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**Pottery and chronology  
of the Early Iron Age in Central Asia**



# Pottery and chronology of the Early Iron Age in Central Asia

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## **Handmade painted ware in Koktepe: some elements for the chronology of the early Iron Age in northern Sogdiana**

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### **Abstract:**

*An early Iron Age settlement was discovered in the earliest layers of Koktepe site (Sogdiana, Uzbekistan), dated by C14 to the second half of the 2nd and the beginning of the 1st millennium BC. The pottery is typical of the Painted Ware cultures and for the first time in Central Asia it was possible to divide it into two stages related to the stratigraphy. On the basis of the observations made in Koktepe, the authors consider that spouted cooking pots are a late chronological marker and they propose to synchronise Koktepe with the neighbouring regions of Sogdiana and Chach, thus giving some preliminary elements about the evolution of the Early Iron Age culture of Central Asia.*

### **Key-words:**

Koktepe, Uzbekistan, Sogdiana, early Iron Age, handmade painted ware

Koktepe site, about thirty kilometres north of Samarkand, was excavated under the responsibility of C. Rapin and M. Kh. Isamiddinov between 1994 and 2008 by the French–Uzbek Archaeological Mission of Sogdiana (Isamiddinov 2002; Rapin 2007; Rapin, in print; Rapin, Isamiddinov 2013).

The site has a trapezoidal shape of about 17 ha [Fig. 1]. It is formed by a natural plateau comprising two terraces (A and

B) dominated by two artificial mounds, one of which was destroyed by farming in the 1970s. The eastern side has been cut at an unknown time by an irrigation canal. The relief shows a fortification wall, probably built during the Hellenistic period. In an earlier phase, the plateau represented the citadel of a larger city, whose outer wall has been preserved on a short section at the level of surrounding fields.

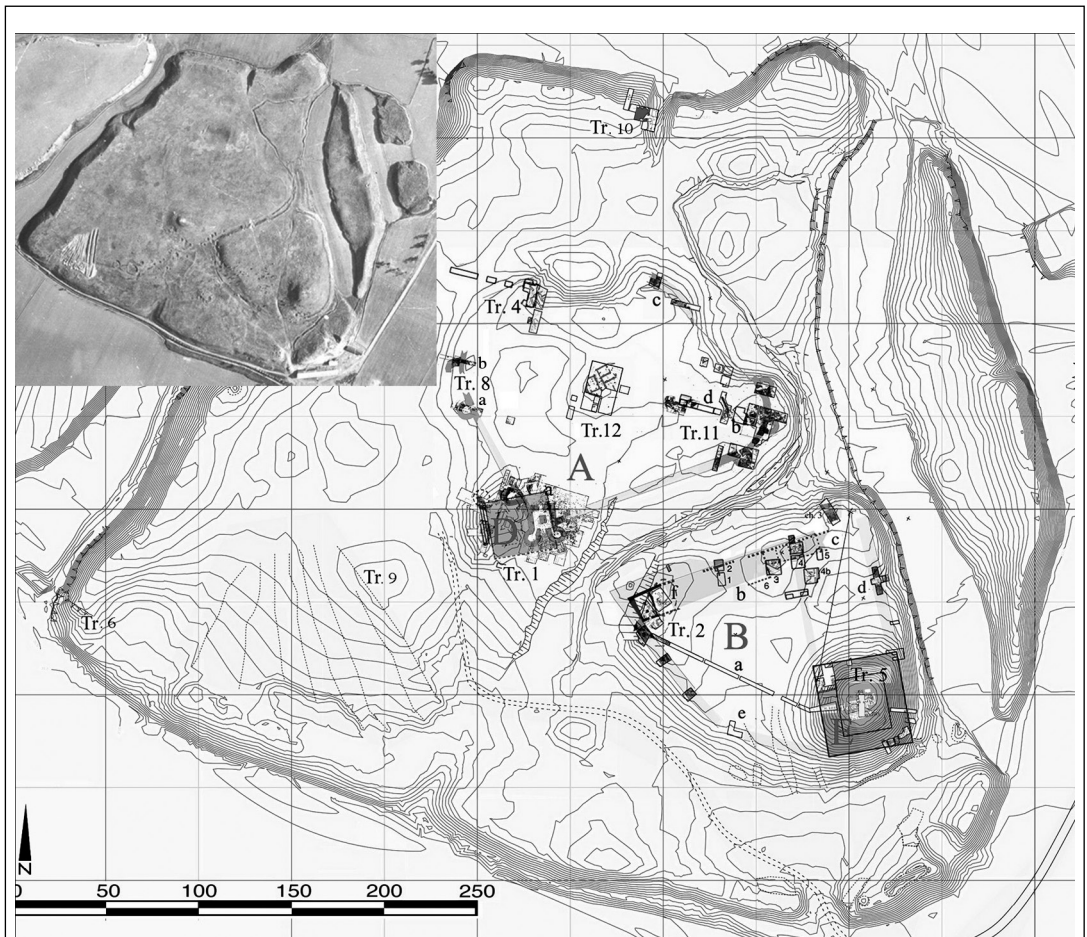


Fig. 1. General map of Koktepe (Drawing C. Rapin, V. Gomozov, E. Kurkina, O. Zaitseva)



## STRATIGRAPHY AND DATE OF THE SITE

Koktepe was occupied mainly from the second half of the 2nd millennium to the 3rd century BC, between the early Iron Age and the Hellenistic period. From a stratigraphic and architectural point of view, the lowest layers of the site, from 2 to 4 m thick, correspond to the Koktepe I (KT I) period and are characteristic of the early Iron Age Painted Ware cultures found throughout southern Central Asia (Lhuillier 2013a; Lhuillier *et alii* 2013).

The end of this period is marked by a pastoral type occupation that ends with the emergence of a proto-urban organization represented by two monumental courtyard buildings (KT II), perhaps related to a sedentarized Scythian population and apparently characterized by the so-called “pinkish burnished ware” identified for the first time in Koktepe (Lyonnet 2009). This period is interrupted by the arrival of the Achaemenids, whose presence (KT III) is marked by a new monumental architecture comprising two platforms and by the development of wheel-made pottery. The Hellenistic occupation until the first decades of the Seleucid era corresponds to KT IV. Thereafter, the site loses its urban function and is occupied by nomadic burials until the beginning of the 1st millennium AD (during KT V), before their replacement by a rich Kangju-type burial, the so-called “kurgan” of the ‘princess of Koktepe’ (KT VI) (Rapin, Isamiddinov, Khasanov 2001). The last occupation occurs in the Middle Ages under the form of a scattered temporary habitat, then a final cemetery.

