کهنه تپه سی استقراری کورا-ارسی و اشکانی در حاشیه رود ارس، شمال غرب ایران

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چکیده

از منظر باستان‌شناسی شمال‌غرب ایران، حوضه رود ارس یکی از مناطق کمتر شناخته شده است. بررسی‌ها و کاوش‌های باستان‌شناختی انجام شده در دو دهه گذشته به خصوص در مناطقی همچون خداآفرین، جلفا و مغان درک و آگاهی ما را از تحولات فرهنگی این حوزه کاملتر کرده است. با این حال، هنوز عدم انجام بررسی‌های روشمند، فشرده و کاوش‌های پرسش محور در بسیاری از قسمت‌های این حوزه کاملا مشهود است. در میان مطالعات اخیر، پروژه نجات‌بخشی خداآفرین نقشی اساسی در باستان‌شناسی این منطقه داشته است. در طول این کاوش‌ها اطلاعات تازه‌ای از دوره‌های مس‌سنگی، مفرغ، آهن و همچنین اشکانی اشکار شد. کهنه تپه‌سی یکی از محوطه‌های کلیدی کاوش‌شده در این پروژه است که داده‌های فرهنگی و معماری مهمی از دوران مفرغ و اشکانی را نشان می‌دهد. در این محوطه به طور کلی می‌توان سه دوره کاملا متفاوت از همدیگر را تشخیص داد: دوره متأخر اسلامی به عنوان گورستان، دوره اشکانی و دوره مفرغ قدیم. در دوران متأخر اسلامی تقریبا تمامی سطح محوطه به‌عنوان گورستان مورد استفاده قرار گرفته است. درون این گورها که مربوط به افرادی با سنین متفاوت است هیچ داده فرهنگی به‌دست نیامد. از دوره اشکانی این محوطه بخشی از یک بنای مستحکم سنگی به‌دست آمده است که متاسفانه گورهای دوران معاصر تا حدی به آن آسیب رسانده است. به دلیل همین تخریبات عملکرد دقیق این بنای مستحکم هنوز برای ما مشخص نیست. با این وجود، بر اساس ساختارهای مشابه دیگر در حوزه رود ارس، می‌توان آن را به‌عنوان یک پادگان یا بخشی از یک ساختار اجتماعی-اقتصادی یک «ساختار فئودالی» تفسیر کرد.

فرهنگ کورا-ارس در دوره مفرغ قدیم با حدود ۶ متر نهشته فرهنگی و دو مقبره خشتی به‌دست آمده نخستین و اصلی‌ترین دوره استقراری این محوطه را تشکیل می‌دهد. داده‌های به‌دست آمده از این دوره چالش‌ها و سئوالات جدیدی را در مورد ماهیت و تداوم سنت این فرهنگ را در این حوزه برای ما ایجاد کرده است. این مقاله تلاش دارد نگاهی کلی و جامع از ساختارهای معماری، گورها، سفال‌ها، مصنوعات سنگی و بقایای جانوری به دست آمده از هر دوره ارائه دهد.

واژگان کلیدی: رودخانه ارس، فرهنگ کورا-ارس، دوره اشکانی، تحولات فرهنگی، شیوه‌های تدفین، اقتصاد معیشتی.

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Kohne Tepesi: A Kura-Araxes and Parthian settlement in the Araxes River Basin, Northwest Iran

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Abstract

From an archaeological perspective, the Araxes river basin is still one of the lesser known areas, either its northern or southern sides. Recent archaeological surveys and excavations at different sites in the recent decade shed more light on the cultural development of the basin, especially in the Khoda Afarin and Jolfa Plain as well as the Mughan Steppe. However, the basin still suffers from the lack of systematic excavation or survey in many parts. Among these recent projects, the Khoda Afarin rescue project was a focal point in the archaeology of this area. It retrieved new information from the Chalcolithic, Bronze Age, Iron Age as well as Parthian periods. Kohne Tepesi, one of the excavated sites, is an important site that yielded crucial findings from the Early Bronze Age and Parthian period. A cemetery from the Late Islamic period, which consists of graves without artifacts, partially damaged the large-scale stone architecture dated to the Parthian period. The exact function of this fortified structure remains to be determined. Nevertheless, based on comparable structures throughout the basin, it might be interpreted either as a garrison or part of a feudal socio-economic organization. The main occupational phase of the site is related to the Kura-Araxes culture with six meters of deposits and two chamber graves that raises new challenges and questions regarding the nature of this tradition. In this paper, we briefly discuss the architectural structures, graves, pottery, chipped stone assemblages, as well as faunal remains of each period.

Keywords: Araxes river basin, Kura-Araxes tradition, Parthian period, cultural development, mortuary practices, subsistence economy.

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Introduction

Although many archaeological excavations and surveys in northwest Iran have been carried out, there are still areas for which our knowledge of their cultural development is fragmentary[1]. The southern basin of the Araxes River is one of those less archaeologically known areas that seldom have been subjected to archaeological activity. However, due to the Khoda Afarin dam project, a few archeological projects were launched in this plain, which developed into research projects and further studies in the southern part of the Araxes River basin[2]. These studies aid us to interpret the cultural development of the Araxes River basin, its political and economic relation to the other parts of northwest Iran and the southern Caucasus.

After the Khoda Afarin plain survey as a part of the rescue project in 2006, 42 sites from prehistoric to Islamic periods were recognized (Feizkhah 2006). Based on this survey, two sites, Kohne Pasgah and Kohne Tepesi, were dated to the Chalcolithic, Kura-Araxes, and Parthian periods. Kohne Pasgah's excavations yielded Late Chalcolithic, Kura-Araxes, and Parthian period deposits (Maziar 2010; Aghalari 2012, 2018). However, the excavations at Kohne Tepesi did not yield any occupation from the Chalcolithic period, and it appears that the site was settled for the first time during the end of the Kura-Araxes II until the post Kura-Araxes period[3]. After a long gap, the site was reoccupied during the Parthian period.

Kohne Tepesi: Geographical location and topography

Kohne Tepesi (hereafter KT) is located in northwestern Iran, eastern Azerbaijan province, in the Khoda Afarin plain along the Araxes River. The site lies to the north of the modern town Jananlu[4] and between the villages of Mafruzlu and Shoja'ilu[5] (Fig. 1, 2), with the geographic coordination 38S 661762- 4333377. The mound is oval shaped and part of it was destroyed due to the construction of the road between the two mentioned villages (Fig. 3). It is currently preserved to a length of 77 m, a width of 44 m, and a height of 7 m above the plain. The Araxes River in the north and the seasonal river of Kaleybar Chay in the west form the main water sources around the site. Due to the activities of these two rivers, several alluvial fans in the area were created, especially the Araxes River leaves massive alluvium. Generally, three main terraces are recognizable in this plain, and most of the settlements are located on the third terrace, including KT, which is located on the highest one (Fig. 2).

Geophysical survey

To understand the extent and character of the structures, we undertook a magnetic survey, and approximately three hectares were surveyed[6]. Unfortunately, due to the vast distribution of volcanic stones on the surface, especially in the northern part of the site, this type of survey did not produce reliable results. However, we were still able to identify the distribution of some architectural remains, especially a part of the Parthian structure, through this survey (Fig. 5)[7]. Moreover, in the western part of the site, an extensive anomaly was recognizable. In order to understand this anomaly, we excavated two trenches (trench J and M) that revealed two Parthian graves (see below).

In the eastern part of the site, two lines oriented southeast to northwest could be recognized. After the excavation, it appears that these lines were likely hollow ways (Fig 5). It seems that these hollow ways ended up in the

1. For discussion and summary of archaeological activities in northwest Iran, see Summers (2013), Abedi et. al. (2014) and Maziar (2019a).
2. For the history of excavations of this plain, see Maziar (2010), and for the archaeological survey of the Araxes River basin see Maziar and Zalaghi (2020).
3. With a date rage around 2900-2700/2600 BC (For phasing the Kura-Araxes period in Iran, see Maziar 2019a).
4. Before the Khoda Afarin dam project, Jananlu was a small village, but after submerging of this village, a new big local center, also named as Jananlu, was built. In this regard, Jananlu is today a big center, which is composed of several villages.
5. Both of these villages were abandoned and part of them went under water.
6. The geomagnetic survey was conducted by Babak Aminpour, to whom we are grateful.
7. For more information regarding the Parthian period of the southern basin of the Araxes River see Maziar 2019b.

