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# Fire Features at Akchakhan-kala and Tash-k'irman-tepe

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## Abstract

Fire is an intrinsic aspect of Zoroastrian ritual and religious traditions. Akchakhan-kala can be conclusively linked with pre-Sasanian Zoroastrian practice through evidence from the recent discovery of murals depicting Avestan deities. Close similarities in apparently ritual features suggest that Tash-k'irman-tepe can also be linked to such traditions. Both sites also have a rich array of fire features which can be linked to respect for, and veneration of, fire in a variety of forms. This paper discusses these

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features, how they might fit into the wider picture of pre-Sasanian Zoroastrian development, and their significance for a deeper understanding of the history of Ancient Chorasmia.

## Keywords

Ancient Chorasmia – Zoroastrianism – fire rituals – Akchakhan-kala – Tash-k'irman-tepe

## 1 Introduction

Akchakhan-kala, a large fortified site in the delta of the Amu-Darya in Ancient Chorasmia (figs. 1, 2), has been identified through painted texts as a Royal Seat. Much of the architecture excavated to date relates to ceremonial practice in association with religious symbolism.<sup>1</sup> The site was richly ornamented with gold, bronze and ivory, and many elaborate murals. Based on present evidence and a strong sequence of radiocarbon dates,<sup>2</sup> the site was founded around the end of the 3rd or early 2nd century BC and was abandoned in the early Antique 3 period, around the 2nd century AD, with a partial re-occupation in “Afrighid” times, dated, based on the ceramics, to the late 4th to 5th centuries AD.<sup>3</sup> Tash-k'irman-tepe<sup>4</sup> is a fire cult complex,<sup>5</sup> almost devoid of ornament and located among the fields seven kilometres due east of Akchakhan-kala. Radiocarbon dating suggests a foundation possibly in the 3rd century BC with final abandonment around the 3rd century AD (fig. 3, Table 1). The complex appears to have two main stages, with a period of intermittent occupation in between them, although only the main stage (Stage 3) has been extensively explored. Each main stage was based on a massive platform, the lower one of layered clay, the upper one of sand locked in place by a retaining wall and overlaid by a mud-brick pavement.

The extensive work of the Soviet era “Khorezm Expedition” lead by S.P. Tolstov<sup>6</sup> revealed many aspects of cult practice across ancient Chorasmia apparently

1 Betts *et alii* 2015; 2016a.

2 Betts *et alii* 2009.

3 On Chorasmia's chronology and periodization, see Minardi 2015.

4 Betts & Yagodin 2007; 2008.

5 This interpretation is disputed by Grenet, who sees it as a probably secular set of buildings. This issue is discussed further below.

6 Tolstov 1948a; 1948b; 1962.



FIGURE 1 Map: Central Asia showing location of Akchakhan-kala.

related to Zoroastrian ritual, particularly exposure of the dead.<sup>7</sup> Tash-k'irman-tepe is only one of several structural complexes believed to be associated with the veneration of fire.<sup>8</sup> However, until recently these have been regarded as insufficient to prove the centrality of Zoroastrian beliefs in Ancient Chorasamia, one of the key obstacles being the absence of fire temples according to the Sasanian definition of the term.<sup>9</sup> This view changed dramatically recently when explicitly Zoroastrian themed murals were found at Akchakhan-kala,<sup>10</sup> believed to represent Avestan deities. While the monuments of Ancient Chorasamia to date appear to lack stepped fire altars of traditional type such as those depicted on Achaemenid royal rock reliefs or Sasanian coinage, they are not lacking in other unusual features associated with fire. The Akchakhan-kala

7 Grenet 1984.

8 E.g., Ayaz-kala II: Rapoport *et alii* 2000; Džhanbas-kala: Tolstov 1948a; Dingil'dzhe: Vorob'eva 1973; Gyaur-kala Sultan-uiz-dag: Rapoport & Trudnovskaya 1958; Rapoport *et alii* 2000; Toprak-kala: Rapoport & Nerazik 1984.

9 Grenet, this volume.

10 Betts *et alii* 2015; 2016b.

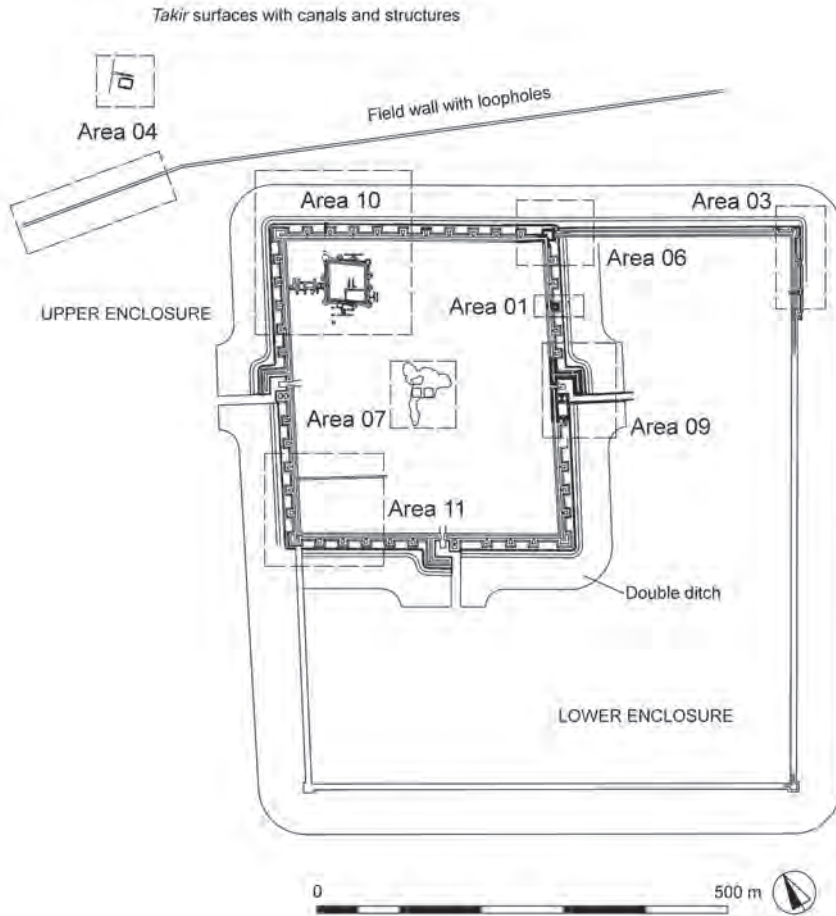


FIGURE 2 Akchakhan-kala: general plan.

discoveries have made it possible to review the evidence for the role of fire in Chorasmia from the perspective of Zoroastrian ritual.

## 2 The Tash-k'irman-tepe Fire Chamber

It is argued here that the key function of Tash-k'irman-tepe was the practice of rituals associated with fire. The site has an unusual plan with no obvious parallels (fig. 4). One of its key features is the extensive and deliberate ritual disposal of ash. The latest, Stage 3, buildings comprise a series of courtyards, corridors and chambers, most of which do not seem to have been roofed. Only the central room was definitely roofed, as part of the brick arch has been preserved.

