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**A LATE 4TH TO EARLY 3RD MILLENNIUM BC GRAVE
IN HAJJIABAD-VARAMIN
(JIROFT, SOUTH-EASTERN IRAN):
DEFINING A NEW PERIOD OF THE HALIL RUD
ARCHAEOLOGICAL SEQUENCE**

BY

N. ESKANDARI¹, F. DESSET², M. HESSARI³,
M. SHAHSAVARI⁴, M. SHAFIEE⁵; M. VIDALE⁶

(¹University of Tehran, Iran/University of Jiroft, Iran;

²UMR 5133 Archéorient (Lyon), France/University of Tehran, Iran;

³Art University of Isfahan, Iran; ⁴University of Jiroft, Iran;

⁵University of Tehran, Iran; ⁶Dept. of Cultural Heritage, University of Padova)

Abstract: A large catacomb grave was recently excavated in Hajjiabad-Varamin, in the Halil Rud valley (Kerman province, Iran). Dated from the late 4th to the early 3rd millennium BC, the burial is abundantly furnished with 90 artefacts, which provide for the first time an insight into the local material (ceramic) assemblage used in the Halil Rud valley around 3000 BC. The ceramics (here fully published) help to define a new ceramic horizon (which we propose to call “Varamin Period”), between the 4th millennium BC Aliabad wares horizon and the c. mid-3rd millennium BC occupation periods of Konar Sandal South. The analysis of the spatial distribution of the grave furnishings also reveals aspects of the final stages of the funeral, as well as some immaterial implications hidden behind the material evidence.

Keywords: Halil Rud civilization, Jiroft cemeteries, Varamin, Bronze Age of south-eastern Iran, funerary practices

1. Introduction: the site of Hajjiabad-Varamin

The Hajjiabad-Varamin archaeological area (28°25'2.77"N; 57°43'28.33"E), 6,5 km south-west of Konar Sandal South (see Figs. 1 and 2), is one of the largest archaeological settlements in the Halil Rud valley. The materials brought to surface by erosion and, unfortunately, by recent lootings, indicate that the site was occupied continuously from the (late 5th ?) early 4th to the second half of the 3rd millennium BC (and later hosted an important Islamic occupation). The protohistoric settlement

seems to have reached its maximum extension in the first half of the 3rd millennium BC, at the time when Konar Sandal South started to be occupied (Madjidzadeh & Pittman 2008).

The Hajjiabad-Varamin archaeological area displays Mahtoutabad I (Vidale & Desset 2013), Aliabad and Konar Sandal South (mid-late 3rd millennium BC) related ceramics. To these three classes, we may now add a local ceramic assemblage (up to now, largely unknown and found also in Marjan-Varamin and Riganbar) datable to the end of the 4th and the beginning of the 3rd millennium BC. This pottery features on large sections of the site surface and in the substantial group of vessels found in the grave that is the subject of this paper. This pottery defines a ‘Varamin Period’ which probably represents one of the main roots of the brilliant and much discussed 3rd millennium BC Halil Rud or Marhashi urban civilization. Besides Hajjiabad-Varamin, important aspects of this civilization have been intensively explored through the excavations at Konar Sandal south, in the deepest layers of Konar Sandal north and in the destroyed graveyards located at Mahtoutabad (Mahtoutabad IV) and nearby the mounds of Qaleh Koutchek.

In 2017, one of the present authors (N. Eskandari) opened two trenches in the western part of the Hajjiabad-Varamin archaeological area (Eskandari *et al.* forthcoming)¹ (Fig. 3a and Fig. 3b). In Trench I, he identified a sequence of layers dated through radiocarbon from the mid-4th to the beginning of the 3rd millennium BC. In Trench II was excavated a large catacomb burial labelled Grave 1 (see Figs. 4 and 5). Attributed to the late 4th-early 3rd millennium BC, it contained some 90 artefacts (see below). This grave shows that the western part of the mounds of Hajjiabad-Varamin, at the time, was used as a graveyard. At Hajjiabad-Varamin, like in many other contemporary and more recent sites (such as Shahr-i Sokhta, Shahdad and Mahtoutabad IV), Grave 1 was probably part of a wide specialized funerary area. Preliminary observations suggest the possibility that the contemporary burial ground extended, in the northern part of the site, for c. 300 m

¹ The first season of the excavation at the site of Varamin was carried out by the University of Jiroft, an expedition headed by N. Eskandari, with the collaboration of Tübingen University (Prof. P. Pfälzner) and ICAR. The results of the fieldwork are in press (Eskandari *et al.* forthcoming), where the “Varamin Culture” is fully characterized. Herein, we present Grave 1 and its burial goods in general. In this paper, however, we discuss the Varamin material culture in the cultural sequence of the Halil Valley, the spatial distribution of the grave furnishings, the grave structure and the stages of the funeral as well as the technology of the goods.

in west-east direction, and not less than 100 m in direction south-north. The cemetery might have hosted hundreds of burials, at present locally exposed by strong erosion.

After a burial found in the plundered area of Mahtoutabad in 2009 (Desset *et al.* 2017), dated to the second-half of the 3rd millennium BC, Grave 1 of Hajjiabad-Varamin is the second one to have been scientifically excavated in the Halil Rud valley. Together with another grave excavated in the Eastern Jazmurian, in the site of Spidej (Grave 125, Heydari *et al.* 2019), Hajjiabad-Varamin Grave 1 sheds a new light on the material assemblage used in south-eastern Iran between the end of the 4th and the beginning of the 3rd millennium BC (in particular, in the Kerman region), with important and new typo-chronological implications.

Both graves (Spidej and Hajjiabad-Varamin) confirm the importance of excavating well preserved funerary contexts (as *ensembles clos*), abundantly furnished with complete and contemporary ceramic groups. Besides observing some aspects of the local funerary rituals, this enables one to reconstruct reliable ceramic typo-chronological sequences needed as reference when dealing with entire regions that, to a large extent, are still archaeological blanks.

2. Grave 1

For 25 days, Nasir Eskandari and Meysam Shahsavari (supervisor of the trench) excavated Trench II and Grave 1, contained in its limits, in February 2017 (Figs. 4 and 5). Located in the western part of the archaeological area, Grave 1 is a catacomb-type grave with a rectangular access shaft (1,5 m × 0,7 m; Stage 1 in the sequence of events we have reconstructed) located on the eastern side. It was recorded about 90 cm below the current surface of the site, and was preserved only to a height of 1 m. The shaft led to a big sub-circular chamber (c. 3,2 m N/S; 2,9 m W/E; Stage 2), 20 cm lower, whose elliptical vault, although collapsed, could be mapped 1,1 / 1,2 m above the floor of the grave. Along the walls of the shaft it was also possible to observe the vertical traces of the picks used to dig the local sediments.

Since only some fragments of skull, teeth and coxal bones were preserved (See Fig. 5.7), the original position of the body was hypothetically located in the eastern part of the grave chamber, probably in a flexed position, and facing the entrance. After the deposition of the corpse, two large clusters of ceramics were piled up along the northern and southern sides of the chamber, leaving an empty space in the center. Such gap was probably

used as a pathway between the entrance and the rear where the deceased was put to rest (events ascribed to Stage 3). The entrance of the chamber was then closed maybe with a *chineh* wall (Stage 4), while the shaft was filled with soft sediments, clearly different from the substratum where the shaft had been dug out (Stage 5). Three ceramic vessels were inserted in the filling of the shaft: first n° 59 at the bottom, then n° 36 and n° 37 at the level where the shaft was first recognized during the excavation.

It is not clear where exactly was the trampling surface of the graveyard from which the pit was dug out some 5000 years ago. However, during the first days of the excavation, about half a meter above the hypothesized top of the chamber's vault, and c. half a meter below the current surface, two large stones were found (section in Fig. 4). One stood above the point of junction between the shaft and the chamber, while the other was located above the north-eastern corner of the chamber (perhaps indicating the location of the head of the dead?). If these stones were indeed part of the grave's architecture, they might have been placed on surface as grave markers (Stage 6 event). After the closure of the grave, post-depositional processes interfered, including in first place the collapse of the vault. This caused the filling of the chamber and the breakage of the uppermost ceramics of the two groups, and the tilting of some of them (Stage 7). Due to chemical decay and dissolution, bone remains almost completely disappeared.

This catacomb structure corresponds to the most frequent type of graves used in south-eastern Iran for most part of the 4th and 3rd millennium BC: at the graveyards of Shahr-i Sokhta, Spidej, Saidabad / Bampur 14, Mahtoutabad and Qaleh Koutchek (this was probably also the case in Shahdad) while, in contrast, the Keshik graves in Baluchistan have a surprising stone slabs gallery structure.

Seven samples from Grave 1 were analyzed for C14 dating, four human teeth and three charred elements. The human remains did not provide any collagen while charcoal gave unreasonable modern dates. Thus, unfortunately no radiocarbon dating is available for the grave (Eskandari *et al.* forthcoming).

3. Funerary furnishings: description, technology and comparisons

All in all, Grave 1 contained 90 artefacts (see Figs. 6 to 17). They are: 81 ceramic vessels; 6 copper-based artefacts (Fig. 16; one spearhead, n° 25, three thin leaf-shaped objects, n° 38, 39 and 40, one flat axe, n° 24 and one vessel, n° 27); two stone beads (a carnelian bead, n° 90, and the banded limestone bead n° 45); and one cockle shell, n° 44. The pottery

includes 3 main formal types: hemispherical bowls, bell-like beakers and pots, and globular jars with everted rims. Only 24 out of the 81 ceramics (less than 30%) are painted. As this is the first grave documented up to now in Varamin, at present little can be said about the relative wealth of its funerary offers. However, preliminary comparisons with contemporary graves in other early Bronze Age sites (considering, somehow arbitrarily, the number of objects as a proxy of richness) may give some indications.

At Shahr-i Sokhta, 45 graves were dated of the first period of occupation (c. 3000-2900 BC). Most of them contained from one to 11 artefacts, while the most abundantly furnished grave displayed 16 objects (Bonora *et al.* 2000: 514). Sajjadi (2009: 17) writes that among the graves excavated by the Iranian team in Shahr-i Sokhta (without details about their dating), 29% contained one to three artefacts, 28% four to eight artefacts, 16% nine to 16 artefacts, 2% from 16 to 20 artefacts, and 2% 21 to 50 items. At Spidej, the richest grave excavated (Grave 125, dated to the late 4th to early 3rd millennium BC; Heydari *et al.* 2019) contained 59 artefacts; while Rahbar (2017) excavated in Bampur 14 / Saidabad 15 graves dated from 3000 to 2300 BC, some of which contained more than 100 artefacts. In Damin, the grave published by Tosi (1970), probably to be dated of the 1st half or the middle of the 3rd millennium BC, contained 46 artefacts (41 ceramics, five metallic items and one stone column). In the light of these comparisons, Hajjiabad-Varamin Grave 1 seems to fall on the side of the relatively well-furnished graves. Nonetheless, in order to substantiate this first impression, we will need to excavate more graves datable c. 3000 BC.

Ceramics (Figs. 6-15)

Among the 81 ceramic vessels, some specimens can be related to areas and sites east of the Halil Rud valley, such as Baluchistan, Makran or Sistan, while many types are documented here for the first time. In fact, these latter types seem to belong to a more local assemblage, so far, to a large extent, very partially described. The complete absence of any Western- or Uruk/Proto-Elamite-related ceramics, as those found in the previously published Mahtoutabad III assemblage² is intriguing and is commented below. Among the 81 ceramic vessels, 60 could be checked for technological observations. In the following pages, we will describe the ceramics according to the basic criterion of Shepard 1968, i.e. proceeding

² See Desset *et al.* 2013.

from the simpler open forms to the more complex and restricted or closed ones (complexity in profile being defined by the number and combination of inflection and corner points in the pots contour).

Simple truncated-conical to hemispherical bowls: Figs. 6 and 7, n° 14, 16, 19, 21, 26, 35, 37, 43, 56, 59, 69, 73, 74, 75, 82, 83, 86, 88, 89.

While the specimens in Fig. 6 are truncated-cone shaped to hemispherical and low, those in Fig. 7 are more clearly hemispherical and taller. The base is simple and flat. Usually made with a fine buff ware, apparently including a fine sandy component, they range from 9 to 22 cm in height, with a mouth diameter wavering from 20 to 36 cm. They were made with different technical processes, namely coiling (n° 14, 75, 82), wheel-throwing (n° 19, 21, 37, 74, 83, 86) or molding (n° 16, 35, 56, 69, 73, 88, 89). The molded examples were very frequently regularised with an upper coil applied to form the rim. After this step, many of these bowls were either turned or trimmed up to 1/3 of the height, to mid-height or even to the rim. Some bowls described in the Mahtoutabad III assemblage look rather similar to those of Grave 1 (Desset *et al.* 2013, fig. 18 n° 10/11; see Fig. 21).

Vessels n° 14 and 35 have inner painted designs: three rows of W-M patterns are visible on n° 14 (all in all, the W-M pattern appears in n° 2, 14, 49 and 54 and seems to distinguish the Kerman pottery during the Varamin Period). Under the rim of n° 35 hangs a hatched wavy pattern, usually found on the outer surface in Early Baluchi grey wares (cf. n° 32 and 52; see below). In this perspective, n° 35 looks like a local variation (buff ware and inner hatched wavy pattern) of the early grey wares of the Baluchistan hinterland (grey ware and outer hatched wavy pattern).

Some of these simple hemispherical bowls, like n° 56, seem to be the precursors of the second half of the 3rd millennium BC 'standard bowls', so common in the settlement layers of Konar Sandal south (Madjidzadeh & Pittman 2008: Fig. 26, bottom row), and present also in the grave excavated in Mahtoutabad (Desset *et al.* 2017: Pl. 14, a-d). Comparisons are also possible with Tepe Yahya, phase IVC2 (Potts 2001: Fig. 1.13f).

A miniature hemispherical bowl and other small bowls with a scorpion painted in the interior: Fig. 8, n° 81, 29, 47, 50.

N° 81 is a 3 cm high bowl displaying an inner variation of the swastika-like pattern with a central cross and zig zag lines, reminding of the decoration used inside the footed pot n° 31. The manufacturing technique is

uncertain. Buff ware bowls n° 29, 47 and 50 are 6 to 7 cm high, with a mouth diameter of ca. 10 cm, and have fine sandy inclusions. They share a flat base, a weak inflection point at mid-height and a sub-vertical upper wall ending on a simple rim. They were all wheel-thrown and then turned on the base (n° 47 was clearly fired in a pile). Like in many other vessels of this assemblage, a line emphasizes the rim, while the interior hosts a 'fatty scorpion'. This is probably the origin of the scorpion decorative pattern well-attested in South-eastern Iran in the mid-3rd / second half of the 3rd millennium BC (see for example a Bampur IV.1 sherd, de Cardi 1970: Fig. 24, n° 201; or a canister jar found in the grave of Damin, Tosi 1970: Fig. 5). The same design is known in Baluchistan: see a Makran IIIa bowl (Besenval 2011: Fig. 82), in Bampur 14 / Saidabad (Rahbar 2003; objects n° 12.7 and 32.10) and in Chegerdak (M. Heydari, personal communication), where several small 'fatty scorpions' are painted around a central pattern (see Fig. 20). Such scorpions are the only animal designs on the ceramics of Grave 1. They also feature inside vessels n° 46 and n° 29, 40 and 57. We are tempted to imagine that behind this pattern may lay a visual game – a dangerous and poisonous animal hidden below food or beverages, to be discovered only after consumption, somehow like in a Bernard Palissy's Rustic Ware plate (Shell 2005). On a more abstract level, such scorpions are a powerful natural symbol that subverts the artificial field of the pot, sharing, however, the rotational nature of its creation.

Eastern-related hemispherical bowls: Fig. 8, n° 1, 32 and 52.

These 3 fine, clinky grey ware hemispherical bowls are discussed separately because of their cross-cultural implications. They bear grey/brown painted patterns (including the recurrent swastika pattern of n° 1) and the secondary patterns impressed during firing, due to the stacking of ceramics of the same form. Both n° 32 and n° 52 display on their outer surface the suspended wavy hatched pattern between two horizontal lines, while a more complex motif was painted inside n° 52 (a four-branched cross or swastika, surrounded by four groups of three lines surmounted by as many hatched arches in a rotational setting). Apparently, these three bowls were wheel-thrown, trimmed on the exterior and later carefully smoothed.