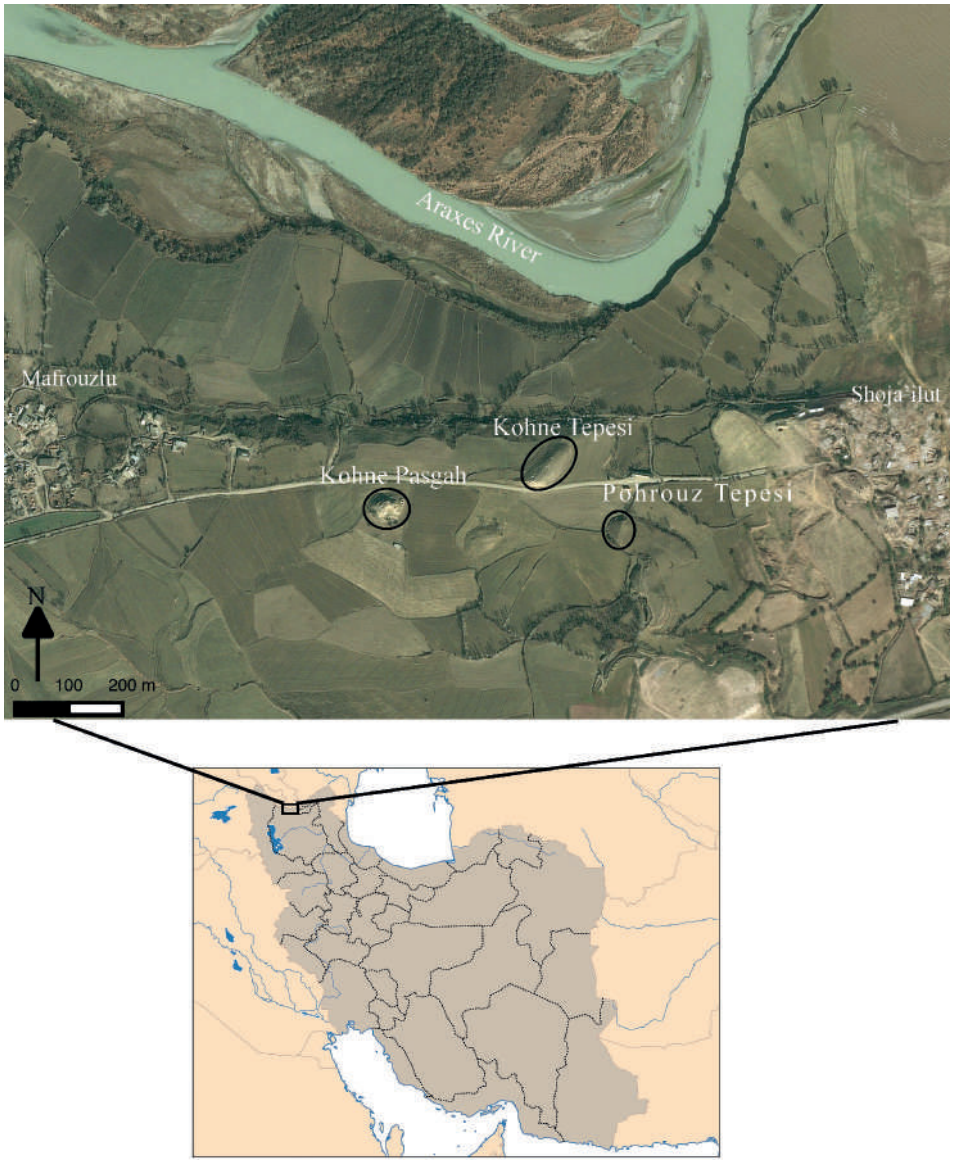

Fig. 1. Location of the mentioned sites in this article in the Khoda Afarin plain, northwest Iran (Google Earth 2015).

Fig. 2. The location of the Kohne Tepesi on the third terrace.

Fig. 3. View of Kohne Tepesi from the southeast.

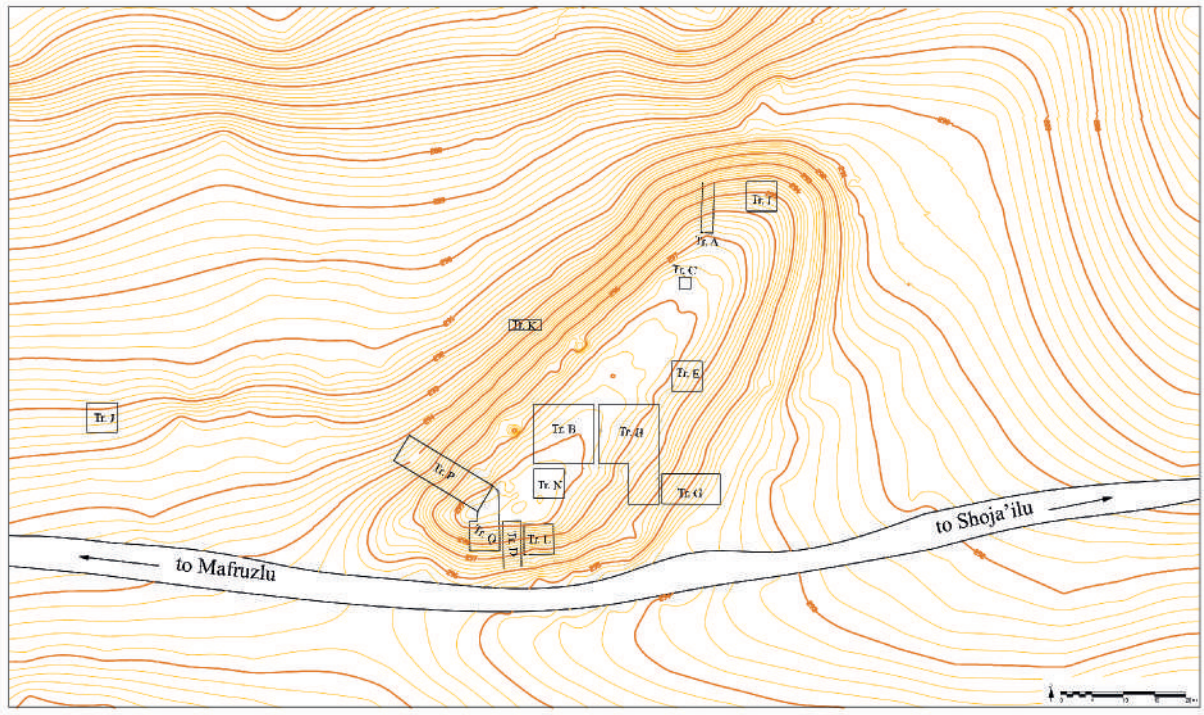

Fig. 4. Topographic map of Kohne Tepesi with the location of excavated trenches.

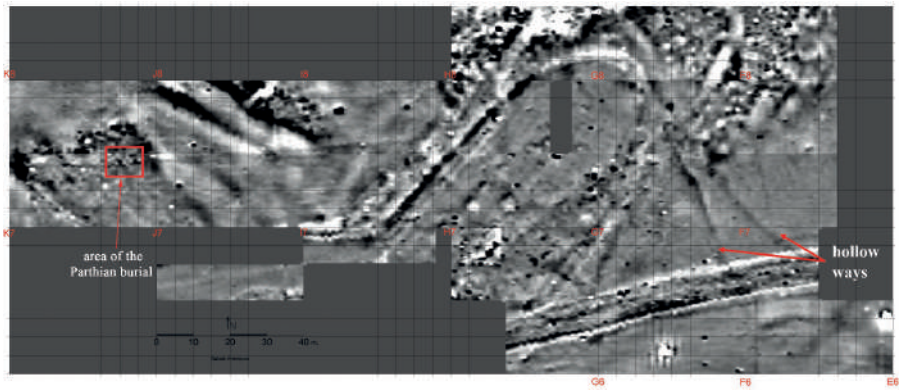

Fig. 5. Geomagnetic map of the Kohne Tepesi (by B. Aminpour).

area with several springs in the north-northwest part of KT in the alluvial basin. It is unknown to us in which period these hollow ways were used. However, based on the pottery sherds found in this part of the site and the orientation of the hollow ways to Pohrouz Tepesi[8], they can be dated presumably to the Parthian and probably also late Islamic period.

Excavation of the site and its chronology

Based on the site topography and the results of the geomagnetic survey, 17 trenches (A to Q) were excavated in different parts of the site in two seasons in summer 2006 and autumn 2007 (Fig 4). In order to understand the chronology and the formation process of the natural and cultural deposits of KT, three test trenches, namely Tr. A, D, and G, were established in the north and the southern part of the site. All of them demonstrated that KT is a natural hill, and only the southern part of it was intensively occupied. Two main trenches, B and H, were excavated in the center of the site to understand the structures that were recognized in geomagnetic survey. Furthermore, trenches G and P were established with the same aim in the southeastern and western part of the site. After the geophysical survey, around 65 m away from the western part of the site, trench J was excavated, which revealed two Parthian graves outside of the Tepe. A byzantine gold coin dated to the reign of Constantine X (1059-1067 CE) was also found in the northeastern part of the site. However, no archeological deposit of this period was found at the site (Zalaghi and Maziar 2020).

The excavations and comprehensive studies of the material established three main cultural periods at KT namely, Late Islamic, Parthian, and Kura-Araxes periods that will be described below.

8. Pohrouz Tepesi is excavated by Ali Hojabri. In the excavation, he found different kinds of graves that could be dated to the Parthian or earlier periods. Since the Pohrouz Tepesi was not settled during the Kura Araxes period and the main occupation dated to the Parthian period, these hollow ways could presumably be dated to this or later period.