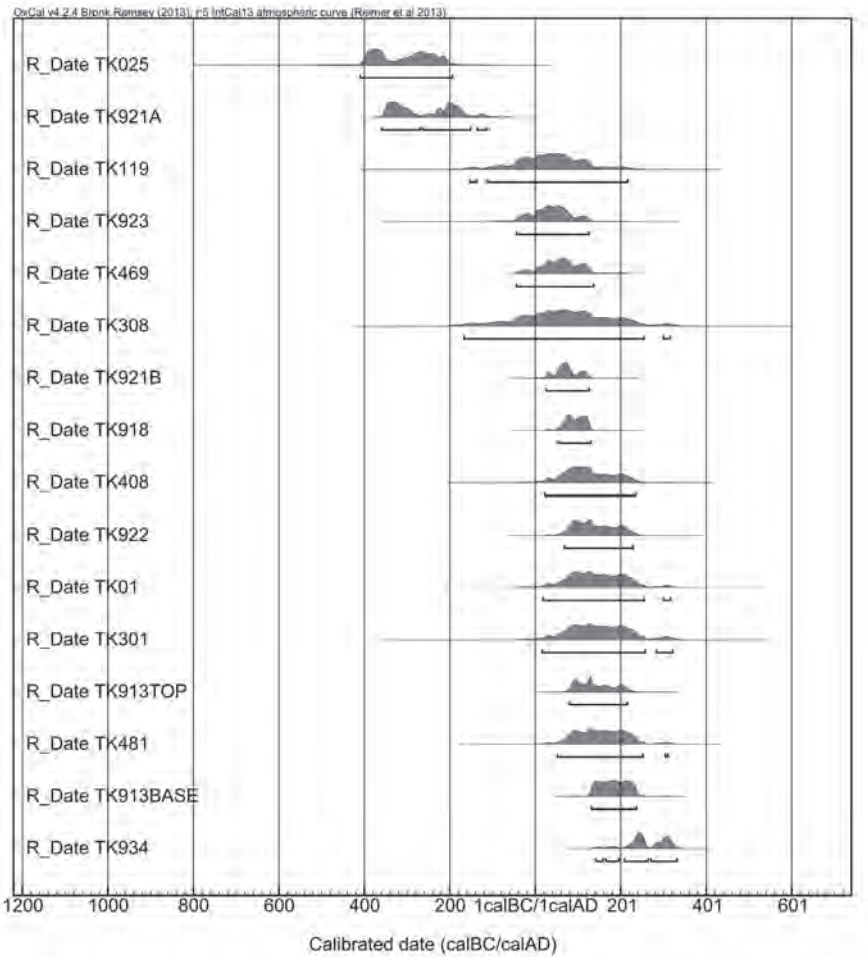


FIGURE 3 Radiocarbon dates for Tash-k'irman-tepe.

The room held what seems to have been a ritual fire. This interpretation is suggested not by the chamber itself but by the subsequent treatment of the room following its disuse. The fire was set on the bare mud bricks of the platform on which the chamber stood, with traces of regular use marked by the reddened and blackened bricks of the wall above. When it was last extinguished, the ash and charcoal were left *in situ*. The complex was then abandoned for a time and then very deliberately filled in, sealing the ashes of the last fire *in situ*. A layer of mud brick was laid over all of the floor, covering the traces of the fire as well. The bricks were then covered with a bed of reeds and then the whole chamber was systematically filled with layers of bricks up to the roofline. Only at the southern end was a narrow corridor left. It is argued that this was done to

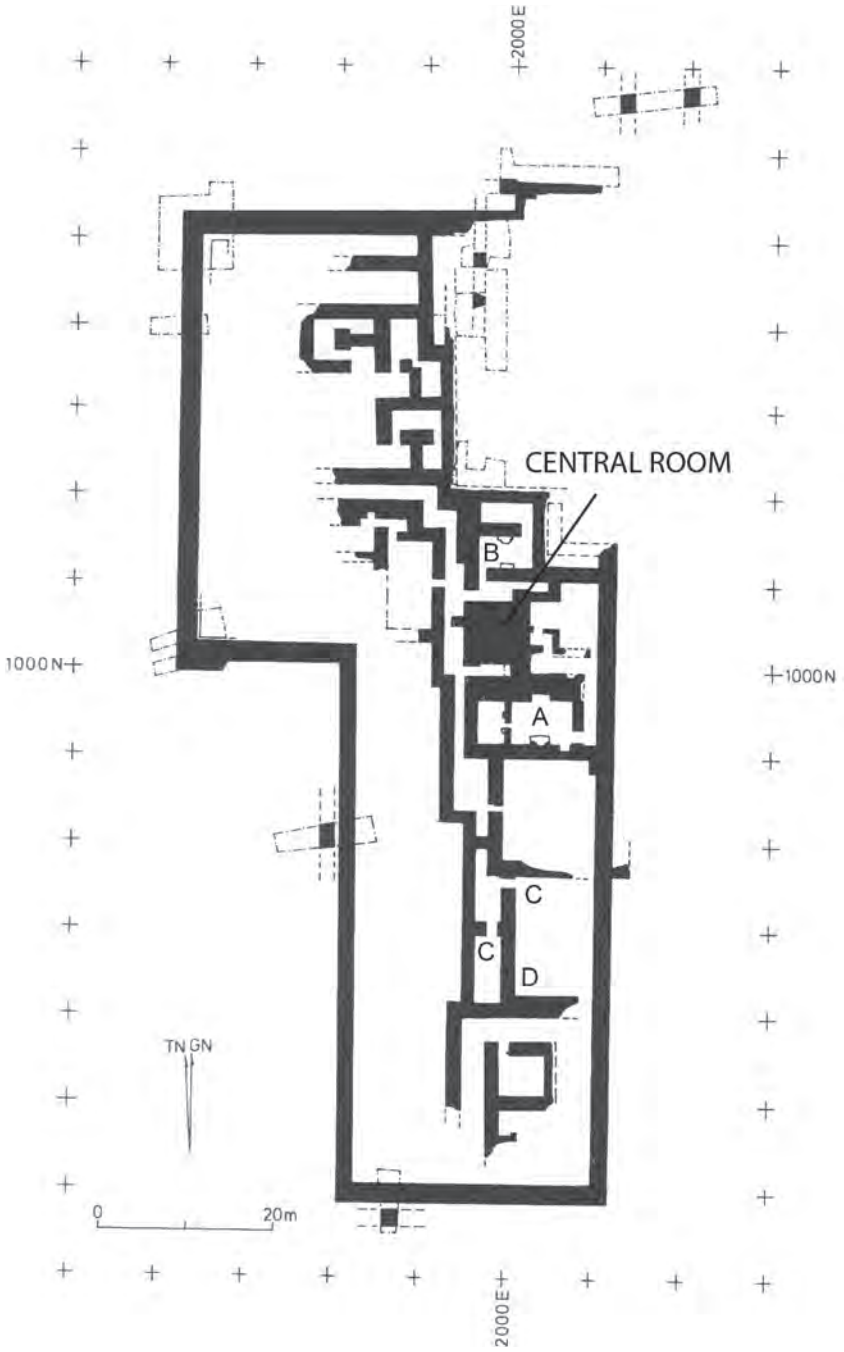


FIGURE 4 Tash-kirman-tepe plan showing the location of selected fire features.