Remains of the KT I period were identi-

fied in all trenches opened on the site, and it is not excluded that this area extended to the neighbouring mounds to the west and to the east of the main urban plateau. Unfortunately, most of the KT I levels were destroyed by later pits. In different places, we discovered settlement areas including pits, pit-houses and mud-brick houses (terrace A, trench 4: Lhuillier, Isamiddinov, Rapin 2012, figs 2–5; terrace B, trench 2b). These houses are usually made of two or four small rectangular rooms placed on each side of a narrow corridor. The pit-houses are oval or rectangular and their base is dug into the soil to a depth of 0.20–0.30 m. Numerous postholes corresponding to various wooden superstructures appear all around the excavated surface. The pits are usually round and vertical or tronconic; the diameter varies between 1 and 3 m and depth can reach 3.5 m. It is possible that in some cases they were dug to supply loess for the construction of the houses, but we interpreted them mostly as grain silos, some having niches or steps for ease of access; most were later reused as dump pits.

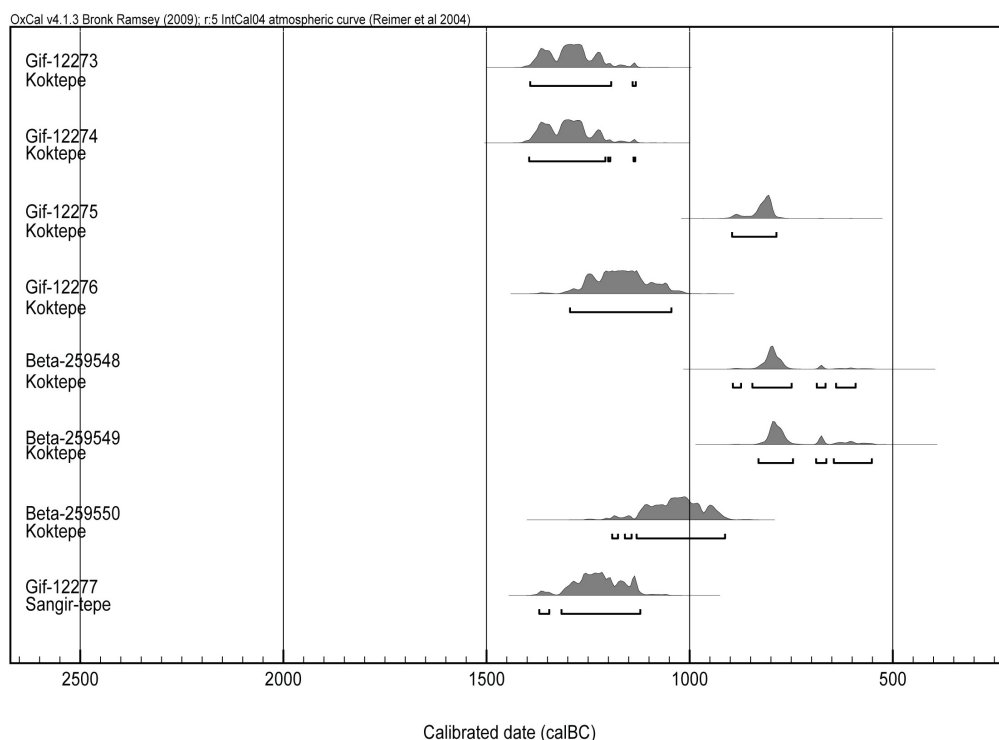
It seems that the urbanism of this period comprised also “official” buildings. One of these represented by an almost completely ruined circular construction, has been identified in the eastern corner of the northern terrace (A). On the eastern edge of the southern terrace (B), a very compact loess embankment has been interpreted as a part of a fortification wall (trench 2d)<sup>1</sup>. It was laid in a large pit (about 3 m wide), at the bottom of which was discovered a small jar and some animal bones, which were

1. The excavation of this trench has been made in 2006 and 2008 by M. Khasanov and C. Rapin.

interpreted as the remains of a meal consumed during the construction of the wall.

Some C14 analyses were made on seven charcoal samples taken in KT I layers, that can be related to early Iron Age Painted Ware cultures according to the pottery [Fig. 2]. Three samples give a date ranging from

the early 14th to the first half of the 11th century BC. One sample is slightly later, between the second half of the 12th and the second half of the 10th century BC. Three samples are ranging from the first half of the 9th and the first half of the 8th century BC.



Sample	Ref. lab.	Date BP	Date cal. BC
Charcoal	Gif 12273	3025 ± 30 BP	1392-1193 BC
Charcoal	Gif-12274	3030 ± 30 BP	1395-1207 BC
Charcoal	Gif-12276	2950 ± 35 BP	1292-1046 BC
Charcoal	Beta-259550	2860 ± 40 BP	1130-920 BC
Charcoal	Gif-12275	2650 ± 35 BP	862-786 BC
Charcoal	Beta-259548	2610 ± 40 BP	820-760 BC
Charcoal	Beta-259549	2590 ± 40 BP	810-760 BC

Fig. 2. C14 calibrated date of Koktepe (Analyses in Beta Analytic and LSCE laboratories, graphics J. Lhuillier)

These dates are coincident with other dates known for the other Painted Ware cultures (in Yaz depe: Hiebert 1993; in Kuchuktepa and in Dal'verzin: Kohl 1992; in Maydatepa: Gösdorf 2007). Indeed, another sample that comes from Sangirtepa in southern Sogdiana, taken from an early Iron

Age level (Sangirtepa I), gives a date close to that of Koktepe, between the 14th and the 12th centuries BC. So the KT I period can probably be placed during the second half of the 2nd and the very beginning of the 1st millennium BC.

### THE KT I CERAMIC COMPLEX

All the KT I ceramics discovered during excavations were considered and more than 3000 diagnostic potsherds were studied<sup>2</sup> (Lhuillier, 2013a; b).

The KT I pottery is handmade. There are very few complete shapes, but we can assume that most of the vessels had a round bottom. 34 morphological types have been identified, which can be correlated with three main techno-morphological group.

The first group includes the open and closed shapes in “fine” ware. There are nine types of open vessels, among which bowls with convex wall and sharpened, flattened or everted rim are the most frequent shape. Straight-sided wall vases with straight or everted rim are also well represented. Basins with straight or opened wall and different types of rim are much less abundant. Closed profiles include mostly jars. Most of them have an everted rim, but they can also have a raised rim. They can bear horizontal or round lugs, vertical handles and tubular spouts. Some miniature open and closed vessels also occur in the complex. All the vessels of this group have a more or less fine paste, containing a fine mineral or chaff

temper, often visible on the surface. They are usually shaped by coiling, but they also can be moulded on a convex mould covered with a fabric, which leave some imprints on the bottom. When the vessel is large, this technique is used only to shape the base and then the wall is shaped by coiling. The walls are often regularized by smoothing or polishing on both surfaces, but the thickness of the wall is generally quite irregular, with the coils and their junction being perceptible. Fissures on the surface, occurring during the drying, may indicate a poor preparation of the paste. This is usually orange, pink or reddish brown, but there are often some darker spots resulting from uneven firing. Most of the painted vessels belong to this group.

Vessels of the second group include bowls and jars with a coarser paste. This contains grog and mineral temper up to 1–1.3 cm. Fissures are more frequent on the surface. The moulded vessels with fabric imprints are much more frequent. The outside surface, and sometimes also the inside one, is slightly blackened by soot. The paste is beige, pink, orange or gray, with darker

---

2. The study of the KT I pottery was started by B. Lyonnet, who defined a complete typology; then it was developed by J. Lhuillier.

spots. These coarse vessels may sometimes be painted or incised with the same kind of decoration as the first group.