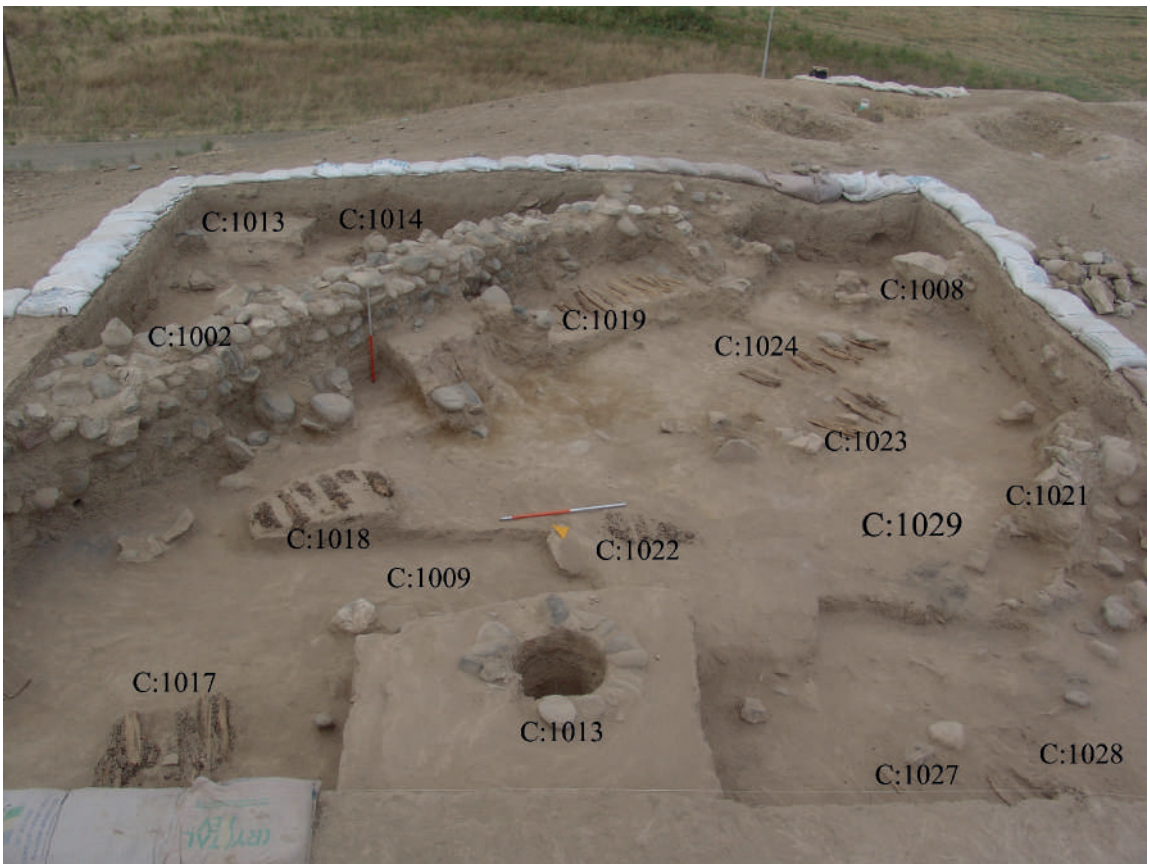

Fig. 6. The graves of Period III in trench B, C.
(1014, 1019, 1008, 1024, 1023 1028, 1027, 1017 and 1018 are the graves and C.1002 is a part of structure of period II).

Period III: Late Islamic cemetery

The cemetery, which was in use in recent centuries, covers the entire site with a main cluster inside trenches B and H (Fig. 6). Scattered burials in the center of the site were dug into the Parthian structures. Thirty-one burials were excavated during the first season (Table 1). All graves were dug to a depth of around half to one meter. The bodies in most graves were placed in a supine position and sometimes leaned on the right sides. The graves are mainly covered by natural branches of trees or with timbers. Based on the anthropological studies[9], 19 of the burials were males, seven females, four children, and one was unknown.

Unfortunately, we did not find any related deposit or pottery sherds to relate them to a specific period. Only based on the direction of some of the graves (the head on the right side), we supposed that some of them at least were probably Muslim. In the other excavated neighbor sites not far from KT, the same burials were found, which demonstrates that the people buried their dead on the surface of natural and archaeological hills. The number of graves was higher at KT than other neighboring sites.

9. The anthropological studies at the site were conducted by Farzad Foruzanfar, to whom we are grateful.

Table 1. The number of graves in each trench.

Trench	A	B	C	D	E	G	H	I	L	N	P
The No. of graves	4	18	3	5	2	9	26	1	1	5	1

Period II: Parthian period, a fortified structure

Stone structures and burials were recognized from this phase, mainly in the center of the site. Unfortunately, the latest burials damaged and disturbed the stone structures; therefore, the pottery sherds from different periods were mixed. For example, inside trench H, fragments of a Parthian vat were discovered during interments in the later period, and they reused part of this vat as a cover for the burial (Fig. 8).

Fig. 7. The general view of Tr. B and H, and parts of the Parthian structure

Fig. 8. Fragments of the Parthian vat in trench H were used as covering for the burial of the Late Islamic period

The stone structures are composed of rows of stone with a length of ca. 14 m and a height of 80 cm in 3 or 4 rows with north-east-southwest orientation (Fig. 7). Recent burials disturbed part of this wall, but it seems that this wall was part of a quadrangular space. The wall did not continue to the south, and it seems that the structures were extended to the west and were ruined in the later periods. The function of this stone structure is not clear; however, it seems it was part of a fortified structure either as a garrison (due to its size) (Maziar 2019b) or parts of a socio-economic organization of a "feudal arrangement" (Vahdati 2018). At Kohne Pasgah, close to KT, a mud-brick building from the Parthian period was excavated, demonstrating a settled-fortified building (Aghalari and Deh Pahlevan 2011).

From this period, five graves were excavated. Three of them (grave 1 to 3) were located inside the mentioned space, and two other burials (grave 4 and 5) were excavated in the western part of the site. These burials are simple rectangular pits with 50 cm depth. In the following, these graves will be described in detail.

Grave 1 (Tr. H con. 7025)

This grave is located in the southwestern part of trench H. The form of the skeleton was in a fetal position, deceased lies in the northeast to southwest orientation, and faced southeast (Fig. 9: links). The skeleton was extremely distressed, and part of the skull, pelvis, and legs was not found. Inside the grave, a vessel with orange clay wash and body (Fig. 11: D) was located in the lower part of the skeleton on the ankle (Fig. 9: links).

Grave 2 (Tr. H con. 7030)

The orientation of this grave is northwest to southeast. The grave is very disturbed. The skull and hands were destroyed, and the other part of the skeleton was also heavily corroded (Fig. 9: right). Three bronze rings were found in this grave. Two of them were in the right hand bent on the pelvis, and the third ring was found near the right foot, which was probably on the toe.

Fig. 9. (link) view of grave 1, (right) view of grave 2.

Grave 3 (Tr. H con. 7045, 7046)
This grave is a simple pit with 43 cm deep. The form of the skeleton was in a fetal position in the northwest to southeast orientation. Unfortunately, due to the later graves (Late Islamic period), most parts of this grave were cut, and only a small part was intact. A vessel with a broken edge (Fig. 11: E) was laid in the lower part of the skeleton.

Grave 4 (Tr. J con. 9004)
This grave was a simple pit. The burial contains an adult male that is buried in a fetal position on the left shoulder. Burial is in the northwest to southeast orientation. Generally, seven pottery shreds, a handled jar (Fig. 11: C), and a part of the metal object of Iron (Fig. 11: F), which may be a part of a sickle or knife, were found.

Grave 5 (Tr. J con. 9005)
This grave was also a simple pit. The burial contains an adult female that is buried in a fetal position on the left shoulder. Burial is in the northeast to southwest orientation. Two vessels (Fig. 11: A and B) were found beside the body.

As is mentioned above, three graves (1, 2, 3) were found in the ruins of the Parthian structure, demonstrating that they probably were buried after the building was abandoned. The two other graves (graves 4 and 5) were found in the western part of the site, and it is not clear if they were buried during the occupation or after the abandonment of the building. Interestingly, graves 1 and 5 and graves 2, 3 and 4 are in the same orientation.

Period I: Early Bronze Age (Kura-Araxes period)[10], a small hamlet
Pottery assemblage from the survey indicated that Kura-Araxes culture debris forms the main part of the site. Hence, one of the most important targets of the excavation was to recognize the Kura-Araxes cultural tradition in this part. The remains of the Kura-Araxes tradition were found in Tr. B, H, P, K, L, M, N, O, and P (Fig. 4), which demonstrates that only the southern half of KT was settled during this period. The main body of Kura-Araxes evidence came

10. The detailed analyses and study of this period are done by Sepideh Maziar and will be published somewhere else.

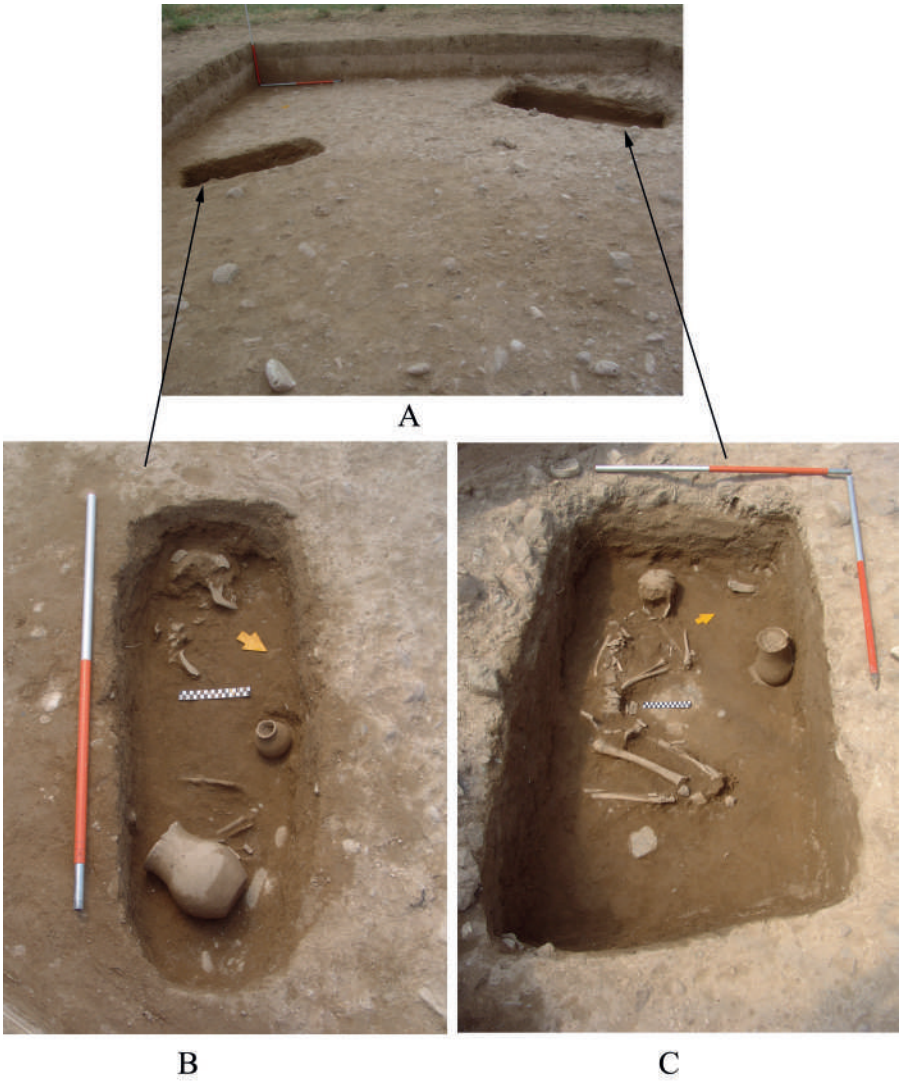

Fig. 10. A, trench J in the eastern part; B: grave 5; C: grave 4 in the west part of KT.

from trench B, which contained six meters of deposits and has the most intact structures and layers of this period.

