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Ossuary Burials of the Sultan-uiz-dag. Some Considerations on the Relation between Archaeology and *Vendīdād*

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Karakalpak-Australian Expedition to Ancient Chorasania (KAE)

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Abstract

The archaeological exploration of the only mountain range of Karakalpakstan, the barren Sultan-uiz-dag/Sultan-uvais, resumed in 2017 after a hiatus of decades since its first archaeological valuation during Soviet times. This paper presents the preliminary results of the first fieldwork season, which focused on the south-eastern spur of the range. The presence of numerous ossuary burials on its summits reveals that the area was used as an extended burial ground for a prolonged period of time. Although most of the ossuaries recorded consist of scattered fragments that had lost their content, an intact cluster of such burials was discovered and excavated (Site 01). The archaeological and osteological evidence gathered from both the survey and the excavation of Site 01 seems to confirm what until now could only be assumed: the Chorasmians strictly followed the ritual and the funerary prescriptions contained in the Avestan *Vendīdād* (or *Vidēvdād*). Until the major discovery of the Akchakhan-kala’s Avestan gods, the capacity to archaeologically trace Zoroastrianism was questioned. With due caution, this paper tries to find an answer to the problem regarding the presence of resilient Zoroastrianism in Chorasania, a polity which entered the “Avestan sphere” apparently in parallel to the Achaemenid conquest.

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Keywords

ancient Chorasmia – Zoroastrianism – Avesta – *Vendīdād* – funerary practice – excarnation – dakhma – ossuary (*uzdāna/astōdān*)

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To the memory of Gairatdin Khozhaniyazov

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1 Introduction: Chorasmia and Zoroastrianism

About 2000 years ago, the Chorasmian dynast of Akchakhan-kala decided to renovate his royal seat and to profusely decorate it with wall paintings and other embellishments. The end wall of the central élite space of the main complex of this seat, its columned hall,¹ was painted with depictions of colossal anthropomorphic deities, a testimony of his faith. Some generations afterwards, during the 2nd century AD, Akchakhan-kala was abandoned, and its wall paintings forgotten. Only recently the КАЕ’s archaeological excavations at the site brought back to light the remains of these remarkable representations.² The discovery of Akchakhan-kala’s deities has been a major breakthrough in our understanding of the religious beliefs of the ancient Chorasmians with broader repercussions on the Iranian world: the dress of one of the gods was decorated by a series of heraldic pairs of therianthropic beings – cocks with human heads and arms – wearing a *padām* and holding the *barsom*, manifestly Zoroastrian “bird-priests”. The Zoroastrian “bird-priests” from Akchakhan-kala, dating between the 1st century BC and the 1st century AD, are the earliest example known so far of such iconography previously recognised in Central Asia although almost exclusively in Late Antique context.³ The symbolic/visual meaning of these figures was clarified thanks to passages

1 For further details, see Minardi *et alii* 2017.

2 The discovery was first presented to the public in 2015 (Betts *et alii* 2015; 2016).

3 Riboud 2012 with literature; for a detailed iconographic analysis of the Chorasmian “bird-priest”, see Minardi 2021a. Some early numismatic specimens of the “Hyrkodes group” from the Bukhara area or western Bactria? bear a depiction of a similar therianthropic being (Cribb 2007, 351, fig. 61, Nos. 66 and 67; Musakaeva 2004). This image, with a different iconographical genesis, very likely depicts Áthar, the fire god, as argued in Grenet & Minardi 2021.

of the Avesta (*Vendīdād* XVIII.14–15 and 22–23):⁴ the hybrid “bird-priest” was created to represent Sraosha’s assistant priest, the *sraošāvarəz* named Parōdarsh “he who foresees’ the coming dawn; the cock”,⁵ called by his master in the last period of the night to wake up the faithful who have to perform their religious duties.⁶ In the *Nērangestān*, Parōdarsh is described as the one who keeps watch over obedience in ritual matters, punisher of those “who commit a shortcoming in the worship” and thus, in association with Sraosha, guardian of orthopraxy.⁷ Thus, the deity whose garment was decorated with a whole series of this explicit Zoroastrian symbol, was identified with the Avestan *yazata* Sraosha (MP *Srōsh*). The “bird-priests” are also the key to understanding an array of other symbolic features present within the iconography of the god that confirm this identification.⁸

Before this extraordinary discovery, the part played by Chorasmia in the early history of Zoroastrianism seemed too complex to grasp due to a lack of sources and clear archaeological hard data.⁹ However, Chil’p’yk (henceforth Chilpyk), apparently the most ancient formal dakhma (“tower of silence”) in the world still standing, was erected in Chorasmia possibly during the 1st century AD¹⁰ in a polity where also evidence of ossuary burials (*e.g.*, Tok-kala, Mizdakhkan and, more recently, Krantau),¹¹ the use of Avestan onomastics and calendar, and of fire as a ritual feature, was well known.¹² The first mention of Chorasmia is found in the Avesta (*Yasht* x.14). The country – as *Xwārizma* – appears at

4 Grenet *et alii* 1994, 278–279; Betts *et alii* 2016, 134.

5 Darmesteter 1887, 93 note 1; see also Lecoq 2016, 1015–1016 note 15: “*Parō.darš (...)* le coq, *celui qui voit à l’avance’ le lever du jour*”.

6 Kreyenbroek 1985, 172; see also Cumont 1942, 288, 297. For an analysis of the complex religious significance of the figure of the “bird-priest”, see Panaino 2015.

7 Kreyenbroek 1985, 159–161; see also Boyce 1982, 252: Sraosha “could be regarded as the most priestly of the yazatas”.

8 Minardi 2018; Minardi 2021a; Grenet & Minardi 2021.

9 *E.g.*, Gnoli 1980; Boyce & Grenet 1991, 192.

10 Man’yllov 1972, 76–86; 1981, 54; for further references, see also Minardi & Amirov 2017, 32–44. Chilpyk is a “pre-Sassanid” structure in a polity with scant evidence of previous relations with Arsacid Parthia (Minardi 2018). The monument needs to be archaeologically investigated.

11 Tok-kala: Gudkova 1964; Mizdakhkan: Yagodin & Khodzhaïov 1970; Krantau: Amirov & Iskanderova 2008. During the excavation of Tok-kala and Mizdakhkan, Soviet archaeologists gathered physical anthropological data. However, only a portion of this information has been published, and it was collected before the more recent advancements in scientific bioarchaeology. As for Krantau, its anthropological findings will be reviewed in future analyses (Amirov & Iskanderova pers. com.). When studying the burial customs of pre-Islamic Central Asia, Grenet 1984 remains a pivotal reference.

12 Betts & Yagodin 2008; Betts *et alii* 2018; Sinisi *et alii* 2018.

the end of the list of “Aryan countries”¹³ beheld by the god Mithra rising from the Mount Harā.¹⁴ According to F. Grenet, “this position in the list is consistent with what is considered the most plausible etymology of *Xwārizma*: ‘Netherlands’, namely the lands at the lower end of the Oxus river”.¹⁵ The first chapter of the Avestan *Vendīdād* also gives a list of sixteen countries this time without mentioning *Xwārizma* that in the past was erroneously identified by some eminent scholars with the *Aryanem Vaējah*.¹⁶ Considering that the list of the *Vendīdād* is probably pre-Achaemenid and the hymn to Mithra in the existing version possibly Achaemenid,¹⁷ the alternating presence/absence of Chorasmia in these two Avestan lists has a conceivable chronological implication: as also shown by archaeology, Chorasmia seems to have been fully integrated into the eastern Iranian milieu only with the Achaemenid conquest.¹⁸ Still, later traditions established in Pahlavi texts indicate that one of the sacred fires of the highest grade was brought to Iran from Chorasmia.¹⁹

The new archaeological and bioarchaeological data introduced by this article, chronologically speaking, run in parallel with the Sasanians. But their specific archaeological context – Zoroastrian Chorasmia – and the abundant occurrence of similar evidence for earlier periods in the same setting (*i.e.*, ossuary burials in association with dakhmas), reasonably suggest that the data gathered in the analysis of the “sample” here discussed witness a previous, and certainly enduring, earlier tradition. Moreover, while very possibly a certain Sasanian political interest in Chorasmia had existed, a direct (and massive) cultural influence of Sasanian Iran on the polity is very unlikely.²⁰ Be that as it may, the explicit evidence coming from Akchakhan-kala shows that

13 The countries listed as “Aryan countries” are those in which Zoroastrianism was prevalent or present at the time of composition of the text (Grenet 2018, 69).

14 On Chorasmia and the Avesta (and its position in Avesta geography) before the discovery of the Akchakhan-kala’s deities see: Gnoli 2000; 2005; Grenet 2005; 2015a. In general, Avestan toponyms seem to exclude the regions on the Iranian plateau and are instead focused on the Indo-Iranian borderlands (Gnoli 1980; Vogelsang 2000; Grenet 2005, 43). If the *Aryanem Vaējah* was an actual geographical reality, this should have corresponded with the area on the Hindu Kush or in the Pamirs (Witzel 2000; Grenet 2005; 2018) and not with Chorasmia.