They are a kind of Emir Grey ware (EGW; Wright 1984), while Mutin *et al.* (2017: 142-143) recently proposed the term of Late Shahi Tump (or LST) ware. Dated to the late 4th to early 3rd millennium BC, these ceramics were found mainly in Kech-Maran (Shahi Tump, Miri Qalat and sites

located in the Dasht plain) and Eastern Jazmurian (Bampur, Katukan, Khurab, Fanuch, and Chah Sardu; Bampur 14 / Saidabad: Rahbar 2003; Spidej Grave 125: Heydari *et al.* 2019; Chegerdak and Keshik) areas, with some specimens found also in the most ancient graves excavated in Shahr-i Sokhta (phases 10 and 9; EGW found in 60% of the 45 graves; Bonora *et al.* 2000: 505) as well as, more rarely, in Tepe Yahya (Potts 2001: Fig. 1.6k / IVC2 and Fig. 3.7 f and g / IVB6 intrusive, black on buff).

Mainly produced in Kech-Makran and Eastern Jazmurian (in this perspective 'Early Baluchi' grey ware would be a better label than LST) and found as 'prestige' vessels in relatively rich graves (at least in Shahr-i Sokhta, Mutin *et al.* 2017), this pottery was uncommon (and exotic) in Kerman, like it was at Tepe Yahya (for comparisons, see Fig. 21).

Bell-like beakers and pots: Figs. 9 and 10, n° 5, 8, 9, 10, 12, 13, 15, 17, 18, 20, 22, 23, 48, 65, 66, 67, 68, 72, 77, 78, 85, 87.

These buff ware beakers and pots, distinguished by an unmistakable open, bell-like contour, ranged from 18 to 42 cm in height, with mouth diameters ranging from 20 to 43 cm. Relatively tall, with a flat base, they show a more or less perceptible inflection or corner point in the lower third or at mid-height (probably where the lower part was joined to the upper part), and a simple rim. Some were coil-built and shaped on the potter's wheel, while others seem to have been directly thrown on the wheel. They were often trimmed or turned up to 1/3 or half of the height.

Fig. 9, n° 9 has a circular hole in the centre of the base. Fig. 10, n° 5 is the only painted pot of this type. It shows a black geometric design (frieze of lozenges with inner hatched hourglass patterns) between the rim and two horizontal lines (cf., for the decorative pattern, Makran ceramics of Periods II and IIIa; Besenval 2011: Fig. 81). It also shows an inner oblique pattern of tiny sprinkled droplets of black paint, also visible on the vessel illustrated in Fig. 13, n° 30.

Deep bowls with vertical or restricted walls (sub-globular): Fig. 11, n° 4, 11, 34, 60, 70, 76.

Ranging from 14 to 19 cm in height, with a mouth diameter from 15 to 26 cm, these bowls are unpainted. Fig. 11 illustrates transitions from the simple hemispherical bowls discussed above (Figs. 6-9), to the more restricted forms of two sub-globular bowls in Fig. 11, n° 11 and 76. Also in this case, different technical processes were used to produce this group:

coiling (n° 70 and 76), wheel-throwing (n° 4 and 11) or molding with a coiled rim (n° 34). Most of them were then trimmed or turned up to the base, to 1/3rd of the height, to mid-height or up to just below the rim.

Sub-cylindrical and sub-globular small bowls: Fig. 12, n° 33, 63, 71; 36, 51, 53, 57, 61, 62, 64, 79, 80.

N° 33, 63, 71 (on top of Fig. 12) are small sub-cylindrical bowls, with a flat base, a slight carination and a sub-vertical upper wall ending on a simple rim. N° 33 and 63 were wheel-thrown and then turned on the base. N° 71 can be compared to a plain buff ware bowl found in Tepe Yahya IVC1 (Potts 2001: Fig. 2.27, B). The rest of the pots in Fig. 12 are more sub-globular in contour. Ranging from 7 to 10 cm in height, with a mouth diameter from 6,5 to 10 cm, these fine buff ware pots have a sandy temper. Some of them have stacking marks (like n° 57 and 79). They were all wheel-thrown and then trimmed up to different heights on their outer surface (after which the trimming traces were sometimes smoothed).

N° 51, 57 and 79 are similarly decorated on their outer surface with three black zig zag lines framed between the rim and two horizontal lines, while n° 80 displays two rows of downward hatched wavy patterns (reminding of the two rows of upward hatched triangles in n° 28). Comparisons (see Fig. 20) for these decorated sub-globular small bowls can be found in the Mahtoutabad III assemblage (Desset *et al.* 2013: Fig. 22), on a black on buff example at Tepe Yahya IVC2 (Potts 2001: Fig. 1.44, C and Mutin 2013: Fig. 3.52, n° 1) as well as in some graves in Shahr-i Sokhta Period I (Bonora *et al.* 2000: Fig. 4) and in Baluchistan, with inward-flected carinated walls: in the Rudbar area (Stein 1937: Pl. 20 Kal.1), a sherd with three or four black zig zag lines within two horizontal lines; and in Bampur 14 / Saidabad (Rahbar 2003: Pl. 17), where several slightly carinated bowls are decorated with two black zig zag lines equally framed between horizontal lines. Probably a Baluchi variation of this pattern was present in Bampur 14 / Saidabad, with a square pattern of four to five lines included by horizontal lines, also to be found in Spidej, Grave 125 (Heydari *et al.* 2019: Fig. 15). In this latter context, several small bowls share square or rectangular frames of three to four lines, within horizontal lines.

Painted footed bowls and bell-like pots: Fig. 13, n° 30, 31, 46, 49, 55, 58.

This Figure collects some specimens of the above described groups which are distinguished by a higher degree of elaboration, namely a raised

applied foot (but for n° 49) and the presence of painted designs. The high footed conical beaker n° 58 is probably one of the last occurrences of the Aliabad-related beakers used in Kerman (Tal-i Iblis IV, Mahtoutabad I-II, Khaje Askar graves) (Soleimani *et al.* 2016) and Kech-Makran (II, IIIa) around mid-4th millennium BC³. It is the only possible case of a formal transition currently perceptible between the Aliabad and Varamin Periods ceramic assemblages. This suggests that the Varamin Period – at least in our preliminary terms of observation, see below – could have been a break from the Aliabad ceramic tradition in Kerman province. Coiled on the potter's wheel, with a base added in a following step, this vessel displays an inner elementary wavy pattern under the rim.

Footed hemispherical bowls n° 31, 46 and 55 share a footed base with inner and outer black-painted designs. N° 31 shows outside, under the rim, the common hatched wavy pattern found also on Early Baluchi grey wares, such as n° 32 and n° 52, while the inner decoration may be a variation of the swastika-like pattern with semi-circular additions. Both n° 46 and n° 55 are decorated externally with a frieze of lozenges (hatched in the case of n° 55) framed between horizontal lines, while n° 55 bears inside three Maltese crosses (in Grave 1, only attested on this vessel, but found on other sherds on the site's surface) around a hourglass motif. The frieze of hatched lozenges painted on the outer surface of n° 55 reminds (surprisingly) of Tal-i Iblis Period I (Bard Sir) painted sherds (Caldwell 1967: 208, Fig. 3, bottom left). It was also found on black on buff wares at Tepe Yahya (Beale 1986: 60, d and I, and Fig. 4.22, black on buff ware, Period VB; Potts 2001: Fig. 4.17 d, and Mutin 2013: Fig. 3.43, n° 4, Yahya IVB5; see Fig. 20). N° 46 shows 4 'fatty scorpions' (a design discussed above) which somehow recall the swastika-like pattern. N° 46 and 55 were wheel-thrown, with an annular base added in a leather-like state of hardness, and then turned along the base (n° 46) or up to 2/3 of the height (n° 55).

Bell-like pots n° 30 and 49 display bichrome (black and red) painted patterns. In n° 30, one sees two metopes including hatched hourglasses, framed by three semi-circular motifs on both sides; while on the squat version n° 49, the metopes contain horizontal hatched hourglasses⁴ alternating with rows of three W/M-like designs, in both cases framed between

³ See Caldwell 1967, Vidale & Desset 2013, Soleimani *et al.* 2016, and Besenval 2011 for these references.

⁴ For this hourglass pattern, see Stein 1937: Pl. 19 Hus. 472 (Chah Hosseini).

horizontal black and red lines. N° 30 was wheel-thrown, with an annular ring added on the base afterwards. N° 49 may be related to a black on buff vessel found in Tepe Yahya IVC2 (Potts 2001: Fig. 1.58, n° A) while n° 30 may remind of designs used at Spidej, Grave 125 (see Fig. 20).

Globular jars with everted rim: Fig. 14, n° 2, 6, 7, 42, 84.

Ranging from 20 to 50 cm in height, with mouth diameters ranging from 10 to 20 cm width, these globular jars were made in buff ware with clays suggesting a sandy component. They have a flat base, straight walls turning to globular in their mid-upper part and a more or less everted rim (completely absent in the large hole-mouth jar n° 84). N° 6 and 42 were coiled on the potter's wheel. N° 42 was turned on the base. On the shoulder of n° 2, one sees a frieze of four W/M patterns, alternating with two vertical lines framed on both sides by three hatched triangles.

Painted globular jars: Fig. 15, n° 3, 28.

N° 3 and 28 are globular jars with everted rim. N° 3 was coiled and then trimmed up to the shoulder, while n° 28 was wheel-thrown and smoothed on its lower part. N° 3 presents a bichrome decoration on a red background: 3 horizontal black lines with a black zig zag line painted between the two uppermost horizontal ones. N° 28 shows, between two horizontal lines, two rows of upward hatched triangles (from above, these triangles form a star). N° 28 (Fig. 20) is very similar to a pot of the catalogue published by Madjidzadeh (2003: 160, lower row) as well as to another vase from Tepe Yahya IVC1 (brown on cream slipped buff ware: Potts 2001: Fig. 2.12, a and Mutin 2013: Fig. 3.64, 6). A less direct comparison may be found in a Bard Sir period (Iblis I) sherd found in Tal-i Iblis (Caldwell 1967: 125: Fig. 8).

Canister-like pot: Fig. 15, n° 54.

Vessel n° 54 is a unique small canister-like pot, made in two sections – body and shoulder – on the potter's wheel. It belongs to the Nal or Sohr Damb tradition (Period II: 3100-2800/2700 BC). These wares were encountered at Shahr-i Sokhta Period I, Mundigak, Said Qala Tepe and Tepe Yahya (Cortesi *et al.* 2008: 9-14; Mutin 2013: 116-117; Lombardo & Vidale 2014: cat. 14, 38, 39, 57-59). While the shape reminds several examples from Shahr-i Sokhta (comparisons summarized in Fig. 21), the

two black-painted rows of W/M-like patterns and zig-zags are a local variation.

Copper-based artefacts (Fig. 16 and Fig. 22 for comparisons)

In Hajjiabad-Varamin Grave n° 1 were found six copper-based artefacts, illustrated in Fig. 16. This may remind of other late 4th to mid-3rd graves of the macro-region, which contained metal objects. Spidej Grave 125 contained an assemblage of two shaft-hole axes, one flat axe and one knife (Heydari *et al.* 2019), while the Damin grave had one shaft-hole axe, two flat axes, one chisel and one knife (Tosi 1970). In protohistoric south-eastern Iran such artefacts, as a rule, were placed nearby the head of the deceased (in contrast, in the grave excavated in Mahtoutabad and dated to the 2nd half of the 3rd millennium BC, a copper vessel was found nearby the feet of the dead; see Desset *et al.* 2017).

Leaf-shaped oval blades: Fig. 16, n° 38, 39, 40.

These 3 artefacts, whose actual function is still uncertain, given their apparently blunt edges and quite limited thickness, can be compared with others found in Bampur 14 / Saidabad graveyard (Rahbar 2003: Pl. 55, n° 10) and in Grave 754 at Shahr-i Sokhta (Piperno & Salvatori 2007: 325, Fig. 775, 8589), datable to Period I. For other oval, short-tanged blades of the same general type we have to look to the Indus valley. Some copper blades found at Mohenjo-Daro (Sindh, Pakistan) are quite similar, having the same short tang and an oval contour ending in a short, slightly pointed tip (Marshall 1931: Pl. CXXXV, 2, C.1978, and Pl. CXXXVI, 1; but see also slightly different short-tanged oval blades, even though more elongated in the same two illustrations and – always at Mohenjo-Daro – in Mackay 1938: Pl. CXXIX, 11). At Harappa, see the copper blades illustrated in Vats 1941: Pls. CXXI, 20, and CXXIII, 41. Other short-tanged oval blades, but more elongated, were recorded at Chanhu-Daro (Sindh, Pakistan: Mackay 1943: Pls. LXIII, 2 and 4; LXIV, 1, 2 and 6; specimens in Pl. LXV and LXVII) and possibly at Lothal (Gujarat, India: Rao 1973: 540).

Knife or spear-head: Fig. 16, n° 25.

This artefact finds comparisons in Tepe Yahya IVC2 (Potts 2001: Fig. 1.26), Khaje Askar (Alidadi Soleimani *et al.* 2016: Fig. 13 D),

Chegerdak (M. Heydari, personal communication), Bampur 14 / Saidabad (Rahbar 2003: Pl. 56), Spidej grave 125 (Heydari *et al.* 2019: artefact n° 53), Khurab (Stein 1937: Pl. 18 Khur.F.i.261) and Damin (Tosi 1970: Fig. 18.c). In Shahdad (Hakemi 1997: 639-640), several artefacts may be considered as later examples of this type of objects. Later specimens of the type are also common in the Indus valley, particularly at Chanhū-Daro (Mackay 1943: Pls. LXII, 17; LXIII, 4, 5; LXIV, 3; LXV, 3-6; LXVI, 14-16; LXXII, 1, 2). The same object is also present at Harappa (Vats 1941: Pl. CXXI, 21) and at Mohenjo-Daro (Mackay 1938: Pls. CXIII, 7; CXVII, 8; CXXIX, 1; CXXXIII, 34).

Flat trapeze-like axe: Fig. 16, n° 24.

This artefact is also known at Chegerdak (M. Heydari, personal communication), at Spidej in Grave 125 (Heydari *et al.* 2019: artefact n° 52), at Katukan (Stein 1937: Pl. 18, Kat 016) and Damin (Tosi 1970: Fig. 17c). In Shahdad (Meier 2015: cat. 173-178), several artefacts may be considered as later examples of this type of objects. Although Indus specimens of the same type are, on the whole, more rectangular than trapezoidal (e.g., at Mohenjo-Daro, Marshall 1931: Pls. CXXXVIII, 1 and CXXXIX, 1; Mackay 1943: CXIII, 4-5; CXVII, 3; CXX, 29-26; CXXII, 8, 9 and 13; CXXVI, 4) a few specimens are closer to the axe from our Grave n° 1 (Mackay 1943: CXX, 28, 30; CXXII, 7; and specimens at Pl. CXXXI, 21-22 and 34-36).

Low hemispherical bowl: Fig. 16, n° 27.

This copper bowl has a low umbilicated base, a feature absent in the Indus repertory as well as it does not feature in the abundant inventory of the copper vessels found at Shahdad. For the rest, its very simple shape prevents pertinent comparisons.

Stone beads (Fig. 17)

Banded limestone lozenge-shaped bead: Fig. 17, n° 45.

Lozenge-shaped flat beads are frequently found in the burials of Shahr-i Sokhta, Period I. The material is variable (lapis lazuli or more often chalcidony), as is the association with other types of beads. See, in Piperno & Salvatori 2007: Grave 708/7553 (p. 242); Grave 710/7576 (p. 245); Grave

747/8509 (p. 315); Grave 748/8514 (p. 316); Grave 754/ 8555 (p. 325); Grave 750/8561 (p. 326-327). A single lozenge-like lapis lazuli bead was also found in Grave 49 Inf. (p. 104, 6565), datable to mid-3rd millennium BC. These beads are also attested in Spidej (Grave 125, Heydari *et al.* 2019: artefact n° 54), ascribed to the early 3rd millennium BC, and Bampur 14 / Saidabad (Rahbar 2003: Pl. 56).

Carnelian bead: Fig. 17, n° 90.

The carnelian bead n° 90 is shaped as a flat biconical disk with a sharp corner point. Beads of this material and shape are much rarer than those above commented. Grave 749 at Shahr-i Sokhta (Piperno & Salvatori 2007: 320, 8527d, datable to late Period I) contained a single specimen.

A shell (Fig. 17 and Fig. 22 for comparisons)

Cockle shell (*Anadara* sp.⁵): Fig. 17, n° 44.