The southern part of the site is demolished by the local road that connects the villages of Shoja'ilu and Mafrouzlu. In order to recognize the Kura-Araxes phase in this part, trench D and L was established, which yields a Kura-Araxes burial architecture in this part of the site (Fig. 12). This rectangular mudbrick chamber tomb measures 270×220 cm. The interior surfaces of the walls are plastered with chaff, and the remains of the thatch roof are recognizable. It contains a flexed burial of a 45-50 years old male, with a faunal burial under the human skeleton, All burials are located on the natural surface of the fan.

In the second campaign, understanding the relation between this burial and the residential area in the southwestern part of the site, trench Q was excavated (Fig. 4), which interestingly demonstrates another burial architecture of this phase. This burial chamber was rectangular and preserved to a height of 70 cm (Fig. 13). It contains a single flexed burial of a 35-45 years' male[11] accompanied by a bronze dagger, a gold spiral, a bronze necklace, and three big black burnished jars, two of which were situated near the knee under the pelvis with two smaller vessels inside them, and the third one was in front of the body[12]. Furthermore, three separate rectangular mudbrick buildings were recognized in the southwestern part of Kohne

11. The osteological studies of this grave were conducted by Zahra Afshar, to whom we are grateful.
12. These two tombs will be discussed in detail in another article and will be published elsewhere.

Fig. 11. Grave goods of the Parthian graves; A and B (Grave 5); C and F (Grave 4); D (grave 1); E (grave 3).

Fig. 12. The Kura-Araxes chamber tomb from the first season in Trench D and L.

Fig. 13. The Kura Araxes chamber tomb at Kohne Tepesi from the second season in trench Q.

Tepesi and two fire installations (oven/kiln?) were found in one of them.

In the central part of the site, trench B (10×10 meters) was established in the first campaign. Because of the large number of graves of the Late Islamic period, remains of the Parthian period, and the lack of time, only part of this phase could be excavated. The excavation of the Kura-Araxes phase continued in the second campaign. In this season, only the western half of this trench was excavated in an area of 5×10 meters (Fig. 14). Generally, excavating to a depth of six meters of the Kura-Araxes period deposits in trench B revealed a total of 137 stratigraphic contexts and seven different phases (Fig. 15). Phase I is the earliest, and phase VII is the latest phase of the occupation in the site.

Phase I represents a dense deposit comprising layers of refuse with a high amount of material such as pottery sherds and fauna remains. Phase II on top of the debris of phase I, composed of part of a wall with rows of stone foundation (co.1174) and debris of a mud-brick wall. It is composed of three courses of stone, to a height of 0.48 m, and runs northeast-southwest with a length of 4.72 m. Eroded mud-brick remains were found atop the stones and in the exterior part of it (co.1164 and 1172). This is the first evidence of architecture in this part. After this phase, in Phase III, no architecture or installations were recognized, except two rows of stone (co.1147) that run northwest-southeast. Nothing related to this foundation was found, and it is not clear what this structure's function was. The main part of this phase is composed of a thick layer of ash and thick green layers. Phase IV contained another architectural phase and was composed of two architectural features running northwest-southeast. Part of the interspace of this phase, between the walls, was excavated as a small trench in the first season to recognize the earlier phases. Phase V is composed of continuous layers of green (Light olive 2/5 5/4 YR, co.1074, 1093, 1097), brown ac-

Fig. 14. Trench B, showing the virgin soil as a part of steep alluvial slope and the Kura-Araxes deposit that superimposed it.

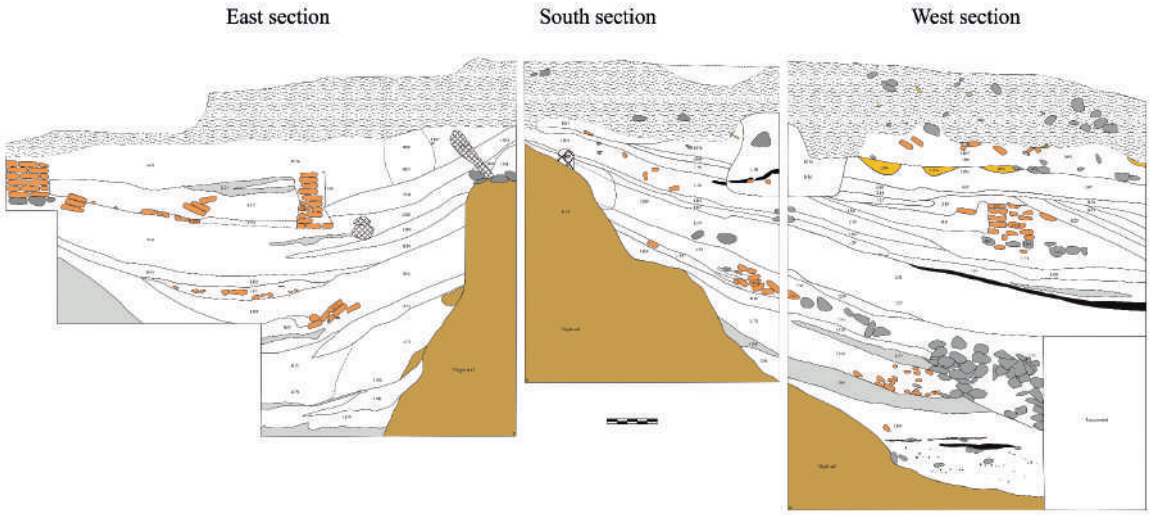

Fig. 15. Stratigraphy in trench B at Kohne Tepsi, showing the context numbers (S. Maziar).

cumulation with partly chaff and straw particle inclusion, surrounding the rooms of phase VI. This phase includes two rectangular rooms and spaces like a passage in between (Fig. 16). Each room is formed by mud-brick walls with stone foundations. Two spaces were recognized inside trench G in the southeastern part of the site (Fig. 17). The first space is constructed inside and beside the alluvium deposit by digging it, and the second space is located on the northeast side of the first one. The remains of probably a circular fire installation (oven/kiln?) were found, 100 by 80 cm in dimension, and have a height of 90 cm. Although no firing chamber has been recognized, the existence of various holes in its upper surface could prove a kiln. It is worthy of note that no remains of a waster were recognized but some baked clay beside it.

Phase VII includes five pits (co.1075, 1076, 1078, 1106, 1100). One of these pits (co.1075) cut the stone foundation of the earlier phase (phase VI, co.1072). These pits were filled with animal bones, pottery sherds, and grey, green, and orange accumulated debris (dark grey 5yr-4/4). Unfortunately, intrusive graves and pits disturbed this final phase in this part, and nothing is left intact but the pottery sherds to enable us to reconstruct the final phase.

Generally speaking, the most important characteristics of Kura-Araxes architecture in this site are:

1- All structures (except for the third phase of trench B) are composed of a stone foundation and mudbrick wall with regular size of mudbrick.

2- It seems that the residential structures in this site have their local pattern, which has continued till now and is observable in the contemporary architecture of adjacent villages. This kind of architecture is constructed by cutting the alluvium, and the houses are located inside the alluvial deposits (Fig. 18).

Pottery assemblage

Potteries of KT could be generally divided into two main groups, Parthian and the Kur-Araxes pottery assemblage. However, some burnished ceramics with decoration were found on the site's surface that could be dated to the so-called "post-Kura-Araxes" period. We did not find the related cultural deposits and associated architecture of this period in the excavated areas.

Parthian ceramic: The Parthian ceramic of northwest Iran is known mostly from the graves. So far, a few Parthian sites have been excavated that presented the Parthian pottery assemblage in stratigraphy and residential context. The ceramics of the Parthian period at Kohne Tepesi are mostly plain ware. Furthermore, except for the four small painted sherds (Fig. 19), no other painted pottery; the so-called "Ardebil style pottery" has been found. The plain potteries are mostly wheel-made in red, reddish-brown, and orange color, and the temper includes different sizes of grit.