15 Grenet 2018, 69.

16 Minardi 2015, 12–13 with literature.

17 Grenet 2018, 69.

18 On the archaeological evidence, see Minardi 2015, 61–85 with literature; 2020a; for historical considerations, see Minardi 2021b; 2023.

19 Boyce 1983; Boyce & Grenet 1991, 192.

20 Minardi 2015, 48–49; 117, 123 with literature.

the Avestan liturgy was known in the country much earlier than the time of Ardashir's rise to power.²¹

While further ossuary burials need to be investigated and analyzed systematically to expand our sample diachronically, the study of the cluster of tombs discussed in the following pages indicates that during the transition from the Chorasmian Antique 3 Late period (early 3rd–4th centuries AD) to Chorasmian Late Antiquity, the prescriptions of the *Vendīdād* (or of its sources) were factually observed and, as it is here argued, already firmly established in the region.

2 Ritual Prescriptions and the Archaeological Evidence

2.1 *The Vendīdād*

As do all religions, Zoroastrianism developed and changed through time.²² Its sacred book, the Avesta, is a collection of texts for centuries transmitted orally and finally written down under the Sasanians.²³ Accordingly, it is known that the *Vendīdād* – juridical-ritual section of the Avesta²⁴ – should be considered as a multi-layered heterogeneous text.²⁵ Paraphrasing and citing the devoted s.v. of the Encyclopaedia Iranica by W. Malandra²⁶ the *Vendīdād*, rather than the creation of a single author composing in his native language, is considered today as the conscious product of an editor (or editors) who assembled diverse materials from sources now mostly lost and which “might then have redacted after Avestan ceased to be a live medium of communication yet was still understood in its general contours thus perhaps composed in the Arsacid period, if not even under the early (?) Sasanians”. This, and the question regarding its composition and chronology, are actually still points of debate among specialists.²⁷ The reliability of the Avesta as a source before the Sasanian period has also been a subject of criticism.²⁸

21 There is little doubt that the painted colossal depictions of the site are Avestan deities (Grenet & Minardi 2021; 2022).

22 For Zoroastrianism, see Kreyenbroek 2012.

23 Skjaervø 2007, 111–115; Kreyenbroek 2013.

24 Grenet 1984, 31.

25 Boyce 1975, 325; Skjaervø 2007, 108–109; de Jong 2015, 87.

26 Malandra 2006.

27 Grenet 2005; Skjaervø 2007, 112–118; de Jong 2010, 537–538; Kreyenbroek 1996; 2013; 2015.

28 de Jong 2009; 2010; of a different opinion Skjaervø 2007, 107–108.

As prescribed in the *Vendīdād* (Avestan *widaēwa-dāta-*, commonly translated as “The Law repudiating the Demons”²⁹), for the Zoroastrians the exposure of the deceased to the sun and the cleansing of their remains consumed by birds (*e.g.*, *Vd.* v.14; vi.45–47; ix.49) and by dogs (viii.10) is a vital and lawful requirement (v.14, 40). The corpse is in fact a source of extreme pollution capable of defiling the holy creations of fire, water, and earth, and it has thus to be neutralized. Nothing is more dangerous than the decomposing flesh of a righteous believer for it is possessed by the corpse demon *Nasu* who rushes into it after death and contaminates all that come in contact with it. The worst possible envisaged sin listed in the *Vendīdād* is necrophagia (i.16; it includes eating of dead dogs: vii.23–24; viii.73–74), followed by the burning of the corpses (i.17; vii.25), and the casting of corpses into water (vii.25). To bury a corpse – of man or a dog – as already noted in 1984 by Grenet,³⁰ although prohibited seems to be a case of lesser turpitude (iii.36–37; *cf.* vii.47): if this happens, it is necessary to unearth the corpses as soon as possible within a period of maximum two years (iii.38). In the *Vendīdād*, punishments usually consist in flogging. In the case of inhumation, this kind of punishment gradually increases according to the length of the burial period (*ibidem*). The necessary atonement is harsh: from 500 to 1000 lashes, perhaps doubled³¹ because the tools (whips) used by the *ratu* (a member of the priesthood) to chastise the sinner were the *aspa.aštrā*, “(instrument for) the driving of a horse”, and the *sraošō.caranā*, the “instrument of obedience”³² or the “leather whip of obedience” or even “of Sraosha”.³³ However, in the case of inhumation into the ground, those repentant sinners who accidentally transgressed the law because of their ignorance may be forgiven (vii.40–42) and after the removal of the corpse the contaminated earth will be restored to its original purity after the passing of fifty years (vii.47–48).³⁴ Even the exposure of corpses without

29 On this, see Skjaervø 2007, 106; 2013, 549: “the rules for keeping the *daewas* [bad old gods] away”.

30 Grenet 1984, 33; 1990.

31 “[...] it is unclear whether the text is specifying double flogging with two instruments, or whether the terms form a literary hendiadys” (Malandra 2006). We do not know whether the punishment was performed all at once or during a certain period of time. In the first case it would have been very difficult to endure.

32 Malandra 2006. Lecoq 2016 renders these terms with the French “*fouet de cheval*” and “*lanière*” as in Darmesteter 1892, xvii. Such an instrument seems to have been represented in the hands of one of the pairs of the Akchakhan-kala *sraošāvarəz* (Minardi 2021a; Grenet & Minardi 2021).

33 Kreyenbroek 1985, 175 with note 63.

34 *Cf.* Procop. *Pers.* i. 11–12 (analysed by de Jong 1997, 237, 442–443).

following lawful requirements – the *nasuspaya* – is a sin (I.12)³⁵ because it can cause accidental pollution of the elements (*cf.* VI.46 where it is indicated that the corpses must be fixed/held on the ground “with an iron, stone or horn object” to avoid their hazardous transportation in fertile lands by birds and dogs).³⁶ Lastly, a piece of land in which men or dogs have died requires one year to become safe again (VI.1–2). To avoid all of that, the *Vendīdād* gives to the Zoroastrian community the necessary instructions to defend itself from evil in the inevitable case of death. The only possible final solution is to expose the corpses in a dakhma (VIII.2) for their excarnation by birds and dogs, because it is necessary to neutralize through defleshing the danger related to decomposing corpses leaving only the unhazardous dry bones (VI.10–25; VIII.34).³⁷

The dakhma is a structure specifically built to isolate and contain evil, “built on this earth, where dead people are laid down” (VII.54). It is described as a rampart/embankment (French “*remblai*” – III.9, 13), “a protection against the devas” during the decay of cadavers (VII.56). Dakhmas are also very dangerous places, a necessary evil:³⁸ in a list of the most unbecoming places they come after inhumation cemeteries (III.8–9 – where men and dogs are buried) and they must be destroyed apparently when they cease to function (III.9, 13; VII.50).³⁹ The *Vendīdād* does not present an alternative to the very specific funerary practice endorsed (excarnation was the only envisaged solution to neutralize the corpse demon), and I consider it plausible that even *Vd.* VI.44–46 and VIII.10 – interpreted in the past as indications of an alternative way to dispose of cadavers – might actually have a likewise reference to

35 As observed by Grenet 1984, 34 with references. But *cf.* *Vd.* VI.48 where the punishment for likely the same sin corresponds to 200 lashes with the *aspa aštrā* and 200 hits with the *sraošō.caranā*.

36 “[...] *les chiens dévoreurs de corps ou les oiseaux dévoreurs des corps pourraient emporter les os jusqu'à l'eau et jusqu'aux plantes*” (Lecoq 2016, 923). Also, letting the corpse slowly rot is not allowed. The 9th century AD *Dādestān ī dēnīg* – after having condemned cremation – indicates: “*Mais laisser (le corps) être dévoré par la vermine n'est pas licite (non plus), car le mēnōg du corps, quand il contemple la corruption des beaux corps par la vermine, est détruit, rendu inactif, il éprouve la détresse. En conséquence, le moyen le plus approprié, c'est quand, ainsi qu'il est prescrit dans la Dēn, le corps qui contient la charogne est déposé sur une montagne lumineuse, un terrain en hauteur. Pour qu'il ne soit pas porté vers l'eau, les plantes ou les demeures des hommes, la coutume est de l'attacher de façon à ce que les chiens dévoreurs de cadavres et les oiseaux dévoreurs de cadavres, qui ne sont pas domestiqués par l'homme*” (Grenet 2011, 78). A quick process of excarnation is the most auspicious and dogs are indicated as “not domestic” because bred for the specific purpose of eating corpses swiftly (*infra*).