A cockle shell was frequently deposited in 4th and 3rd millennium BC graves of south-eastern Iran such as in Khaje Askar (Alidadi Soleimani *et al.* 2016: Fig. 14, n° D and E) and in the Bampur 14 / Saidabad graveyard (Rahbar 2003: Pl. 56), probably to be used as a cosmetic container. This obviously reminds of Early Dynastic period Mesopotamia (notably in Abu Salabikh, Bismaya, Fara, Kish, Tello, Ubaid and Ur). In this last site, in the Royal Cemetery, real *Cardium* and their gold replica were used to store greenish or bluish secondary copper minerals (see Moorey 1994: 133-134 and Hauptmann *et al.* 2016; for cosmetic pigments at Shahr-i Sokhta and references see Vidale *et al.* 2016). Deposited probably nearby the head of the deceased, the cockle shell in Hajjiabad-Varamin Grave 1 also preserved on its inner surface residues of a greenish powder which, so far, could not be analysed.

4. Spatial analysis and some aspects of the funerary practices

The analysis of the spatial distribution of the funerary furnishing of a grave is only pertinent when this last is well-preserved and properly excavated, as it is the case for Hajjiabad-Varamin Grave 1 (Binford 1971:

⁵ We thank here Chloé Martin and Marjan Mashkour (Musée national d'Histoire Naturelle, Paris) for this identification.

14; see Heydari *et al.* 2019, for a contemporary example in Spidej graveyard). In Hajjiabad-Varamin Grave 1, the most obvious and important spatial feature is the bipartition of the funerary assemblage in two symmetric clusters (Fig. 18), a northern one (35 artefacts) and a southern one (51 artefacts), with one bowl located just nearby the deceased in the centre (n° 43) and three bowls placed in the shaft, apparently in front of the closure of the chamber (n° 36, 37, 59). The stacking of series of bell-like pots, bowls and beakers of decreasing size in vertical piles was a recurrent behaviour of the last ritual events. This might suggest that such vessels, in that contingency, did not contain solid food, other materials of substantial volumes or beverages; or that these materials had been previously removed.

The northern and southern clusters share some features. In both groups, three globular jars were deposited close to one another (n° 6, 84, 28 in the northern cluster; n° 2, 3, and 7 in the southern one). In each cluster, globular jars are accompanied by two painted bowls (n° 32 and 35 in the northern cluster; n° 1 and 52 in the southern one, in both cases near the entrance) and one polychrome painted bell-like pot (n° 30 in the northern cluster; n° 49 in the southern one).

But there are also some meaningful differences. The non-ceramic artefacts (n° 24, 25, 27, 38, 39, 40, 44, 45), including the copper ones and the cockle shell (with the exception of carnelian bead n° 90), cluster in the north-eastern part of the chamber, near the presumed location of the head (like in Spidej Grave n° 125). In the northern cluster, moreover, there were three small bowls with 'fatty scorpions' painted inside (n° 29, 47 and 50) located close to one another. Moreover, the superimposed piles of bell-like beakers and pots and bowls are more present in the southern group.

Finally, the three bowls deposited in the shaft in front of the closing wall may remind of the pots and bones found in the same position in the 2400-2200 BC grave excavated in Mahtoutabad (Desset *et al.* 2017): the broken pot n° 59 in Hajjiabad-Varamin Grave 1 corresponds to broken vessel f in the Mahtoutabad grave.

In the light of the above, the interior of Hajjiabad-Varamin Grave 1 may be ideally subdivided in three areas (Fig. 19):

- The eastern end of the chamber, hosting the physical remains of the deceased and representing, through valuable non-ceramic offers, some aspects of his/her social personality.
- The western part of the chamber. Here the two main clusters of offerings (northern and southern) could have been offerings for the afterlife

or/and the remains of a funerary banquet. Through this indirect lens, the offers would display the social affiliations relating the dead to the living community. The two clusters of artefacts might have been separated mainly by the gap needed to bring in the corpse and the objects, or reflected some dichotomy in the participants to the funeral that cannot be better focused.

- The last area is the access shaft, where some specific opening and closing practices were probably held.

5. The cultural context of Hajjiabad-Varamin Grave 1

One of the main purposes of the first season in Hajjiabad-Varamin in 2017 was to determine the cultural sequence of the site (Eskandari *et al.* forthcoming). To reach this aim, a stratigraphic trench (named Trench I) was opened on the top of the highest mound of the site (Fig. 3). This stratigraphic trench was explored to the depth of 3.2 m, but the virgin soil was not reached. A cultural sequence from the mid-4th to early 3rd millennium BC was determined with the identification of two occupation periods: the already known Aliabad/Iblis IV culture (Late Chalcolithic) and a hitherto unknown period (called here Varamin Period) dated from 3300/3200 to 2800 BC.

This dating is based on the ¹⁴C results of fourteen samples from Trench I, analyzed at the Klaus-Tschira-Archaeometry-Center (Mannheim) of the University of Heidelberg. From the 14 samples from Trench 1, 12 produced valuable and interesting results, while two resulted in modern dates. Three ¹⁴C dated samples were from Aliabad occupation layers, giving a range from the second to the third quarters of the 4th millennium BC. The recovered diagnostic potsherds also confirm this dating based on comparison with other excavated sites, in Shahdad (Eskandari 2017) and Mahtoutabad (Vidale & Desset 2013). The pottery repertoire of the upper layers in Trench 1 was completely different from the Aliabad ceramics with new techniques, forms and decorations such as oblique wavy and straight lines painted on the inner surface of open vessels (Eskandari *et al.* forthcoming). The upper layers ceramics can be compared to the ceramics from Grave 1, published here, and ascribed to the Varamin period. As said above, these layers were dated from 3300/3200 to 2800 BC thanks to nine ¹⁴C datings.

Comparative framework (Figs. 20-22)

The material comparisons currently available link Hajjiabad-Varamin Grave 1, and the Halil Rud valley Varamin Period in general, to Mahtoutabad III (painted local ceramics), Tepe Yahya IVC2/1, Shahr-i Sokhta I, some of the graves in Bampur 14 / Saidabad and Chegerdak, Spidej Grave 125, Makran IIIa and Nal/Sohr Damb II, confirming the dating around 3000 BC (c. 3200 to 2900/2800 BC). All in all, the ceramics of Hajjiabad-Varamin Grave 1 gives us an exceptional insight to the local and eastern-related ceramic assemblage in Kerman province around 3000 BC, with a coherent archaeological context and complete ceramic shapes.

The copper-based artefacts, as far as we can presently say, and before any analytical evidence, belong to a southern-Iranian sphere of interaction linking the Halil Rud valley to Sistan and the western edge of the Dasht-i Lut. Moreover, they also show – much more than the pottery – important links with the later metallurgical tradition of the Indus valley early urban world (c. 2600-1900 BC), whose meanings and historical implications wait for reliable explanations.

Definition of the Varamin ceramic Period

Grave 1 at Hajjiabad-Varamin illustrates the local ceramic tradition in the late 4th to early 3rd millennium BC, so far discontinuously observed in Tepe Yahya IVC/IVB, on the surface of many looted sites in the Halil Rud valley and in the deposits of Mahtoutabad III, here mingled as a minor component (2 to 3 %) of the Uruk- or Proto-Elamite related assemblage⁶. This confirms that the Uruk- or Proto-Elamite-related ceramics observed in Mahtoutabad III were intrusive in the Halil Rud valley. As this latter assemblage was found in secondary sediments (alluvial layers alternating with aeolian surfaces), we presume that potsherds came from the dumps of a nearby enclave. Actually, c. 100-200 m south of the destroyed graveyard, on the right bank of the river, on the walls of the looting pits, were visible mud brick walls. This might be the location of a separate enclave, possibly analogous to the oval compound in Godin Tepe, phase VI.1 (where 70% of the material was local and 30% Uruk/Proto-Elamite related)⁷.

⁶ Desset *et al.* 2013: 38-43 and figs. 20-24.

⁷ See Mutin 2013 and Mutin *et al.* 2016: 851 for this distinction between Western-related, Baluch-related and local/Kerman-related assemblages in Tepe Yahya IVC.

The absence of contemporary Western/Uruk/Proto-Elamite related material (such as the bevelled-rim bowls) observed in Grave 1 but also on the whole surface of the Hajjiabad-Varamin archaeological area may lead to two different interpretations:

- 1) Mahtoutabad III (and Yahya IVC2 building) assemblage was a Western-related material foreign enclave in a completely independent local background. Kerman area would then be the real eastern border of the Uruk/Proto-Elamite phenomenon (which would only be present beyond through limited enclaves, like Kale Kub nearby Ferdows, recently excavated by H. Azizi), especially when comparing the Varamin period assemblage to its contemporary and immediate western Banesh neighbour in Fars. Historic reasons lay maybe behind this material discrepancy.
- 2) Some considerations also lead us to think that the whole Varamin period local and Eastern-related ceramic assemblage observed on the surface of Hajjiabad-Varamin (and in other sites such as Marjan-Varamin and Riganbar) only comes from looted graves. Perhaps this complete absence of Western/Uruk/Proto-Elamite related material is not to be explained through specific historical reason but because of the specific funerary original context of this material. West-related material was perhaps not deemed as proper for burial with the deceased, as they reflected peculiar cultural or economic interactions marginal to the social core of the late 4th / early 3rd millennium BC.

Hajjiabad-Varamin Grave 1 (and Hajjiabad-Varamin in general) may be used to define the local / Kermani assemblage produced from the late 4th to the early 3rd millennium BC, heir of the second and third quarter of the 4th millennium BC Aliabad culture (see in this perspective the conical footed beaker n° 58) and ancestor of the mid and second half of the 3rd millennium BC assemblage found notably in Konar Sandal south and in the graves of Mahtoutabad period IV. For this reason, we propose here to name this epoch as the Varamin period (see Table 1).

Clearly different from Aliabad pottery, the Varamin Period assemblage represents the root of the ceramics used in the Halil Rud valley for the most part of the 3rd millennium BC, with its fine orange to buff ware beakers, bowls or globular jars, usually tempered with fine mineral elements, decorated with mainly monochrome black geometric patterns (with the exception of 'fat scorpions' sometimes painted inside some bowls, such as n° 29, 46, 47 and 50). Large ibexes patterns were also noticed on several sherds found on the surface of Hajjiabad-Varamin, usually in metopes

Table 1: Proposed ceramic periodization of the Halil Rud valley, from the late 5th to the early 2nd millennium BC (to be compared with Pfälzner & Alidadi Soleimani 2015: Fig. 13).

Dating	Halil Rud valley ceramic Periods	Varamin Periods
Late 5 th millennium BC ?	Gaz Saleh* (Pre-Mahtoutabad I)	I
Early 4 th millennium BC (4100-3900/3800 BC)	Mahtoutabad I	II
Mid-4 th millennium BC (3900/3800-3300 BC)	Aliabad (Mahtoutabad II)	III
Late 4 th and early 3 rd millennium BC (3300/3200-2800 BC)	Varamin (contemporary but distinct from the Western-related Mahtoutabad III assemblage)	IV
Mid-3 rd millennium and second half of the 3 rd millennium BC (c. 2800-2200 BC; 1 st phase: 2800-2500 BC; 2 nd phase : 2500-2200 BC)	Konar Sandal south (Mahtoutabad IV)	V
Late 3 rd and early 2 nd millennium BC (c. 2200-1900/1800 BC)	Konar Sandal north deep layers period (Madjidzadeh & Pittman 2008: fig. 27) Plain fine buff ware with frequent carinated shapes and the abundant use of sealings on ceramics; similarities with Yahya IVA, Shahr-i Sokhta Period IV and Oxus (Namazga V) assemblages.	Not attested yet in Varamin

* *The Gaz Saleh assemblage is a collection of ceramics found in the extreme south of the Hajjiabad-Varamin mounds, in course of study by the authors. It was thus named from the nearby present village; stratigraphically, it is earlier than Mahtoutabad I and in terms of forms and painted designs looks ancestral to the pottery of this latter horizon.*

between horizontal lines under the rim. The black and red bichromy probably inherited from the Aliabad culture was still partially maintained (see vessels n° 3, 30 and 49).

From this local background, the ceramics used in the Halil Rud valley gradually evolved during the 3rd millennium BC, in diversified forms (with new types such as the ‘scorpion-bowl’, the canister jar, the globular jar with a cylindrical spout and the footed cup) while spreading decorative black painted patterns (progressive increase in the vegetal and animal patterns, with palm-date trees and ibexes, and applied wavy ridges or snake-like ones, as well as excised motifs). The increase in the use of grey wares during the 3rd millennium BC is probably due to an eastern influence, perhaps from Jazmurian, starting as soon as the Varamin Period (vessels n° 1, 32 and 52).

Hajjiabad-Varamin Grave 1 sheds new light on the ceramic sequence of the Halil Rud valley in the late 4th and early 3rd millennium BC, integrating what we previously knew for the 4th millennium BC thanks to the archaeological records of Tal-i Iblis, Tepe Yahya and Mahtoutabad. But still, for a great part of the 3rd millennium BC, i.e. the hypothetical apex of the Halil Rud civilization, the ceramic typo-chronology remains surprisingly under-documented. Certainly, the final publication of the excavations at Konar Sandal south will improve the matter. To tackle with this gap is one of the main objectives of the authors of this paper, through the study, in a near future, of the remaining 3rd millennium BC layers in the Hajjiabad-Varamin archaeological area, and the publication of the materials already documented on the surface of the looted cemetery of Mahtoutabad.

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Appendix: A short technical note on ceramic technology

In absence of X-rays radiography, it is not easy, not fully reliable, to distinguish visually vessels made with coils, thinned and regularized on the potter's wheel (wheel fashioning) from others made on the potter's wheel from a single lump of plastic clay, in a single operation. The criteria here preliminarily applied for this distinction are summarized in the following Table 2.

Of these techniques, molding is certainly the less known and less analytically detected. However, it was certainly in use in the Halil Rud valley since the Mahtoutabad I period (c. 4100-3900/3800 BC or earlier; Vidale & Desset 2013); therefore, the identification in the pottery of Hajjiabad-Varamin around 3000 BC is not surprising. Although none of these indicators can identify with certainty by itself one or the other technique, in the case of the ceramic assemblage here discussed the different lines of evidence were combined with a sufficient coherence to support the interpretations above provided.

Tab. 2. Criteria here applied for preliminarily distinguishing wheel-fashioned from wheel thrown pots.

wheel fashioning of coils	wheel throwing	molding
basically even thickness moving from base to rim	gradually decreasing thickness from base to rim	even thickness in the lower bodies, horizontal joint below the rim
tactile and visual perception under oblique light of rhythmic variations of thickness along the walls, no continuous spiral	continuous rill-like spiral ascending from the centre of the base onwards	small oval or round depressions left by finger impressions, revealed by tactile analysis
general use of trimming (free-hand scraping) of the lower parts, sometimes extending to wider and upper areas of the pot	general use of turning (scraping of the upside-turned pot on a fast-revolving potter's wheel), in general limited to the lowermost part	limited evidence of scraping processes
slightly bumpy lower part, with oblique-oriented facets	more smooth and regular lower part, horizontal scraping marks	smoother, even external bases

The most important consequence is that local vessels like the bowls of Figs. 6 and 7, as well as the bell-like pots of Figs. 9 and 10, and the bowls of Fig. 11, although equivalent in shape, are made with the three different techniques. This suggests that the pots used for the funeral (apparently, mostly made on purpose, given the total absence of use marks) were made by craftsmen of different workshops, and probably from different communities – perhaps a signal of close links between the people buried in the graveyard and the wider rural hinterland. The Early Baluchi pottery of Fig. 8 (n° 1, 32 and 52), and the small globular bowls of Fig. 12, in contrast, are almost regularly wheel-thrown (although their forming process has never been properly studied in depth).

Fig. 23a shows some details of the manufacturing traces visible on the hemispherical bowl of Fig. 7, n° 74. The white arrow, 1, shows the limit of the lower part of the vessel that underwent turning (scraping of the upturned pot on the revolving potter's wheel). While the thin, horizontal traces indicate *per se* the use of a wheel, by turning the base the potters reduced the thicker base required, while the pot was thrown, to ensure its effective centring on the axe of the wheel. The second arrow 2 marks the lower limit of the upper part of the top, of a strip of the vessel fashioned (probably in the last steps of the throwing process) by a fast, repetitive paddling that left thick sequences of vertical impressions. Similar marks

are regularly found on the Early Baluchi grey wares, where, however, they are easily confused with vertical chattering marks due to the turning process.

Fig. 23b shows the interior of the bowl of Fig. 7, n° 19. The picture shows the continuous spiral left by the potter during the final stage of the wheel-throwing process, and the absence of any evidence of the coiling process.