TABLE 1 Tash-k'irman-tepe radiocarbon dates

Lab ID	Context	Date	Cal date 95.4%	Material	Stage	Context description
OZD241	TK025	2270 +/-54	410-194 calBC	charcoal	3	Ash deposits in corridor
UBA-10448	TK921A	2168 +/- 31	360-114 calBC	charcoal	1	Debris levels on Stage 1 platform
Wk10400	TK119	1961 +/- 66	154 calBC- 217 calAD	charcoal	3	In lowest layer of ash above silt on Stage 3 platform
UBA-10452	TK923	1960 +/- 41	43 calBC- 126 calAD	charcoal	1	Narrow cut in Stage 1 platform down to natural
Wk15301	TK469	1939 +/- 40	45 calBC- 137calAD	charcoal	1	Below Stage 1 platform
Wk10403	TK308	1934 +/- 87	167 calBC- 255 calAD	charcoal	3	Wood from postholes in "burning doorway"
UBA-10449	TK921B	1930 +/- 20	26-126 calAD	charcoal	2	Debris levels on Stage 1 platform (possibly from later pit fill)
UBA-10447	TK918	1909 +/- 20	55-131 calAD	charcoal	2	Base of mixed organic pit fill
Wk10402	TK408	1890 +/- 46	23-236 calAD	charcoal	3	Debris level above Stage 3 platform
UBA-10450	TK922 = 9131873 +/- 33	69-229 calAD	charcoal	2	Debris levels adjacent to top of Stage 1 platform	
OZD242	TK001	1872 +/-54	19-255 cal AD	charcoal	2	Below outer enclosure wall
Wk10401	TK301	1869 +/-58	17-258 calAD	charcoal	3	Ash lens on Stage 3 platform
UBA-10445	TK913top	1869 +/- 20	80-216 calAD	charcoal	3	Grey clay pit fill beside Stage 3 wall
Wk15300	TK481	1862 +/- 46	52-252 calAD	charcoal	3	Ash of sacred fire
UBA-10446	TK913base	1826 +/-19	132-238 calAD	charcoal	3	Grey clay pit fill beside Stage 3 wall
UBA-10451	TK934	1780 +/- 20	142-332 calAD	charcoal	3	Rich debris layer

OXCAL v.4.3.2 (Bronk Ramsey 2017)



FIGURE 5 Tash-k'irman-tepe: blocking of central chamber and deposits of ash above silt in corridors.

protect the sacred nature of the chamber and was a case of deliberate deconsecration. Following this, there seems to have been a period of disuse at the site as the corridors surrounding the chamber gradually filled with layers of silt up to c. 50 cm deep (fig. 5), and then it seems that the complex was brought back into use. A new fire was established elsewhere at the site, possibly in a more ornate chamber just to the south of the old one. Ash from this fire was not summarily discarded, but conserved in many thin layers on top of the silt in the corridors and immediately surrounding chambers (figs. 5, 6). Ash was also conserved in other places at the site. At the northwest end of the complex were a series of low "T" shaped walls which seem to have served as places for fire. The surface of the platform all around them was covered in pale grey and yellow ash.

### 3 Fuel for Ritual Fire Features

Traditionally the wood used for sacred fires is sweet scented: sandalwood in India, pomegranate, apricot or pistachio in Iran.<sup>11</sup> To determine the type of wood used at Tash-k'irman-tepe, analyses were made by Willcox of the charcoal remaining in the ritual fire and other contexts (Tab. 2), and by

<sup>11</sup> Boyce 1977, 75.



FIGURE 6 Tash-k'irman-tepe: ash deposits, detail.

Weisskopf of phytoliths from the ritually deposited ash from the surrounding corridors and chambers (Tab. 3). Charcoal was also sampled from other contexts within the complex including the remains of the wooden stakes from the “burning doorways”, ritual entrances flanked on either side by three to four pairs of fire brands. Most of the charcoals identified by Willcox proved to be poplar, the most common wood for both construction and firewood in the region today. By far the most varied, however, was the sample from the extinguished ritual fire which contained a mixture of Poplar, Hawthorn, Tamarix, Club Reed, Almond and some unidentified species (Tab. 2).

Four ash samples from the deliberate deposits in the corridors and chambers (Tab. 3) were processed for phytoliths using the standard protocol at the Institute of Archaeology UCL.<sup>12</sup> Identifications were made using the phytolith reference collection at the Institute of Archaeology UCL.

Several common morphotypes were absent from all samples. There do not appear to be any crop husks such as those from *Panicum*, *Setaria*, *Oryza*, *Triticum* or *Hordeum*. There were no *Cyperaceae*. Diatoms and sponge spicules, non-phytolith silica bodies that suggest watery environments, were absent. No starches survived the processing either. This is not unusual as they usually only survive if abundant. The weight percentage per sample (fig. 7) shows TK406 has the highest silica body density but fewest identifiable phytoliths.

<sup>12</sup> Rosen 1999; Weisskopf 2014.

TABLE 2 Tash-k'irman-tepe: Woods identified from charcoal

Tash-k'irman-tepe	Populus	Pomoide	Tamarix	Typha	Amygdalus	Non ident.
Debris layer	P		P	P		
"Burning doorway"	P					P
Ritual fire	P	P	P	P	P	P
Ritual fire	P					
Debris layer	P					
Debris layer	P					
Silt layer	P					
Sand below						
Stage 2 platform	P					

Populus = Poplar

Pomoide = Hawthorn, Cotoneaster type

Tamarix = Tamarisk

Typha = Club reed

Amygdalus = Almond

Non ident.

TABLE 3 Tash-k'irman-tepe: Samples selected for phytolith analysis

TK404	TK303	TK406	TK481
Brown ash, white flakes	Yellow grey ash	Grey pink ash	Ash from ritual fire
Tot. wt. % per sample 3.57%	Tot. wt. % per sample 1.72%	Tot wt. % per sample 11.93%	Tot wt. % per sample 7.63%

The majority are silica aggregate and many of these are blackened. These both suggest burned woody material such as bark or shrubs. The lowest density was TK303 which produced far fewer indicators of burned material and many more identifiable grasses.