37 As already observed by Grenet 1984, 32.

38 Gignoux *apud* Grenet 1984, 36.

39 For further references, see Minardi & Amirov 2017.

“structured” dakhmas (in the sense of prearranged places of exposure where dogs and birds are fed and no other wild animals).⁴⁰ Dakhmas were and are obviously open spaces.⁴¹ The *Vendīdād* being a diachronically layered text may contain hints to the fact that dakhmas of the origin could have been quite simple complexes:⁴² a dakhma could have been an isolated rocky hill simply delimited by a wall on the slopes of which corpses were exposed for excarnation, where bones were afterwards left to be washed off without the use of any bone receptacles (*cf.* Agathias 2.23.1). A possible ancient example (200 BC–300 AD) of this might be the large encircling enclosure documented on a mountaintop in the Soghun Valley associated with numerous cairn burials.⁴³ So whether the *Vendīdād* distinguishes “natural dakhmas” (a hill delimited or

40 *Vd.* VI.44–46 describes an elevated place where dogs and birds will excarnate the corpses fastened (with pegs?) to the ground. The mention of dogs in my opinion – and not of other wild animals – suggests that the place described is somehow contained (otherwise, as specified, dogs and birds would have dispersed human remains). We may also consider the possibility that the use of dogs in a dakhma might have forced the practice of the fixing of bodies in place (of a different opinion Grenet 1984, 35; de Jong 1997, 443); on dogs, *infra* paragraph 4. The mention of “the most elevated places” might belong to an earlier phase of the ritual when dakhmas were not yet architectonically codified (Boyce 1993). *Vd.* VIII.1–2 gives the necessary rules to observe in case of death of an individual in a man-made structure (that is possible to deconstruct): if it is easier to transport the corpse than to move the structure, the dead must go to the dakhma; on the contrary, if it is easier to undo the structure, the corpse should be left on the spot (probably here the issue would be the availability of a suitable dakhma during an “expedition” far from home – as noted by Shahbazi 1987). In the following passage (starting at VIII.4) the case differs, because it pertains to the demise of a person (or a dog) inside a house under unfavorable weather. In this case it is necessary to dig a pit to lodge the dead body as long as necessary (*ibidem* 9); eventually two men (the *nasā-sālārs*, *cf. ibidem.* 10–11; they must be two: III.14), after having exited the house, will place the body on “clay brick or stone” and hold/keep it on the ground with lime for dogs and birds to see it better and devour it (of a different opinion Grenet 1984, 35 who sees this passage as a description of an alternative place of defleshing as in VI.44–46 *supra*). The “clay brick or stone” may indicate a structure which, very likely due to the fact that the *nasā-sālārs* are leaving a house to deposit a corpse, and that no other such structures are described in the Avesta, may very well be an implicit indication of a dakhma. Also, in *Vd.* V.10–13, where a similar case is described, the dakhma is mentioned although indirectly (*ibidem* 14, 16, 18).

41 As indicated by *Vd.* V.14–16; VI.2–4.

42 This is the case of some modern examples as pointed out by D. Huff for western Iran (Huff 2003, 184; 2004, 621–622). According to this scholar the “mountain-dakhma” was an expedient found by the Zoroastrian “pauperized communities” within an Islamic milieu.

43 Lamberg-Karlovsky & Fitz 1987, 768–769. Choksy (2015, 396) considers the rock-cut structure on the cliff summits above the royal tombs of Naqsh-e Rostam a “corpse exposure area”; *cf.* Huff (2004, 616–617) who considers these remains as possibly belonging to a post-Achaemenid mausoleum.

not by a wall, but probably so if we consider the issue related to the *nasuspaya* practice) from “towers of silence” (a more complex structure but architectonically not that dissimilar from a simple enclosed hilltop) nonetheless it always appears to deal with dakhmas, *i.e.*, places of exposure which during the centuries might have undergone – always keeping the same essential function – a series of changes and adaptations to different socio-economic environments.⁴⁴ Consequently it is important to avoid any speculation about typological evolution before modern times.

It even seems that initially the Avestan term “dakhma” was used to designate a grave or tomb⁴⁵ and that this term has changed its designation to that of place for exposure of the corpses apparently between the 6th and the 3rd century BC.⁴⁶ If on the one hand the earliest “tower of silence” still extant seems to be Chilpyk, on the other some sources hint to the fact that much earlier examples were used in Bactriana (*infra*). The dakhma of Chilpyk – probably erected in the 1st century AD but still archaeologically unexplored – shows how early complex built-up dakhmas developed in Chorasmia. Furthermore Chilpyk, and the few other examples known in eastern Iran,⁴⁷ lacks the central shaft, instead essential in modern towers of silence (*e.g.*, Yazd) or tower-like dakhmas (*e.g.*, Mumbai’s Doongerwadi) to cast bones into after excarnation for a further period of isolation before the burial. Considering this design associated with the massive use of ossuaries, we may infer that dakhmas in Chorasmia (and since the 5th century AD? in Sogdiana)⁴⁸ were closely related to the utilisation of bone containers as secondary burials – although it is impossible to exclude that those who could not afford an ossuary might have been disposed in a different fashion. According to the *Vendīdād* in fact, after the exposure and excarnation of corpses in dakhmas, the remaining bones of the dead should be put in an *uzdāna* – rendered in Middle Persian with

44 As remarked by Boyce (1974, 9). A possible and quite simple Sassanid dakhma is to be found on the southwestern slopes of the mountainous ridge behind the ruins of Bishapur (Ghirshman 1948; Huff 2004, 595, 603 with further references). Another possible, but this time built-up, Sasanian dakhma has been excavated in Bandiyan (Rahbar 2007). See also Trümpelmann 1984 *contra* Ghasemi 2012 on Tal-e Khandagh in Fars.

45 Perhaps hinted in *Vd.* VII.49–50 (as already observed in Minardi & Amirov 2017, 36 after Boyce 1975, 325–326); see also Boyce 1975, 109; Grenet 1984, 35–36.

46 Hoffmann 1965.

47 On the archaeological evidence regarding dakhmas (Erkurgan, Durmen-tepe, Chilpyk and, possibly, Angka Malaya), see Minardi & Amirov 2017 with references. More dakhmas than those known today certainly did exist in Bactriana and Sogdiana: this is indicated by (late) Chinese, Bactrian (*infra*) and Sogdian written sources (Grenet 1984, 313–319; Livshits 2015, 41–42). Some Sogdian dakhmas had a private character (*ibidem*).

48 The earliest Sogdian ossuaries may be dated as such (Pavchinskaia 1994).

astōdān – out of the reach of wild animals (wolves, foxes but also dogs) and covered in order to be sheltered from rain (*Vd.* vi.50) – rain that, on the other hand, purifies the dakhma (v.14–18), and that is clearly distinguished from irrigation water, which must not be polluted (vi.2–4). If possible, the *uzdāna* should be made of stone, clay or gypsum/lime (vi.51 – Lecoq 2016: “*chaux*”; Darmesteter 1892: “*plâtre*”).⁴⁹ If the Mazda-worshippers are unable to do this because they cannot afford it, then bones should be deposited on the ground exposed to the sun – thus left unprotected. Therefore, the *uzdāna* seemed not compulsory for treated bones.⁵⁰

The issue is that *uzdāna* has a debated etymology and it is either translated as “building”⁵¹ or “bone receptacle/container – ossuary”.⁵² According to A. Cantera, the term *astōdān* even if used for “tomb” has as its etymological meaning in “ossuary”⁵³ (*i.e.*, bone container). In Chorasmia there are necropolises with or without funerary (mud-brick) buildings erected to shelter ossuaries, *i.e.*, “*naus*” (the Arab term used in the archaeological literature to designate such structures). In Bactriana, where sources indicate the existence of dakhmas, *naus* did not contain ossuaries (*infra*). Being covered is a common trait of both *naus* and ossuary (the first with a roof and the second with a lid). Although we may consider that the “*uzdāna*/building” which can be made of stone as indicated in the Avesta could have been a mausoleum or a rock-cut tomb,⁵⁴ on the other hand it is rather difficult to imagine a building entirely made of gypsum or to interpret this “building” as a cist cut into a specific mountain of chalk. A rock-cut tomb might have been designated as “*astōdān*” simply because it was a bone container.⁵⁵ Perhaps the “*uzdāna*/building” could have been (since the Parthian period?) a *naus*.⁵⁶ But *naus* (structures rarely dating before Late Antiquity) made of gypsum are unknown to me while they

49 Darmesteter 1880 interpreted this passage as the actual description of a dakhma (amended in the new French translation of 1892).

50 As already noticed in Huff 2004, 594.

51 *E.g.*, Lecoq 2016; Huff 2003, 184 – defined as “some kind of building”; *cf.* Ghirshman 1948, 302: “*Le terme uzdānēm retrouve ainsi son sens exact qui en « édifice »*”.

52 *E.g.*, Boyce 1975, 327; Shahbazi 1987.

53 Cantera 2017, 39 with references.

54 The first example of the use of the term *astōdān* in the early 4th century BC in Lycia, at Limyra is well known. In this case the “bone container” was probably considered the entire tomb as it had a too small interior to contain coffins (Boyce 1979, 59; 1982, 210–211; Shahbazi 1987 with references; Boyce & Grenet 1991, 83).