The drawings cannot efficiently render the details of the painting process. Fig. 23c shows a close up view of the fast, competent but quite irregular strokes with which was painted the bell-like pot of Fig. 10, n° 5 (note also the large drops of diluted paint falling from the edge, showing that the pot was painted with the mouth upwards). The interior (Fig. 23d) shows how a sprinkle of the same paint formed a spiral of tiny round droplets. Such spiral demonstrates that when the droplets fall the vessel was still revolving, at the end of the painting sequence, on the potter's wheel. The reason for this gesture, not uncommon on the pots of the Varamin Period production, is unclear. In Pakistan, *dhobis* (washermen) sometimes sprinkle drops of blue paint on the white dresses they just washed, apparently for good luck.

Bibliography

- ALIDADI SOLEIMANI, N., SHAFIE, M., ESKANDARI, N. & SALEHI, H.M., 2016. Khaje Askar: a 4th millennium BC cemetery in Bam, southeastern Iran, *Iranica Antiqua* 51: 57-84.
- BEALE, T.W., 1986. *Excavations at Tepe Yahya, Iran, 1967-1975. Volume I: The Early Periods* (American School of Prehistoric Research. Bulletin 38), Cambridge (Mass.).
- BESENVAL, R., 2011. Entre le Sud-Est iranien et la plaine de l'Indus: le Kech Makran, Recherches archéologiques sur le peuplement ancien d'une marche des confins indo-iraniens, *Arts Asiatiques* 52: 5-36.
- BINFORD, L.R., 1971. Mortuary practices: their study and their potential, in: Brown, J.A. (ed.), *Approaches to the social dimensions of mortuary practices* (Society for American Archaeology. Memoirs 25), Cambridge: 6-29.
- BONORA, G.L., DOMANIN, C., SALVATORI, S. & SOLDINI, A., 2000. The oldest graves of the Shahr-i Sokhta graveyard, in: Taddei, M. and De Marco, G. (eds.), *South Asian Archaeology (1997): proceedings of the Fourteenth International Conference of the European Association of South Asian Archaeologists, held in the Istituto italiano per l'Africa e l'Oriente, Palazzo Brancaccio, Rome, 7-14 July 1997* (Serie orientale Roma / Istituto italiano per l'Africa e l'Oriente 90), Rome: 495-520.

- CALDWELL, J.R. (ed.), 1967. *Investigations at Tal-i Iblis* (Illinois state Museum preliminary reports 9), Springfield.
- CARDI, B. de, 1970. *Excavations at Bampur, a third millennium settlement in Persian Baluchistan, 1966* (Anthropological papers of the American Museum of natural history 51/3), New York.
- CORTESI, E., TOSI, M., LAZZARI, A. & VIDALE, M., 2008. Cultural relationships beyond the Iranian plateau: the Helmand civilization, Baluchistan and the Indus valley in the 3rd millennium BCE, *Paléorient* 34/2: 5-35.
- DESSET, F., VIDALE, M. & ALIDADI SOLEIMANI, N., 2013. Mahtoutabad III (province of Kerman, Iran), a 'Uruk-related' material assemblage in Eastern Iran, *Iran* 51: 17-55.
- DESSET, F., VIDALE, M., ALIDADI SOLEIMANI, N., BATTISTELLA, E. & DANESHI, A., 2017. A grave of the Halil Rud valley (Jiroft, Iran, ca. 2400-2200 BC): stratigraphy, taphonomy, funerary practices, *Iranica Antiqua* 52: 25-60.
- ESKANDARI, N., 2017. Excavations at the prehistoric site of Tepe Dehno and East Dehno, Shahdad, Southeastern Iran, *Iranian Journal of Archaeological Studies* 7: 45-54.
- ESKANDARI, N., PFÄLZNER, P. & ALIDADI SOLEIMANI, N., forthcoming. The formation of the Early Bronze Age Jiroft Culture, Halilrud Basin, SE Iran: Excavations at Varamin Jiroft 2017, *AMIT*.
- HAKEMI, A., 1997. *Shahdad, Archaeological Excavations of a Bronze Age Center in Iran* (Istituto italiano per il Medio ed Estremo Oriente. Centro scavi e ricerche archeologiche. Reports and memoirs 27), Rome.
- HAUPTMANN, A., KLEIN, S., ZETTLER, R., BAUMER, U. & DIETERMANN, P., 2016. On the making and provenancing of pigments from the Early dynastic Royal tombs of Ur, Mesopotamia, *Metalla* 22/1: 41-74.
- HEYDARI, M., DESSET, F. & VIDALE, M., 2019. A late 4th - early 3rd millennium BC grave at Spidej (Eastern Jazmurian, Iranian Baluchistan), *Iranica Antiqua* 54: 17-57.
- LOMBARDO, G. & VIDALE, M. (eds.), 2014. *Simboli Vivi: Il potere delle immagini nelle ceramiche preistoriche del Pakistan = Living Symbols: The power of imagery in the prehistoric pottery of Pakistan*, Rome.
- MACKAY, E.J.H., 1938. *Further Excavations at Mohenjodaro: being an official account of Archaeological Excavations at Mohenjo-daro carried out by the Government of India between the years 1927 and 1931*, New Delhi.
- MACKAY, E.J.H., 1943. *Chanhu-Daro Excavations 1935-36* (American Oriental Series 20), New Haven.
- MADJIDZADEH, Y., 2003. *Jiroft: the Earliest Oriental Civilization*, Tehran.
- MADJIDZADEH, Y. & PITTMAN, H., 2008. Excavations at Konar Sandal in the region of Jiroft in the Halil basin: first preliminary report (2002-2008), *Iran* 46: 69-103.
- MARSHALL, J.H., 1931. *Mohenjo-daro and the Indus Civilization*, London.
- MEIER, D., 2015. *Kaveh's forefathers. Traces of protohistorical metallurgical activities during the 3rd millennium BCE in East Iran with a special focus on*

- the case of Shahdad in the Dasht-eh Lut (Kerman province)*, unpublished Ph.D. thesis, Freie Universität Berlin.
- MOOREY, P.R.S., 1994. *Ancient Mesopotamian materials and industries, the archaeological evidence*, Oxford.
- MUTIN, B., 2013. *The Proto-Elamite settlement and its neighbors, Tepe Yahya IVC* (The American School of Prehistoric Research Monograph Series), Oxford.
- MUTIN, B., LAMBERG-KARLOVSKY, C.C. & MINC, L., 2016. Investigating ceramic production during the Proto-Elamite period at Tepe Yahya, south-eastern Iran: results of instrumental neutron activation analysis of periods IVC and IVB ceramics, *Journal of Archaeological science: Reports* 7: 849-862.
- MUTIN, B., MINC, L., LAMBERG-KARLOVSKY, C.C. & TOSI, M., 2017. Regional and long-distance exchange of an emblematic 'prestige' ceramic in the Indo-Iranian borderlands. Results of neutron activation analysis, *Paléorient* 43/1: 141-162.
- PFÄLZNER, P. & ALIDADI SOLEIMANI, N., 2015. The ICAR - University of Tübingen South-of-Jiroft archaeological survey (SOJAS). Results of the first season 2015, *Archäologische Mitteilungen aus Iran und Turan* 47: 105-141.
- PIPERNO, M. & SALVATORI, S., 2007. *The Shahr-i Sokhta Graveyard (Sistan, Iran). Excavation Campaigns 1972-1978* (Istituto Italiano per l'Africa e l'Oriente. Centro studi e ricerche archeologiche. Reports and memoirs 6), Rome.
- POTTS, D.T., 2001. *Excavations at Tepe Yahya, Iran 1967-1975. Volume III: The Third Millennium* (American school of prehistoric research. Bulletin 45), Cambridge (Mass.).
- RAHBAR, M., 2003/1382. *Gozarsh moqadamatiye fasl avval e kavosh e mohavateh 14 Bampur (gourestan)*, Daneshgah Sistan o Baluchestan, gorouh bastanshenasi ba hamkariye Sazman e Miras Farhangiye keshvar.
- RAHBAR, M., 2017/1396. Mohavatehye chomare 14 Bampur, gourestan az hezarehye sevvom pish az milad dar jonoub e charq e Iran, in: M. Khanipour and R. Naseri (eds.), *Bastan pajouh, maqalat e nechasthaye anjoman e 'elmiye daneshjouyan e bastanshenasiye daneshgahye*, Tehran: 51-78.
- RAO, S.R., 1979. *Lothal A Harappan Port Town (1955-62)*, Volume 1 (Memoirs of the Archaeological Survey of India 78), New Delhi.
- SAJJADI, S.M.S., 2009. *Excavations at Shahr-e Sokhta, second preliminary report on the excavations of the graveyard, 2001-2003*, Tehran.
- SHELL, H.R., 2005. Casting Life, Recasting Experience: Bernard Palissy's Occupation between Maker and Nature, *Configurations* 12: 1-40.
- SHEPARD, A.O., 1968. *Ceramics for the Archaeologists*, Washington D.C.
- SOLEMANI, N.A., SHAFIEE, M., ESKANDARI, N. & SALEMI, H.M., 2016. Kaje Askar. A 4th millennium BC cemetery in Bam, Southeastern Iran, *Iranica Antiqua* 51: 57-84.

- STEIN, A., 1937. *Archaeological Reconnaissances in North-western India and South-eastern Īrān*, London.
- TOSI, M., 1970. A tomb from Damin and the problem of the Bampur sequence in the third millennium BC, *East and West* 20: 9-50.
- VATS, M.S., 1940. *Excavations at Harappā: being an account of archaeological excavations carried out at Harappa between the years 1920-1 and 1933-4*, Delhi.
- VIDALE, M. & DESSET, F., 2013. Mahtoutabad (Konar Sandal south, Jiroft), preliminary evidence of occupation of a Halil Rud site in the early 4th millennium BCE, in: Petrie, C. (ed.), *Ancient Iran and Its neighbours: Local developments and long-range interactions in the 4th millennium BC* (British Institute of Persian Studies. Archaeological Monographs Series 3), Oxford: 233-251.
- VIDALE, M., SALVIULO, G., ZORZI, F. & MOCCHIUTTI, I., 2016. Cosmetics and Cosmetology at Shahr-I Sokhta, *Iran* 54/2: 1-24.
- WRIGHT, R.P., 1984. *Technology, Style and Craft Specialization: Spheres of Interaction and Exchange in the Indo-Iranian Borderlands, Third Millennium B.C.* Ph.D. dissertation, Department of Anthropology, Harvard University.

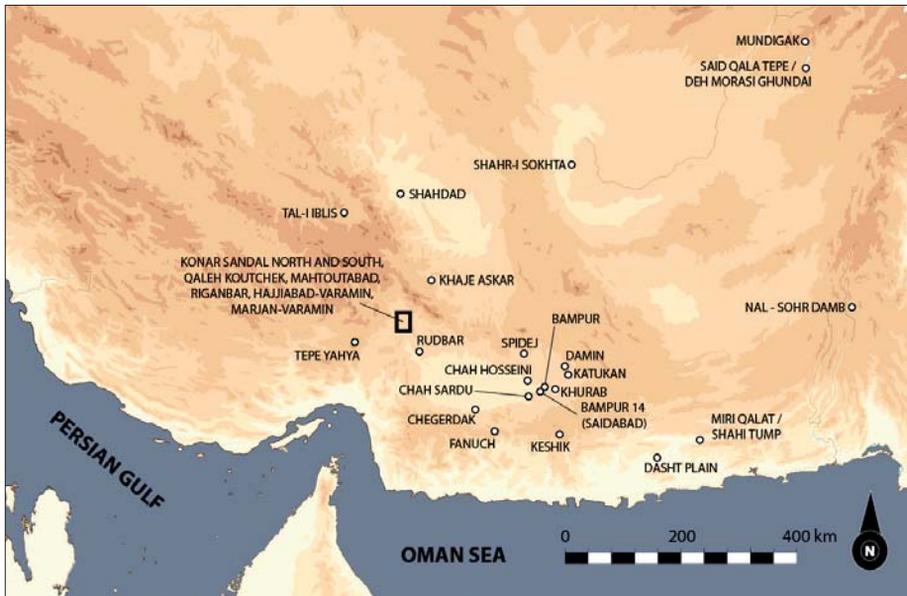


Fig. 1. General map of the Early Bronze age sites mentioned in the text (F. Desset).

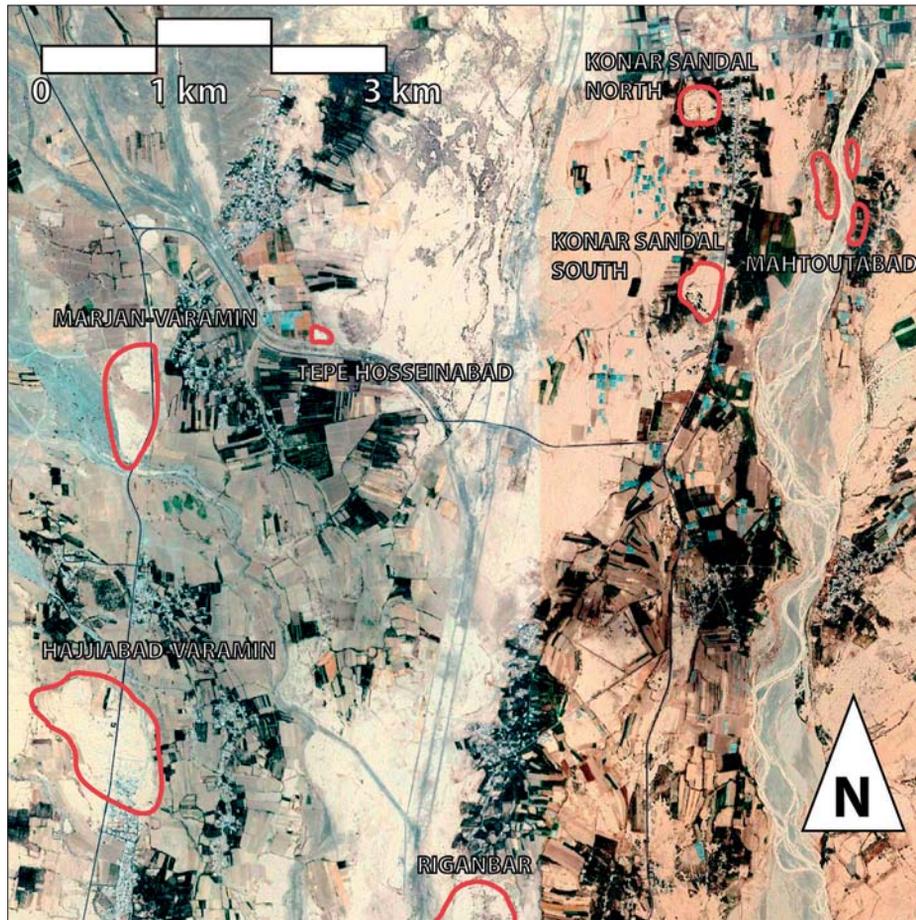


Fig. 2. Aerial picture of the archaeological area south of Jiroft, emphasizing the location of some of the main archaeological areas of the Konar Sandal sites complex (F. Desset).