The vessels of the last group have a very coarse paste. The main shapes are cooking pots, lids, pans and andirons. The cooking pots have vertical or convex walls with a neck. They often have horizontal jugs under the rim, round jugs on the shoulder or tubular spouts under the rim. Flat lids can also have a lug in the centre. Pans, characterized by a flat bottom with straight walls, are smoothed and blackened by fire in the inside part. The paste of these vessels is prepared with grog and mineral temper, whose inclusions may be up to 0.01 or 0.02 cm thick. As a result of

this temper and of a low firing, the paste is sometimes friable. The walls of the cooking pots can be shaped by coils or by slabs, and even if they have been regularized, the thickness is irregular. The paste has a rather clear colour, beige, pink, orange, gray, but is often blackened by soot.

Nearly 15% of this pottery is decorated [Fig. 3]. The most frequent decoration is painting, but there is also incised ware. Not all shapes can be decorated: nearly 70% of the decorations are found on the open vessels, while only 19% of them are on the closed vessels. The coarse ware is rarely decorated, and painted decoration are usually found only on lids. The technique and

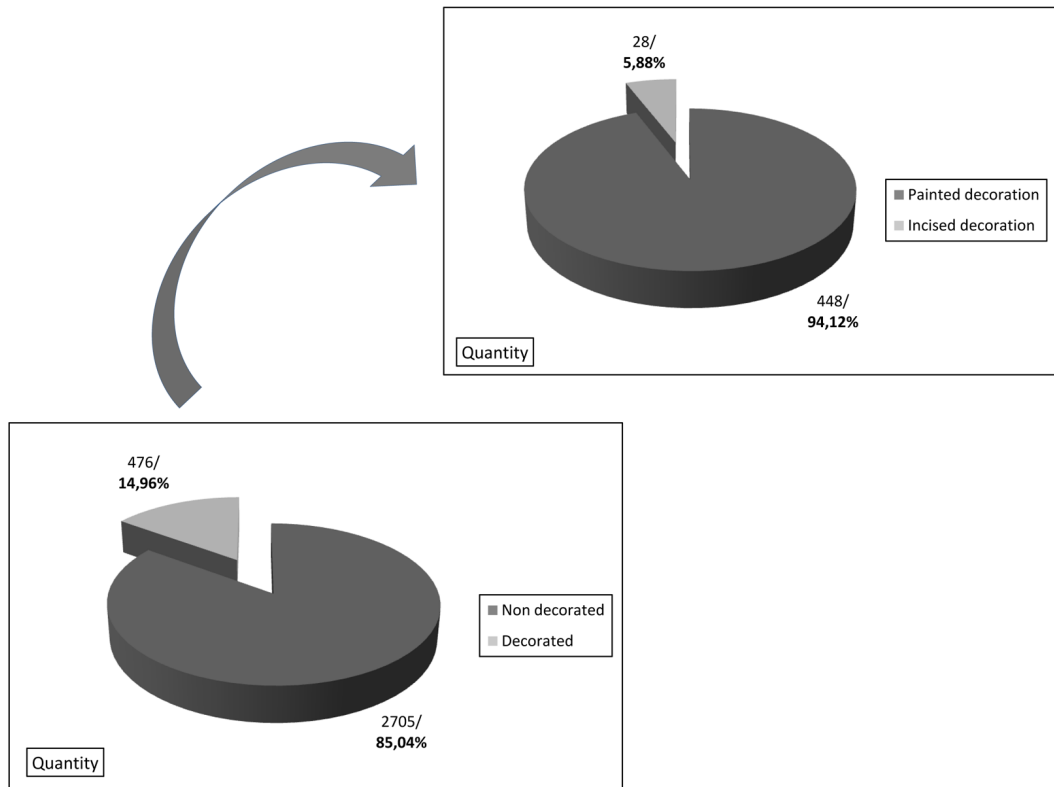


Fig. 3. Quantity of decorated pottery and relative proportion of each type of decoration. (Graphic J. Lhuillier)

the kind of motifs used can vary according to the shape. Among the decorated vessels, over 94% are painted and nearly 6% are incised. More than half of the painted decorations are on the convex wall bowls. In contrast, the sherds with incised decoration belong exclusively to jars [Fig. 4]. One sherd has both a decorative painted band and an incised triangle.

The painted motifs are in general monochromic brown-red. The only exception is one

sherd with a bicoloured brown and white decoration. Nineteen painted motifs have been identified in Koktepe, mostly triangles, bands, lines or hatches. Nine incised motifs have been identified, including only triangles and lines. The decor is mostly a frieze in the upper part of the vessels that repeats the same motif, but there is also some shapeless brushwork that covers most of the surface.

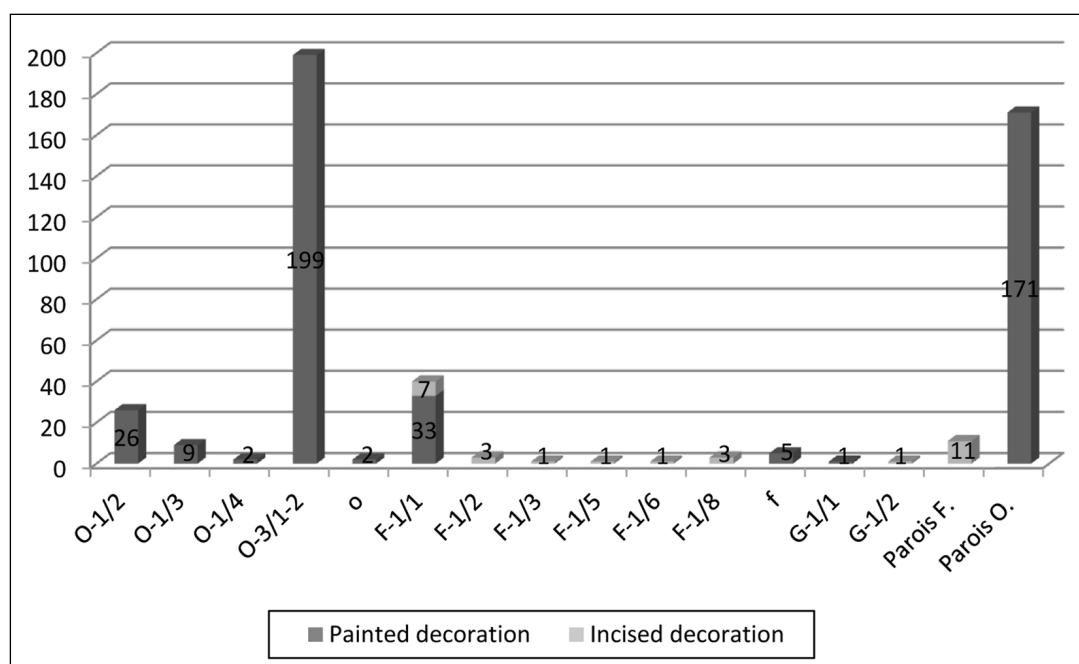


Fig. 4. Relation between types of shapes and types of decoration (O: open shapes, F: closed shapes, G: coarse vessels); note location of incised decoration on closed shapes only (Graphic J. Lhuillier)