The phytoliths were grouped by the combined percentage of morphotypes of each type. TK404 (fig. 8) has high proportions of dicotyledons, in this case

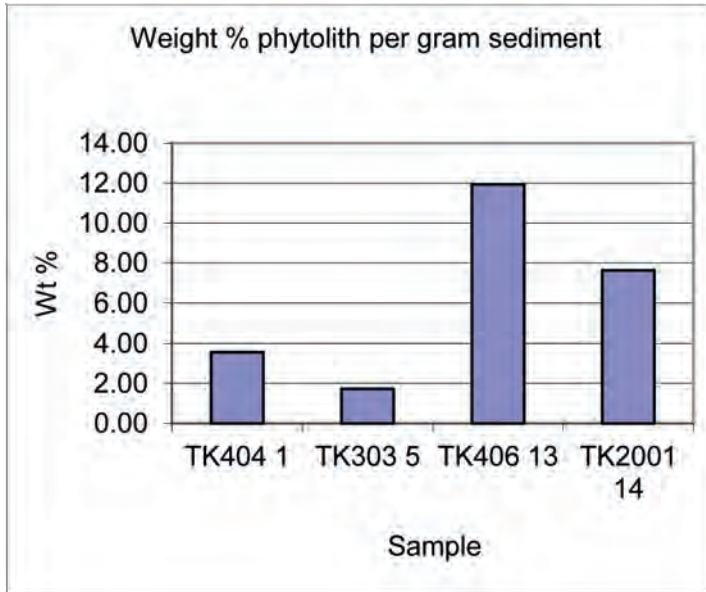


FIGURE 7 Tash-k'irman-tepe: weight percentages of phytolith samples.

wood and woody shrubs, and equal proportions of burning indicators; silica aggregates and unidentifiable blackened phytoliths. There are also phytoliths from reeds and sedges. There is a very high proportion of burning indicators in TK406, very few grass leaves and no inflorescences or stomata which could suggest seasonality (fig. 9). Stomata only appear toward the end of the life of the plant as once they are silicified the plant will die. As there are no inflorescences either this may indicate plants were gathered earlier in the growing season or winter. TK303 (fig. 10) produced very different results than the previous two samples. There are few burning indicators or dicotyledons. The majority of phytoliths are from grasses, including 19% from inflorescences, and there are 5% stomata. This could indicate that the plants were gathered in the opposite season from TK406, either summer or more probably autumn. TK481 (fig. 11) contains the most grass leaf and also a relatively high proportion of inflorescences. Just over a quarter of the sample consists of dicotyledons and burning indicators.

### 3.1 *Fuel Selection and Seasonality*

While the phytolith data cannot provide much information on types of wood, some grasses are burned to create scent; for example, Aromatic *Hierochloa odorata* (L.) P. Beauv. (syn. *Anthoxanthum nitens* (Weber) Y. Schouten & Veldkamp, commonly known as sweet grass, is used to make a vanilla scented

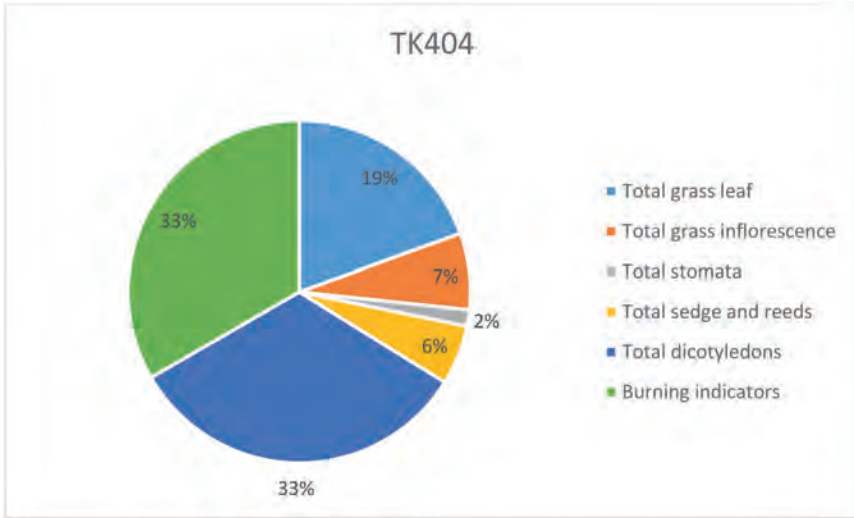


FIGURE 8 TK 404: relative proportions of pytholith morphotypes.

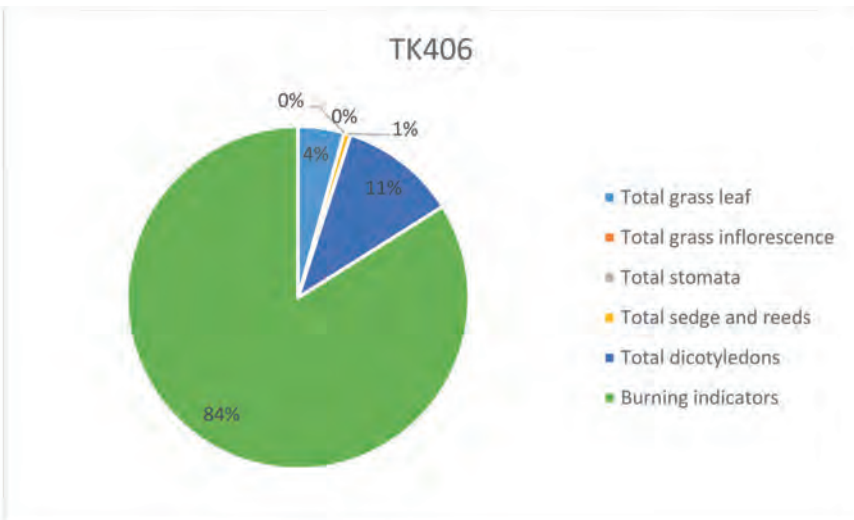


FIGURE 9 TK 406: relative proportions of pytholith morphotypes.

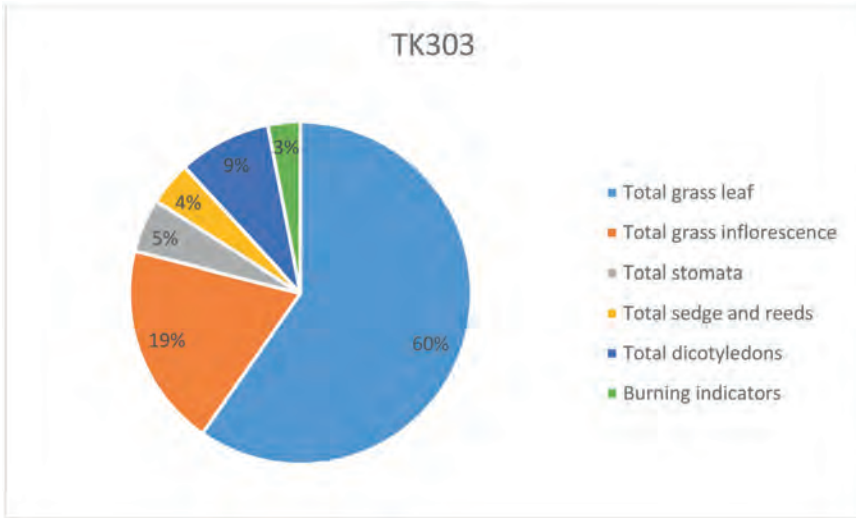


FIGURE 10 TK 303: relative proportions of pytholith morphotypes.