55 *Cf.* Boyce 1975, 127.

56 The earliest possible *naus* known was discovered in Merv and it was ascribed to the Parthian period. It did not contain ossuaries (Grenet 1984, 93, 238). Rtveldadze considers Bactrian *naus* as *uzdāna* (1987, 38–39).

might have been made of stone.⁵⁷ On the other hand, stone, clay and gypsum ossuaries were produced in large quantity in Chorasmia (although the gypsum ones seem of a relatively late chronology – *infra* for discussion).⁵⁸

Only another passage of the *Vendīdād* (VIII.73–74) uses the Avestan term *uzdāna* in relation to an episode interpreted as a case of necrophagia or more probably in relation to an unlawful ritual that must be stopped: if a Mazda-worshipper comes upon a fire on which a corpse is being cooked, the man “cooking the carrion” (*cf. Vd.* I.16) must be killed and the cauldron removed “as well as the *uzdāna*”. M. Boyce interpreted the peculiar use of this term in the passage (translated in French by Lecoq as “*ustensile*”; by Darmesteter in 1892 with “*support*”, and in English in 1880 with “tripod”) “to express disgust at a cooking vessel being thus degraded to become as it were an ossuary”.⁵⁹ Considering that Yablonskiĭ recorded at the non-Chorasmian necropolis of Tarĭm-kaya 2⁶⁰ – at the fringes of the Chorasmian polity – complete albeit disarticulated skeletons stored in ossuaries without traces of excarnation, so that he supposed defleshing through boiling, this passage could merely refer to an unlawful practice of excarnation. In my opinion this might be considered as a plausible hypothesis, and so the passage may indicate that the people responsible for such practice, their fire, their tools and their ossuaries (ready to receive the bones after the unlawful mechanical cleaning) must have been eliminated. Be that as it may “*uzdāna*” in this passage was clearly not used to indicate a building of any sort.

The *Dādestān ī dēnīg* written in the 9th century AD by Manūščihr,⁶¹ the high priest of the Persian Zoroastrian community, sanctions that *astōdāna* must be used to contain the bones of the dead left after excarnation.⁶² In this passage of his work the Zoroastrian high priest follows exactly *Vd.* VI 49–51.⁶³ the corpses must be brought “at once to the hills and rising grounds” and there they have to be fastened to the ground to avoid that foxes and dogs bring the

57 In 2018 on the “nameless peak” (*infra* paragraph 3.2) of the south-eastern part of the Sultan-uiz-dag I excavated a building made of unworked dry-stone walls. This might have been an early stone Chorasmian naus (Minardi 2019). Other similar structures are attested on another peak of the same range, the Ashchĭtau. Additional research on this matter has been planned.

58 Grenet 1984, 233–234. For a western Iranian stone specimen, see Ghirshman 1948 (Sasanian); for “3rd–7th century AD” stone and jar-ossuary examples, Simpson & Molleson 2014.

59 Boyce 1975, 327, note 6.

60 Yablonskiĭ 1999, 80; on the cemetery of Tarĭm-kaya 2, see *infra*.

61 Shaki 1993; Grenet 2011.

62 *Cf.* Molleson 2009.

63 West 1882, 43–44; for a new French translation and commentary, Grenet 2011.

dead matter to a “watered, cultivated, or inhabited place”.⁶⁴ Once the bones are cleaned “the men should properly convey” them “away to the bone receptacle”. Bone receptacles must be “elevated from the ground” – which is a detail absent in the parallel passage of the *Vendīdād* – and covered to be sheltered from the rain and dampness and be protected from dogs and foxes. At this point, as seen above, *Vd.* VI.51 gives the three best possible materials for an *uzdāna* – it should be made of stone, clay or gypsum/lime if economically feasible – while Manuščihr recommends only the best type of these bone containers: it is described as a “vault of solid stone” closed with a likewise stone lid/closing slab.⁶⁵ This seems to suggest that in the Avesta the *uzdāna* originally was not considered a “free-standing construction” in the proper term but either a rock-cut “tomb” (as indicated by the 4th century BC inscription of the “*astōdān*” of Limyra)⁶⁶ or a portable container.

The archaeological evidence from western Iran, although to be treated carefully,⁶⁷ seems to confirm at least that the kind of bone receptacles endorsed by Manuščihr was actually used in the late Sasanian/early-Islamic period: several small rock-cut niches, some of them associated with inscriptions dating to this period, indicate this circumstance.⁶⁸ However, the inscriptions found in their proximities seem to indicate that these niches at that time were habitually called *dakhmas* (“*daxmag*”)⁶⁹ – but there is at least one example of

64 Cf. *Vd.* v.3: “*Alors, Ahura Mazdā dit : « Aucun homme n'est coupable à cause d'un cadavre transporté par un chien, par un oiseau, par un loup, par le vent, par des mouches »*” (Lecoq 2016).

65 Huff 2004, 608. Ossuaries were used in western Iran: Molleson 2009; Simpson and Molleson 2014.

66 Huff (2004, 608) assumes that, because the *astōdān* originally ought to have been a “built up, free-standing construction” the Persian Zoroastrian high priest “would have been somewhat disproving of the prescription of the Videvdat”. This seems very unlikely: Manuščihr was following the *Vendīdād* literally. According to Huff the *Videvdat* “clearly speaks of a built, not rock-cut construction[s]” (*idem* 614) that vanished with few exceptions due to the situation under Islamic rule (*ibidem*). Archaeologically speaking, this is very unlikely, while it is quite possible for superficially laid out ceramic ossuaries, as in the case of many (badly fired) earthenware Chorasmian specimens of which today only a few small chips remain on the terrain.

67 On this evidence see, Boucharlat 1999; 2005, 279–281; Huff 2004; see also the most recent Farjamiрад 2015b.

68 Boucharlat 1991; de Blois 1993; Huff 2004; Cereti & Gondet 2015; with references. De Jong (2015, 100) infers that only once the written Avesta came into being, a gradual spread of the rites of exposure of dead bodies occurred in Iran.

69 De Blois 1993, 42–43: at least in the late Sassanid/early Islamic period “[...] *daxmag* is a general, and essentially vague, term for any sort of funerary monument”. See also Cereti & Gondet 2015, 396 (“These inscriptions, all referring to *dakhmas* (*daxmag*), could correspond to various solutions for a common practice of secondary bone deposition”).

dedication mentioning an *astōdān*.⁷⁰ In these cases “dakhma” might have indicated a place of exposure associated with bone receptacles.⁷¹ Still, the same twofold function “dakhma/*astōdān*” occurred in some late Central Asian naus, where cadavers were laid for excarnation on benches and the remaining bones were afterwards stored in containers or just gathered at the interior of the same structure.⁷²

Post-Achaemenid/pre-Sassanid rock-cut “tombs” (not considering the exiguous Achaemenid examples) are even less common than late Sasanian rock-cut niches which are, however, not comparable in quantity with Chorasmian ossuaries (*e.g.*, in Late Antique Tok-kala, about 50 ossuaries were found in just one naus; in Mizdakhkan, up to 82).⁷³ Few inhumations attest that in late/post-Achaemenid Fars and in the Parthian Arsacid empire the non-Zoroastrian burial practice was implemented.⁷⁴ Other types of burials in Iran – such as cairns and pseudo-cairns – are still in need of further investigation,⁷⁵ although the possible association of at least part of this evidence with a Zoroastrian ritual has been considered.⁷⁶ If we assume, as it seems most plausible, that the *Vendīdād*'s prescriptions circulated in Persia/western Iran before the Sasanians,⁷⁷ it might appear then that in most cases the bones

70 Hassuri 1984; de Blois 1993, 30. According to Huff this different use is due to a geographical difference.

71 Huff (2004, 605) rules out the idea of a double function for the *dakmag* of Eqlib – *infra*.

72 Grenet 2013, 20.

73 Tok-kala: Naus 2, Excavation Area VI (Gudkova 1964, 87, fig. 22); Mizdakhkan: Yagodin & Khodzhaïov 1970, 27, fig. 13.

74 Boucharlat 2005, 279–281. According to Wiesehöfer (1994; 2007; 2011) south-western Iran was “religiously mixed” under the Fratarakas “just as under the Achaemenids” (on relevant archaeological evidence from Susa, see for instance Qahéri-Paquette 2016). See also Basirov 2005. On the Spring Cemetery of Persepolis, see Schmidt 1957, 117–123; see also Haerinck 1984. On the burial customs of the Parthians (from Susa), see Boucharlat & Haerinck 2011; see also Olbrycht 2017 with references. Olbrycht considers it possible that the use of pottery coffins (as in the Spring Cemetery) was acceptable for the Zoroastrian burial rite (Olbrycht 2017, 304 and 310). He also rightly remarks that “the issue of funerary practices of ancient Parthians is disputable, because their empire was inhabited by different peoples, which had varying traditions of burying the deceased” (Olbrycht 2017, 305). A coffin-like large ossuary containing the excarnated bones of a non-Chorasmian female individual was excavated by Yagodin at Mizdakhkan and dated to the 3rd century AD (Yagodin & Khodzhaïov 1970, 122). On the debated issue of “Persian religion”, see also the recent volume edited by Henkelman & Réard 2017.