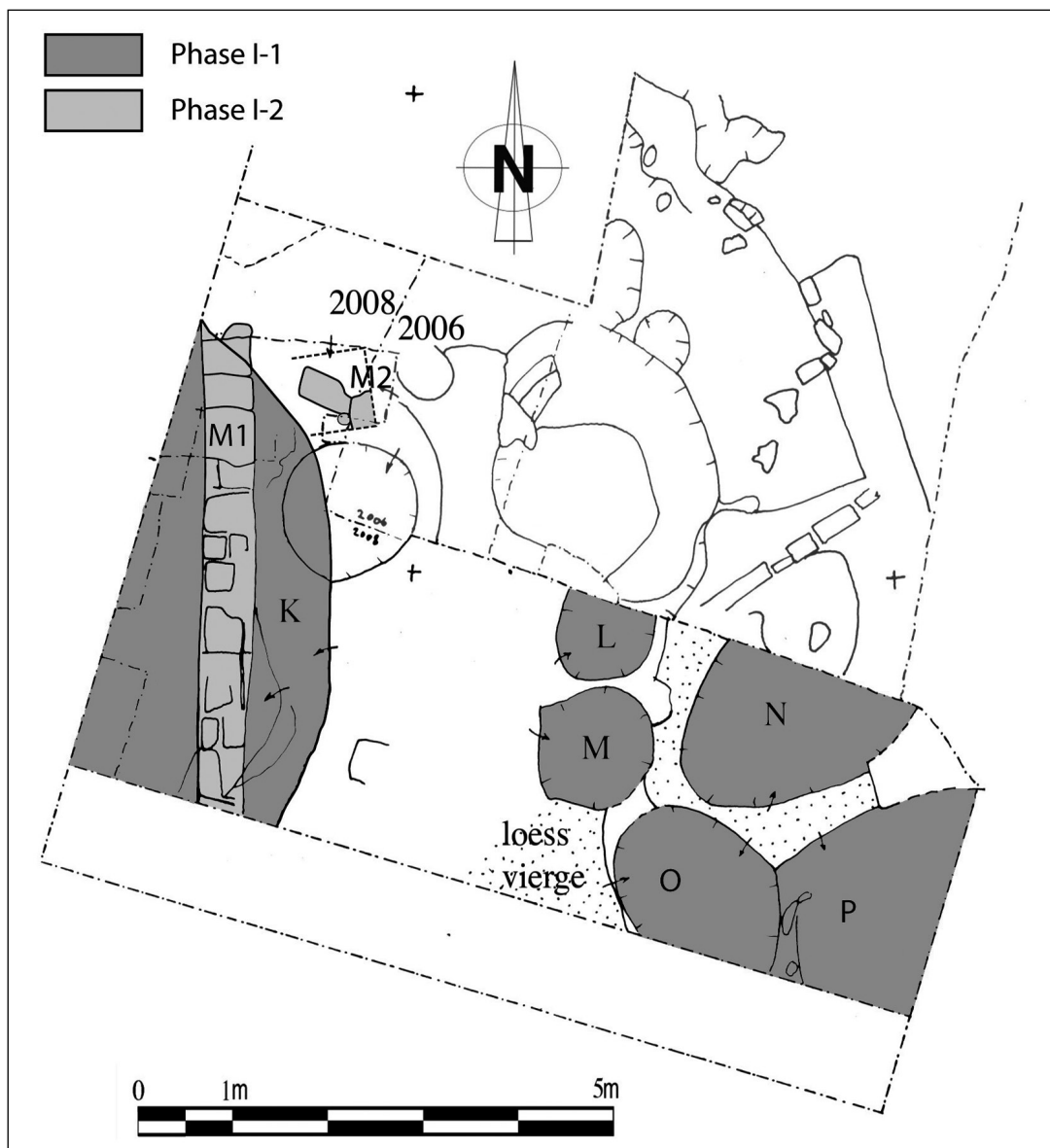


Fig. 5. Map of first stage of occupation, Trench 4 (Map J. Lhuillier, C. Rapin)

### A TYPO-CHRONOLOGY OF KT I POTTERY

Some elements seem to indicate an evolution in this ceramic complex during the KT

I period itself. For this reason, we need to come back to the stratigraphy of the 4th

trench (terrace A)<sup>3</sup>, which shows the existence of several major chronological phases. There are three main occupation stages, interrupted by abandonment phases (Lhuillier, Isamidinov, Rapin 2012).

**I** – The first occupation stage has two phases [Fig. 5]:

The first one is characterized by the digging of several pits into the virgin soil. At least six of these have been identified [Fig. 5, letters K to P]. They were dug very close to each other, and apparently almost simultaneously. Their average diameter was between 1 and 2 meters, but the diameter of the largest was greater than 3 m and it was 3 m deep.

A thin soft layer separated this occupation from a second architectural phase characterized by a mud-brick wall, 30 cm thick and 3.50 m in length (M1). A 3 cm thick compact layer of soil was identified at the same level. A plano-convex mud-brick structure was discovered at the east of this wall in a small trench, but not excavated (M2).

**II** – This first occupation stage was followed by an abandonment phase, characterized by a very soft layer, 0.25 m thick, without any architectural remains but with a lot of pottery. The surface was then covered by bricks from earlier collapsed structures. It was also covered with silted layers showing the complete abandonment of the area.

**III** – Shortly after [Figs 6–7], the area was reused and levelled off by a compact and regular ground level, 0.08–0.09 m thick. In the north-eastern part of the trench, a house was excavated. Five rooms (6.5–7 m long and 1.75–2 m wide) are situated at each side of a corridor less than 1 meter

wide. The walls rise to 60 cm high. In the south-western part of the trench, an adobe wall, 180 x 80 cm, is preserved to a 45 cm height (M3), with a foundation pit on the western side (H). From each side of this wall were opened large pits (D, E, G, I). The edge of the bottom of one of them (2.50 m deep with a diameter of 1.50 m [G]) was covered by pebbles. Another (Z) was 1.5 m depth but 3.5 x 2.5 m wide. The walls still bear traces of the pickaxe, with both a sharpened and cutting edge, used to dig it (Lhuillier *et alii* 2013: fig. 2A). A step dug in the northern side allows easy access. It was most probably a grain silo, as suggested by the discovery of cereal grains. All of these pits were then reused as dump pits. In one of them several objects (moulds, slag and crucible) were associated with metallurgy. This occupation level is also associated with several semi-subterranean huts (H1 and H2). They are rectangular and their bottom is dug 0.20–0.30 m deep in the soil. A series of post holes, 0.10 to 0.30 m deep, present in all the area are suggestive of various wooden superstructures, probably corresponding to small domestic or craft installations.