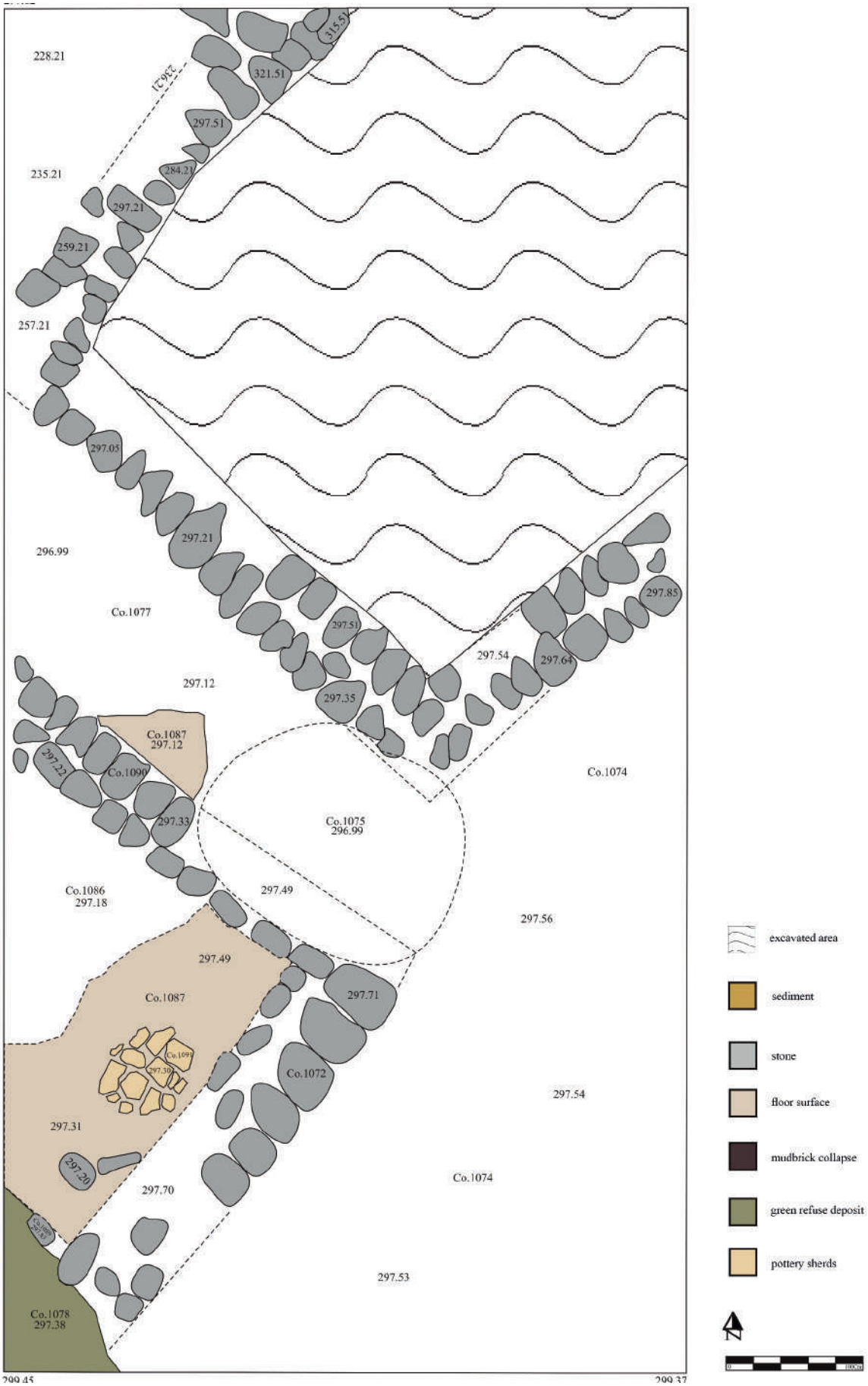

Fig. 16. Plan of the phase VI in trench B; the wavy lines show the excavated area in the first season in 2006.

Fig. 17. Trench G, the Kura-Araxes architecture with evidence of oven/kiln?

Fig.18. Structure in the village of To'ali, in Khoda-Afarin that resemble the Kura-Araxes architecture at Kohne Tepesi[14].

14. They are currently used as Aghol, but the villagers told us that in the past time they had used them as their houses.

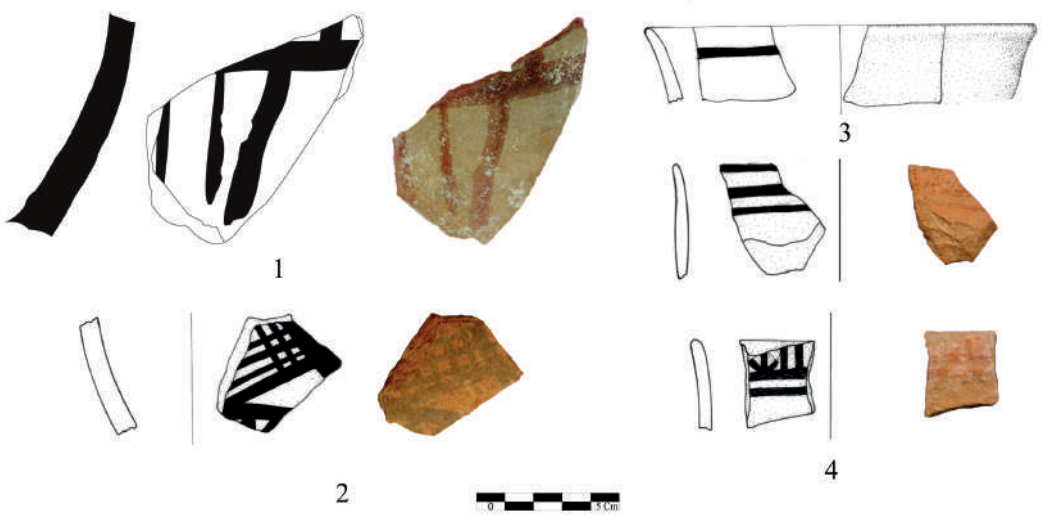

Fig. 19. Parthian painted pottery, Kohne Tepesi.

Generally, the Parthian pottery from Kohne Tepesi can be divided into the following categories (Fig. 20);

1. Storage pottery

They are in different sizes and could be divided into two main groups: closed and open mouth storage vessels, sometimes with a decoration on the ledge or rope decoration on the body of the vessels. In Trench E, a storage jar in situ with two rows of rope decoration has been found.

2. Kitchen pottery

They are in different forms: Jars (with and without handle), bowls in different sizes, and forms in orange with orange wash or slip.

3. Jug/Jar pottery

They are wheel-made, mostly with one handle, and in some sherds, a small spout is visible on the rim. This form was also used as grave goods.

Furthermore, in trench H (Co. 7004), two ceramic sherds with animal relief were found (Fig. 20: 28-29). They are in red with fine-grit temper[14] and reddish clay slip.

Post Kura-Araxes pottery: The number of these sherds is rare, and they are found mostly in the mixed contexts of the surface material of the settlement or inside the pits. They are handmade in black or gray color with sand temper. Only the exterior surface was decorated with a burnished pattern of geometric muftis (Fig. 21) or carinated forms. Due to the lack of diagnostic forms, it is not easy to compare them with other areas. However, they are generally comparable with post Kura-Araxes pottery of Nadir Tepesi in Iran (Alizadeh et al. 2018, fig. 10-11.), Martqopi-Bedeni tradition (Sagona 2004, fig 25 and 27.), and this phase in Shengavit[15].

Kura-Araxes pottery[16]: Kura-Araxes period wares and pottery sherds are handmade with fine and coarse grit temper. The exterior surface of potteries is black, dark, and light brown, with some orange sherds. They are decorated with an incised (Fig. 22: 13-16) and bold motif; dimple decoration is also among the assemblage (Fig. 22: 14, 20, 23). Nakhichevan lug (Fig. 23: A) occurs very frequently on the body of jars (Fig. 22: 1,11,17,20). The jar with carination in the shoulder is the current form in phase I but got abandoned later (Fig. 22: 5). Carinated jars come in different sizes. In phases V and VII, we have a new form of the carinated bowls that were common in just these phases. S-shaped bowls or bowls with a carination below the rim are found more or less in all phases except phase II (Fig. 22: 5,13,14,16,17,19, 22). Open mouth

14. Unfortunately, we did not find any comparable examples of these sherds for relative dating. In this regard, it could also be dated to the earlier period like the Iron Age; however, in the excavations, no architectural remains or archeological deposits of this period was found.

15. Personal communication with R. Badalyan and G. Palumbi, we are grateful to both of them.

16. The detailed analyses of the Kura-Araxes pottery assemblages are done by Sepideh Maziar and will be published somewhere else.

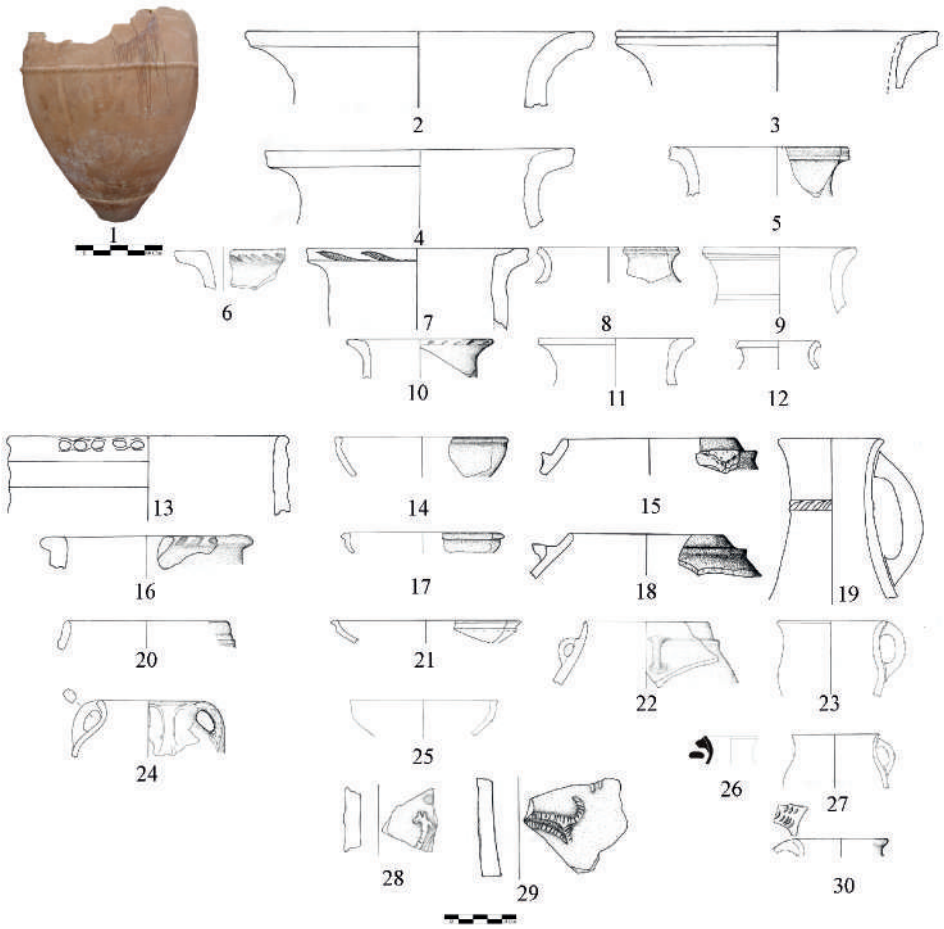

Fig. 20. A selection of Parthian pottery assemblage, Kohne Tepesi.