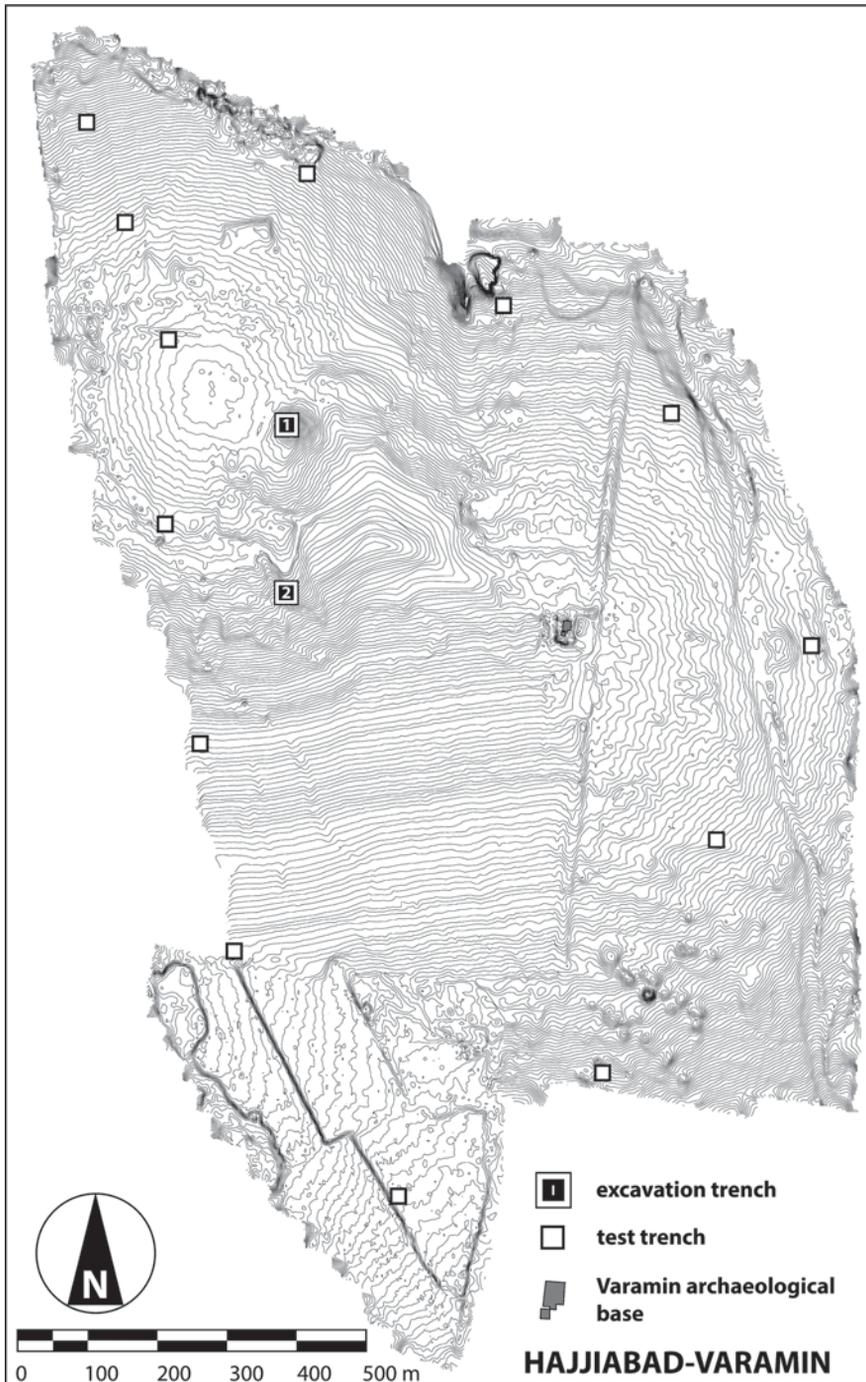


Fig. 3. Hajjiabad-Varamin archaeological area
 a) Topographic map of Hajjiabad-Varamin archaeological area
 and location of Trenches I and II, excavated by N. Eskandari (Ali Daneshi).
 The interval between two contour lines is 50 cm.

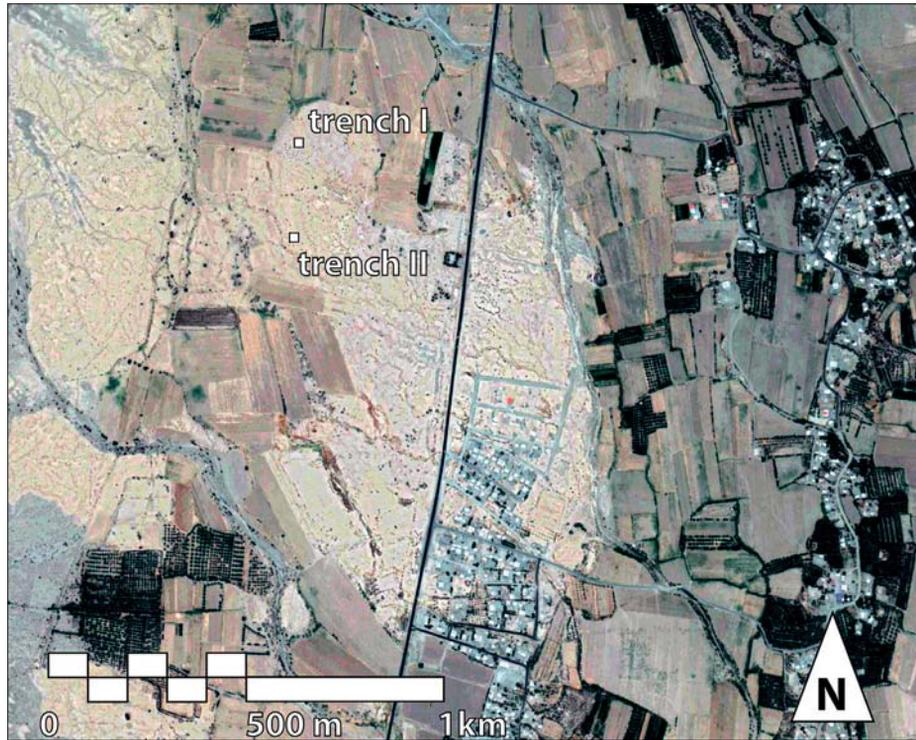


Fig. 3. Hajjiabad-Varamin archaeological area
b) Aerial picture of Hajjiabad-Varamin archaeological area and location of Trenches I and II, excavated by N. Eskandari (F. Desset).

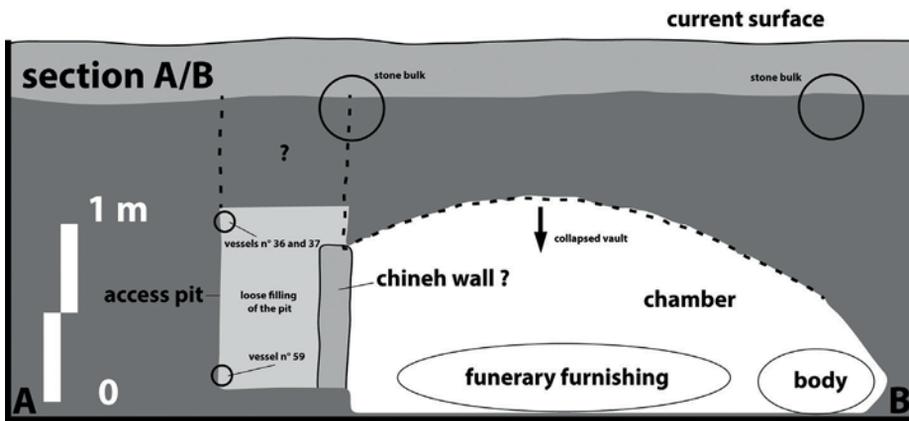
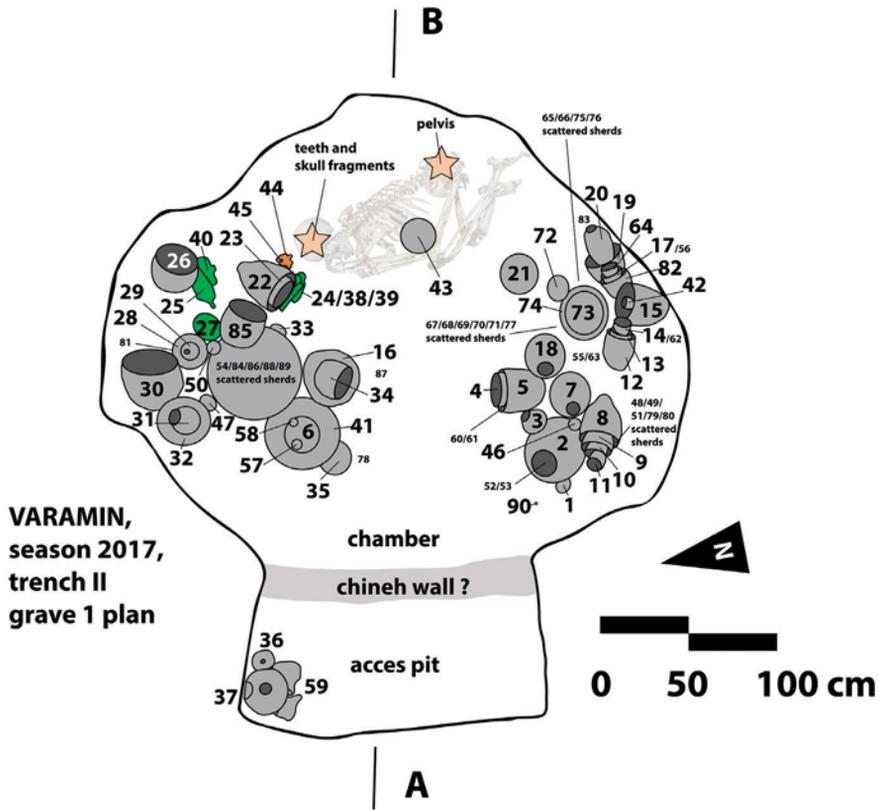


Fig. 4. Plan and section of Grave 1 (N. Eskandari and M. Shahsavari).

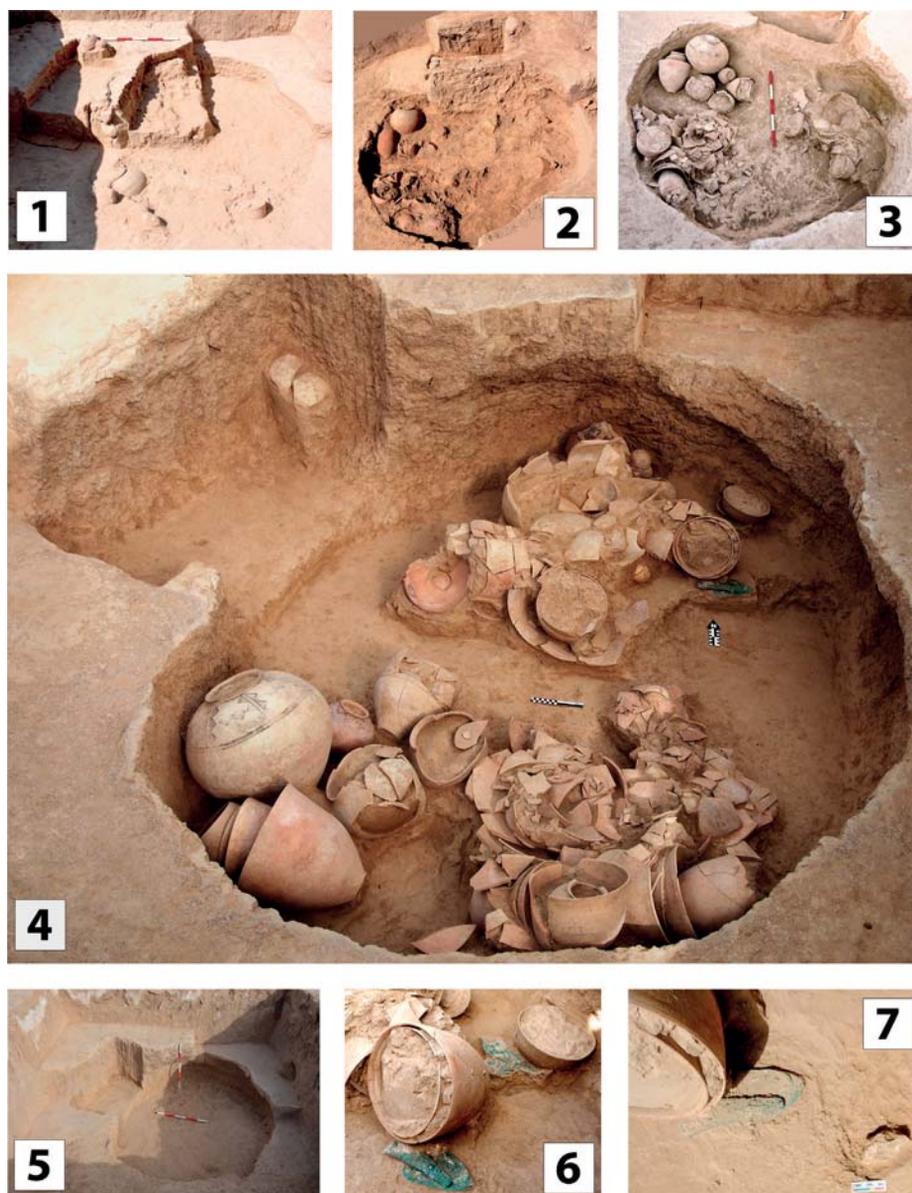


Fig. 5. Pictures (1 to 5) of Grave 1 at different stages of the excavation.

6: detail of the copper-based artefacts n° 24, 38, 39 and 25, 40;

7: detail of small cranial fragments near copper-based artefacts n° 24, 38 and 39
(N. Eskandari and M. Shahsavari).

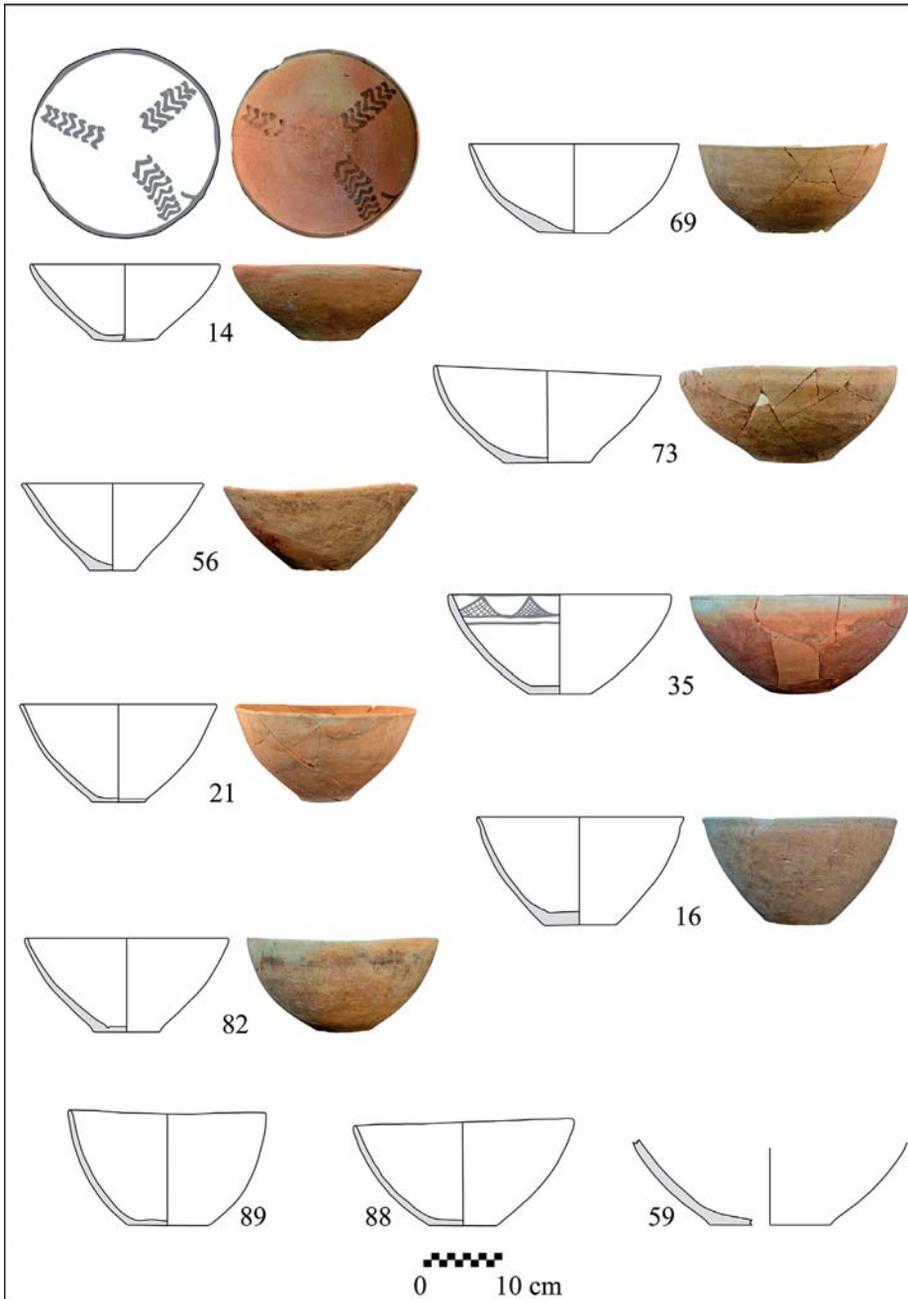


Fig. 6. The furnishings of Grave 1: simple truncated-conical to hemispherical bowls (M. Abdolahizadeh and F. Desset).