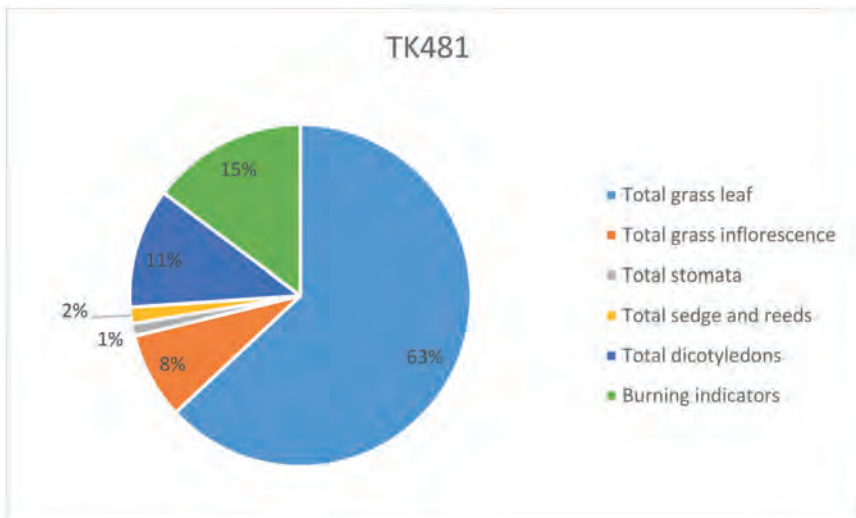


FIGURE 11 TK 481: relative proportions of pytholith morphotypes.

incense.<sup>13</sup> However, it seems likely the majority of the grass was used as kindling. Based on both the charcoal and phytolith data, there is no strong evidence for deliberate selection of aromatic woods. Poplar was the most commonly used wood, with reeds as well as grasses probably used for kindling. However, the presence of a much greater variety of wood types in the charcoals from the fire altar suggests that Hawthorn, Tamarix and Almond might possibly have been chosen for slight aromatic properties, or for other ritual reasons. All the plants identified are common to the region today and can be found close to Tash-k'irman-tepe. The phytolith data suggest use of the site over most of the year, specifically in both winter to spring and perhaps autumn. No evidence suggests that it was not used in summer.

#### 4 “Burning Doorways”

“Burning doorways” are so far a feature unique to Tash-k'irman-tepe and Akchakhan-kala (figs. 4 C; 12-14). They consisted of two walls that may have originally stood a metre or more in height, with a passageway in between of around 1.2 m. The walls were of mud brick with a layer of clay *c.* 40 cm thick on the end of each where the walls abutted the doorway. Into the clay seem to have been set a row of three or four wooden poles. These must have served as braziers, perhaps wrapped with flammable material. With constant use the wood burned down into the clay bases. Traces of some fully charred poles have been recovered, while the evidence for fire is clear from the heat reddened rings visible in the clay. There are three examples known from the Central Building of the Ceremonial Complex at Akchakhan-kala and two from the southern part of Tash-k'irman-tepe in Stage 3. They must have been very dramatic when functioning, while their locations strongly suggest that they served a ritual purpose of some kind. Two of the Akchakhan-kala examples embellished short passages approaching and entering the fire altar complex to the east of the main hypostyle hall of the site. The third formed the outmost part of the entrance to the southern gateway (fig. 12). This example had more complex fire elements, with a layer of reeds set into the clay preserved at a height of *c.* 40 cm, the burnt remains of which were clearly visible after excavation. These may have replaced the pole braziers in this instance, but how the doorway functioned here is not wholly clear. The logic for the positions of the Akchakhan-kala “burning doorways” at the main entrance and in the approaches to the main altar are clear, but the significance of those at Tash-k'irman-tepe are less

<sup>13</sup> Wu *et alii* 2007.

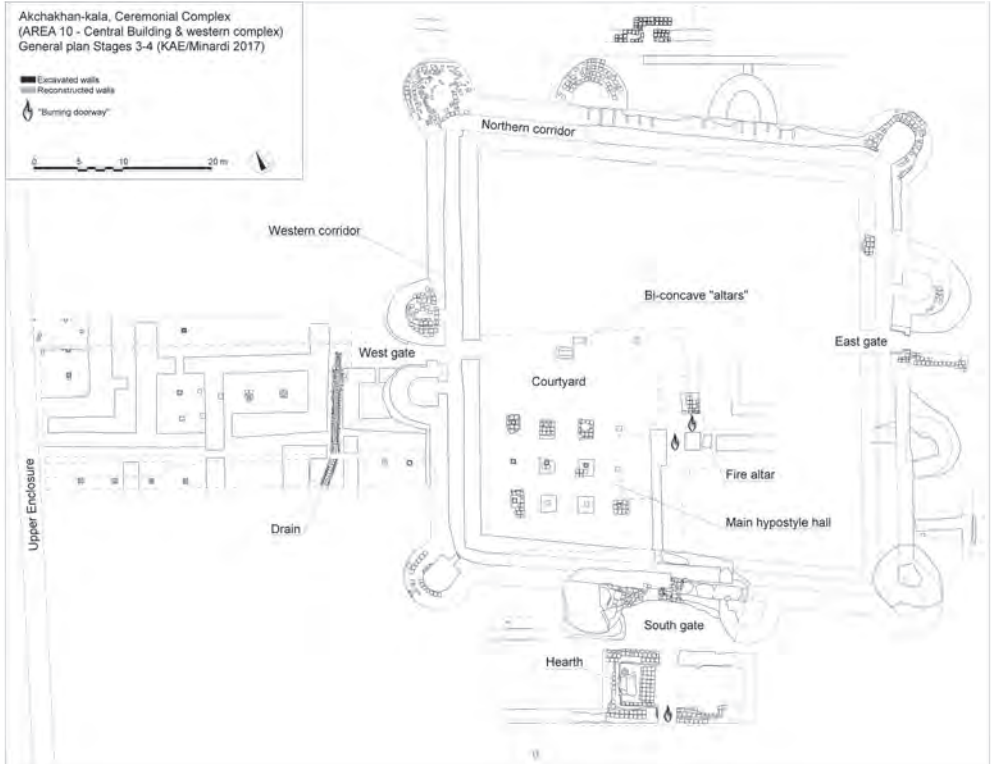


FIGURE 12 Akchakhan-kala: Ceremonial Complex.

obvious. Both are associated with Stage 3. One was found in a long corridor-like chamber, divided in the middle by short walls creating the “burning doorway”. The second led from an irregular corridor running along the west side of the main structures leading into a large open chamber which contained an “altar” with up-turned jar.<sup>14</sup> Excavation otherwise produced no clear indication of the intended function of the chamber.

