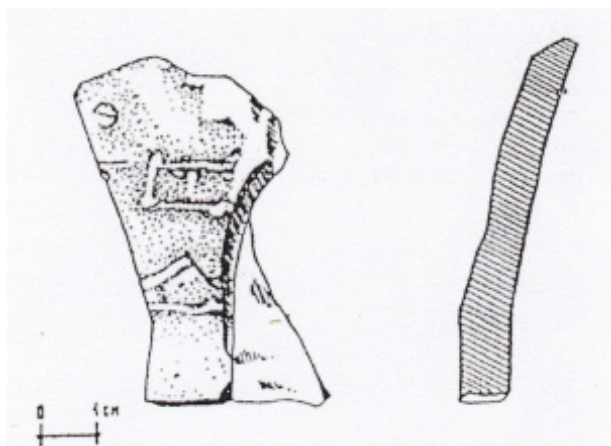


Fig. 18: Linear Elamite signs from Gonur Depe (After: Potts 2008b: 174).

different social, geographical and political contexts, and it allows us deeper historical evaluations on the society and culture of a region in a specific period.

This more articulated analysis might be carried out on some materials, including our seal NMI 1600. Same intercultural evidence is known in the Bactrian statuettes with large kaunakes coming from BMAC and generally dated to the end of the 3rd, beginning of the 2nd millennium B.C. (Ghishman 1968: 237-238, figs. 1-5; Amiet 1980: 162-166, tab. III; Francfort 2003: figs. 1-2; 2005a: fig. 5).

Statuettes with certain archaeological contexts were found at Gonur Depe in Graves G.2900, G.1799 and in later contexts of Gonur South (Salvatori 2007: 23-24); while fragments of them were discovered in G.2655, 2780 and 2790 (Sarianidi 2007: figs. 38-39, 53). Other evidence with stratigraphical references were collected at Togolok 21 (Hiebert 1994: 150, fig. 9.12), Nishapur (Kaniki 2003: 36-46) and Harappa (Meadow 2002: 191-212, fig. 1). The Bactrian goddess, as known in the Bactrian statuary, is well known in the Anshanite seals produced at Susa and Anshan (= Tall-i Malyan) in the same period of above statuettes (Ascalone 2011: 211-214). The female figure is depicted with large skirt generally below shoulders, while receives a high functionary or king with a cup or water bowl in her hands. The strong iconographical relations between Oxus composite statuettes and the Elamite glyptic art have allowed us to suggest in the past multiple influences between the BMAC and the Elamite culture (see also Sarianidi 1998: fig. 34; Winkelmann 1998) (Figs. 19-20).

Same historical evaluations could be made on a cylinder-stamp seal found at Jalalabad during the Paul Gotch's survey (Chakrabarti - Moghadam 1977: 165-167) and now placed in the National Museum of Iran (Ascalone 2003: fig. 5; 2008; 2010: figs. 24-25; 2011: n. 6B) (Figs. 21-22). The seal, dated to the XXIII century B.C., shows a composite nature for its iconographical, morphological and epigraphic evidence, probably conditioned by the role carried out by southern Iran in the interactive dynamics among Oxus, Indus and the Persian Gulf. The seal (NMI 2698) was engraved in soft-stone (4,1 x 1,7 cm, its measures); its morphology (handled and cylindrical with worked base) is unknown to the Elamite region and it is widest diffuse in Central Asia and Indo-Iranian borderlands where specimens were found at Akra (Collon 1987: 142, n. 598; 1996: n. 17b), Gonur Depe (Sarianidi 1989: fig. 5.2; 1993a: fig. 1), Taip Depe (Masimov 1981: 145-147, figs. 10-12), Maski (Thapar 1975: pl. 17b; Joshi - Parpola 1987: 358, Msk-1), Daimabad (Joshi - Parpola 1987: 353, Dmd-4), Kalibangan (Thapar 1975: 28, n. 4, Joshi - Parpola 1987: 311, K-65), Sibri (Shah - Parpola 1991: 412-413, Sb2-3 A) and in the Sistan region (Knox 1994: fig. 32). On the contrary, style and iconography have to





Fig. 19: Bactrian composite statuette (After: Amiet 1980: tab. III).

be considered related to the south-eastern Iranian workshops as well as attested by the composite being flanked by dragon's heads, globes, tulips and head with beard and horned hat depicted on the base (Ascalone 2008: 256-259); all iconographical elements were widely diffused in the south-eastern Iranian glyptic corpora coming from antiquary market and archaeological excavations (Yahya, Shahdad and Konar Sandal); finally the inscription, located in the upper part of seal, is composed by 5 signs which should be harappan or pseudo-harappan following the Parpola's harappan epigraphic groups (Parpola 1994). The Jalalabad seal is an important evidence on the artistic syncretism generated in southern Iran during the last centuries of III millennium B.C. where Oxus (morphology), Indus (inscription) and Elamite (style and iconography) cultural entities were reciprocally interacting in a common artistic knowledge.

The conical silver vessels are an Oxus production as well as confirmed by the specimens found at Gonur Depe and coming from antiquary market (Amiet 1986: fig. 202; Francfort 2003: n. 12,



Fig. 20: Anshanite seals and Bactrian composite statuette.





Fig. 21: Cylinder stamp seal from Jalalabad (NMI 2698, Photo by Author).