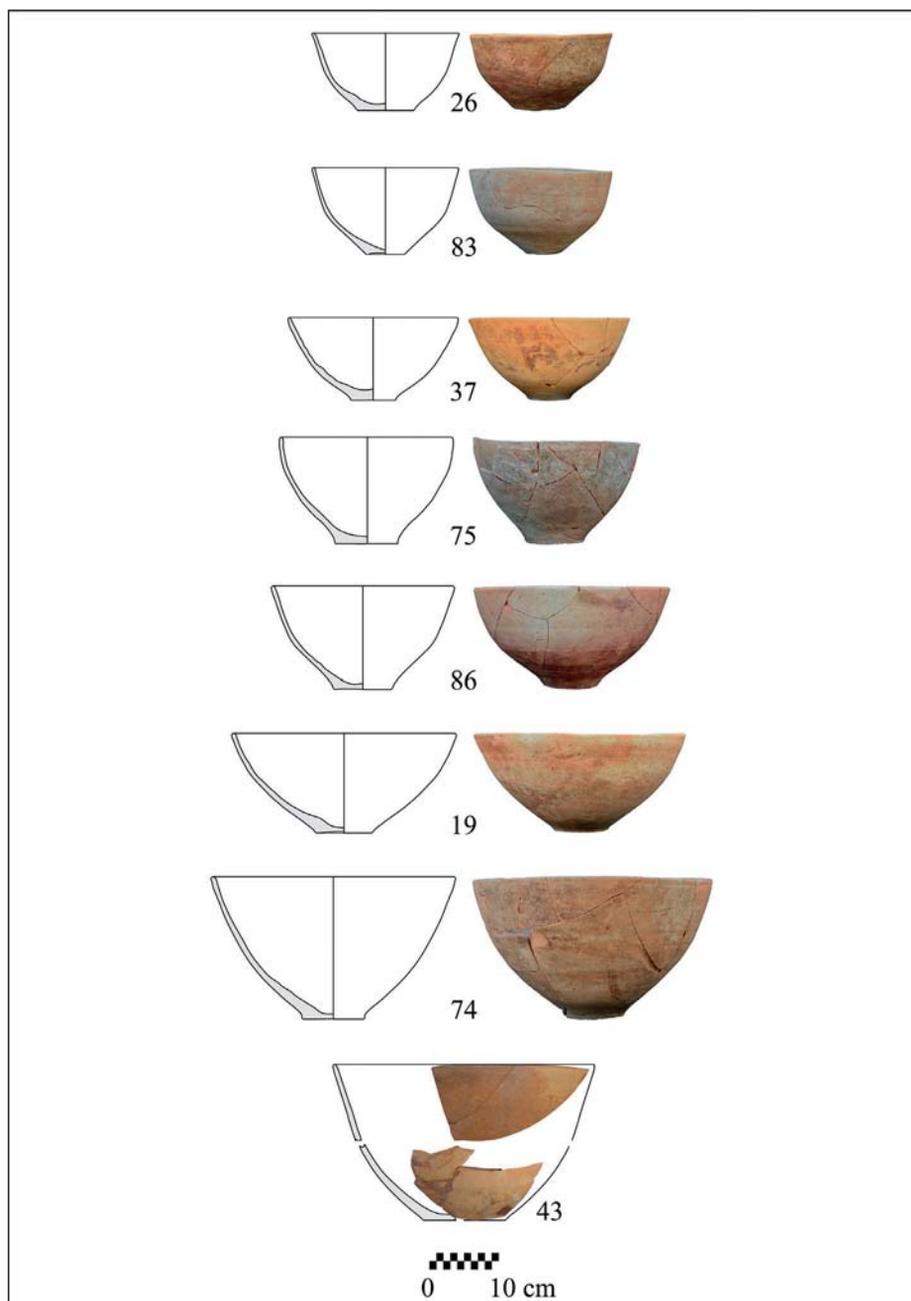


Fig. 7. Simple truncated-conical to hemispherical bowls with a deeper body (M. Abdolhizadeh and F. Desset).

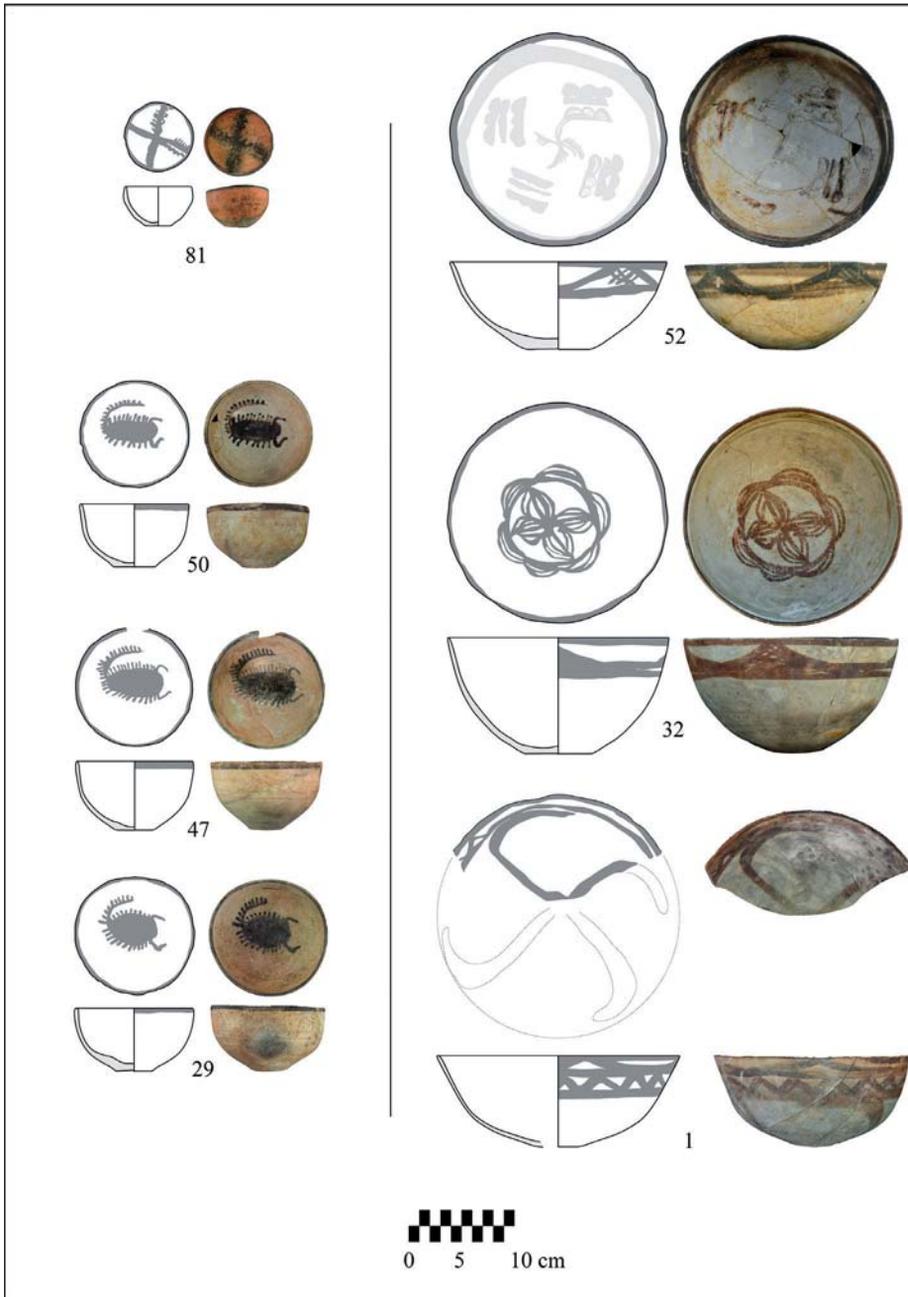


Fig. 8. Early Baluchi painted grey ware hemispherical bowls (on the right) and painted small bowls (on the left) (M. Abdolahizadeh and F. Desset).

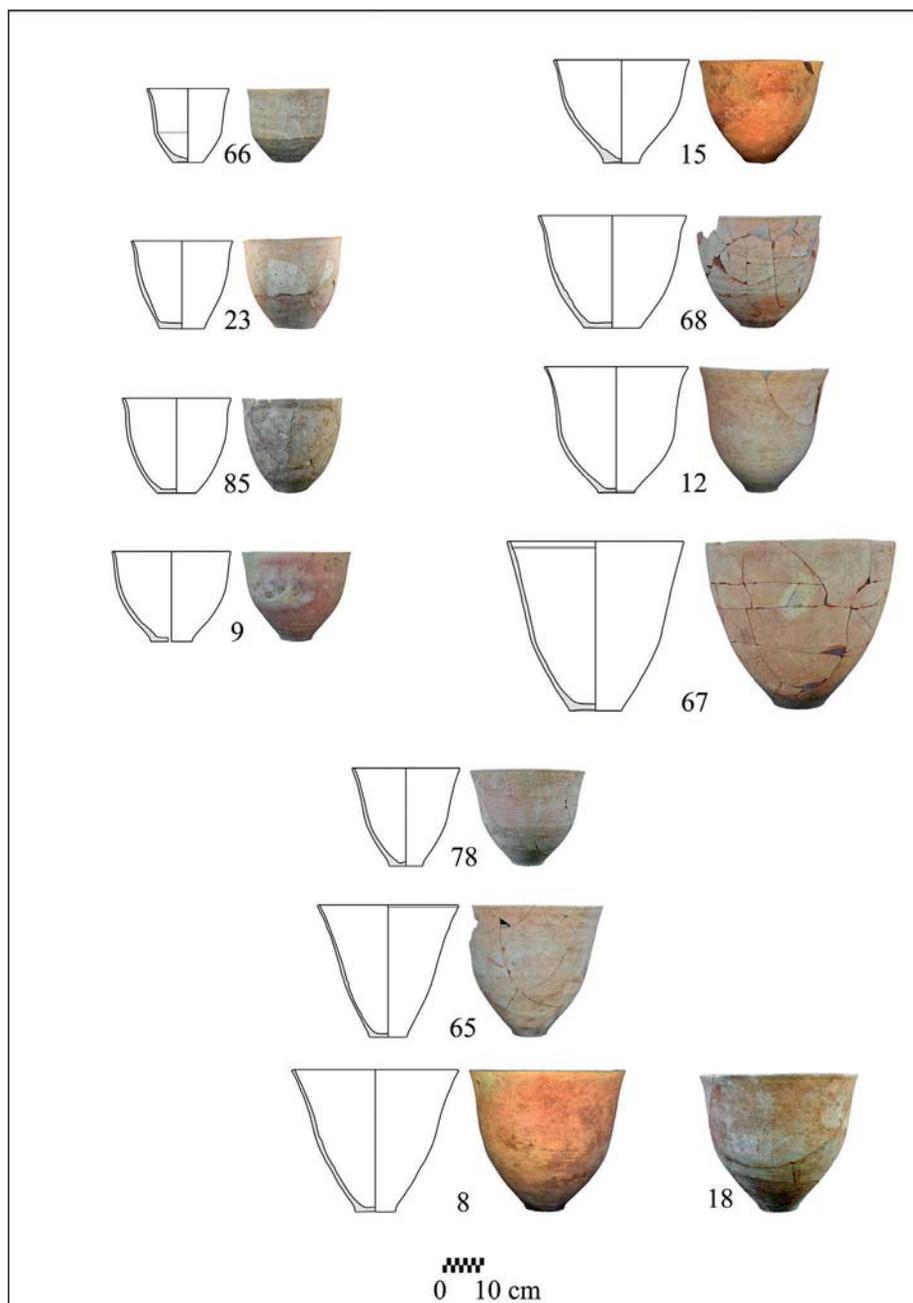


Fig. 9. Unpainted bell-shaped beakers and pots
(M. Abdolahizadeh and F. Desset).

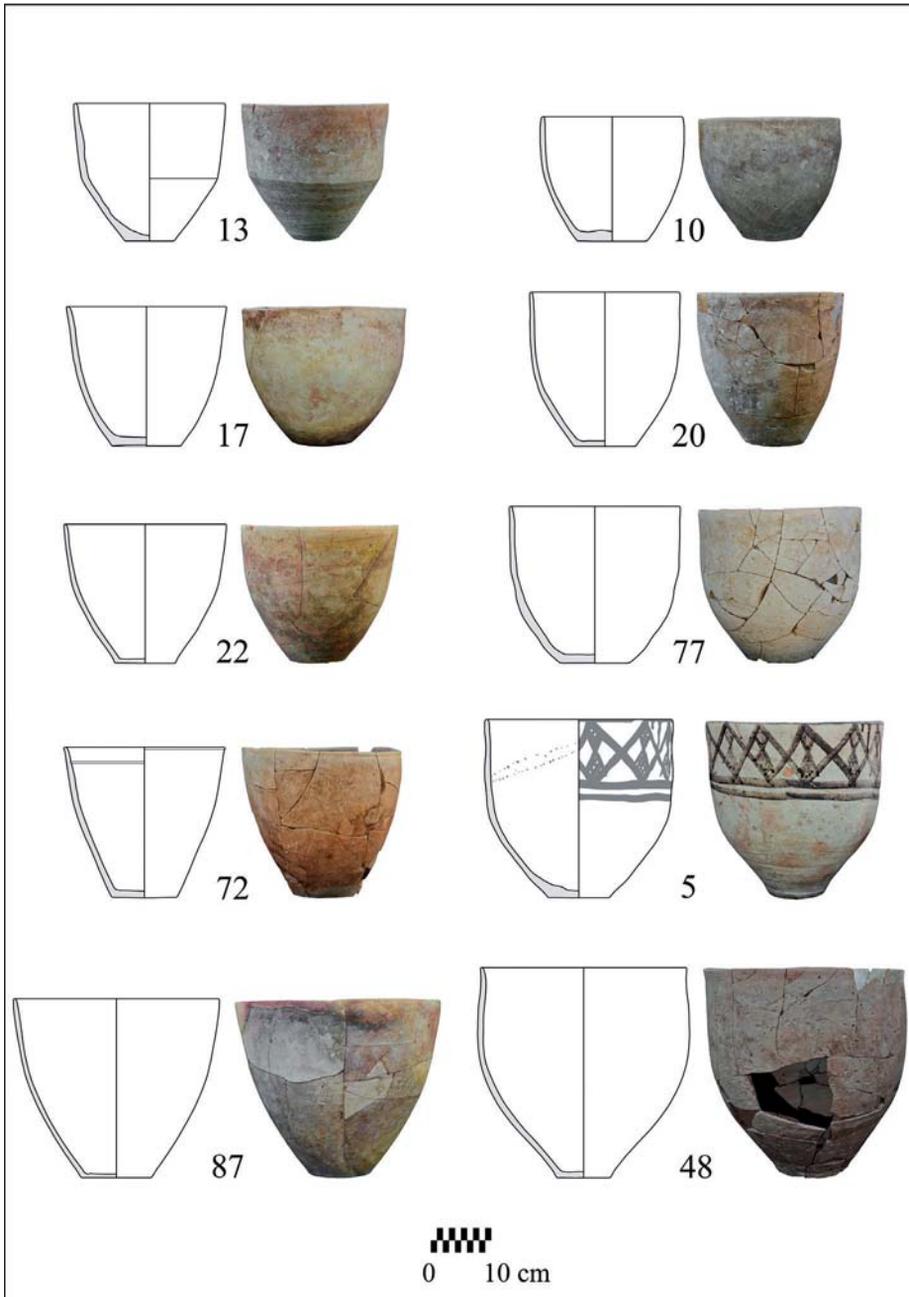


Fig. 10. Bell-shaped beakers and pots
(M. Abdolahizadeh and F. Desset).