## 5 Bi-concave “Altars”

Bi-concave clay “altars” are another phenomenon so far unique to the Tash-k’irman oasis, but known only from Akchakhan-kala where three have been found (figs. 12, 15 and 16). They are fire features set on a low clay platform with the fire burning in a rectangular depression, each side of which is curved

<sup>14</sup> See “altars” with up-turned jars below.



a



b

FIGURE 13 “Burning doorways”. a: Tash-k’irman-tepe; b: Akchakhan-kala central altar.



a



b

FIGURE 14 “Burning doorways” at Akchakhan-kala. a: central altar. Section through burned clay postholes with trace of burned pole at bottom right; b: south gate. Burned reeds set into wall of “burning doorway”.



a



b

FIGURE 15 Akchakhan-kala. Bi-concave "altars".

slightly inwards. All three were found in the open courtyard in front of the hypostyle hall in the Central Building of the Ceremonial Complex. The two largest were stratified one above the other on differing floor surfaces, in slightly different locations but with the same orientation. They were deliberately situated in association with a large khoum set in a pit in the floor (fig. 16). The third was a smaller and less angular feature a few metres to the east, apparently without any other associated features (fig. 15, *b*).

While clay altars of this unusual shape are presently unique to the Tash-k'irman oasis, there are possibly relevant parallels to be found in the lands of the mobile pastoralists on the Ustyurt plateau. Here elaborate nomad sanctuaries with anthropomorphic stone statues include large stone altars, measuring up to 1.2 by 1 m.<sup>15</sup> They are biconcave in shape and have cuplike depressions in the corners (fig. 17). While the preservation of the Akchakhan-kala altars is insufficient to determine if there were once depressions at the corners, the similarities in shape and apparent general function of the two are remarkable. The sanctuaries have been dated, on the basis of stylistic and typological comparisons of weapons from burials at the Baite III and Teren sanctuaries and the weapons and costume of the statues, to the 4th-2nd centuries BC. Olkhovsky<sup>16</sup> notes that the parallels are broadly Sarmatian in form. Several of the anthropomorphic figures, male in gender, wear spiral torques, as also shown on the bust images of uncertain gender from the Akchakhan-kala "portrait gallery".<sup>17</sup> Another parallel may come from the Fire Temple of Mele Hairam in Turkmenistan, dated in the 1st-4th centuries AD,<sup>18</sup> where an "hour-glass" shaped altar was found in the centre of the main chamber.

There is also a possibly important parallel in a feature used as part of sacrificial ceremonies in both Indian Vedic and Zoroastrian traditions, indicating a likely prehistoric ancestry. This feature, a *vedi* in the Vedic tradition and a *pavi* in the Zoroastrian tradition, forms part of the place of sacrifice. While these serve similar functions, only one, the *vedi*, seems to closely resemble, in shape at least, the bi-concave "altar". The *vedi* is a small flat area either slightly raised or slightly sunk, with a narrowing in the middle, creating a shape almost identical to the Akchakhan-kala "altars" (fig. 18). The *vedi/pavi* is not an altar in itself, and is never used for fire, but forms part of the sacrificial ceremonial complex. It is situated next to the sacrificial altar and strewn with straw or grass for the ceremony. The straw is said to have been spread beneath the feet

15 Olkhovsky 2000, 35, 41, fig. 5.

16 Olkhovsky 2000.

17 Kidd *et alii* 2008; Minardi, this volume.

18 Kaim, this volume.



FIGURE 16 Akchakhan-kala. Bi-concave “altar” with khoum.

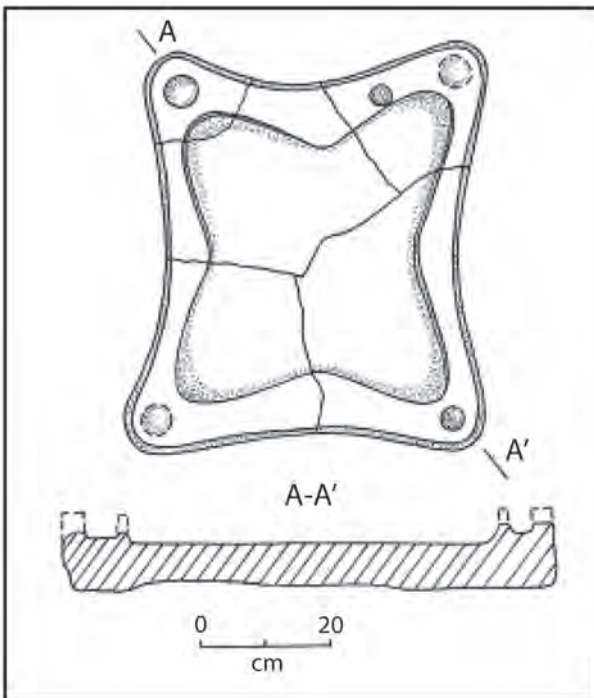


FIGURE 17 Baite III stone altar (after Olkhovsky 2000, p. 42, fig. 9).

of the sacrificial animal, and the flesh when ready for consecration. It was also said to provide a seat for the gods when they came to receive the offerings.<sup>19</sup> The highly unusual shape and the likelihood of some form of common origin in the two traditions makes it possible to speculate that the Akchakhan-kala “altars”, and those in the nomad sanctuaries on Ustyurt, also share some form of common ancestry with the *vedi/pavi*.

## 6 “Altars” with Up-Turned Jars

These are fires set in various ways, but with a common and distinctive feature (figs. 4 D and 19). Close beside the fire in each case was found a khoum. The base had been broken off and the top inverted and set into a pit over a bed of sand. This had been used as a receptacle for hot ash from the fire. It is supposed that water was poured onto the ash to cool it, the water draining out into the sand through the neck of the upturned jar. The ash could then be removed, possibly to be disposed of in a ritual fashion as was the case in Tash-k'irman-tepe.<sup>20</sup> Two examples of these have been found, one each at Tash-k'irman-tepe and Akchakhan-kala.<sup>21</sup> That at Tash-k'irman-tepe was in a large, apparently open, chamber in the southern half of the complex, with no other features in the room. The fire was set in a round pit, surrounded by a low ring of clay. The example at Akchakhan-kala came from the chamber in front of the southern gate of the Central Building in the Ceremonial Complex. Here the fire was set on a clay pavement and showed signs of heavy and regular burning. The chamber was closed on three sides, but opened on the east to the path leading up to the southern gateway, immediately to the north of the “burning doorway”. In each case, due to the context of these features, they appear to be ritual in nature. Other functions such as heating or cooking seem to be less likely, certainly in the case of the Akchakhan-kala example. At Tash-k'irman-tepe, the room in which the “altar” was located could only be accessed through two “burning doorways” (fig. 4), again lending weight to a ritual interpretation.

Upturned khoums with the base cut off and filled with “burned residues” have been reported in Parthian contexts from the courtyard of the South-Western Building at Nisa. Here they are presumed to be domestic features, perhaps for preparing food. However, this is an unsubstantiated hypothesis,

19 Boyce 1975, 166.

20 Selected ash storage is a practice still in use today.

21 A similar feature has been found recently at Antique 2/3 period Angka Malaya, also in the southern Amu-Darya delta (Minardi & Amirov 2017).