Fig. 22: Cylinder stamp seal from Jalalabad (NMI 2698, Photo by Author).

figs. 11-12; 2005a: 30, 36-37, note 28, figs. 6, 26) (Figs. 23-28). However a silver vessel found in the Persepolis plain shows a Linear Elamite inscription, read in the past by W. Hinz (1969), well-related to the writing introduced by Puzur-Inshushinak around last two centuries of III millennium B.C. As argued by D.T. Potts the inscription could be added in a later time (Potts 2008: 171-175), but new Linear Elamite inscriptions on silver vessels have been recently published (Mahboubian 2004: 50-55; Desset 2012: Pl. IX), allowing to suppose an artistic syncretism where iconographies and inscriptions known in Elam were engraved on surface of Bactrian silver vessels (Amiet 1986: 201, figs. 200-202; Francfort 2005b; 2005c: 33-46, figs. 1-8. See also the silver vessels placed in the Miho Museum in Catalogue 1997; 1998; 2002).

Summing up the evidence for support of a strong cultural relation (koiné?) between eastern Iran and the Oxus regions allows a deeper analysis focused on the understanding of structures and modalities of relational systems between different civilizations. In the past V. Sarianidi believed to identify the origin of the Oxus civilization in Anatolia; he supposed a great migration (Aryans/Indo-Iranians who followed proto-Zoroastrian beliefs) from Central Anatolia that, crossing the Iranian plateau, arrived in the Murghab river region, and successively part of the same group arrived in north-western China (Sarianidi 2009: 42-43, fig. 3). Different evaluations were proposed by P. Amiet who identified an affiliations of BMAC cultural horizon to the

Elamite tradition, with an important role carried out by the nomads distributed across the Iranian plateau to Central Asia (Amiet 1986; 2004). Very similar considerations were advanced by P. Steinkeller who believed in a diffuse origin from the Iranian plateau (Lamberg-Karlovsky 2013: 24). On the contrary, a backwards movement was suggested by Lamberg-Karlovsky and F. Hiebert who hypothesized a migration of BMAC peoples from Central Asia to the eastern Iran and Persian Gulf on the base of BMAC materials found in south-eastern cultural contexts (Hiebert - Lamberg-Karlovsky 1992a: 12).

However in our opinion the new evidence collected from the Jiroft valley, Indo-Iranian borderlines and Oxus oasis should be studied in a more wide perspective, not simply used as a proof of an unidirectional movement of people from north to south or vice versa. Oxus and south-eastern Iran had a local origin and their distinctive culture originated within their geographical landscapes. The cultural origin of the Jiroft and Oxus civilizations was indigenous, the imported/exported materials and the artistic syncretism between two areas has to be explained in a different perspective. Both regions had different but uninterrupted cultural development since the end of the 4th millennium B.C., when the Jiroft valley showed strong affinities with the western transformations. Bevelled rim bowls and others protoelamite artefacts were discovered in the Mahtoutabad excavations (Vidale - Desset 2013 232-243; Desset - Vidale - Alidadi Soleimani 2013) and in Konar Sandal earlier layers (Madjidzadeh





Fig. 23: Silver Cylindrical vessel from Persepolis plain (After: Amiet 1986a: fig. 202).

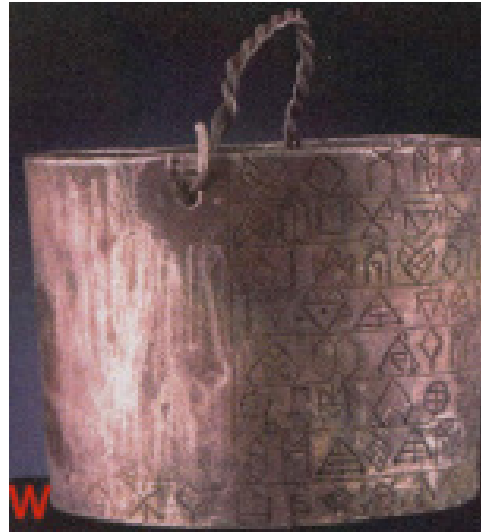


Fig. 24: Silver vessel from Bactria (After: Desset 2013: pl. IX: W).

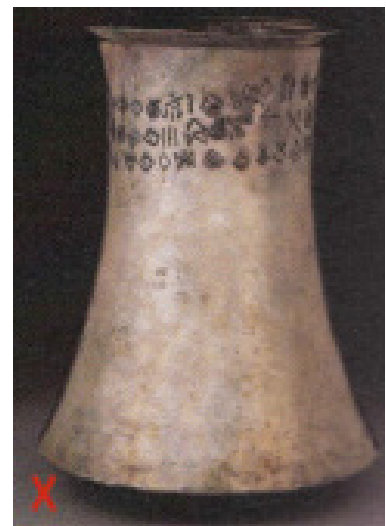


Fig. 25: Silver vessel from Bactria (After: Desset 2013: pl. IX: X).



Fig. 26: Silver vessel from Bactria (After: Desset 2013: pl. IX: Y).



Fig. 27: Silver vessel from Bactria (After: Desset 2013: pl. IX: Z).



Fig. 28: Silver vessel from Bactria (After: Desset 2013: pl. IX: A¹).

2008: 90), the earlier phase of Konar Sandal glyptic art is related to the contemporary western production (Early Dynastic III and Akkadian time) (Ascalone 2011: 336). The settlement development of Halil civilization shows an urban continuity from IV to the firsts centuries of the II millennium B.C. without break or settlement crisis. A change appears to be attested in the material culture around the end of the third quarter of III millennium B.C. (see the seals production) in a local, uninterrupted and continuous

cultural sequence.

In the first half of the 3rd millennium B.C. Margiana and Bactria were in a formative phase with a scanty settlement development (Kohl 1992: 185), probably without an urban structure; only around 2400 B.C. (Middle Bronze Age or Namazga V) can there be an attested radical transformation of society with a new organization of urban space and new technological knowledge in pottery and



metallurgy productions (Kohl 1992: 186-189). As for south-eastern Iran, the settlement development and the sequence of pottery horizon of Turkmenistan and Afghanistan oasis seem to be well-integrated in their cultural contexts, in a continuous and indigenous cultural growth.