**IV** – This main occupation stage is followed by a short abandonment phase. The structures of the previous period are abandoned and collapsed. Most of the area is now covered with collapsed mud-bricks. This level is sealed by silted layers and in some places by a softer layer.

**V** – At the beginning of the third and final occupation stage [Fig. 7], all this area is levelled off by a compact and regular floor. New post holes are dug into it and also into the walls of the previous occupation stage. At the same time, new rooms are built,

3. The excavation of the eastern part of the trench has been made in 2002–2003 by I. Ivanickij, who has first identified in this area the walls relating to this period, and by C. Rapin. The western part was excavated by J. Lhuillier, M. Kh. Isamidinov, B. Sajfullaev and J. Vallée-Raewsky in 2006–2008.

filling the earlier house. Some *tandyr* type ovens are installed and some more pits are dug (B, J).

VI – This third occupation stage is fol-

lowed by a final phase of abandonment. This is characterized by heterogeneous layers, including silted layers in several places. In some areas, a soft thick layer contained ash, char-

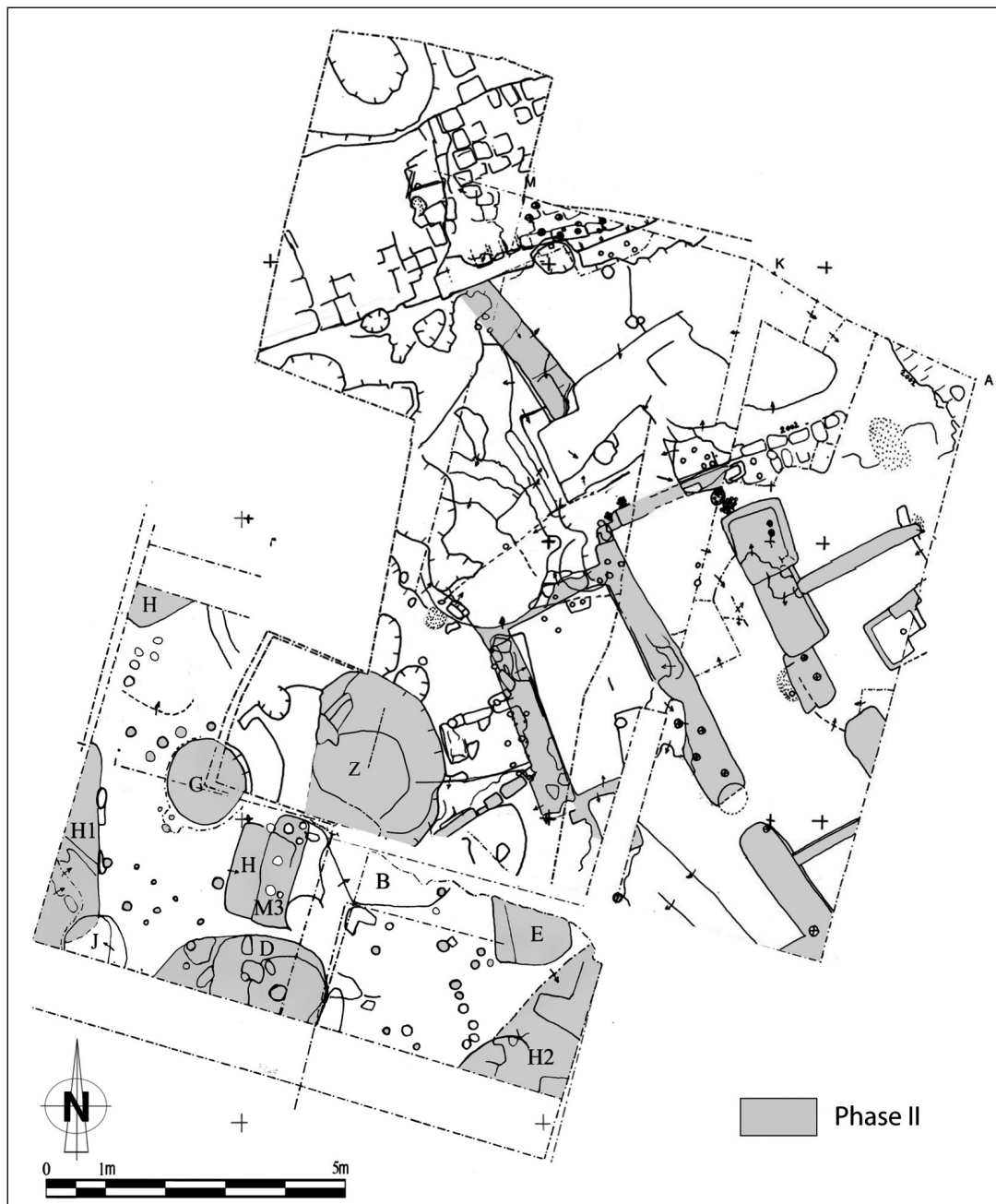


Fig. 6. Map of second stage of occupation, Trench 4 (Map J. Lhuillier, C. Rapin)



coal and burnt clay nodules. In other areas, there were some collapsed bricks. This destruction level was covered by a soft layer, about 0.10–0.15 m thick, which contained

only handmade pottery. On the top of this, another layer, 0.25–0.30 m thick, already contained mixed pottery, including wheel-made, just before the beginning of the KT II period.



Fig. 7. Map of third stage of occupation, Trench 4 (Map J. Lhuillier, C. Rapin)

Thanks to this stratigraphic sequence, it was possible to complete the study of ceramics in a typo-chronological way. 350 potsherds coming from this clear stratified context were systematically studied. This allowed us to define two different sub-periods in the KT I complex, which we called KT IA and KT IB.

The oldest ceramics complex (KT IA) was discovered in the levels of the stages I and II [Fig. 8]. There are many open vessels, including some bowls with convex wall or basins with straight or opened wall, both with sharpened, flattened or straight rim. But the most common shape is straight-sided wall bowls with a straight rim. The closed vessels are jars, mostly with an everted rounded rim, but also with sharpened, thickened

or sometimes flattened rim. There are also a few jars with a raised rim. These jars may sometimes have a horizontal lug on or just under the rim or a small round lug on the shoulder.

This complex also includes some coarser vessels, with much mineral or grog temper, with inclusions of up to 3 mm. These are mostly jars similar to those known in fine ware, and lids. We did not find any cooking pots, but part of the jars is blackened inside, which suggests that they were used as kitchen ware. There are also andirons or pans. Some moulded vessels with fabric imprints are already present but they are rare.

The second complex was identified in the levels corresponding to the final stages (stages III to VI) of the stratigraphy [Fig. 9].