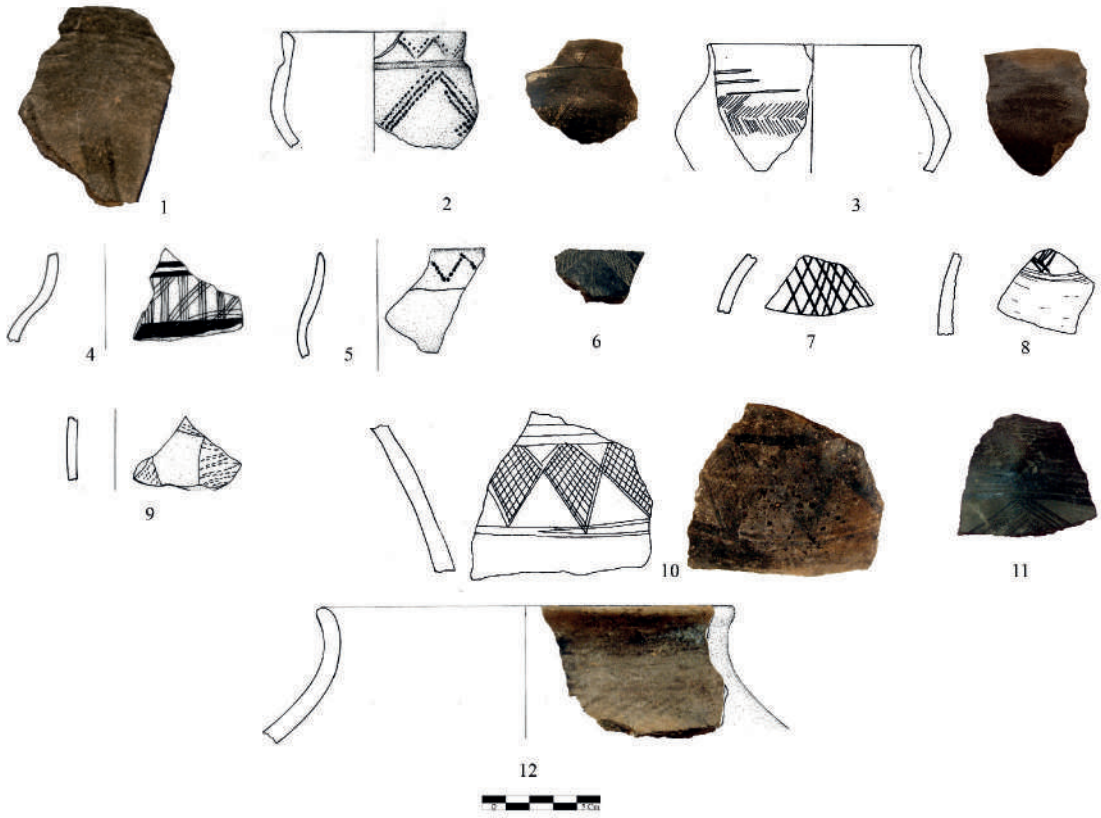

Fig. 21. Post-Kura-Araxes ceramic, Kohne Tepesi with incised/burnished pattern decoration.

bowls show many diverse forms of rims and also come in different variants, such as with or without handle and also included deep or shallow bowls (Fig. 22: 12,15,18). According to this general overview of typology, we could see that KT has a diverse repertoire of shapes. The most common form is the straight-sided jars and garlets, which are found in various sizes. Generally, there is a little stylistic resemblance between Kohne Pasgah Tepesi and KT. One particular characteristic of the KT style is the relief and incised decoration (Fig. 23: B). Neither of these is present at Kohne Pasgah Tepesi. It could be a chronological difference, lack of excavated material in Kohne Pasgah, or local diversity. By the latter, it means that the people who occupied KT had a different pottery style as Kohne Pasgah Tepesi.

Chipped stone assemblage[17]

(Mozhgan Jayez)

A total of 940 pieces of chipped stone artifacts are obtained during two seasons of excavations in KT. The raw materials used in the production of stone artifacts mostly composed of obsidian, chert, and a small amount of limestone and tuff. Although the stone artifacts made of obsidian are dominant in terms of number, but regarding

17. For more information about this study, see Jayez et al. (2017) and Jayez and Zalaghi (2015).

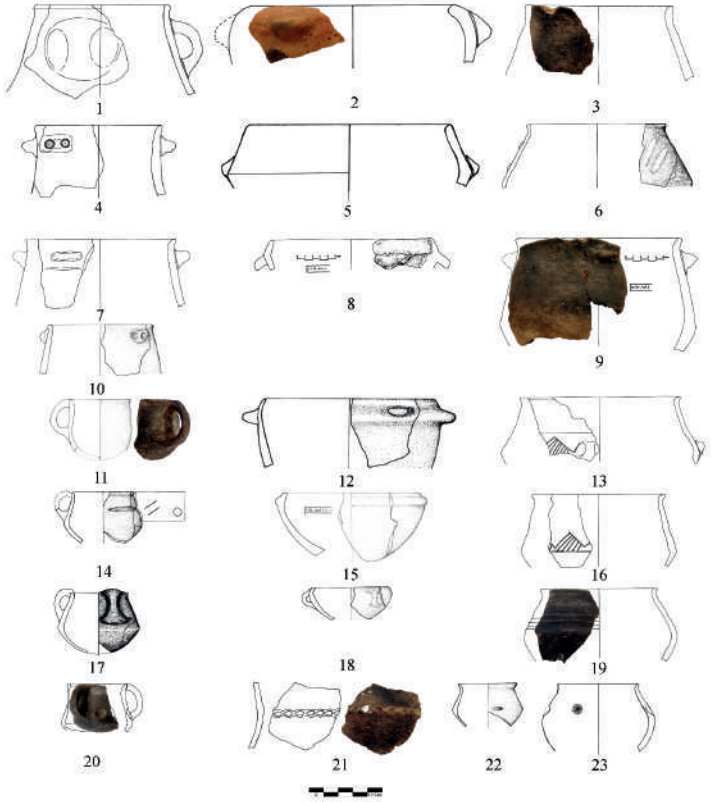

Fig. 22. A selection of Kura-Araxes ceramics, Kohne Tepesi.

Fig. 23. A selection of Kura-Araxes ceramics, Kohne Tepesi: A: Tr. P (con. 15012); B: Tr. H (con. 7050).

weight, most raw materials used in the collection of stone artifacts in this area are made of chert.

In terms of technological organization, the majority of the obsidian assemblage is made of small flakes, chips, and debris, which reflect the activities of core preparation, removal, and production of the tools in site. Most obsidian cores are flake cores in which flakes are removed from two faces of the core (Fig. 24: 1). Most of the tools made of obsidian are also flakes, which like cores, much smaller flakes are irregularly and invasively removed from their whole surface, and no standard retouch has been observed on them.

The production of stone artifacts made of chert is different from those made of obsidian. However, due to the high percentage of simple flakes and the average percentage of cores, it seems that the formation of the core and removal of flakes was being accomplished at the site. In the chipped stone industries of this site, only one aspect is shared in both raw materials of chert and obsidian: neither is based on standard production of blades, and this is confirmed by the rarity of the blade and bladelet cores in both assemblages.

Most obsidian tools are informal flake tools with irregular retouch on the edges and surfaces and notched tools in this collection are the only formal tools which are not rare, but atypical (Fig. 24: 5). However, the majority of chert tools are composed of sickle elements with overall bifacial invasive retouches (Fig. 24: 6-12). In most of them, only one edge represents marks of heavy utilization and sickle gloss. The presence of sickle gloss in just one edge of such tools reveals that they were embedded in some hafts, although no hafts have been discovered from KT so far. A few formal tools such as scrapers (Fig. 24: 4) and some multifunction chert tools (Fig. 24: 3) are also observed in KT assemblage with a more standard form compared to obsidian tools.

The chipped stone assemblage of KT represents a twofold industry. One side of this industry is related to obsidian artifacts, and the other side of it is a collection made of chert. Regarding the abundance, the obsidian artifacts constitute about 60% of the quantity of the stone artifacts of KT; however, they only comprise 24 percent of the total weight of this assemblage. The obsidian assemblage consists of a large number of small flakes and is based on the production of flakes from cores that end up in the shape of irregular bifaces and were probably used as tools. In this collection, regular blades and bladelets are rare. Only one blade segment in this assemblage is regular and seems to be the product of pressure technique in removing blades (Fig. 24: 2). The absence of bladelet cores and their byproducts indicates that this blade is most probably not produced in the excavated area. The majority of obsidian tools are produced with irregular retouches and without previous design. Thus, it seems that the obsidian assemblage of the site represents an industry lacking high expertise in production. In other words, the expertise level of this industry was to the extent that it allowed ordinary people to produce the artifacts even in their houses.