FIGURE 18 The three Vedic fires (*tretāgni*) erected for the performance of the consecration ritual (*rājasūya*) in the Śrī Yogīrāj Veda Vijñān Āśram Barshi, Maharashtra 2011-2012 (photograph by Borayin Larios 2011).

although the building seems to have been primarily associated with storage and not ritual.<sup>22</sup>

## 7 Platform “Altars” in Recessed Niches

Fire places presumed to be ritual in nature have been found in three locations at Tash-k’irman-tepe (figs. 4 A-B and 20). None have been found so far at Akchakhan-kala. Two of the three Tash-k’irman-tepe examples are rather basic and one is quite formal. In each case the fire was set on a low clay platform adjacent to a wall. Two face north and one faces south. The two simple “altars” were in the same room. The platforms consisted only of one or two half bricks laid on the underlying platform. In one case, some traces of a poorly preserved niche were also present (fig. 20, *a*). The third “altar” (fig. 20, *b*) was well made and elaborate. The platform was larger and higher, while the niche was ornamented with a three-stepped pattern on each side. Traces of fire reddening on the bricks behind indicate the presence of fire, but this does not occur on the clay platform, suggesting that the fire was placed in a metal basin. Opposite the “altar” was a large floor length niche, flanked by three-stepped blind

22 Lippolis & Manassero 2015,122. Grenet comments that he was told on a recent visit that new excavations have shown the building to have been a treasury, with workshops.



a



b

FIGURE 19 "Altars" with up-turned jars as ash receptacles.  
a: Tash-k'irman-tepe; b: Akchakhan-kala.

windows. Traces of another set of blind windows were preserved on the south side of the chamber, built over by an elaborate clay screen wall that cut off the western end of the chamber. The blind windows on the south side were only preserved at the very base, suggesting that the wall had once stood at least a metre or so higher, but there was little evidence of wall collapse in the interior, so the question of whether the room was roofed or not remains open. The presence of the fire and the somewhat fragile screen wall suggest that this might have been a possibility. The north wall backed onto the central room and was preserved to a height of over two metres.

The function of such bench hearths or “altars” is a subject of some controversy. A wide range of similar features are known in pre-medieval contexts across Central Asia and of these a number have been identified by the excavators as ritual in function. This has been critiqued in some detail by Bernard,<sup>23</sup> who points out that in many cases where they are known, a ritual function seems highly unlikely. He cites their presence in bathrooms at Ai Khanoum, for example. This is the case also at Toprak-kala<sup>24</sup> where many small cells in the palace are each provided with such a platform. In these cases it can be argued that they served only to provide heat and light. With regard to the three platform “altars” at Tash-k’irman-tepe, the two basic ones may perhaps have been for heat, although why there are two in such a small room is curious. It is also possible that the third may perhaps have served for heating in an elaborately decorated set of chambers, rather than functioning as a fire altar, but the strongly ritual nature of the site, with its deconsecration and careful disposal of ash, still leaves a cultic interpretation as distinctly likely.

## 8 Rectangular Platform “Altars”

Only one free standing rectangular “altar” has been found, the main “altar” in the Central Altar Complex at Akchakhan-kala (fig. 21). This is a low clay platform covered in traces of burning, indicating that the fire was set directly on the clay surface. The platform is oriented north-south and placed between two *pakhsa* blocks, one a freestanding rectangular form and the other the end of a wall running eastwards. A burned column of highly decorative ivory was found at the north-east corner. Parallels with Persian throne legs in a variety of contexts link it to the notion of a Royal Fire.<sup>25</sup>

23 Bernard 1980, 323-330.

24 Rapoport *et alii* 2000, 69.

25 Minardi & Khozhaniyazov 2015, 138; Minardi 2016b; Betts *et alii* 2016b.



FIGURE 20 Tash-k'irman-tepe: platform "altars" in recessed niches. a: basic form; b: formal form.



a



b

FIGURE 21 Akchakhan-kala: rectangular platform “altar”.

## 9 Discussion

Fire is central to Zoroastrian religious practice. It is not worshipped, but is venerated for its complex symbolic value in relation to spiritual life.<sup>26</sup> It is believed that the Zoroastrian veneration of fire has its roots in steppic Indo-Iranian cult practices and the high significance of the hearth-fire. In this context, Boyce<sup>27</sup> suggested that it was perceived as “the visible embodiment of the divinity *Ātar*”. In Zoroastrian practice fire is normally contained within metal vessels or, in earlier periods, set on clay platforms. There is limited evidence for its use in other ways. Given the clear association with Zoroastrian cult practice shown by the “rooster priests” depicted on the costume of the massive figures painted on the rear wall of the columned hall on the Akchakhan-kala Ceremonial Complex,<sup>28</sup> the various fire features found at the site must be considered in the same light, although they generally do not conform to the standard practices of ritual use of fire. Tash-k'irman-tepe, with its parallel chronology, proximity to Akchakhan-kala and identical types of fire features, as well as its argued function as a ritual complex, may be assumed to be similarly associated with the Zoroastrian tradition.

The fire feature that appears to conform most closely to recognised Zoroastrian ritual practice is the hearth in the Tash-k'irman-tepe fire chamber. This small fire was held in a bare, roofed room, set very simply on the mud brick floor, but with signs of long-term burning evidenced by the fire reddened bricks of the wall immediately above it. The best interpretation of this fire is that it was kept alight constantly and functioned as the source for fire taken when required for use in public ceremony. The chamber, and the rooms and corridors surrounding it, might be seen as an *ātaškada*, which, in the Sasanian model at least, usually comprised the sanctuary chamber housing the fire, a surrounding passageway, small rooms for storage of wood and ritual implements, and a larger space for the practice of rituals.<sup>29</sup> However, the idea that it was the custom to hide the sacred fire from public view in a secret place,<sup>30</sup> as might seem to be the case at Tash-k'irman-tepe, has been roundly dismissed by Boyce,<sup>31</sup> who cites lack of evidence, contradiction of Zoroastrian concepts of the dignity of a sacred fire and the notions that the eternally burning flame is “enthroned” and burns “victoriously”. As apparently the one chamber in the

26 Boyce 1987.

27 Boyce 1987.

28 Betts *et alii* 2015; 2016b, 128.

29 Boyce 1987.

30 Cf. Godard 1938.

31 Boyce 1987.

complex with a roof, it seems the only possible place in which a fire could be kept constantly burning, while its very simplicity and seclusion appears to preclude the practice of public ritual there. If it was not the place for the keeping of the fire, its function remains ambiguous.