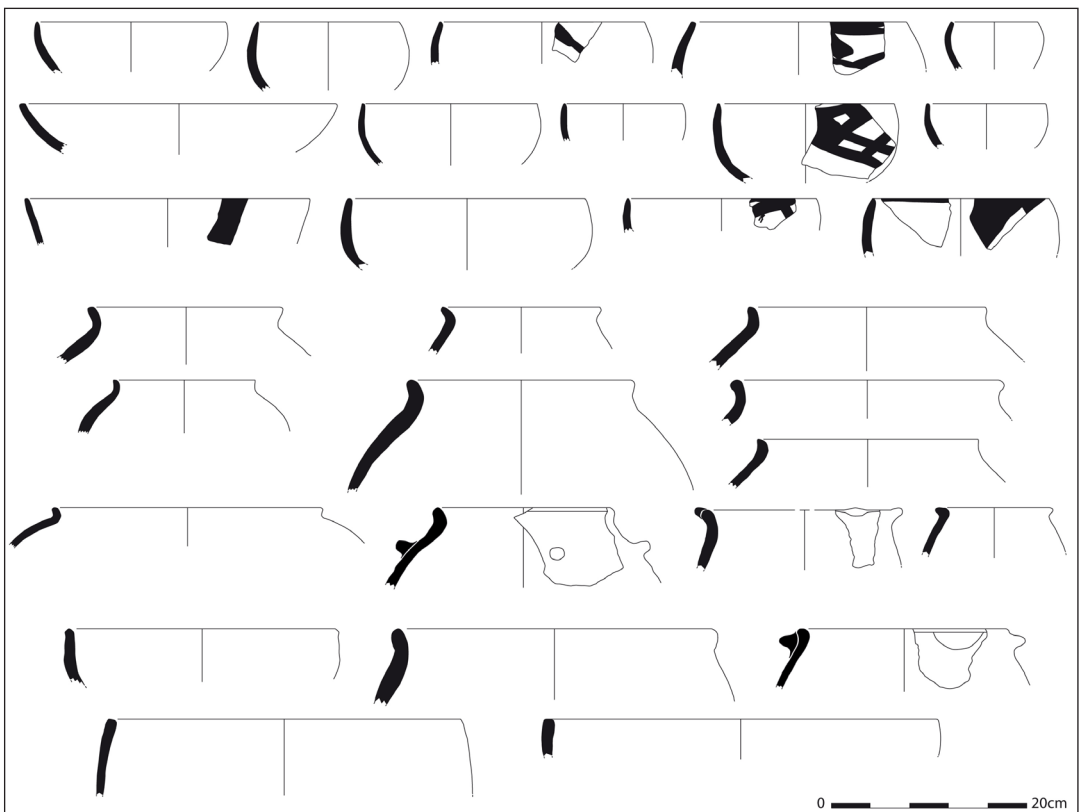


Fig. 8. Pottery of KT IA stage, Trench 4 (Drawing J. Lhuillier)

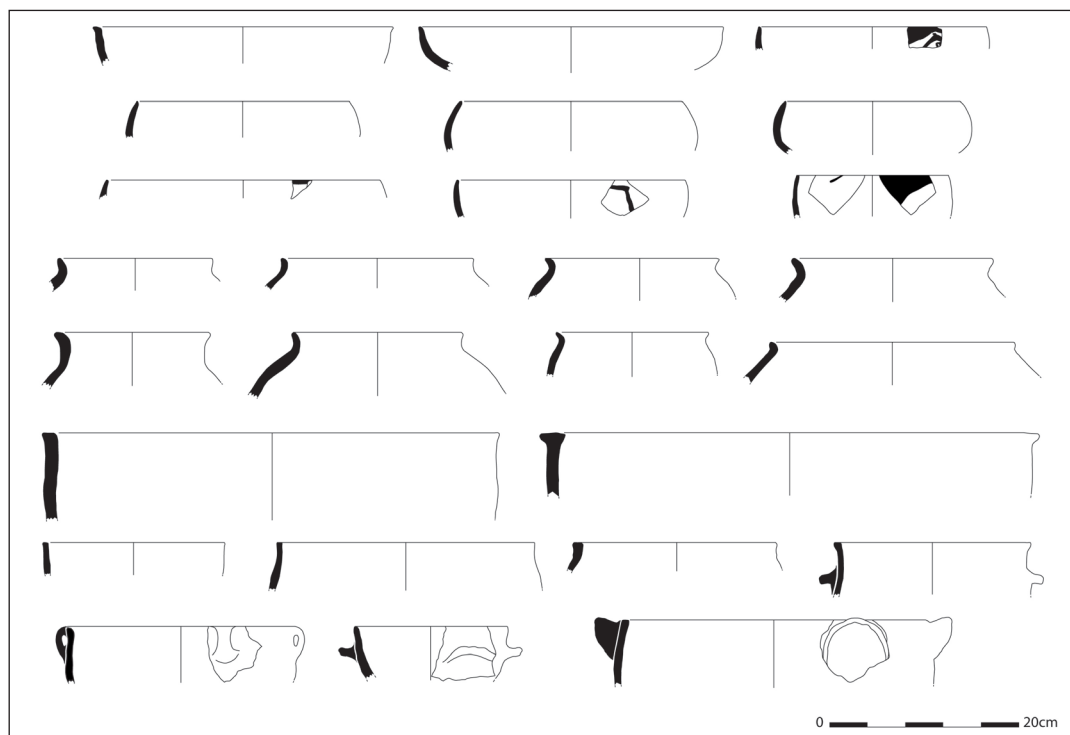


Fig. 9. Pottery of KT IB stage, Trench 4 (Drawing J. Lhuillier)



Fig. 10. Fragment of spouted vessel, KT IB complex, Trench 4 (Photo J. Lhuillier)

It is characterized by the persistence of the same open and closed shapes, but

some new shapes appear, mainly cooking pots [Fig. 10]. They usually have a straight or slightly opened wall and a thickened rim, but they may also have a straight flattened or sharpened rim. Some of them have a relatively narrow neck. These cooking pots can have a horizontal or arched lug on the shoulder or a horizontal handle on the rim.

The paste is coarser than in the first complex, including some grog, mineral and/or chaff temper. Vessels with fabric imprints seem to become more widespread. It is difficult to clearly identify an evolution of painted decoration, but it seems that the shapeless brushwork decorations increase.

The excavation in trench 2, in the south-eastern part of the site (Terrace B) shows a similar picture, and ceramic assemblage of the second sub-period also includes here some jars or cooking pots with

a tubular so-called ‘Burgulyuk’ spout [Fig. 11].

To sum up, the pottery of KT IB stage is

mostly an extension of the KT IA complex, but it includes new shapes, mostly cooking pots.