On the other hand, although the chert chipped stones consist of less than 40% of the number of the chipped stone artifacts, they constitute more than 50 percent of its weight. The assemblage consists of a large number of flakes, which unlike obsidian flakes, have relatively large dimensions. Like the obsidian industry, this assemblage is not based on the production of blade/lets and products, and byproducts of blade production are rare in debitage and tools, and none of the cores is blade/let cores. Still, chert assemblage can be completely considered as a highly specialized industry regarding its tools.

A comparison of the characteristics of this assemblage with the assemblages from other sites is not easy because there are few reports in which a description of the technological characteristics of chipped stone assemblages in similar sites is presented.. However, the existence of similar bifacial sickle elements in sites like Shengavit (Sardaryan 2004; Simonyan 2015), Ovçular Tepesi (Marro et al. 2011), and Sos Höyük (Sagona et al. 1995) suggests that the use of chert stones for production of bifacial sickle elements was common in the region (Kohl 2009: 95).

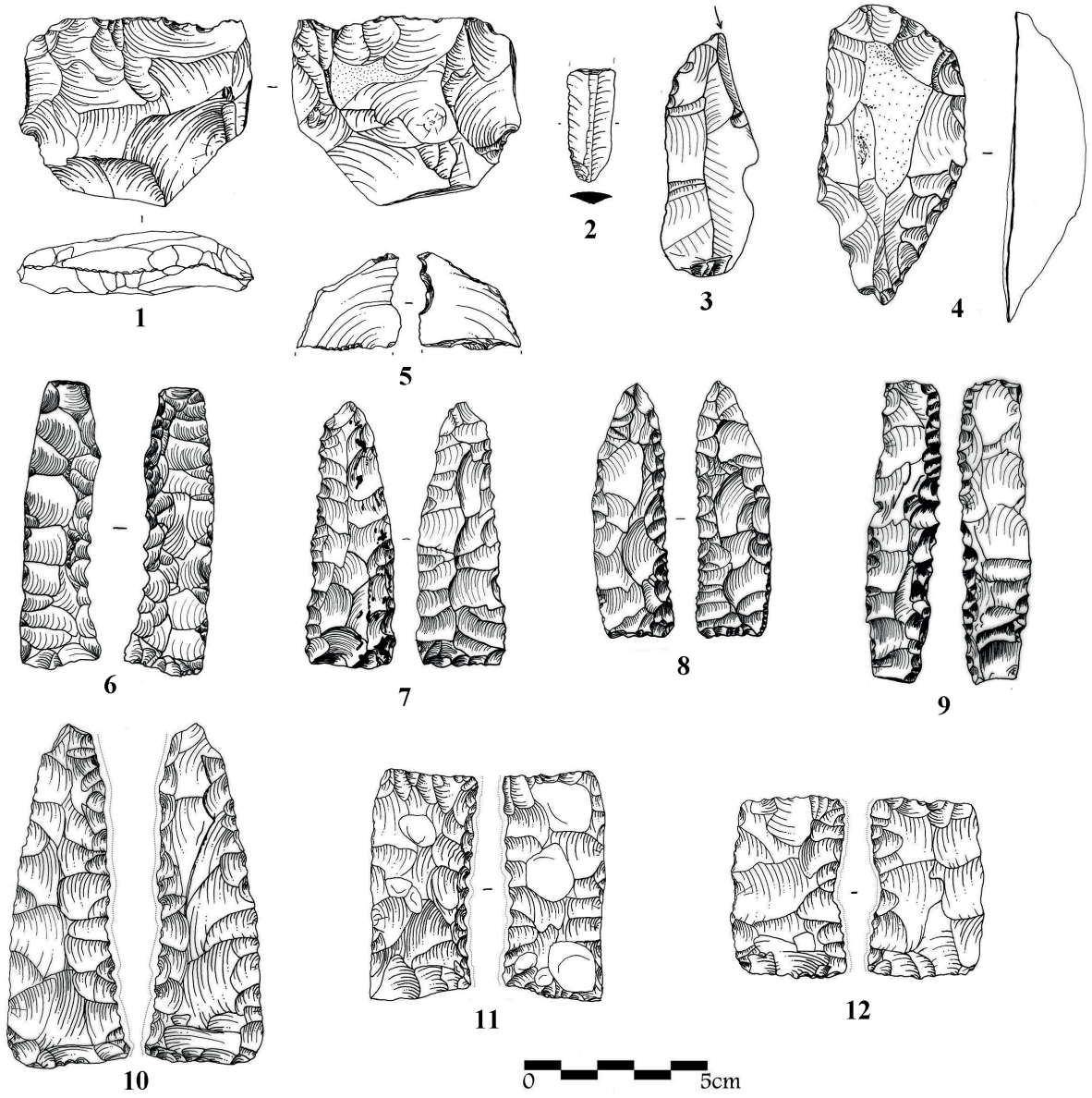

Fig. 24. A selection of stone assemblages of the Kura-Araxes phase, Khohne Tepesi (drawing by M. Jayez)

Faunal remains

(Marjan Mashkour, Hossein Davoudi, Shiva Sheikhi, Fatemeh Azadeh Mohaseb)

During the excavations of 2006 and 2007 a large faunal collection was collected at Kohne Tepesi in the framework of an extensive salvage archaeological project. The collection allows evaluating the subsistence economy and animal husbandry strategies during the Early Bronze Age at this small village (see above).

Animal bones were collected in five trenches, including B, P, H, G and Q (Fig. 4). In total 9775 bones (90 kg) were registered from various context; 59% of collection came from Tr. B, 32% from Tr. P, and the rest from other operations (Table 2). The two main quantification methods used here are NISP (Number of Identified Specimens) and weight (gram). We employed these methods for estimation of the frequency of each species in the collection. The faunal remains include fragmented as well as unbroken bones. The identified bones represent 71% of the assemblage equal to 6970 specimens (NISP) corresponding to a total weight of 78 kg (86%). The average weight for identified bones is 11,2 g and for the unidentified bones in 4,4 g. These figures indicate that the material is in general very well preserved and that the unidentified bones are those that are very fragmented and with no diagnostic criteria.

Table 2. Provenance of animal bones at Kohne Tepesi; Number of remains (NR) and Weight of remains (WR).

Trench	NR	WR (g.)	% NR	% WR
B	5809	61063	59.4	67.5
P	3141	22595	32.1	25.0
H	452	3838	4.6	4.2
G	288	2356	2.9	2.6
Q	85	569	0.9	0.6
Total	9775	90421	100.0	100.0

Table 3. Taxonomic distribution of animal remains, Kohne Tepesi.

Taxa	NISP	%NISP	Weight (G.)	%Weight
Capra hircus	162	1.7	2095	2.3
Ovis aries	196	2.0	3045	3.4
Caprini	4362	44.6	27070	29.9
Bos taurus	1272	13.0	33713	37.3
Gazella sp	10	0.1	80	0.1
Cervus elaphus	200	2.0	4632	5.1
Sus scrofa sp	509	5.2	5939	6.6
Equid	2	0.0	122	0.1
Canis familiaris	11	0.1	107	0.1
Vulpes vulpes	12	0.1	67	0.1
Canidae	2	0.0	13	0.0
Ursus arctos	8	0.1	347	0.4
Felidae	6	0.1	31	0.0
Mustelidae	2	0.0	30	0.0
Carnivora	7	0.1	39	0.0
Lepus europaeus	4	0.0	8	0.0
Bird	28	0.3	164	0.2
Fish	38	0.4	87	0.1
Testudo cf *graeca*	61	0.6	195	0.2
Rodentia	78	0.8	83	0.1
Large Ruminant	124	1.3	2234	2.5
Large Mammal	554	5.7	5914	6.5
Large Medium Mammal	12	0.1	231	0.3
Medium Mammal	680	7.0	1878	2.1
Small Mammal	9	0.1	19	0.0
Unidentified	1426	14.6	2278	2.5
Total	**9775**	**100.0**	**90421**	**100.0**

Various animal species were identified at Kohne Tepesi, which can be attributed to herbivores, carnivores, rodents, birds, fish, and reptiles (Table 3). The main portion of faunal remains belongs to domestic mammals, Caprinae and Bovidae, with an average of 86% of NISP. Sheep (Ovis aries) and goats (Capra hircus) are dominant species with 67% of NISP. Sheep to goat ratio is close to 1:1. Cattle (Bos taurus) is the second important exploited animal at Kohne Tepesi, represented by 18% of NISP and 43% of weight. The cattle weight is relatively the same as sheep/goats (41%), indicating its importance for providing meat, dairy products and work power. Dog is another domesticated animal that is represented only by 11 bones.

Pig remains from Kohne Tepesi represent 5.2% of NISP. The pig mandibles were examined metrically in order to assess their wild or domestic status. The size of the second and third lower molars indicates the presence of the domestic and wild forms in similar proportions. Therefore, we tentatively attributed 50% of the Suidae remains to the domestic pig (Sus cf. domesticus) and the 50% to the wild boar.

Although hunting did not represent a substantial source of animal products in settlement, however, identified species are quite numerous and surprising. These include brown bear and felids, most game mammals, red deer that generally represent a forested / riparian landscape in the periphery of the site. The interest of carnivorous remains (brown bear, felids or fox) for the inhabitants of Kohne Tepesi is unclear, but they share the presence of a coat that could have been a reason for their exploitation in this region with cold winters. Kohne Tepesi habitants also hunted migratory birds, and caught fresh-water fishes of Araxes River.