The fire altar for practice of public ceremony forms a central part of Zoroastrian ritual custom. The term “altar” itself is problematic as it carries an implication of sacrifice, but use of other terms, such as “fire holder” as proposed by Boyce, have not been widely accepted and “fire altar” remains a term in common usage.<sup>32</sup> The forms of altars that are traditionally associated with early Zoroastrian practice have not been found in ancient Chorasmia. Two main types of altars are known from imagery, such as the Iranian rock cut reliefs and coinage, particularly of Sasanian times. These are the Iranian altar with a stepped top and base and the crenelated tower altar. A number of examples of the former type have been found in archaeological contexts.<sup>33</sup> At Akchakhan-kala and Tash-k’irman-tepe the closest features in terms of function are the two types of platform “altar”. At Tash-k’irman-tepe the formal altar comprising a low clay platform backed by a curved three-stepped recessed niche finds a very close Chorasmian parallel at Gyaur-kala Sultan-uiz-dag in a small chamber roughly the size of that which houses the Tash-k’irman-tepe example.<sup>34</sup> The Gyaur-kala chamber was roofed, as evidenced by two column bases in line on the long axis. The “altar” was flanked by two three-stepped blind windows. Traces of such blind windows were found in the Tash-k’irman-tepe chamber, one to the west of the “altar”, and a pair flanking a full-length niche on the wall opposite. This quite elaborate design had been renovated at least once to the same design before the western end of the chamber was closed off by an ornate clay screen wall. Although there is no clear evidence that the Tash-k’irman-tepe chamber was roofed, the remarkable similarity between these two broadly contemporary rooms strongly suggests a commonality of ritual practice. In the Tash-k’irman-tepe example, it seems that the fire was set in a metal bowl, probably on a stand, as there are no traces of burning on the platform and the niche is only fire reddened from a height of *c.* 25 cm above the platform (fig. 20, *b*). The ornate nature of the fire chamber indicates that it was designed for some kind of public display, but its fairly small size would have limited the potential audience.

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32 Garrison 1999.

33 Garrison 1999.

34 Rapoport & Trudnovskaya 1958, figs. 7, 8; Rapoport *et alii* 2000, pls. 27, pl. 28; Betts & Yagodin 2007; 2008.

The function of the other two platform “altars” with niches at Tash-k’irman-tepe of more basic type are harder to determine. They are set on opposite walls of a small chamber north of the fire chamber and were most likely contemporary in use with it as the “altar” chamber was abandoned after the fire chamber was deconsecrated and later formed part of the ash repositories. It could be argued in this case that the “altars” might have served a domestic rather than a ritual function, but there is no clear evidence for either hypothesis. On the other hand, the Akchakhan-kala rectangular platform “altar” was very clearly ritual and ceremonial in function. Its location within the Central Building of the Ceremonial Complex, its architectural context, highly elaborate ornament including painted mud statuary,<sup>35</sup> the carved ivory cylinder,<sup>36</sup> and the presence of “burning doorways” are fully compatible with its putative designation as a “royal fire”. Here the fire was set directly on the clay platform. This type of “altar” has no clear parallels in Chorasmia or beyond.

“Altars” with up-turned jars are another unusual phenomenon. The two examples from Tash-k’irman-tepe and Akchakhan-kala differ, with the main commonality being the presence of jars for collection of the ash. It is this feature that suggests a ritual function. The significance of the location of the Tash-k’irman-tepe example is not clear. It is in a large open chamber towards the southern end of the site. There are no other indications of the use of this space. The Akchakhan-kala example, on the other hand, is clearly related to the ritual aspect of the southern gateway of the Central Building. Direct parallels for this practice of ash disposal can be found at the early 1st millennium BC presumed fire temple of Topaz Gala in Turkmenistan.<sup>37</sup>

The careful disposal of ash at Task-k’irman-tepe has also been questioned by Grenet, following Bernard.<sup>38</sup> At Dil’berdzhin<sup>39</sup> a small room, *c.* 3.5 × 2 m., was interpreted as a chapel on the basis of two thin layers of fine ash, each resting on superimposed occupation surfaces. The ritual interpretation was based, by the excavators, on a comparison with the fire sanctuary B at Surkh Kotal.<sup>40</sup> However, as Bernard notes, at Surkh Kotal the ash was not placed on a floor which would have been in use, but stored in a rear annex. Bernard argues that in the case of Dil’berzhin, the ash was used to prevent rising humidity on the floor. He advances a similar explanation for ash deposits in the building at

35 Minardi 2016a.

36 Betts *et alii* 2016a.

37 Marcin Wagner pers. comm.

38 Bernard 1980, 324-325.

39 Kruglikova & Pugachenkova 1977, 21 and 43-44.

40 Schlumberger 1954.

Dzhanbas-kala designated a fire temple by Tolstov.<sup>41</sup> It is clear, however, that at Tash-k'irman-tepe, the corridors and chambers which received the ash were no longer in use. The surfaces were raised well above the original floor level by the first silting episode. Following that they received multiple thin layers of ash, with the variations in colour and texture showing that this was carried out over a period of time, yet the beds of ash remained flat, level and undisturbed, just as they were laid down (figs. 5, 6). In this case the comparison with Surkh Kotal is perhaps more apt.

The bi-concave “altars” are a different phenomenon. Beyond the presence of the sanctuaries of Ustyurt,<sup>42</sup> little is known about the nature of nomad cult practice in the late 1st millennium BC, but the parallels between the stone altars and the highly unusual clay examples at Akchakhan-kala must be taken seriously. Akchakhan-kala was situated politically, economically, and probably ethnically, between the greater Parthian (Persian) world and that of the steppe nomads, and the imagery and ritual features found at the site echo this strongly.<sup>43</sup> The “altars” may either represent a political statement acknowledging the practices of the peoples of the steppe, enacted through ritual, or might signify a genuine blending of Persian ritual practice with that of older traditions reflecting close ancestral ties between the Chorasmians and the steppic Sakā.

The only features for which no parallels can be found at all so far are the remarkable “burning doorways”. It is possible that they existed at other Chorasmian sites but were not recorded in the large-scale excavations of the Soviet era archaeologists, but beyond Chorasmia no such feature has been reported. There is no doubt that they served an important symbolic, and perhaps ritual, purpose.

## 10 Conclusion

A dominant problem in the study of early Zoroastrianism is that clear and widespread evidence for “Zoroastrian” practice only emerges by late Sasanian times and, perhaps too commonly, scholars have taken this as the “normative system”, more or less accurately reflecting Zoroastrianism “as it was intended”.<sup>44</sup> Clearly there is a backstory preceding Sasanian times. However, apparent historical deviations from the strict rules defined by the Avestan and Pahlavi

41 Tolstov 1948a, 96-98.

42 Olkhovsky 2000.

43 Betts *et alii* 2016b, 136; cf. Minardi, this volume.

44 De Jong 2015.

sources are often seen as non-Zoroastrian religions, such as the “religion of the Achaemenids”, which allowed other deities, with other terms which attempt to encompass apparent Zoroastrian variants, such as Mazdeism and Iranian Mithraism. These “religions” are nowhere documented, but are simply the attempts of scholars to come to terms with non-standard religious practice in relation to what is perceived as strict Zoroastrian traditions. The list of aberrations noted by de Jong include, apart from additional deities, alternative cosmogonies, unknown rituals, and unknown types of sanctuaries. The evidence from Akchakhan-kala and Tash-k'irman-tepe surely falls under these definitions. This restrictive view of Zoroastrianism has prevented scholars from looking for evidence of individual pre-Sasanian developments within the tradition, with Chorasmia being very strong in this regard.

While it is difficult, as is always the case when dealing with ritual matters in archaeology, to interpret the evidence from the two sites in detail, the range of unusual fire features, and the evidence they offer for ritual practice, should not be dismissed as aberrations irrelevant to the development of the Zoroastrian tradition, but should be considered as an important backdrop to later practices. Perhaps they did largely lapse in Sasanian times, but that does not diminish their overall significance to the history of the religion.

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