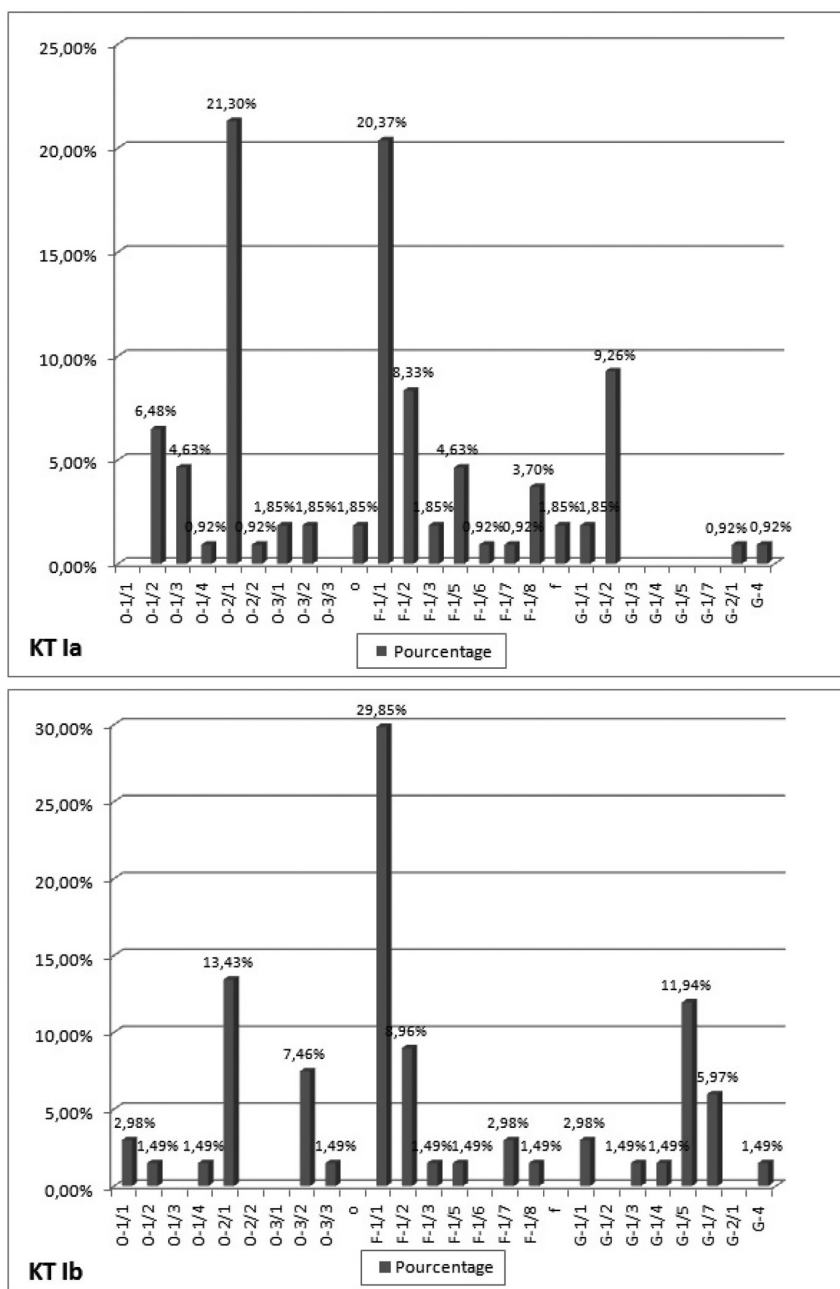


Fig. 11. Compared quantity of each shape during KT IA and KT IB stages, Trench 4. See the appearance of most of the coarse vessels (G) in stage KT IB (Graphic J. Lhuillier)

## KOKTEPE, SOGDIANA AND CHACH IN THE EARLY IRON AGE

This typo-chronology can give some preliminary indications about the contemporary and culturally related sites of Sogdiana. Only one other contemporary site has so far been identified in northern Sogdiana. This is Dzham-53, located in the Zarafshan valley 60 km south-west of Samarkand, excavated by a joint Italian – Uzbek team directed by M. Tosi and A. Berdimuradov (Berdimuradov *et alii* 2006). The occupation of the site began during the early Iron Age and developed throughout the Iron Age. No KT I layers have been excavated, but some KT I pottery has been identified [Fig. 12]. This pottery comprises mostly bowls with con-

vex wall with a slightly sharpened rim and jars with an everted or raised rim, sometimes with an arched lug or a small round lug on the shoulder. Closed shapes seem to be the more widespread. The paste, quite coarse, contains a medium size glittery mineral temper, probably mica, which is naturally occurring because it is also present – in smaller quantities – in the later wheel-made pottery. The thickness of the wall is generally well regularized, but there is usually no surface treatment. Some of these vessels, mostly the closed shapes, are painted in reddish-brown on a beige ware, with spots caused by firing. There are also some in-

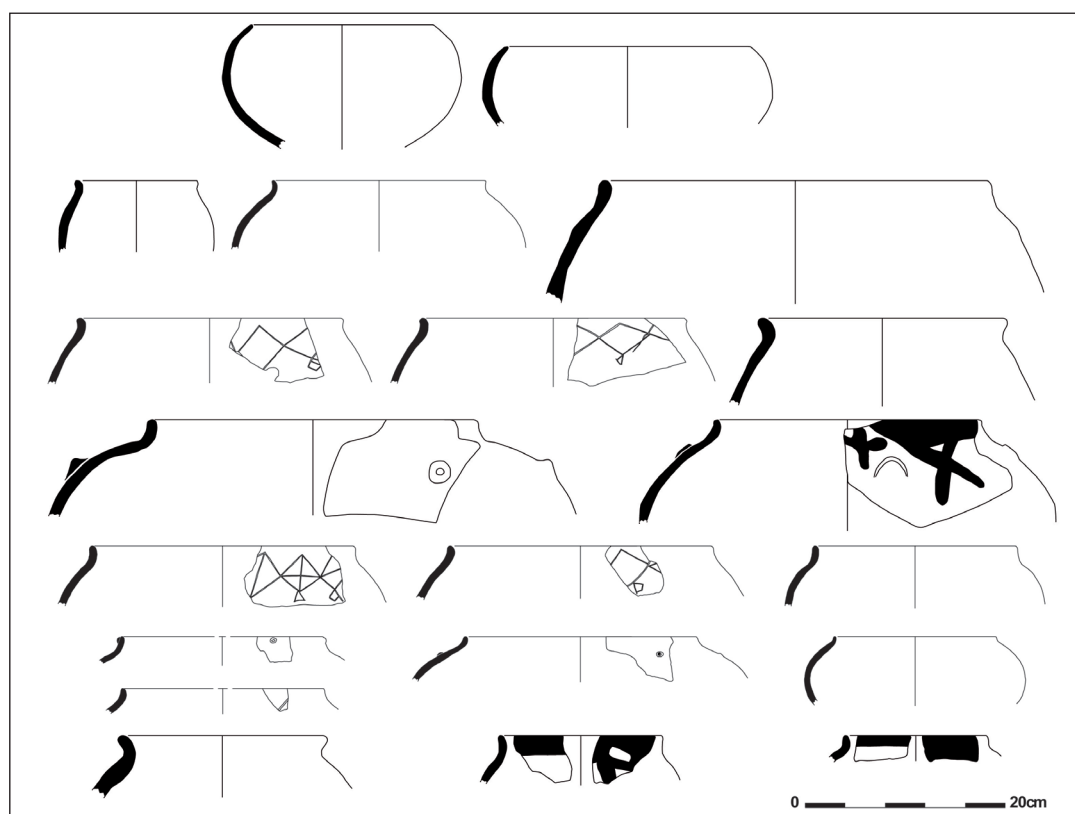


Fig. 12. Some pottery from Dzham-53 (Drawing J. Lhuillier)

cised decorations, mostly rhomboid. Most of the sherds are covered by large white concretions, which may mask other decorations. These vessels present indisputable parallels with those of Koktepe pottery, which indicate that the two sites belong to the same cultural sphere, but there is not enough pottery to develop a more precise periodization of this site.