75 Haerinck 1984, 305; Boucharlat 1989; 1991; Gondet *et alii* 2016. See also Azarpay 1981.

76 Lamberg-Karlovsky & Fitz 1987.

77 The Achaemenids, even if believer of a “Mazdeism” different from the “Avestan Mazdeism”, must have been familiar with the Avesta or the sources of the Avesta (Skjaervø 2005; 2013, 563; see also Kellens 2017, 18). For the Parthian period, see Hintze 1998; de Jong 2013.

of the lay people were left decaying on the excarnation spots and that, only when possible to the wealthy, bone receptacles were prepared, as it is exactly prescribed in the Avesta.⁷⁸ This would explain the almost complete diachronic lack of evidence regarding ossuaries in western Iran and the relatively few rock-cut tombs and niches.⁷⁹ The well-known passage in Herodotus (1.140) confirms that the exposure (with defleshing by birds and dogs) in Iran was at least practiced by the *magi* in the Achaemenid Period (*cf.* Strabo xv.3.20) while a different treatment also existed – embalming and thus entombment – hardly economically conceivable for the lay population.⁸⁰ Ossuaries are likewise absent in Bactriana, an eastern Iranian country at the centre of the original development of the Zoroastrian faith,⁸¹ where in Kushan times apparently corpses were left to decay naturally in naus and bones were not afterwards stored in ossuaries.⁸² Bactriana has also been a land crossed by several different populations with different traditions and became, during its history, part of different state-like entities contrary to Chorasmia, which always preserved a regional dimension and was not as much affected by penetrations from outsiders.

In Chorasmia, naus and ossuary have two specific and respective (late as we know them) designations which however, do not exclude a priori the possibility that both naus and ossuaries were considered “*uzdāna*” although the name “house of the Fravashis”, used locally and in Sogdiana for naus, seems to indicate differently (*infra*). The original significance of the Avestan *uzdāna* likely

78 As remarked by Farjamirad 2015a. For instance, the *daxmag* of Houz-i Dukhtar-i Gabr at Eqlid was commissioned by a wealthy Sasanian high official (Huff 2004, 605). The fact that the inscription mentions that this small stone-cut monument was done by a third party for an individual who died suddenly does not exclude that it might have been used also to expose his corpse (the epigraph could have been carved at a later time, and the carving work could have been done in three days). To note that an animal such as the Bearded Vulture (*Gypaetus barbatus*) with a specialized osteophagous diet (this is the only species with a bone-based diet, see Margalida & Villalba 2017) could have had a major role in the bone-disposal process in areas of southern Central Asia and Iran. For details on the territories of occurrence of this species, see Ayé *et alii* 2012, 80–81; see also: <http://datazone.birdlife.org/species/factsheet/bearded-vulture-gypaetus-barbatus/distribution>.

79 Huff 2004, 594 and 602; on bone containers, see Simpson & Molleson 2014; *Cf.* Agathias 2.23.1 – although other western sources describe different inhumation habits of the Persians (conveniently, see de Jong 1997, 432–446).

80 Of this opinion Boyce 1982, 182; *contra* de Jong 1997, 437. All but one of the few tombs known for the Achaemenid period are royal (Boucharlat 2013, 522).

81 Grenet 2015a.

82 Boyce & Grenet 1991, 190–191; on the alleged *katas* of Kampyr-tepe, see comments in Grenet 2015c, 232, note 104. *Cf.* Olivieri 2019 on the “mausoleum” of Butkara IV in Swat, Pakistan.

changed through time and space (adapting to local conditions as observed by Boyce for dakhmas) and, as remarked by Grenet, probably the most important Avestan concept to respect in preparing a bone container (built, carved or manufactured) was the protection of the bones. However, in my opinion, it would be possible to see in the Avestan “*uzdāna*” originally a portable receptacle. It also seems that dakhmas (without central shafts) in Chorasmia and ossuaries were in close connection and that this connection is noticeable in the Avesta, whilst it is not in western Iran before the Sasanians.

2.2 *Chorasmian Ossuaries*

Thanks to an inscription painted on a gypsum ossuary from the cemetery of Mizdakhkan⁸³ and other similar specimens from Tok-kala⁸⁴ we know that in Late Antique Chorasmia before the Arab conquest (712 AD),⁸⁵ the bone receptacle there was called *tpnkwk* (*tapankōk*, i.e. “small coffin”).⁸⁶ We also know, as remarked by Grenet in 1984, that, in some documented cases from Tok-kala, epigraphs attest to a connection between the soul of the dead and his bones (stored in the ossuary) conceivably with an eschatological significance.⁸⁷

In Chorasmia a shift in the burial custom, from inhumation to ossuary burial, seemed to have occurred in the polity during the 5th–4th centuries BC.⁸⁸ Currently, the earliest known Chorasmian ossuary burials date back to the 4th century BC (likely late 4th/early 3rd century BC) in “Left Bank” (western – in respect to the Oxus)⁸⁹ Chorasmia while apparently the first ossuary burials of “Right Bank” (eastern) Chorasmia date no earlier than the 2nd century BC, and possibly, according to my colleague Sh. Amirov, later.⁹⁰ This early “Left

83 Funerary Construction 4, Ossuary 18 (Livshits in Yagodin & Khodzhaïov 1970, 249–250, 94 fig. 2. 1).

84 Conveniently see Grenet 1984, 252–253.

85 For further references, Minardi 2013.

86 Initially transliterated by Tolstov & Livshits (1964, 263) as “*tnbryk*” and translated as “receptacle of body”; this transliteration was emended by Henning (1965, 177) and translated with “box, chest [...] with [a] slightly diminutive sense”. It was acknowledged by Gudkova and Livshits (Gudkova & Livshits 1967, 12) who proposed its translation as “coffin”, and by Livshits again in 1970 (Livshits in Yagodin & Khodzhaïov 1970, 249–250; see also Grenet 1984, 253: “*diminutif de tapan, cercueil*”). More recently, Lurje (2013) chose for the translation of the term the Russian *ящичек* (*yashchichek*).

87 Grenet 1984, 253.

88 Minardi & Amirov 2017; Minardi 2021b with literature.

89 For convenience, traditionally Chorasmia in the scientific literature is divided in three macro-areas with respect to the axis constituted by the Oxus: “Left Bank”/western Chorasmia (i.e., Karakalpakstan); “Right Bank”/eastern Chorasmia (actual Turkmenistan); and “South Chorasmia” (Khorezm).

90 Amirov & Iskanderova 2008; Minardi & Amirov 2017; Minardi 2021b with literature.

Bank” evidence mainly comes from the non-Chorasmian Tarým-kaya cemeteries of the Sarýkamýsh area (used for a protracted period of time by the local “Kuyusai” populations) where the most ancient known ceramic bone receptacles are Chorasmian ossuary-vases of the Antique 2 typology unearthed at the cemetery of Tarým-kaya 1.⁹¹ Here, beneath “Kuyusai” burial mounds, Chorasmian-made vases were employed to store the partial and dismembered skeletal remains of some individuals who apparently adopted Chorasmian funerary customs.⁹² In the cemeteries of Tarým-kaya 2 and Tarým-kaya 3, moreover, Soviet archaeologists found the two earliest specimens so far known of purpose-made ceramic bone containers.⁹³ Some of these early ossuaries contained multiple individuals⁹⁴ and, as mentioned above, they can all be ascribed to the late 4th/early 3rd century BC. It is important to remark that in the case of Tarým-kaya the local funerary custom was the product of cultural contact with Chorasmia so that in the polity the practice may very well have been more ancient, although unlikely earlier than the late 5th century BC as indicated by the elite inhumation of Dingil'dzhe and by the inhumation necropolis of Bazar-kala.⁹⁵

Owing to another epigraph from Tok-kala recording the name of the owner of an entire naus, we know that the Chorasmian term to indicate such funerary building was in Late Antiquity *prwrtyk* (*frawartük*), “house of the Fravashis”⁹⁶ (so there is a link with the dead ancestors) which etymologically has nothing to do with bones.