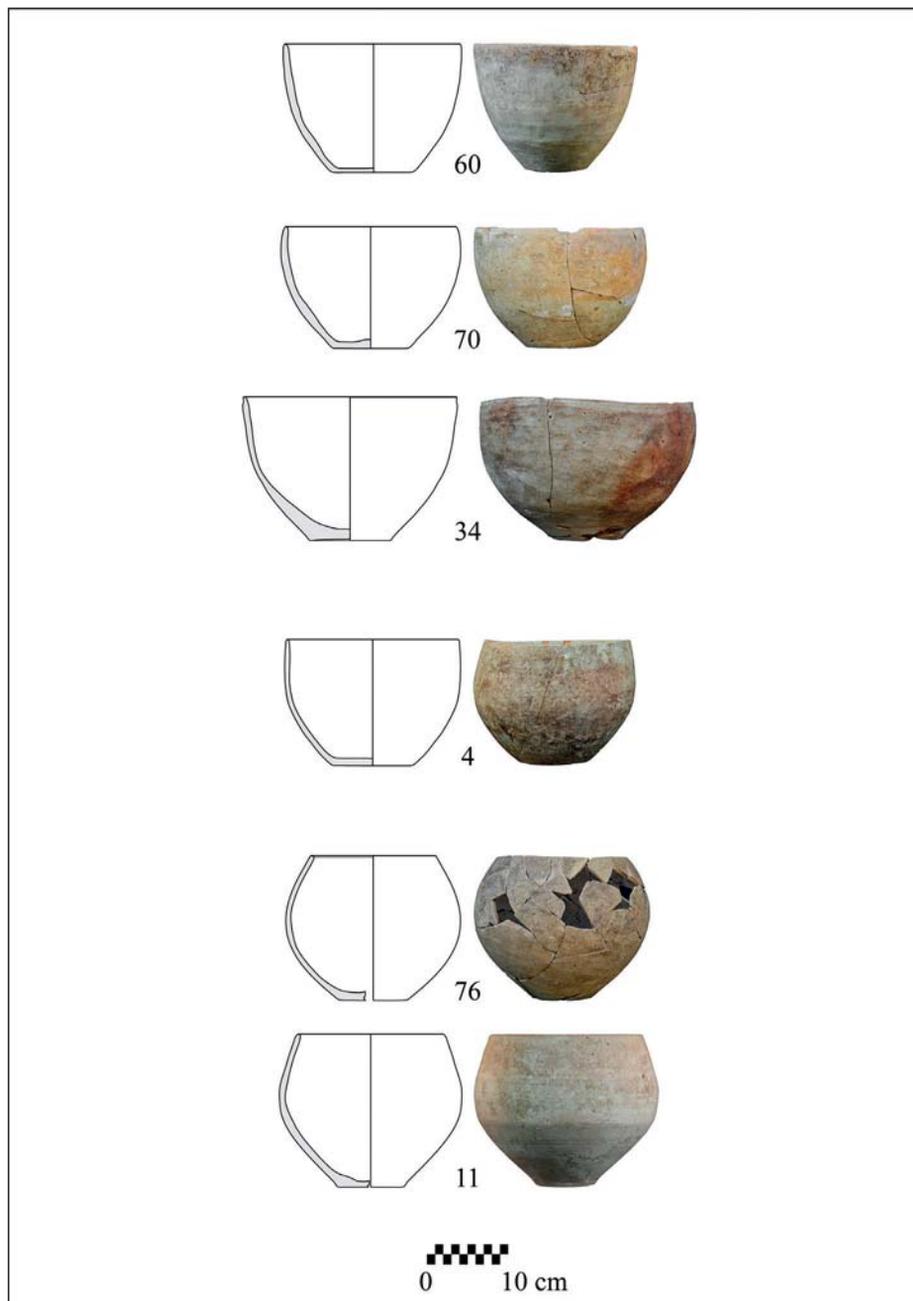


Fig. 11. Unpainted deep bowls, hemispherical to sub-globular (M. Abdolahizadeh and F. Desset).

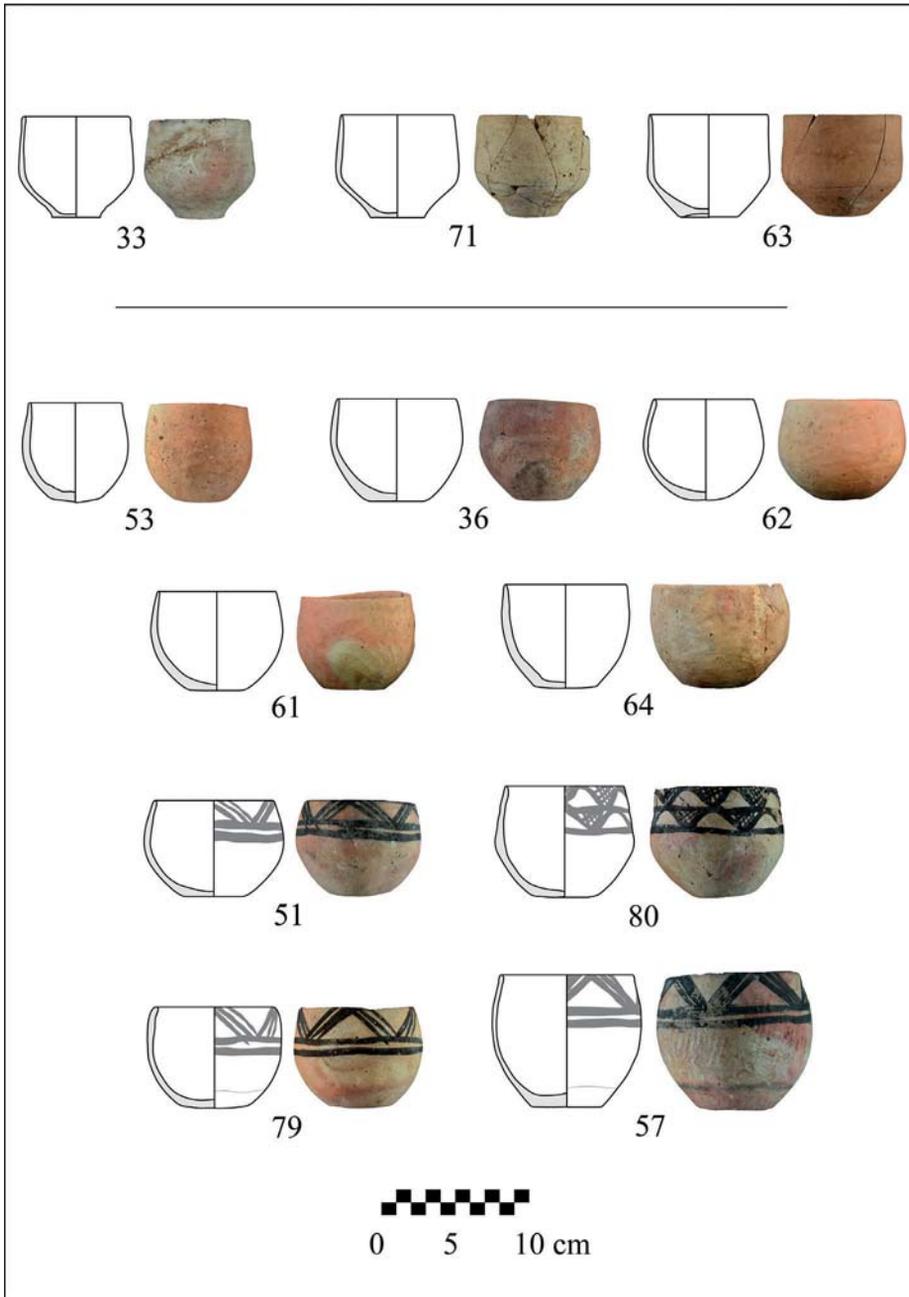


Fig. 12. Unpainted sub-cylindrical small bowls (top row) and sub-globular small bowls (M. Abdolahizadeh and F. Desset).

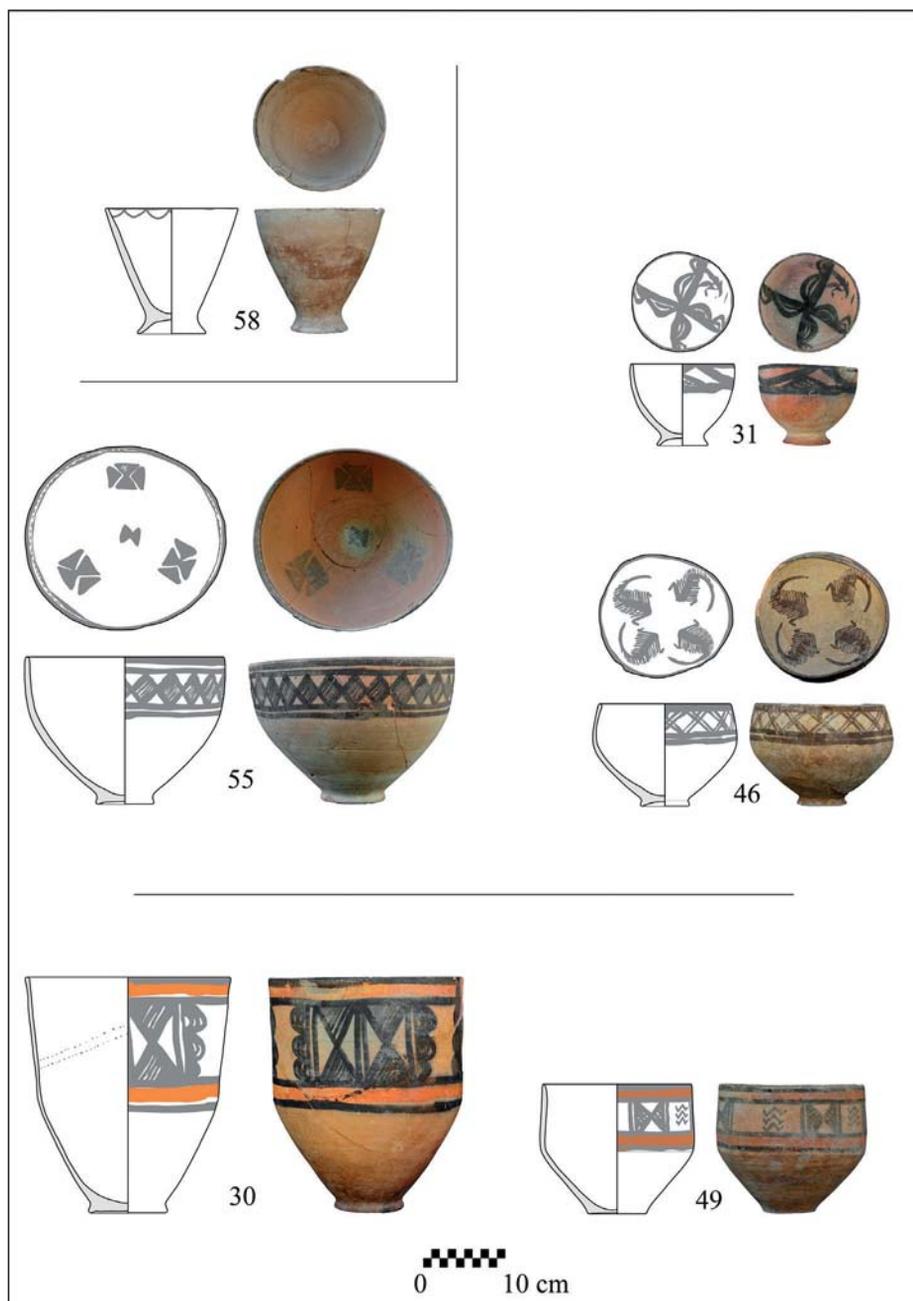


Fig. 13. Painted footed bowls and bell-like vases (n° 49 has a plain base)
(M. Abdolahizadeh and F. Desset).

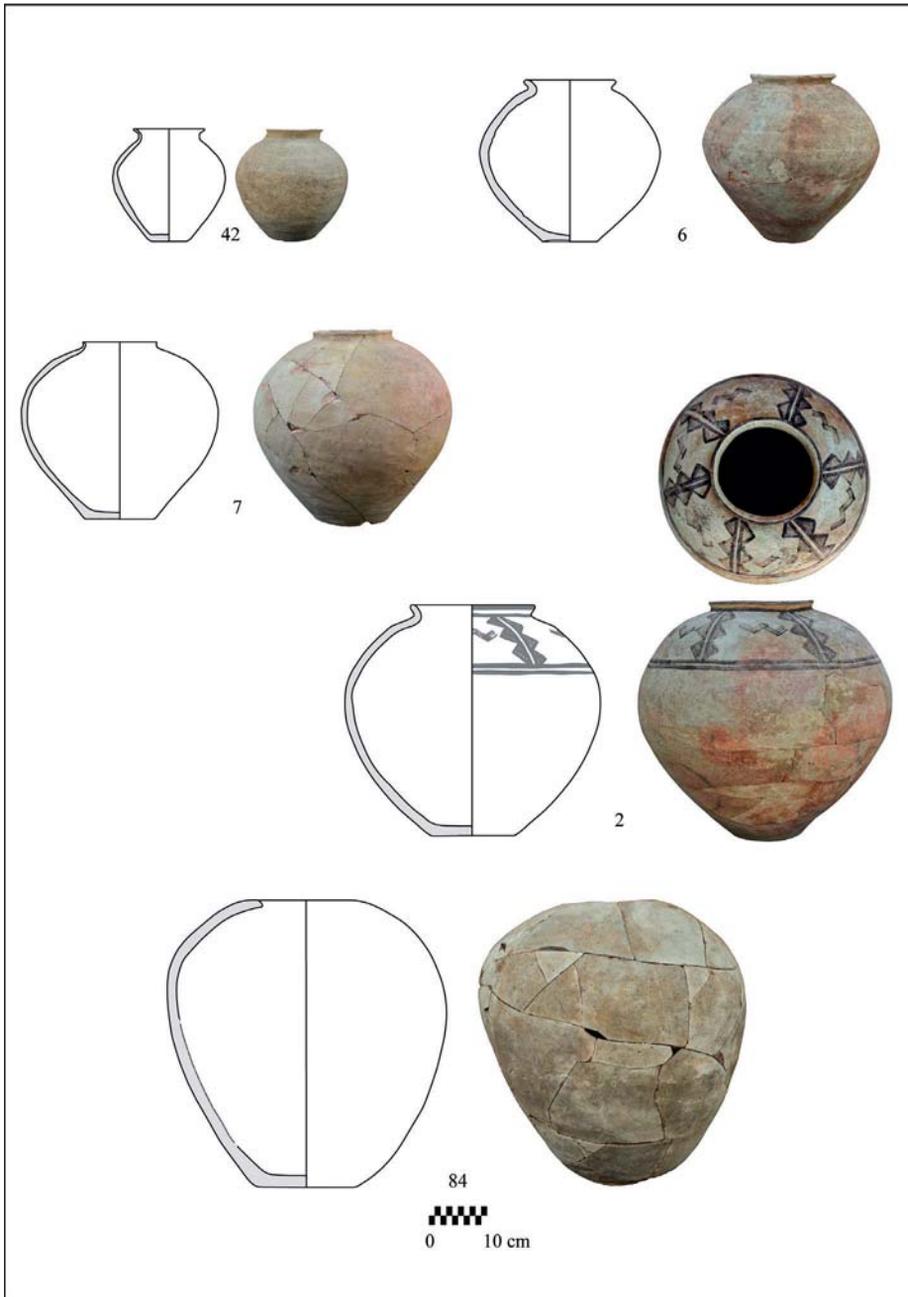


Fig. 14. Restricted globular jars, with everted rim (n° 42, 6, 7, 2) and a large hole-mouth jar (n° 84) (M. Abdolahizadeh and F. Desset).



Fig. 15. Nal-like cylindrical canister vase (n° 54) and painted globular jars (n° 3 and 28) (M. Abdolahizadeh and F. Desset).