To set Koktepe back in its regional context, we thus have to look eastward at the Burgulyuk culture of the Tashkent oasis, mainly identified in Tuyabuguz and Shashtepe. The settlement may be compared, especially because of the pit-houses, even if there is no mud brick architecture in the Burgulyuk culture. The Burgulyuk pottery is handmade, both by coiling and by moulding on a convex mould covered by a

fabric. The most common shapes are bowls with convex wall and straight sharpened rim or everted rim [Fig. 13]. There are also necked jars with an everted rim or jars with convex wall and straight rim, with various kinds of handles, lugs or tubular spouts. The paste is pink, beige or gray, usually with pink or gray firing spots. It is quite fine, with a mineral temper. The open vessels are usually smoothed on both faces, and more rarely the closed shapes too. Some of these vessels have a red-burgundy painted decoration. The geometric motifs are relatively simple – with lines, doted lines, broad bands, dots – and are always full. There are also numerous shapeless brushwork decorations. The pottery comprises also cooking pots, which can have a neck or a raised rim, with often tubular spout or horizontal lugs,

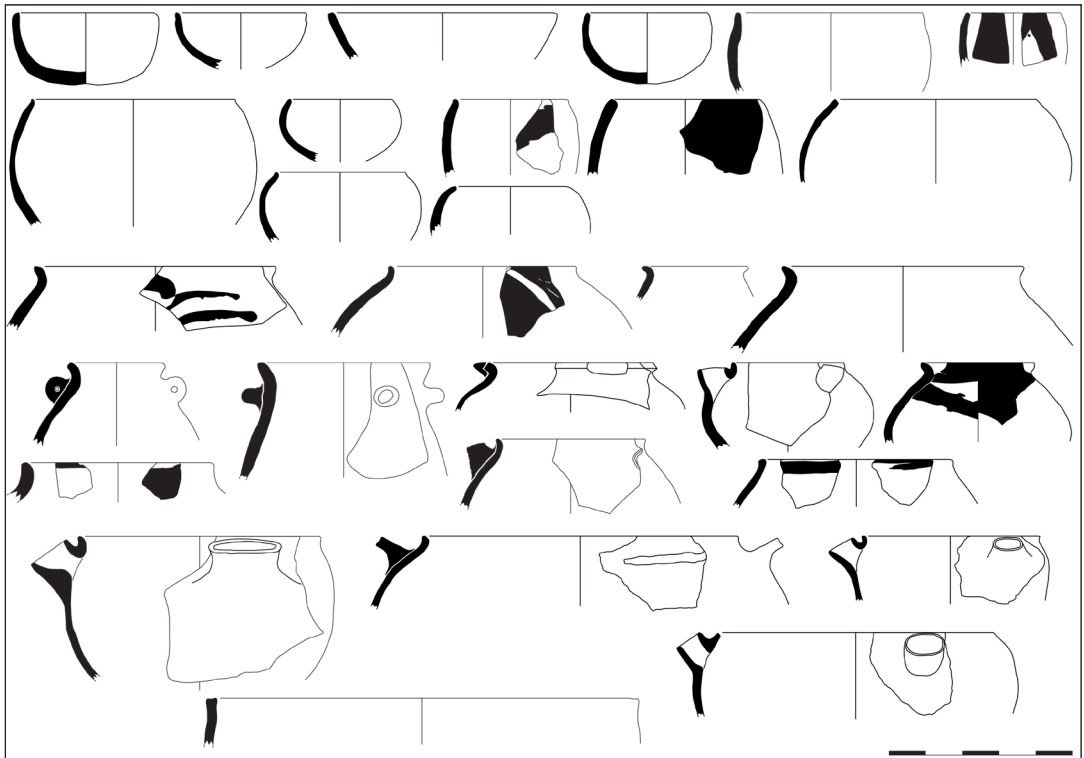


Fig. 13. Some pottery from Tuyabuguz (Drawing J. Lhuillier)

and lids. Their paste is coarser, with a mineral or grog temper, and the painted decorations are very rare on these forms.

The Burgulyuk culture shapes are relatively close to those of Koktepe. The painted decorations also show similarities, especially in their simplicity and in the predominance of full patterns, the general lack

of other kind of filling and the presence of shapeless brushwork decoration. However the abundance of cooking pots and jars with tubular spout makes this complex closer to that of the second stage of KT I, i.e. KT IB, which could probably allow the two complexes to be synchronized.

## CONCLUSION

To conclude, thanks to the excavation in Koktepe we can now suggest dividing the Early Iron Age in Sogdiana into two sub-periods characterized by a strong continuity. The main difference is the higher proportion of cooking pots in the second complex, especially those with a tubular “Burguljuk” spout. It seems to be possible to synchronize the KT IB phase with Tuyabuguz assemblage and thus with the Burgulyuk culture. Cooking pots, with a spout or various kinds of handles, still exist and are even much more frequent during KT II and III periods, while most of pottery is wheel-made. But in Koktepe, their paste no longer contains grog temper, but a mineral temper (probably schist, which remains to be checked by further analyses).

In Koktepe, the following period, i.e. the KT II period, is also characterized by an unusual pottery, the “pinkish burnished ware” identified by B. Lyonnet (2009, 2013). This pottery is handmade. The pink or pinkish paste is tempered with a fine but abundant mineral temper, which is visible on the surface thanks to polishing. There are also some coarser vessels. This complex is so far known only in Koktepe, so the question is

to determine whether the cultural kinship we observed between Sogdiana and Chach during the early Iron Age also extends to the next period.

What about the other neighbouring regions? In Sangirtepa in southern Sogdiana, M. Khasanov observed that large handmade vessels with grog temper appear only in the second stage of the Sangir I complex. In northern Bactria, according to A. Askarov and L. Al’baum (1979), coarse jars are present in Kuchuktepa from the lower level, but their number increases during the Kuchuk II phase. They are also present from the very beginning in Majdatepa, as in the south-western part of Tajikistan (P’jankova 1996; Vinogradova, Ranov, Filomonova 2008). Further south, at Ulug depe in Turkmenistan, there are no spouted jars, but it can be observed that the cooking pots, usually with handles, are much more abundant in Yaz II layers than in Yaz I levels (Bendezu-Sarmiento, Lhuillier 2011).

In general, this indicates that we must reconsider cooking pots and spouted jars as chronological markers. They are some of the shapes usually considered as characteristic of the early Iron Age complex, at least

in the areas where they occur (Sogdiana, Ustrushana, Chach, Ferghana and Northern Bactria), like all coarse handmade vessels in other regions occupied by Painted Ware cultures. This is true, but they seem to be

more typical of a second stage of these cultures. They are therefore a late chronological marker, especially since they still exist during Middle and Late Iron Age.

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