In this perspective the uninterrupted development of both regions (Oxus and Jiroft) should allow us to bypass an unidirectional approach to explain the iconographical affinities, the imported/exported materials or the cultural syncretism between two regions, rejecting a picture where a foreign civilization acculturates an indigenous urban/tribal/nomadic entity.

A cultural continuity in the Murghab depression is attested in Namazga and Altyn Depe settlements where the recent excavations have allowed to suggest a local emergence for the BMAC (Kircho *et al* 2008; Masson 2001). Same evaluations can be made for the evidences collected at Adjī Kui 1 where a continuous chronological sequence has been identified from 2800/2700 to 1800/1700 B.C. (Rossi Osmida 2008; 2011), supporting an indigenous development of so-called 'Oxus civilization'.

In the Kerman province first preliminary chronological proposals have been advanced on the base of excavations carried out in the Jiroft area (Madjidzadeh 2008); the Halil valley seems to be inhabited from the late V millennium B.C. at Mahtoutabad (I period) with a ceramic assemblage related to the Iblis III sequence. The stratigraphical sequences in the Lower Town of Konar Sandal South show a uninterrupted settlement life from first century of III to the beginning of II millennium B.C. (Phases 1-3), while the occupation of the Citadel appears to be dated to the second half of III millennium B.C. (Madjidzadeh 2008).

All these evidences support for the indigenous development of the Jiroft and Oxus civilizations, however new archaeological data in both regions allow to identify around the half of III millennium B.C. a change in eastern Iran and Central Asia. A change originated by local cultural development and probably conditioned by a new socio-economic system now launched towards a more articulated

control of its territory and far regions. In mid-III millennium B.C. a monumental and impressive Citadel was built at Konar Sandal (Earliest Phase); the glyptic art changes in a new iconographical and stylistic phase, far from the contemporary western productions. The strong affinities with the Mesopotamian cutting workshops dating Early Dynastic III/early Akkadian times were replaced by a new and local glyptic production (ca. 2400-2300 B.C.) with closest comparisons in the compartmented stamp seals corpora originated in the BMAC.

Same changes are attested in the same period (half of III millennium B.C.) in the stratigraphies of Adjī Kui 1 (from 1 to 2 period), while transformation of society and the appearances of cities are attested for the first time; Shortugai (period I) and Gonur Depe were created and a new cultural horizon was represented by the composite statuettes in chlorite and limestone, bi-facial stamp seals, cylinder-stamp seals, bronze zoomorphic axes, silver vessels, etc.

In a uninterrupted cultural sequence, a new period was born around 2500/2400 B.C. in the Oxus area (= Namazga V or Middle Bronze Age) and in the Halil valley, a period with close relations between two regions. In a more wide analysis, changes have been identified in the chronological sequences collected in the Fars region in the transitional phase between Banesh and Kaftari periods, in Miri Qalat IV period (Makran), with a local culture replaced by Indus civilization, Takab III2 (Lut) and Shahr-i Sokhta III, the period of maximum settlement (80 ha) of the site (Sistan). All these regions had the same settlement development with a general crisis around 1800/1700 B.C., when Yahya IVA, Gonur sud, the Kaftari period in Fars, Shahr-i Sokhta IV, Yahya IVA and Shahdad (Takab III1) ceased their life (Ascalone 2014).

In this time-span (2500/2400-1800 B.C.) an Integrated Cultural System (= ICS) appears, linking southern Iran, its eastern boundaries and Central Asia. However this interactive and integrative period was not homogenous; during the second half of III millennium B.C. a break in the local sequence of Iranian sites is attested: two main phases should be identified on the base of ceramic



assemblage, material culture, architectonical phases and settlement analysis. This integrated cultural period (2500/2400-1800 B.C.) should be divided in an early (ca. 2500/2400-2200 B.C.) and a later phase (ca. 2200-1800 B.C.) where a wide change was identified in the local archaeological sequence of main Iranian and BMAC sites. In the Sistan region a change in the material culture is known in the transition from Shahr-i Sokhta III to IV, while same changes were identified in Takab III.2-III.1 and Yahya IVB-IVA. In the Oxus civilization a so-called «Gonur Phase» began in Late ICS (ca. 2200 B.C.), while a radical change was documented in Shortugai III period. Similarly in the uninterrupted sequence identified in the Adji-Kui 1 archaeological excavations two sub-phases were identified: 2A (ca. 2350-2100 B.C.) and 2B (ca. 2100-1800 B.C.) (Rossi Osmida 2008: 2011). Furthermore the recent archaeological explorations at Konar Sandal have allowed to confirm an internal division of ICS period in the Jiroft area. The architectonical phases and the material culture of Konar Sandal support a change in the cultural horizon of northern Halil around 2200 B.C.: Konar Sandal South was abandoned, last operations were identified in the upper phase of Citadel where mud-bricks of previous period (Trench III) were used as filling in the western side citadel wall (Madjidzadeh 2008: 77-79, 85). In the same period the settlement seems to be shifted towards north, where the terrace of Konar Sandal North was built (Pittman 2013: 310). The South-eastern Iranian glyptic art seems to change with a new use of seals surface, a decrease of iconographies or figures or secondary elements, and a new symmetry in the representations. A later group (2200/2100-1900/1800 B.C.) of South-eastern Iranian glyptic art should be confirmed by contextual references of Gonur, Yahya (= IVA), and Tôd seals (Ascalone 2011: 336-337).