The frequency of NISP and weight of animal bones in the whole assemblage showed in figure 25. Domesticates, including sheep, goats and cattle, are exploited in majority, while the wild mammals have a marginal role in the subsistence economy of the site. The high proportion of sheep/goat and cattle exploited by Kura-Araxes residents indicates a sedentary local management of these herds. Observation of the distribution of animal remains within

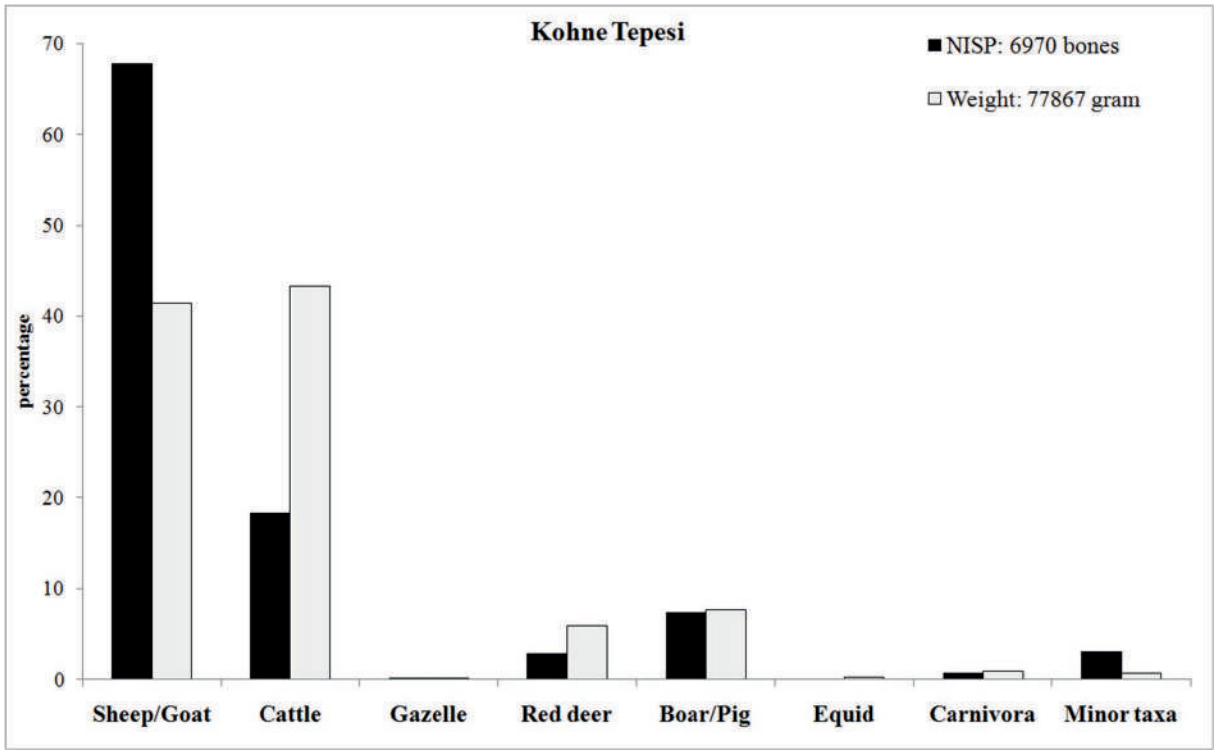

Fig. 25. Faunal spectra of Kohne Tepesi
(Equid: horse, donkey, onager; Carnivora: dog, fox, brown bear, felid, mustelid; Minor taxa: bird, fish, turtle, rodent).

architectural phases of Kura-Araxes period at Kohne Tepesi, highlight the fact that cattle proportion are higher than 35% during the earliest phase (Ph.I) and the latest phase (Ph.VII), both being interpreted by the excavators as phases without any architectural remains and mainly refuses and pits[18]. Cattle is represented by an average of 20% in other phases that are considered as the permanent houses. The ratios of phase I and VII are surprising and in contradiction with models herding strategies in sedentary communities. Cattle herding is often related to a more sedentary way of life.

Carbon dating[19]

Two samples (Bone) from the residential area in trench B were submitted for carbon dating. They were calibrated based on IntCal 13.14c Reimer et al. 2013. The first one belongs to the earliest deposit of the site above the virgin soil (Co. 1184) and one from the upper deposits (Co.1131). The earliest dating provides a data range of 2636-2339 BCE (2 sigma 95.4), and the upper deposit provides a data range of 2468-2279 cal BCE. One more dating from the burial (Co. 11024) provides a date range of 2708-2471 cal BCE.

Final remarks

Examination of the available data from the surface survey and the two seasons of excavation of KT indicate that the site apparently was inhabited during the end of the Kura-Araxes II and the Kura-Araxes III around 2650 BCE, with a short post-Kura-Araxes phase. Then after a long gap, it was reoccupied in the Parthian period, and later in the Late Islamic period there was a cemetery. However, the main occupation of KT was in the middle of the third millennium BCE with six meters of cultural deposits.

The martial culture of the Parthian period, including ceramic assemblage, three arrowheads, and the architectural remains, demon-

18. In phase I the whole part of the trench (10m to 5m) was covered by refuses with the depth of ca.1.20 cm. The area and depth of refusal deposit make it a huge refusal area and not a limited area for household refuses.
19. The dating is carried out in CHRONO center Queen University Belfast.

strated that perhaps KT in the Parthian period was a fortified site. However, a big part of the building is destroyed by the later cemetery, which makes any interpretation tentative.

The pottery forms and decoration style of the Kura-Araxes period (see above) are more comparable with the northern side of the Araxes River basin and northeastern Anatolia rather than the Urmia Lake basin. However, some forms, such as the jars with shoulders and carinated bodies, are comparable with sites such as Yanik and Godin. They are composed of different forms with different variations of one form. However, generally, jars and goblets in different sizes and varieties are prevalent, and bowls are in a lower amount. The architectural remains of the Kura-Araxes culture can be divided into two different groups, namely domestic architecture and funerary architecture. The foundation of some residential buildings is stone with mudbrick walls, and all of them are rectangular. The houses were covered by a thatched roof composed of straw, water reed, timber, and clay. Unlike Yanik Tepe, no kitchen settings or internal divisions are observable inside the houses, and they are just composed of different rooms and spaces.

The funerary structures are the first evidence of such architecture, at least in Iran and we could not find any comparable burial chamber tomb for them. They are outside of the residential area, made of mudbrick with a thatch roof and timbers[20]. What makes these burials different are the offerings and the form of the chamber tomb itself that are very rare in this period[21].

Based on typo-technological classification, an inner incongruity of chipped stone assemblage from KT regarding raw material is obvious. The chert assemblage indicates a more specialized industry the most important product of which are bifacial sickle elements, almost standard in production and measurement. On the other hand, the obsidian assemblage lacks standardization and regular tool types. Although similar patterns have not been observed in other Early Bronze Age assemblages from the same region, limited information regarding other chipped stone assemblages of Kura-Araxes sites prevents us from the generalization of conclusions.

Prior to the last decade, our knowledge on the main animal relationships during the Bronze Age was very limited for the northwest of Iran. Recent excavations in well stratified sites such as Kohne Tepesi, Kohne Pasgah Tepesi, Kul Tepe near Jolfa, Kohne Shahar and Ali Abad Bukan, with rich faunal collections shed more light on the Chalcolithic (4500-3500 BC) and in particular the Early Bronze Age in the region (3500-2500 BC) (Davoudi et al. 2018; Decaix et al. 2019; Samei et al. 2019; Samei and Alizadeh 2020; Decruyenaere et al. in press). Other sites in the region such as Hasanlu and Haftavan Tepe also contained animal remains from the targeted periods here (EBA), that were fully published (Mohaseb 2013; Mohaseb and Mashkour 2017; Davoudi and Mashkour 2019).

Archaeozoological studies on the faunal remains of Kohne Tepesi indicate the important role of sheep, goat, and cattle in the subsistence economy of the site. A successful cattle breeding would need favorable environmental conditions such as grass and water resources. The importance of cattle in Kohne Tepesi is shown in the archeozoological record when using the weight proxy since there is a direct relation between the weight of the bone and a minimum meat yield. It is clear in figure 25 that cattle were the main source of food for the inhabitants of Kohne Tepesi. The pattern of animal exploitation in this site is comparable with other sites in northwestern Iran and adjacent regions where cattle have an important role in the subsistence economy. This includes the exploitation of meat but also dairy products and also the use of the animal for its strength, probably in agricultural activities. The other remarkable characteristic at Kohne Tepesi is pig breeding, while it is generally much less in the other sites of the Kura-Araxes pe-

20. One of the burials based on its pottery is presumably dated to a little bit later, more likely the post-Kura-Araxes phases.

21. For a general overview of the Kura-Araxes burial types see Poulmarc'h et al. (2014).

riod (Davoudi et al. 2018, see also Mashkour 2006). In Hasanlu and Kul Tepe less than 1% of the remains belong to the suids. However, in Haftavan, a higher percentage is reported (4%), but the majority of the suid remains in this site belong to the wild boar rather than pig (Mohaseb et al. 2018). These questions are currently debated through a multi-proxy approach using stable isotopes, morphometric geometrics, and genetics.

The archeological activities of Kohne Tepesi demonstrate that the Khoda Afarin region was one of the important spots during the early and middle of the third millennium BCE as well as Parthian period. The material culture of these site yields different sets of Kura-Araxes cultural assemblage in compare to the other excavated sites of this period inside Iran, which demonstrate the heterogeneity and regionalization of this cultural tradition in Iran.

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