The most ancient naus of Chorasmia at present seems quite late and this fact might relate to the lack of archaeological excavations of early sites. It is not to be excluded that the structure associated with Antique 1 material rising

91 Vainberg 1979, 7–76.

92 As remarked by Itina (1979, 6) in the preface of TKhAEE XI (“4th–3rd century BC”). The large majority of Tarým-kaya’s 1 and 2 tombs were inhumations overlaid by kurgans; in addition, the few ossuary burials recorded were found buried in a pit likewise covered by funerary mounds and had funerary packages with local and Chorasmian imported material (see also Yablonskii 1999). See also Yagodin 1982, 1987 for other examples of influence of Zoroastrian Chorasmian funerary customs on the rituals of those steppic populations who buried their dead at the fringes of the Ustyurt Plateau (according to Yagodin between the 2nd century BC and the 8th century AD – Yagodin 1987, 19) and Yusupov 1986 for those nomads orbiting in the Uzboj basin and using, in some documented cases, ossuaries. According to Yusupov, this evidence cannot be earlier than the late 2nd century BC (Yusupov 1986, 137).

93 Yusupov 1979, 84–100.

94 *E.g.*, Tarým-kaya 2, Kurgan 9, and Tarým-kaya 3, Kurgan 10 (Yusupov 1979, 97–98).

95 Minardi 2015; Minardi & Amirov 2017 with literature. The two practices likely co-existed for a certain period of time during the 4th century – perhaps 3rd century BC.

96 Gudkova & Livshits 1967, 14; Grenet 1984, 252–253, with note 23; 2013, 20; 2015b, 143. On the Fravashis in Chorasmia, see Minardi *et alii* 2020; 2023.

on the top of the Sultan-uiz-dag's "nameless peak" (*infra*) might have been an early such construction. Likewise, Yu. Rapoport suggested that the mud-brick made tower-structures of the acropolis of Kyuzeli-g'yr – the most ancient site of Chorasmia in today's Turkmenistan – which were too small to contain entire corpses might have been naus.⁹⁷

3 The Sultan-uiz-dag Range and Its Archaeological Evidence

3.1 *The Sultan-uiz-dag/Sultain-wais*

The modern-era name of the Sultan-uiz-dag range (also known as *хребет Султан-Увайс/Султанувайс*) ought to be associated with the semi-legendary figure of Uways al-Ḳaranī⁹⁸ to whom was given the title of "sultan" in Central Asia and whose cenotaph, the "Sultan Uvajs Baba", in its 19th century version still rises on the south-western slopes of the range in the ca. 70-hectare cemetery and holy place best known as Sultan Baba. According to Ya.G. Gulyamov the possible ancient name of the Sultan-uiz-dag range might have been "*Chagr*".⁹⁹ The Sultan-uiz-dag (henceforth SUD) is an isolated range emerging at the Ural–Tian-Shan junction¹⁰⁰ which is located in the Kizil-kum desert immediately north of the course of the Amu-Darya, on its right bank. Its highest peak, Ashchenyntau (also known as Kara-Chingel' or Ashchýtau, henceforth Karachingel),¹⁰¹ rises up to 478 m above the sea level and the range covers a total area of ca. 100.000 hectares with the major axis of its northwest–southwest oriented pear-shaped contour measuring ca. 58 km. Toward the south, *i.e.*, toward the fertile lands of Chorasmia, the range has abrupt slopes while on the northern side, toward the wastes of the Kizil-kum, these are more gentle. The emergence of this mountain is the only significant topographical feature in the otherwise flat terrain of Karakalpakstan, with an average elevation of 250–300 m higher than the Amu-Darya valley.¹⁰² The environment of the SUD is harsh: the range is an arid waterless rocky desert except for a few artesian wells located mostly around the area dominated by the Karachingel summit and north of Sultan Baba, a site with its own source of water.

97 As implied in Rapoport 1991 and Vishnevskaya & Rapoport 1997, 158. The site has been unfortunately only very partially published. See *supra* notes 56–57.

98 Gulyamov 1957, 22, note 19; on Uways al-Ḳaranī, see Baldick 2012.

99 Gulyamov 1957, 22, note 18.

100 Garetskiĭ *et alii* 1972; Lutts & Feldman 1992; see also Samygin & Burtman 2009.

101 Yusupov & Man'lov 1968, 66; Man'lov 1972, 100–101.

102 Minor hillocks are also attested such as those of Dzhanbas-kala and Ayaz-kala toward the east.

The morphology of the SUD is characterized by numerous and parallel dry stony river-beds (“*sqj*”) and by the black colour of its most prominent and sharp pinnacles mostly given by the presence of metamorphic rocks (such as slate and graphite schist).¹⁰³ The south-eastern spur of the range, in particular, is for this reason called *Karatow*, *i.e.*, “Black Mountains” (a.k.a. Karakuduk).

The first archaeologist who ascertained the presence of Antique I material on three elevated areas of the Sultan-uz-dag, the Karachingel, the Sheikh-Dzheli and on a nameless peak north of Toprak-kala, was Yu.P. Manjlov.¹⁰⁴ The presence of ossuary necropolises on the heights of the SUD was known long before the important work done by Manjlov¹⁰⁵ and the first recognition undertaken by the KAE in 2015.¹⁰⁶ Other burials and necropolises of various epochs have been also recorded and investigated in the past¹⁰⁷ but no thorough study of these findings was undertaken until now: apart from a now superseded odd/traditional interest in craniological data in order to establish ethnicity, published reports of physical anthropological analyses of skeletal remains excavated in Central Asia are, to date, scarce. The 2017 survey campaign on the SUD had the aim to inaugurate a new and accurate mapping and recording of the archaeological sites and material present on the range in order to build a data base dedicated to its rich archaeological evidence. Special attention was given to the ossuary burial grounds of the south-eastern spurs of the range – the “Black Mountains” – where numerous fragments of ossuaries in association with potsherds were acknowledged.

3.2 *The Zoroastrian Necropolis “sUD 17 Site 01”: Preliminary Considerations*

The 2017 survey focused on the south-eastern part of the SUD range, on an area dominated by a nameless peak (373 m a.s.l.)¹⁰⁸ rising on a black ridge clearly visible from the Ancient Chorasman capitals of Akchakhan-kala and Toprak-kala (fig. 1).¹⁰⁹ On this not easily accessible, waterless and barren summit, the remains of a building associated with Antique I potsherds and

103 Garetskii & Shraibman 1960, 24. On the geology of the SUD see Kuz'mina *et alii* 1970; Milanovskii 1989, 105, 133–135; and the recent Dolgoplova *et alii* 2017. See also Pék 1935; Pék & Churakov 1936.

104 Manjlov 1972 (unpublished doctoral dissertation).

105 Tolstov *et alii* 1963.

106 Amirov *et alii* 2019.

107 Manjlov & Khodzhaïov 1971; Manjlov 1975.

108 According to the data obtained with a handheld GPS. The height of the peak shows as 368 m a.s.l. on Soviet topographic maps.

109 For the possible sacred significance of this visual connection between royal sites and landscape, see Minardi 2016a, 150; Minardi & Amirov 2017, 42.

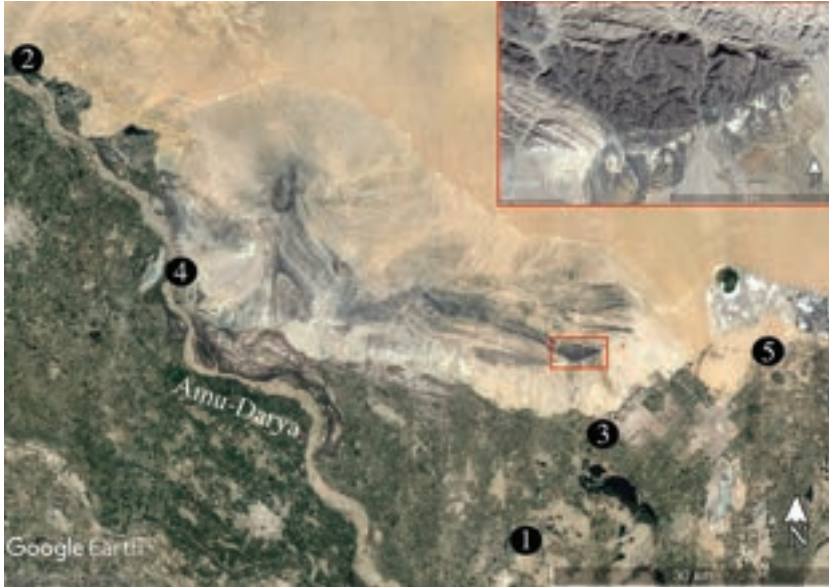


FIGURE 1 The Sultan-uiz-dag range with location of the following sites.
1: Akchakhan-kala; 2: Chilpyk; 3: Toprak-kala; 4: Gyaaur-kala; 5: Ayaz-kala.
Inset: detail of the southeastern part of the range (after Google Earth)

similar scattered ceramic finds indicate that it has been frequented since the earliest period of the Ancient Chorasman history. More specifically, the zone overlooked by the “nameless peak” is the only part of the area surveyed in 2017, with findings of fragments of earthenware, gypsum and stone ossuaries and potsherds (belonging mostly to ossuary-vases) which indicate that the area used to be an extended burial ground within well-defined spatial limits (fig. 2). While the fragments of bone containers confirm that the surface tombs recorded were actual ossuary burials, the skeletal remains which once were contained there have completely disappeared over time.¹¹⁰ Erosion and vandalism are the main causes of such a situation.