Summing up the period of intercultural relations (ICS) born in the mid-3rd millennium B.C., its chronological diffusion should be attested until to the first centuries of the 2nd millennium B.C. (ca. 1800 B.C.); in this ICS period two main phases should be identified (Tab. 1):

- Early ICS (ca. 2500/2400-2200 B.C.) (Fig. 29):

Indus and Oxus civilizations were born, the Jiroft valley shows an intensive settlement development and the main site of Konar Sandal assumes the control of northern Halil; a regional cultural development is now replaced by an integrated cultural system where a wide evidence of imported and exported materials is documented; increasing of artefacts generated by an artistic syncretism where Jiroft, Oxus and Indus valley seem to play an important role in its diffusion and elaboration. Indus impact on Makran coast (Miri Qalat) and Bactria (Shortugai). Forced relation with Mesopotamia (Akkadian reign).

Regional sequences: Yahya IVB, Shahr-i Sokhta III, Takab III.2, Shortugai I-II, Adji Kui 2A, Konar Sandal South.

- Late ICS (ca. 2200-1800/1700 B.C.) (Fig. 30): an integrated system of contacts continues in Oxus, Jiroft and Indus regional contexts. A new cultural phase is now attested in Elam (Kaftari period) where new iconographical relations are identified between Anshanite seals and the Oxus silver vessels. A so-called «Gonur Depe phase» was born in Margiana and the Konar Sandal settlement radically changes now shifted towards north. New contacts are attested with the western entities of the Persian Gulf and diplomatic relations were developed with Ur III and Isin Mesopotamian kings. Around XVIII century this period drastically ceased, each single regional context had a crisis widely attested in main sites and in the settlement analysis of the regions. Oxus, Indus and Jiroft (?) civilizations collapsed, the Kaftari period in Fars was substituted by a new cultural regional phase, Miri Qalat, Shortugai, Tepe Yahya and Shahr-i Sokhta were abandoned and Shahdad reduced drastically its settlement.

Regional Sequences: Yahya IVA, Shahr-i Sokhta IV, Takab III.1, Shortugai III-IV, Adji Kui 2B, Gonur Phase, Kaftari period, Konar Sandal North.

Summing up, from the half of the III millennium B.C. regional cultural complexes (Fars, Kerman, Sistan, Makran, Margiana and Bactria) taken part to a more wide relational system where artistic syncretism were produced and commercial links were developed. The reasons of an ICS during the



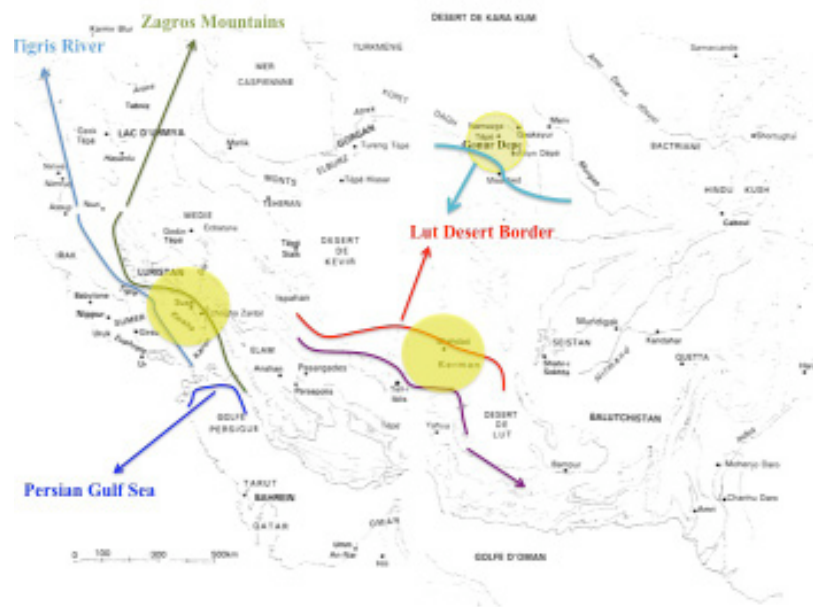


Fig. 29: Interactive spheres during Early ICS.

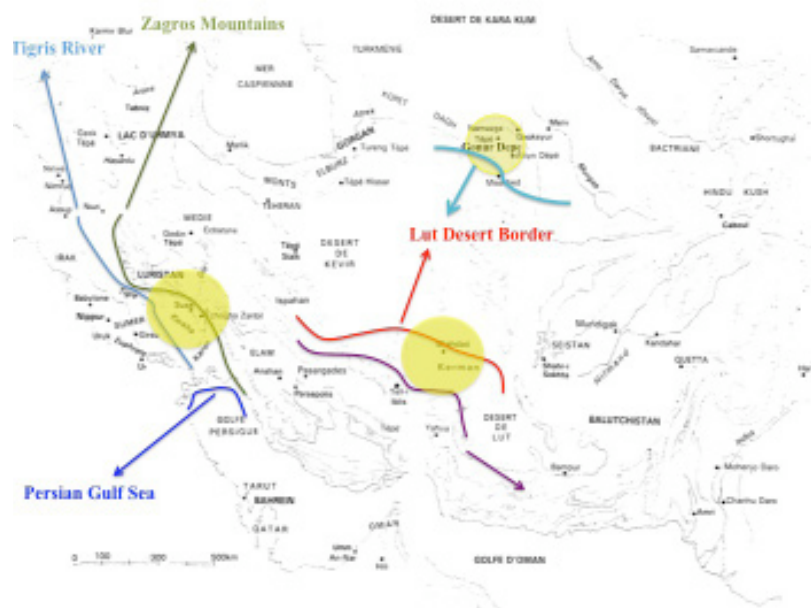


Fig. 30: Interactive spheres during Late ICS.

second half of the III, beginning II millennium B.C. are questionable; the control of water resources was surely a cause of the emergence of a settlement hierarchy in BMAC; the access to water and its use was the key to develop the urbanization and a new and more articulated cultural system. Different city-state were born, probably with

alliances, cooperation, competition and conflicts between them and tribes or local entities (Lamberg-Karlovsky 2013: 56-57). However this «irrigation hypothesis» (see also Wittfogel 1963) might help to understand the reasons for a local development in Central Asia from Early to the Middle Bronze Age, from Namazga IV to Namazga V periods in order



to support the local way for the emergence of Oxus civilization, but it does not allow to explain why and what happened in a more wide geographical integrated system including also Fars, Jiroft, Kerman, Makran, Baluchistan, Indus and Persian Gulf regions between the later half of III, beginning II millennium B.C. (Figs. 29-30).