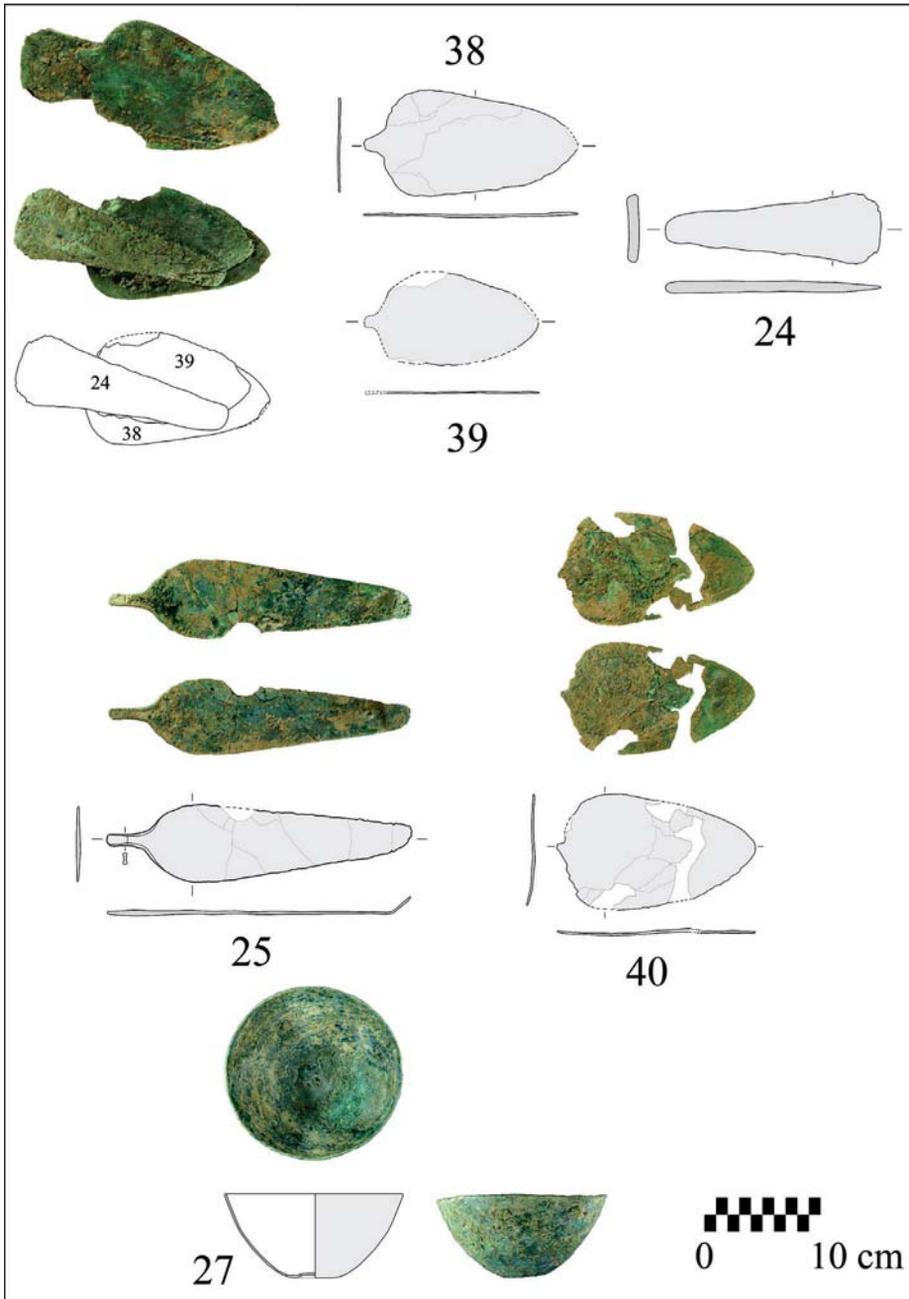


Fig. 16. Copper-based artefacts (M. Abdolahizadeh and F. Desset).



Fig. 17. Stone beads and a cockle shell
(M. Abdolhizadeh and F. Desset).

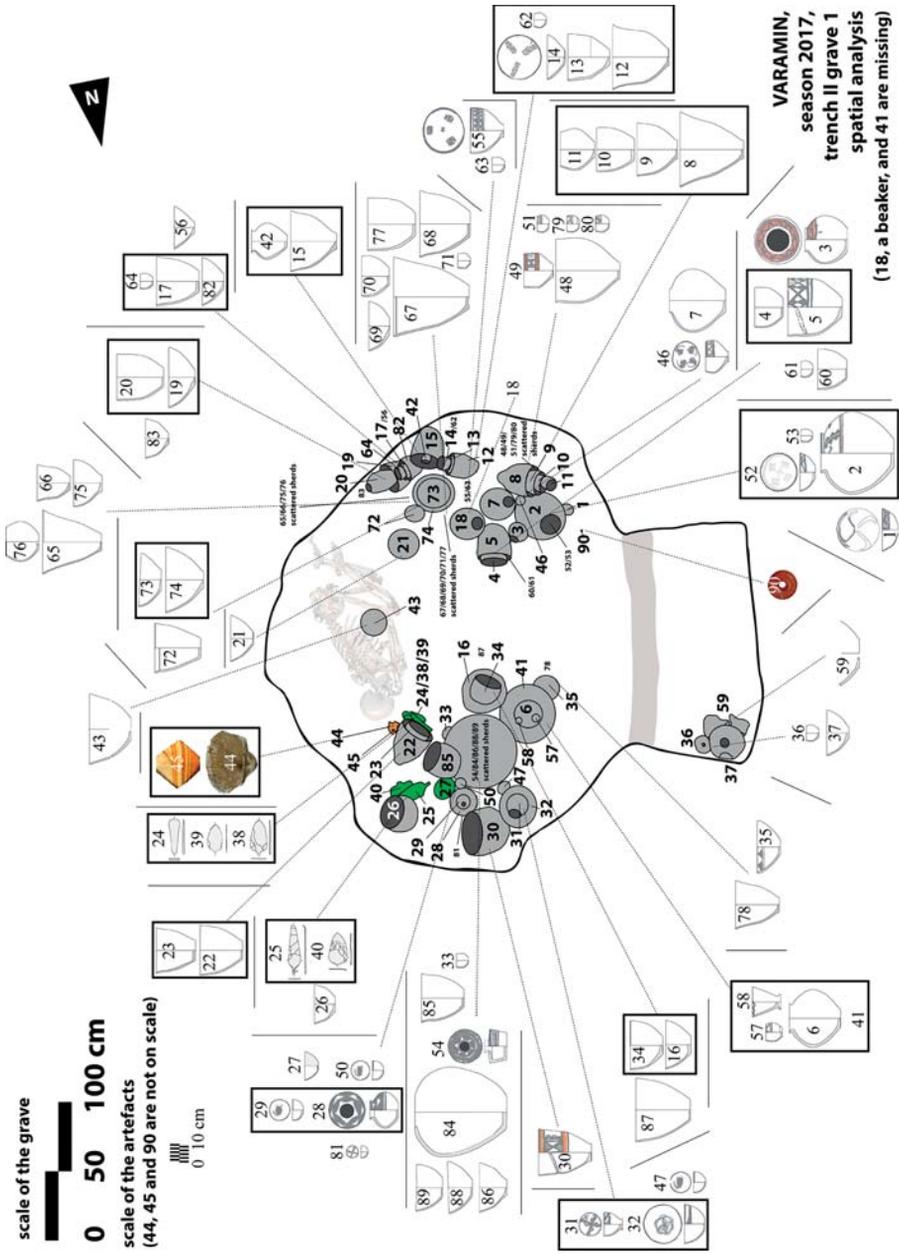


Fig. 18. Spatial distribution of the furnishings in Grave 1 (F. Desset).

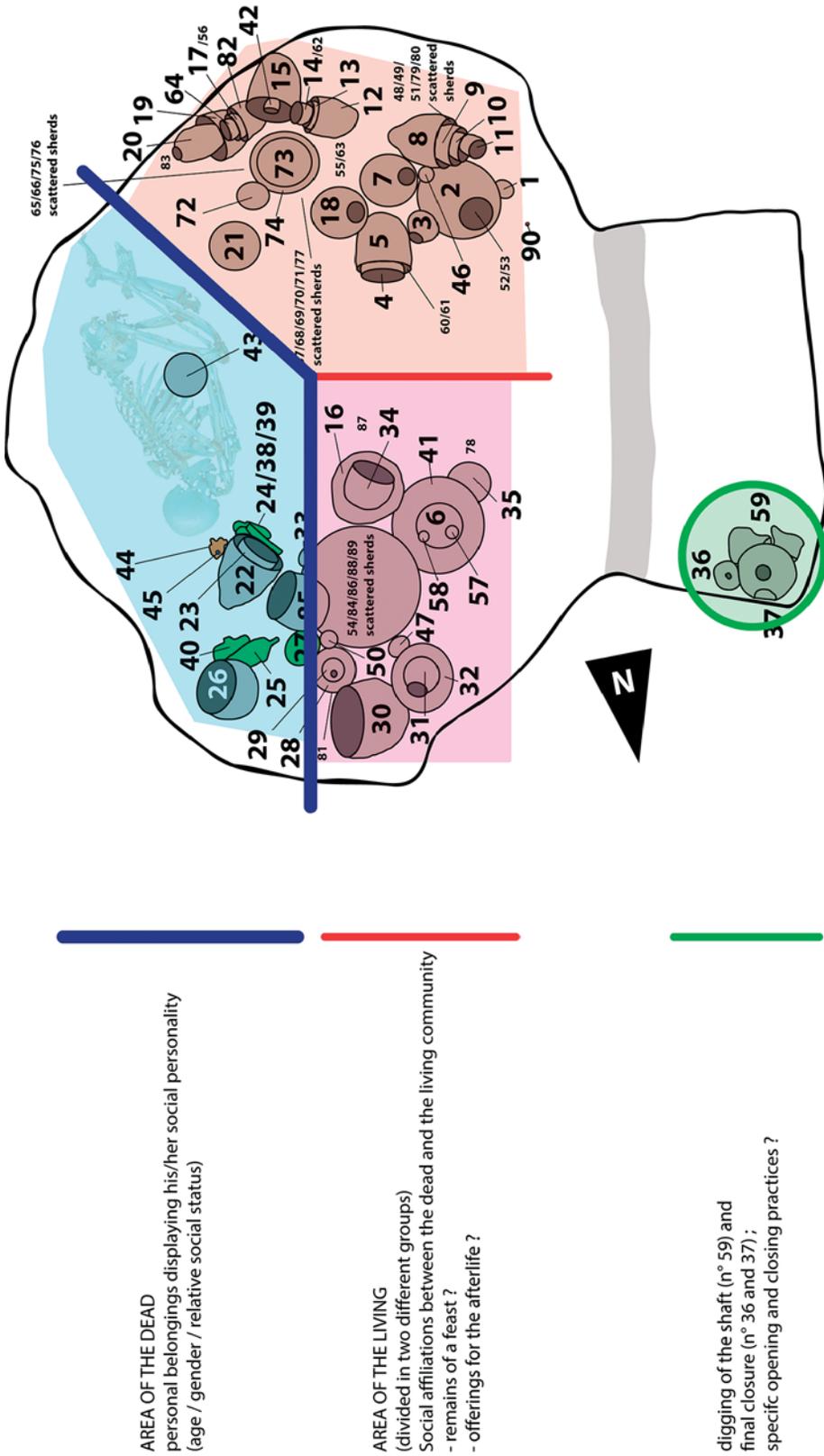


Fig. 19. Spatial analysis of the setting of Grave 1 (F. Desset).

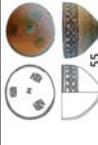
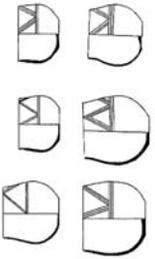
Varamin, grave 1	50 (47/29) 	28 	 30	 55	51 (57/59) 
Mahtoutabad (III)					Desset, Vidale and Soleimani 2013, fig. 22 
Tepe Yahya		Potts 2001, fig. 2.12a (phase IV C1)  Madjidzadeh 2003, p. 160 		Beale 1986, fig. 4.22 (phase VB)  Potts 2001, fig. 4.17d Persian Gulf room (phase IV B5) 	Potts 2001, fig. 1.44c and Murin 2013, fig. 3.52.1 (phase IV C2) 
Jiroft					
Rudbar area					Stein 1937, pl. 20 Kal.1 
Spidej, grave 125			 Heydari, Desset and Vidale, forthcoming, n° 30		
Saidabad / Bampur 14	 Rahbar 2003, pl. 12 and 21				 Rahbar 2003, pl. 17
Shahr-i Sokhta					 Bonora et al. 2000, fig. 4 (Period I)

Fig. 20. General comparative framework for the pottery of Grave 1. The samples are not to scale (F. Desset).

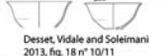
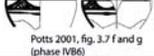
Varamin, grave 1				
Mahtoutabad (III)				 Desset, Vidale and Soleimani 2013, fig. 18 n° 10/11
Tepe Yahya	 Potts 2001, fig. 3.7 f and g (phase IVB6)			
Spidej, grave 125	 Heydari, Desset and Vidale, forthcoming, n° 44 and 31	 Spidej (Heydari, personal communication)		
Saidabad / Bampur 14	 Rahbar 2003, pl. 1, 4 and 14			
Damin		 Tosi 1970, fig. 12		
Shahr-i Sokhta		 Piperno and Salvatori 2007, fig. 609 and 773 Sajadi 2003, fig. 26	 Piperno and Salvatori 2007, grave 413, p. 221	 Piperno and Salvatori 2007, grave 10, p. 41  Amiet and Tosi 1978, fig. 4
Miri Qalat		 Mutin et al. 2017, fig. 2/1-2-3		
Kech-Makran Dasht plain, site n° 26		 Mutin et al. 2017, fig. 2/7		

Fig. 21. General comparative framework for the pottery of Grave 1 (continued).
The samples are not to scale (F. Desset).

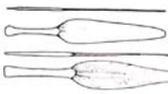
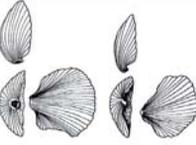
Varamin, grave 1	 40 (38/39)	 24	 25	 44
Tepe Yahya			  Potts 2001, fig. 1.26 (phase IVC2)	
Khaje Askar			 Soleimani et al. 2016, fig. 13	 Soleimani et al. 2016, fig. 14
Chegerdak		 Heydari, personal communication	 Heydari, personal communication	
Saidabad / Bampur 14	 Rahbar 2003, pl. 55		 Rahbar 2003, pl. 56	 Rahbar 2003, pl. 56
Spidej, grave 125		 Heydari, Desset and Vidale, forthcoming n° 52	 Heydari, Desset and Vidale, forthcoming n° 53	
Damin		 Tosi 1970, fig. 17.b/c	 Tosi 1970, fig. 18.c	

Fig. 22. General comparative framework for the non-ceramic artefacts of Grave 1. The samples are not to scale (F. Desset).

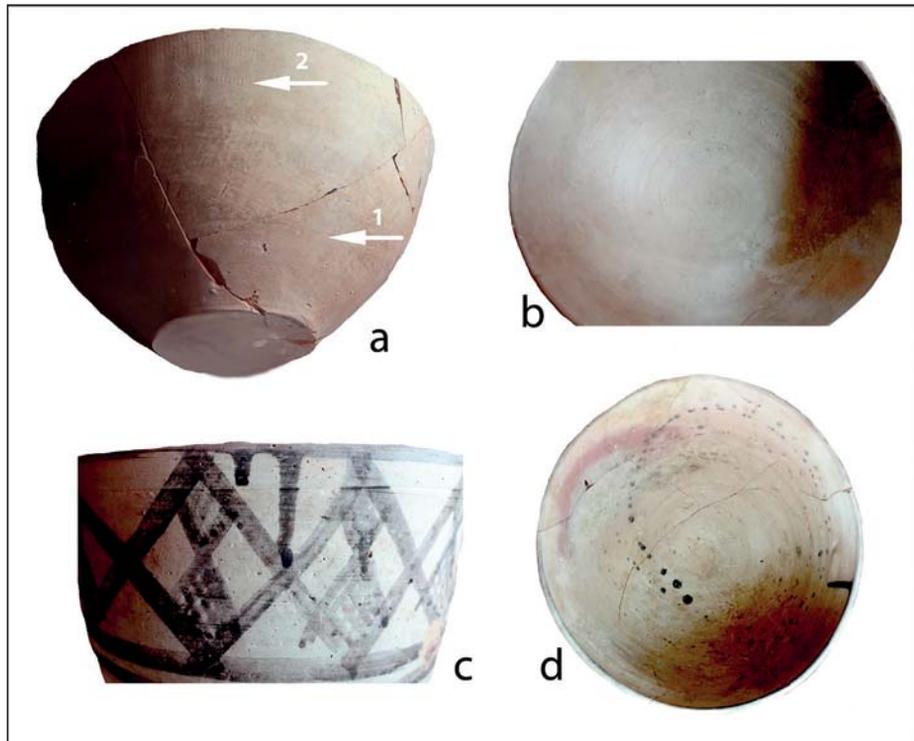


Fig. 23. Technological observations:

- a) The outer surface of the unpainted bowl illustrated in Fig. 7, n° 74. 1: upper limit of the turned area on the lower part of the bowl; 2: lower limit of the area proximal to the edge, distinguished by repeated vertical paddling marks (M. Vidale).
- b) The inner surface of the bowl in Fig. 7, n° 19. Note the continuous spiral left by the potter during the final stage of the wheel-throwing process (M. Vidale).
- c) The pattern painted on the exterior of the bell-like pot in Fig. 10, n° 5. The large drops indicate the position of the pot during painting (M. Vidale).
- d) The interior of the bell-shaped pot of Fig. 10, n° 5, with sprinkled droplets of black paint. Note the spiral pattern of the droplets, indicating that the pot was revolving immediately after painting (M. Vidale).