The ossuary burials recorded can be classified in two types: bone containers simply laid on the terrain – on the accessory peaks of the area, in their crevices and simply covered by a few stones – or beneath pseudo-cairns/stone mounds.

¹¹⁰ During a survey in 2018 in a semi-arid area south of the SUD, I met a local shepherd who told me that he had found human bones in a ceramic container 20 years prior. He was the one who had broken the ceramic container at that time with the hope of “finding gold” but had only found a skull and a few other bones. When I went to the site with him, we found fragments of an ossuary present inside a circle of stones but we could not find any trace of bones or teeth. In my experience, I have never come across any bone remains associated with highly fragmented ossuaries.

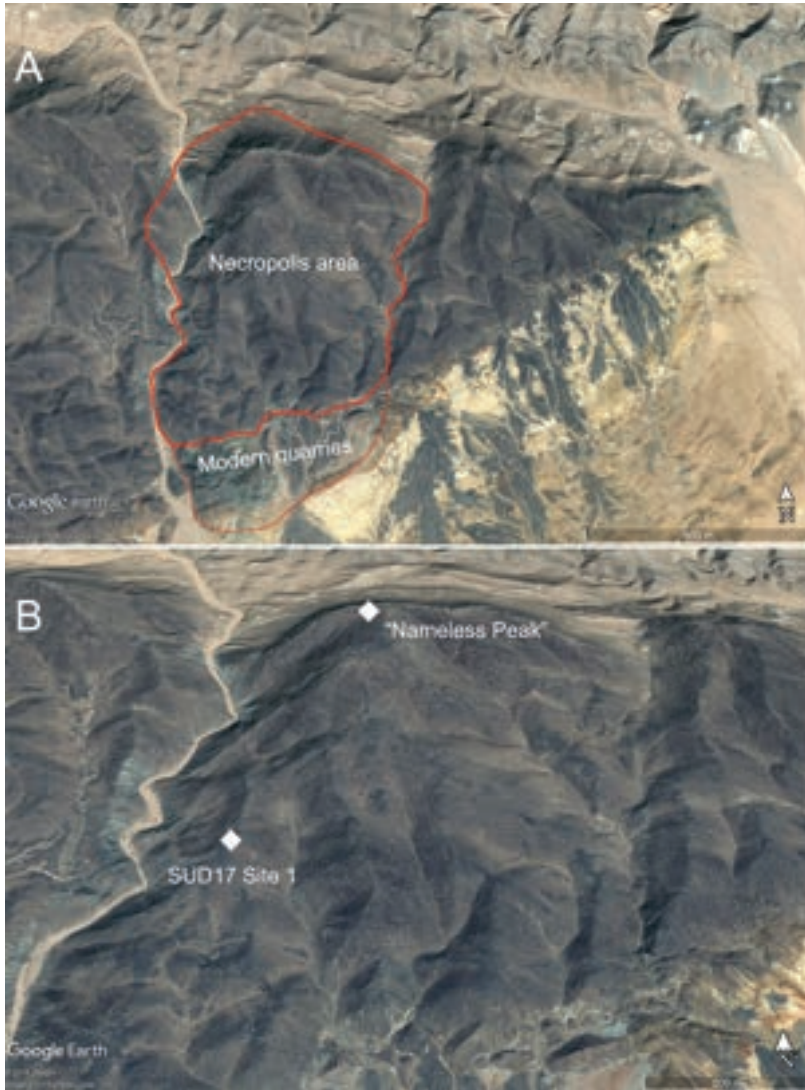


FIGURE 2 Details of the southeastern part of the Sultan-uz-dag. A: the necropolis area; B: position of Site 1 and of the “nameless peak” (after Google Earth)

Most of these latter consist of quite simple circles of stones with interior spaces for the deposition of multiple ossuaries covered or partially covered by stones (fig. 3). As pointed out by the absence of interment of the SUD ossuaries, and by the not very careful protection given by the covering stones,¹¹¹ in the majority of cases it looks like the Chorasmians did not concern themselves much

¹¹¹ Manjlov 1981.

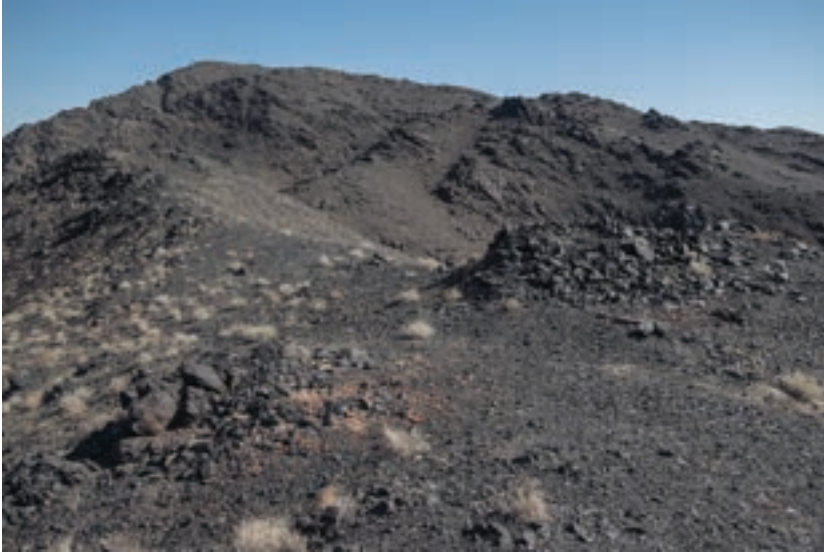


FIGURE 3 General view of SUD 17 Site 01 (on the right), and Site 02 (on the left: note the red-clay ossuary sherds) from the south with, in the background, the “nameless peak”. No traces of bones were detected in the very badly preserved minor “cairn” of Site 02, as no ossuaries were found intact.
PHOTO: M. MINARDI

for a lasting protection of the mortal remains of their relatives (*cf. Vd. VI.51*). However, SUD 17 Site 01 (henceforth Site 01), one of the most extended clusters of ossuary burials of the area, was found nearly intact because it was better protected: this “pseudo-cairn” (fig. 4) – on the summit of a hillock – consists in a circular mound with a radius of ca. 3 m in which a minimum of 31 individuals of both sexes and variable age were distributed in 12 ossuaries,¹¹² arranged in

112 Ossuary No. 6 was found completely empty while Ossuary No. 1 was heavily disturbed and only a few fragments of bones remained at its interior. They both had to have contained at least the remains of one individual each. Ossuaries Nos. 2, 3, 7, 8 and 11 contained the remains of two individuals each; Ossuary No. 4 contained the remains of six individuals; Ossuary No. 5 of four; Ossuary No. 12 of five. Note that ossuaries Nos. 3, 7 and 8 were partially disturbed; ossuaries Nos. 4 and 5 likewise, but to a lesser degree. Eventually only ossuaries Nos. 2, 9–12 were found still intact with the lid *in situ* (albeit in fragments – erosion affected their upper parts including the bones). Gender and age of the dead vary from one bone container to another: *e.g.*, Ossuary No. 2 contained the remains of a young female (?) and a child; Ossuary No. 9 contained the remains of two mature individuals of opposite sex; Ossuary No. 10 contained the remains of three young individuals aged approximately from 4 to 11; Ossuary No. 11 contained the remains of two young individuals of opposite sex; Ossuary No. 12 contained the remains of four adults and of one child. The networks of kin and non-kin relationships of these individuals,



FIGURE 4 SUD 17 Site 01: general view of the site from the north (looking toward the site of Toprak-kala). The peaks of this area dominate the Chorasmian landscape. In the foreground the rock outcrop overlaid by the “cairn”
PHOTO: M. MINARDI