Oxus and Jiroft developed relations within a reciprocal model where multiple factors contributed to this wide relational system. In a local and unbroken development, both regions were stimulated by a commercial network aimed to supply raw material to their community. In this perspective Shahdad and Gonur Depe carried out an important role in ICS where Shahdad represented a bridge towards the Jiroft civilization and an obligated passage for its vicinity to the mines of copper, lead, molybdenum, and zinc (Salvatori 1978: 8-10, tab. 1). Gonur Depe was a gate towards the Sogdiana and Bactria mountains where lapis, gold and silver were exploited (Salvatori - Vidale 1982: 7-9). The stimulus coming from the external demand carried out an important role in the formation and development of both civilizations and ICS period. The strong relations between Oxus and Jiroft regions, as attested in the artistic syncretism and imported/exported materials, do not support an unidirectional view (from Iran to Central Asia or vice versa), but they suggest an integrated cultural complex of two distinctive civilizations probably developed on a reciprocal utility where the nomadic entities played an important role in the transmission of artistic elaborations, writing systems, beliefs, traditions, and knowledge.

The seal NMI 1660 is an evidence of an intercultural production as previously identified in the Jalalabad cylinder-stamp seal and in the Anshanite glyptic corpus. The morphology is well known along the Murghab river, while the style and iconography have closest comparisons in the Anshanite glyptic art dating first centuries of II millennium B.C. The seal can be inserted in a more wide integrated cultural system representing a new proof on the artistic syncretism between southern Iran and the Oxus civilization.

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References

- Amiet, P.
1966 *Elam, Auvers-sur-Oise*. Paris.
- Amiet, P.
1972 *La glyptique susienne, des origines à l'époque des perses achéménides. Cachets, sceaux-cylindres et empreintes antiques découvertes à Suse, de 1913 à 1967 (= MDAI 43)*. Paris.
- Amiet, P.
1974 Antiquités du désert de Lut, I. À propos d'objets de la collection Foroughi, *Revue d'Assyriologie et d'Archéologie Orientale* 68: 97-110.
- Amiet, P.
1980 Antiquités de serpentine. *Iranica Antiqua* 15: 155-166.
- Amiet, P.
1986 *L'âge des échanges inter-iraniens: 3500-1700 avant J.-C.* Paris.
- Amiet, P.
2004 De l'Elam à la Margiane. Le renouvellement des problèmes archéologiques. In S. Winkelmann. *Seals of the Oasis from the Ligabue Collection*: 10-18. Castello di Godego.
- Amiet, P.
2005 Les sceaux de l'administration princière de Suse à l'époque d'Agadé. *Revue d'Assyriologie et d'Archéologie Orientale* 99: 1-12.
- Ascalone, E.
2003 L'indigeno ed il forestiero: elaborazione di nuovi percorsi culturali integrativi tra seconda metà del III e inizio del II millennio a.C. in Susiana e sul plateau iraniano. *Scienze dell'Antichità* 11: 9-50.
- 2006a *Archeologia dell'Iran Antico. Integrazioni, interazioni e discontinuità nell'Iran del III millennio a.C.* Nisaba 14, Di.Sc.A.M. Messina.
- 2006b Cultural Spheres on Iranian Plateau as Seen from Glyptic Evidence. Distribution and Development of Seals in Iranian Regional Contexts during Mesopotamian Akkadian and Post - Akkadian Periods (ca. 2400-2150 BC). In F. Baffi; R. Dolce; S. Mazzoni & F. Pinnock (eds.) *Ina kibrat erbetti. Studies in Honor of Paolo Matthiae, Presented by Colleagues and Friends on the Occasion of His 65th Birthday*: 29-72. Italy: Rome.
- 2008 Cultural Interactions among Mesopotamia, Elam, Transelam and Indus Civilization. The Evidence of a Cylinder-Stamp Seal from Jalalabad (Fars) and its Significance in the Historical Dynamics of South - eastern Iran. *Proceedings of the 4th International Congress on the Archaeology of the Ancient Near East*, Berlin: Freie Universität Berlin.
- 2010 A est di Accad. Nuove formulazioni e maturità artistiche nella glittica del periodo Accadico a est del Tigri. In R. Dolce (ed.) *Quale Oriente? Omaggio a un Maestro*: 201-240. Palermo: Flaccovio Editore.
- 2011 *Glittica Elamita dalla metà del III alla metà del II millennio a. C. Sigilli a stampo, sigilli a cilindro e impronte rinvenute in Iran e provenienti da collezioni private e museali*. Roma: L'Erma di Bretschneider.
- 2012 A New South - Eastern Iranian Glyptic Evidence. In J. Tavernier; K. De Graef (eds.) *Proceedings the International Congress 'Susa and Elam. Archaeological, Philological, Historical and Geographical Perspectives* (Mémoires de la Délégation en Perse): 3-25. Ghent 14-17/12/2009, Brill Leiden.
- 2014 *Archaeology and History of Third Millennium Iran* (with contributions by S. M. S. Sajjadi and M. A. Kaboli) Research Center and Development, Tehran: Studies and Publications Institute, University for Humanities Sciences (SAMT).
- Catalogue.
1997 *Miho Museum*. Miho Museum.
- 1998 *The 1st Anniversary Exhibition Miho Museum*. Miho Museum.
- 2002 *Treasures of Ancient Bactria*. Miho Museum.
- Caubet, A & M. Bernus-Taylor.
1991 *The Louvre: Near Eastern Antiquities*. London: Scala Books.



- Chakrabarti, D. K & P. Moghadam.
1977 Some Unpublished Indus Beads from Iran. *Iran* 15: 166-168.
- Collon, D.
1987 *First Impression: Cylinder Seals in the Ancient Near East*. London.
1996 Mesopotamia and the Indus: the Evidence of the Seals. In J. Reade (ed.) *The Indian Ocean in Antiquity*: 209-226. Great Britain: London.
- Connan, J & O. Duschene.
1996 *Le bitume à Suse. Collection du Musée du Louvre*. Paris
- De Cardi, B.
1967a Bampur. *Iran* 5: 134-135.
1967b The Bampur Sequence in the Third Millennium B.C. *Antiquity* 41: 33-41.
1968 Excavations at Bampur, S. E. Iran: A Brief Report *Iran* 6: 135-155.
1970 *Excavations at Bampur, A Third Millennium Settlement in Persian Baluchistan, 1966*. New York.
- Desset, F.
2012 *Premières écritures iraniennes. Les systèmes proto-élamite et élamite linéaire*, Università degli Studi di Napoli "L'Orientale", Series Minor LXXVI, Napoli.
- Desset, F; M. Vidale & N. Alidadi Soleimani.
2013 Mahtoutabad III (Province of Kerman, Iran): An "Uruk-Related" Material Assemblage in Eastern Iran. *Iran* 51: 1-38.
- Ferioli, P; E. Fiandra & S. Tusa.
1979 Stamp Seals and the Functioned Analysis of their Sealings at Shahr-i Sokhta II-III (2700-2200 B. C.) In J. E. van Lohuizen and J. M. M. Ubaghs (eds.) *South Asian Archaeology 1975*: 7-26. Leiden.
- Francfort, H.-P.
2003 La civilisation de l'Asie Centrale a l'âge du Bronze et à l'âge du Fer. In O. Bopearachchi; C. Landes & C. Sachs (eds.) *De l'Indus à l'Oxus. Archéologie de l'Asie Centrale*: 29-59. Montpellier.
- 2005a L'art de l'Âge du Bronze. *L'art de l'Afghanistan de la préhistoire à nos jours*: 17-30. Paris: Ceredaf.
2005b La civilisations de l'Oxus et les Indo-iraniens et Indo - aryens en Asie Centrale. In G. Fussman; J. Kellens; H. -P. Francfort & X. Tremblay (eds.) *Āryans, Aryens et Iraniens en Asie Centrale*: 253-357. Paris.
2005c Observations sur la toreutique de la civilisation de l'Oxus. In O. Bopearachchi & M. -F. Boussac (eds.) *Afghanistan Ancient Carrefour entre l'Est et l'Ouest*: 21 - 63. Brepols.
- Francfort, H.-P.
2010 Bird, Snakes, and Deities in the Oxus Civilization: An Essay Dedicated to professor Viktor I. Sarianidi on a Cylinder Seal from Gonur depe. In N. Miklukho-Maklay (ed.) *On the Track of Uncovering a Civilization. A Volume in honor of the 80th-anniversary of Viktor Sarianidi*: 67-85. Sankt-Petersburg.
- Ghirshman, R.
1968 Notes iraniennes XVI. Deux statuettes élamites du plateau iranien. *Artibus Asiae* 30: 237-248.
- Hakemi, A.
1972 *Catalogue de l'exposition: Lut, Xabis (Shahdad)*. Tehran.
1973 Prehistoric Discovery in East Iran. *Illustrated London News* 261: 63-66.
1976 Découverte d'une civilisation préhistorique à Shahdad au bord Ouest du Lut, Kerman. In G. Bagherzadeh (ed.) *Proceedings of the IVth International Congress of Iranian Art and Archaeology 1975*: 131-150. Tehran.
1997 *Shahdad, Archaeological Excavations of a Bronze Age Center in Iran*. Roma.
- Hakemi, A & S.M.S. Sajjadi.
1989 Shahdad Excavations in the Context of the Oases Civilizations. In G. Ligabue & S. Salvatori (eds.) *Bactria: an Ancient Oasis Civilization from the Sands of Afghanistan*: 143-153. Venezia.



- Hiebert, F. T.
1992 Bronze Age Oasis Settlement of Soviet Turkmenistan. *Ph. D. Thesis*. Harvard University.
1994 *Origins of the Bronze Age Oasis Civilization in Central Asia*. No. 42. Harvard University Press.
- Hiebert, F. T & C. C. Lamberg-Karlovsky.
1992a Central Asia and the Indo - Iranian Borderlands. *Iran* 30: 1-15.
- Hiebert, F. T & C. C. Lamberg-Karlovsky.
1992b The Relation of the Finds from Shahdad to those of Sites in Central Asia. *Journal of Archaeology of Near Eastern Studies* 21: 135-140.
- Hinz, W.
1969 Eine neugefundene altelamische Silbervase. *Altiranische Funde und Forschungen, Wälder de Gruyter*: 11-44.
- Joshi, P. V & A. Parpola.
1987 *Corpus of Indus Seals and Inscriptions. V. 1. Collections in India*. Helsinki.
- Kaniki, R. A. L.
2003 Neyshabur, a Link among Mesopotamia, Indus Valley, Bactria and Iran (of Bronze Age) *Name-ye Pazuheshgah-r Miras-e Farhangi Quarterly* (In Persian) 1/1: 36-46.
- Kircho, L; G. Korobkova & V. M. Masson.
2008 *The Technical and Technological Potential of the Eneolithic Population of Altyn Depe as the Basis of an Early Urban Civilization*. European House, St. Petesburg.
- Klochkov, I. S.
1998 Signs on a postsherd from Gonur. *Ancient Civilizations from Scythia to Siberia* 5/2: 165-175.
- Knox, R.
1994 A New Indus Valley Cylinder Seal. In A. Parpola & P. Koskikallio (eds.) *South Asian Archaeology 1993*, Helsinki 375-378.
- Kohl, P. L.
1992 Central Asia, Western Turkestan: Neolithic to the Iron Age. In R. W. Ehrich (ed.)
- Chronologies in Old World Archaeology, Third Edition* 1: 179-195 & 2: 154-162. Chicago.
- Lamberg-Karlovsky, C.C.
1969 Further Notes on the Shaft-hole Pick-axe from Khurab Makran. *Iran* 7: 163-168.
1972 Tepe Yahya 1971. Mesopotamia and Indo-Iranian Borderlands. *Iran* 10: 89-100.
2013 The Oxus Civilization. *Quadernos de Prehistoria y Arqueologia, Universidad Autonoma de Madrid* 39: 21-63.
- Lamberg-Karlovsky, C.C & D. Schmandt-Besserat.
1977 An Evaluation of the Bampur, Khurab and Chah Hussein Collections in the Peabody Museum and Relations with Tepe Yahya. In L. Levine & T. C. Jr Young (eds.) *Mountains and Lowlands: Essays in the Archaeology of Greater Mesopotamia*: 113-134. Malibu.
- Lawergren, B.
2003 Oxus Trumpets, ca. 1800-2200 BCE: Material Overview, Usage, Societal Role, and Catalogue. *Iranica Antiqua* 38: 41-118.
2004 The Acoustic Context of Oxus Trumpets. In *Proceedings of International Symposium on Musical Acoustic*: 3: 124-127. Japan: Nara.
- Madjidzadeh, Y.
2003a La découverte de Jiroft. *Dossiers d'Archéologie* 287: 18-63.
2003b La première campagne de fouilles à Jiroft dans le bassin du Halil Roud (janvier et février 2003). *Dossiers d'Archéologie* 287: 64-75.
2003c *Jiroft, The Earliest Oriental Civilization*. Ministry of Culture and Islamic Guidance. Iran Cultural Heritage Organization Research Centre.
2004 L'ancêtre des ziggourats à Jiroft. *Archéologie* 413: 14-25.
2008 Excavations at Konar Sandal in the Region of Jiroft in the Halil Basin: First Preliminary Report (2002-2008). *Iran* 46: 69-104.
- Mahboubian, H.
2004 *Elam, Art and Civilization of Ancient Iran, 3000-2000 BC*. Salisbury: BAS Printer.



- Masimov, I.S.
1981 New Finds of the Bronze Age - Seals from the Lower Murghab. *Soviet Archaeology* 2: 132-150.
- Masson, V. M.
2001 *Peculiarities of Manufacture at the Settlement of Altyn depe in the Paleo-Metallic Epoch* (Materials of the South Turkmenian Interdisciplinary Archaeological Expedition 5), St. Petersburg.
- Meadow, R.H.
2002 The Chronological and Cultural Significance of a Steatite Wig from Harappa. *Iranica Antiqua* 37: 191-202.
- Mecquenem de, R.
1934 *Fouilles de Suse 1929 à 1933 (sur l'Acropole et la Ville Royale)* (= MDP 25): 177-237.
- Mecquenem de, R.
1946 L'emploies métaux par les civilisations susiennes. *Métaux et Civilisations* 1/4: 77-88.
- Parpola, A.
1994 Harappan Inscriptions. An Analytical Catalogue of the Indus Inscription from the Near East. In H. H. Andersen & F. Højlund (eds.) *Qala'at al Bahrain. Vol. 1. The Northern City Wall and the Islamic Fortress*, Pp 304-315.
- Piggott, S.
1950 *Prehistoric India*. Hammondsworth.
- Piperno, M. & M. Tosi.
1975 The Graveyard at Shahr-i Sokhta, Iran. *Archaeology* 28/3: 186-197.
- Pittman, H.
2008 Glyptic Art, in Y. Madjidzadeh, Excavations at Konar Sandal in the Region of Jiroft in the Halil Basin: First Preliminary Report (2002-2008). *Iran* 46: 95-104.
2013 Eastern Iran in the Early Bronze Age. In D. T. Potts (ed.) *The Oxford handbook of Ancient Iran*. New York: Oxford University press.
- Potts, D. T.
2008 Puzur-Inshushinak and the Oxus Civilization (BMAC): Reflections on Shimashki and the Geo-political Landscape of Iran and Central Asia in the Ur III Period. *Zeitschr. für Assyriologie* 98: 165-194.
- Rossi Osmida, G.
2002 *Margiana. Gonur-depe Necropolis. 10 Years of Excavations by Ligabue Study and Research Centre*. Venice.
2008 *Adji Kui Oasis, I. La cittadella delle statuette, Il punto*. Venice.
2011 *Adji Kui Oasis II. La cittadella delle statuette, Il Punto*. Venice.
- Rutten, M.
1950 Glyptique susienne: empreintes et cylindres. *Revue d'Assyriologie et d'Archéologie Orientale* 44: 161-184.
- Salvatori, S.
1978 Problemi di protostoria Iranica: Note ulteriori su di una ricognizione di superficie a Shahdad, (Kerman, Iran). *Rivista di Archeologia* 2: 5-15.
1994a The Discovery of the Graveyard at Gonur-depe 1 (Murghab Delta, Turkmenistan). In A. Parpola and P. Koskikallio (eds.) *South Asian Archaeology 1993*: 657-666. Helsinki.
1994b Excavations at the Namazga V Late Graveyard of Gonur 1 (Murghab Delta, Turkmenistan), Preliminary Report on the 1993 Field Season. *Rivista di Archeologia* 18:15-39.
1995 Gonur-depe 1 (Margiana, Turkmenistan): The Middle Bronze Age Graveyard. Preliminary Report on the 1994 Excavation Campaign. *Rivista di Archeologia* 19: 5-37.
2000 Bactria and Margiana Seals, A New Assessment of Their Chronological Position and a Typological Survey. *East and West* 50: 97-146.
2007 About Recent Excavations at Bronze Age Site in Margiana (Turkmenistan). *Rivista di Archeologia* 31: 11-28.
2010 Thinking around Grave 3245 in the "Royal Graveyard" of Gonur (Murghab Delta, Turkmenista). In N. Miklukho - Maklay (ed.) *On the Track of Uncovering a Civilization. A*



- Volume in Honor of the 80th-anniversary of Viktor Sarianidi, Sankt-Petersburg: 244-267.*
- Salvatori, S. & M. Vidale.
1982 A Brief Surface Survey of the Protohistoric site of Shahdad, Iran: Preliminary Report. *Rivista di Archeologia* 6: 5-10.
- Sarianidi, V. I.
1989 Soviet Excavations in Bactria: the Bronze Age. In G. Ligabue & S. Salvatori (eds.) *Bactria an Ancient Oasis Civilization from the Sands of Afghanistan*: 109-124. Venezia.
1993a Margiana in the Ancient Orient. In F. H. Hiebert (ed.) *New Studies in Bronze Age Margiana*: 5-28. Moscow.
1993b Excavations at Southern Gonur. *Iran* 31: 25-37.
1998 *Margiana and Protozoroastrism*. Athens.
2002a The Fortification and Palace of Northern Gonur. *Iran* 40: 75-88.
2002b *Margush. Ancient Oriental Kingdom in the Old Delta of the Murghab River*. Ashgabat.
2005 *Gonurdepe, City of Kings and Gods*. Ashgabat.
2007 *Necropolis of Gonur*. Athens.
2009 *Turkmenistan Mystery and True of the Great Culture*. Ashgabat.
- Schmidt, E. F.
1933 Tepe Hissar Excavations 1931. *The Museum Journal* 23: 323-483.
1937 *Excavations at Tepe Hissar, Damghan*. Philadelphia.
- Shah, S. G. M & A. Parpola.
1991 *Corpus of Indus Seals and Inscriptions, II: Collections in Pakistan*. Helsinki.
- Spycket, A.
1981 *La statuaire du Proche Orient Ancien*. Leiden.
- Stein, A.
1937 *Archaeological Reconnaissances in North-Western India and South - Eastern Iran*. London.
- Tallon, F.
1987 *Métallurgie susienne I-II: de la fondation de Suse au XVIII siècle avant J.-C.* (= Musée du Louvre Département des antiquités orientales). Paris.
- Thapar, B. K.
1975 Kalibangan a Harappan metropolis beyond the Indus Valley. *Expedition* 17/2: 28.
- Tosi, M.
1968 Excavations at Shahr-i Sokhta, a Chalcolithic Settlement in the Iranian Sistan. *Preliminary of First Campaign, East and West* 18: 9-66.
1969 Excavations at Shahr-i Sokhta: Preliminary Report on the Second Campaign, 1968. *East and West* 19: 283-386.
1970 Shahr-i Sokhta. *Iran* 8: 188-189.
1974 Bampur: A Problem of Isolation. *East and West* 24: 29-50.
1976. Shahr-i Sokhta. *Iran* 14: 167-168.
1977 The Archaeological Evidence for Protostate Structure in Eastern Iran and Central Asia at the End of the Third Millennium B. C. In J. Deshayes (ed.) *Le plateau iranien et l'Asie centrale des origines à la conquête islamique. Leurs relations à la lumière des documents archéologique, Paris 22/24 Mars 1976*: 45-66. Paris.
1979 The Proto-urban Cultures of Eastern Iran and the Indus Civilization. Notes and Suggestions for a Spatio-temporal Frame to Study the Early Relations between India and Iran. In M. Taddei (ed.) *South Asian Archaeology 1977*: 150-171. Napoli.
- 1983 Excavations at Shahr-i Sokhta, Season 1969-1970. In M. Tosi (ed.) *Prehistoric Sistan I* (Istituto Italiano per il Medio ed Estremo Oriente, Reports and Memoirs XIX 1): 73-126. Italy: Rome.
- 1986 The Archaeology of Early States in Middle Asia. *Oriens Antiquus* 25: 153-187.
- Vidale, M & F. Desset.



- 2013 Mahtoutabad I (Konar Sandal South, Jiroft): Preliminary Evidence of Occupation of a Halil Rud Site in the Early Fourth Millennium B C. In C. Petrie (ed.) *Ancient Iran and Its Neighbours: Local Developments and Long Range Interactions in the Fourth Millennium BC*, British Institute of Persian Studies, *Archaeological Monographs Series*: 233-252. Oxford: Oxbow Books.

Winkelmann, S.

- 1998 Bemerkungen zum Grab 18 und den Silbernadeln von Gonur depe. *Archäologische Mitteilungen aus Iran und Turan* 30: 1-16.

- 2004 *Seals of the Oasis from Ligabue Collection*. Treviso.

Wittfogel, K.

- 1963 *Oriental Despotism: A Comparative Study of Total Power*. New Heaven: Yale University