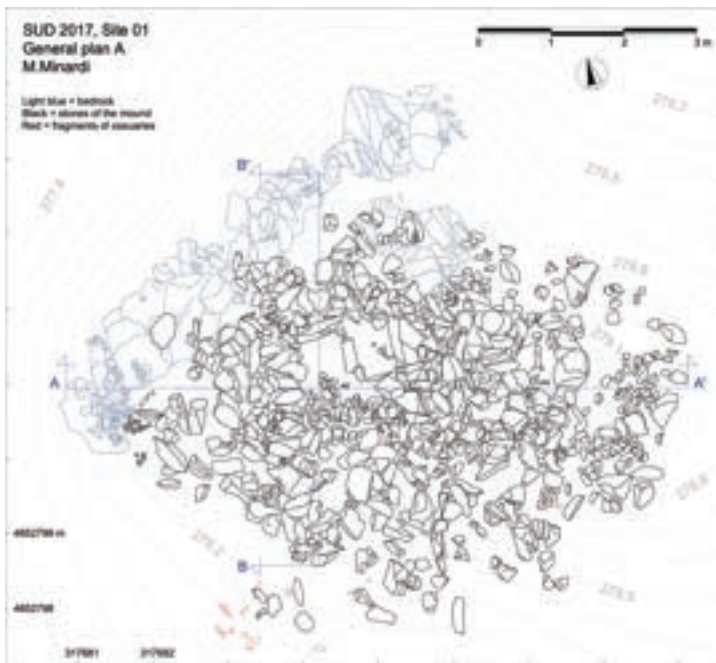


FIGURE 5 SUD 17 Site 01: plan of the site before excavation
DRAWING: M. MINARDI

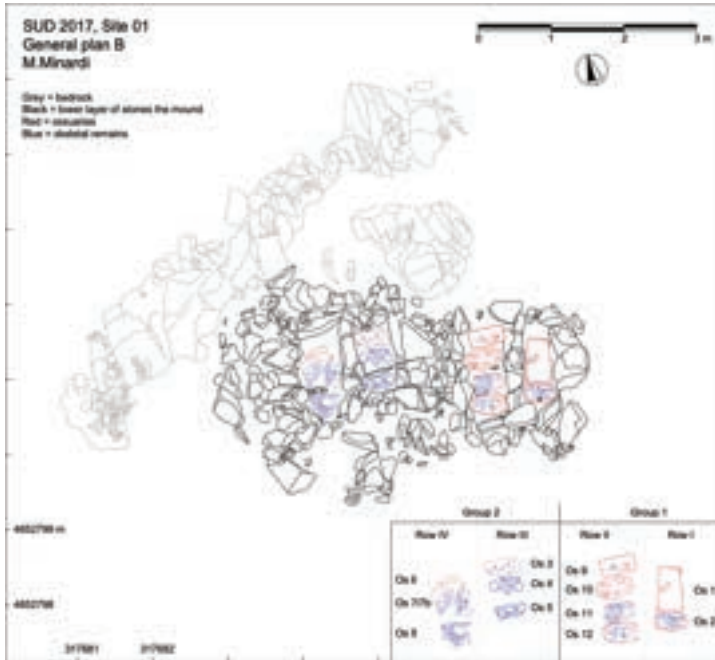


FIGURE 6 SUD 17 Site 01: plan of the site after the removal of the upper layer of covering stones. Inset: position and distribution of the ossuary burials overlaid by the stony mound

DRAWING: M. MINARDI

four parallel rows and two groups (figs. 5–7). The ossuaries were not originally buried in the ground but laid on it, and the parallel spaces for the containers were separated and covered by heavy unwrought stones. The fragment of an additional ceramic ossuary (No. 13 – of a typology similar to those placed underneath), found among the covering stones of the mound, in association to other ossuary fragments scattered around the site, indicate that a completely destroyed/decayed upper level of secondary depositions might have existed, or that at least one case of burial superimposition had occurred. Thus, judging from this last datum and from the dispersal of the debris over the mound this could have been originally noticeably higher and it could have contained a larger quantity of ossuary burials.

whose partial remains were buried together in several bone containers belonging to a single burial site, need to be ascertained through DNA analysis. The physical anthropological analysis of the skeletal remains has been undertaken by Kristina Scheelen and Jan Nováček. Further details and the bioarchaeological data results of this will be discussed in forthcoming work.

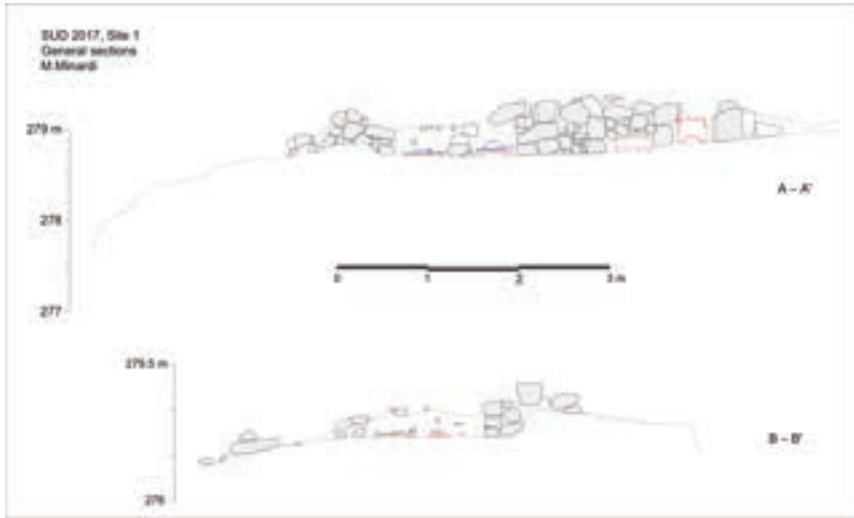


FIGURE 7 SUD 17 Site 01: sections A–A' and B–B'
DRAWING: M. MINARDI

As a rule, all the ossuaries excavated were manufactured in poorly fired earthenware and were accommodated in their slots with an E-W orientation. The only exception is Ossuary No. 1 (fig. 8) made of gypsum and placed on a N-S axis. Recently damaged, Ossuary No. 1 was found without its lid and containing only a few badly preserved fragmentary human bones. It was very probably placed in its slot later than Ossuary No. 2 which, during its insertion, was pushed toward the south, tilting it onto its E-W axis. It is currently believed that gypsum ossuaries started to be used in Chorasmia only in the 7th century AD but this is unlikely. In general, the shape and dimensions of the earthenware bone receptacles of Site 01 vary although, except for the rectangular Ossuary No. 9 with square feet and the gypsum Ossuary No. 1, the rest of the specimens are ovoid-shaped with small rounded feet. The ossuaries of Site 01 are unlikely to be all contemporary even though, except for No. 1 certainly positioned later than No. 2, it is difficult to ascertain a relative chronology for these unburied depositions characterised by a dry-stone covering mound many times reshaped by natural and human activities.

The first group of ossuaries (Group 1), separated to the east, may have been an addition to the most prominently positioned Group 2: differently from the latter which is characterized by very badly preserved¹¹³ typologically

113 In several cases the bones resisted time much better than their earthenware containers of which only the bottoms with feet were preserved. Feet, as ascertained in the case of



FIGURE 8 SUD 17 Site 01: general view of the mound during the excavation of ossuaries No. 1 (made of gypsum), and No. 2 (made of earthenware) from the east
PHOTO: M. MINARDI

homogeneous ossuaries, the specimens from Group 1 present more variation. Following typological considerations (they belong to the so-called Afrighid period, *i.e.*, the beginning of the Chorasmian Late Antiquity) and a series of radiocarbon dating results,¹¹⁴ the ossuaries embrace the period from the 4th to the 6th century AD (Ossuary No. 5 seems to be the most ancient deposition of the cluster). It seems that – and we know this thanks to the anthropological analysis of the skeletal remains – none of the ossuaries was designed to contain the sole remains of a single individual: in multiple cases the minimum number of individuals held in one container was two, and the maximum, in just one case, six.¹¹⁵ Though all lids were crushed by the weight of the covering stones, on some of them it was still possible to see an incised multiple zig-zag

Ossuary No. 9, where worked separately and applied to the base of the container before firing (see fig. 13).

- 114 Analysis and calibration undertaken at the Chrono Centre, Queen's University Belfast. Laboratory identification: UBA-36390–36392. Sample 1 (Ossuary No. 4): conventional C14 age: 1581 ± 37 BP; 2 sigma range: 401–557 AD (relative area under probability distribution: 1.000); sample 2 (Ossuary No. 5): conventional C14 age: 1754 ± 33 BP; 2 sigma range 212–387 AD (relative area under probability distribution: 0.984); sample 3 (Ossuary No. 5): conventional C14 age: 1618 ± 39 BP; 2 sigma range 378–542 AD (relative area under probability distribution: 0.959).
- 115 We do not have data on ossuaries 6 and 1; see note 112 above.



FIGURE 9 Example of the decorative pattern on the lids of the earthenware ossuaries (lid of Ossuary No. 2)

PHOTO: M. MINARDI

pattern departing from their knobs probably symbolising running rainwater (fig. 9), like rain flowing on a roof.

For present purposes, it is important to remark that, first, all the skeletal remains from the ossuaries of Site 01 are highly incomplete, presenting multiple post-mortem fractures and missing of most of their parts, especially small bones (only one foot has been recorded); and secondly, that all these burials are secondary and almost all the bones present traces of excarnation by animals such as canids (gnawing marks – fig. 10) and birds (beak and claw marks). Some bones were stored in the ossuaries still in articulation (figs. 11–12). Such bioarchaeological data are a first in Chorasmia where however such burials, as above mentioned, are known but insufficiently analyzed. The fact that the material under scrutiny belongs to the Chorasmian context – characterized by being Zoroastrian and pre-Sasanian – has some important consequences: these burials were of Mazda-worshippers whose corpses were first exposed in a dakhma and whose bones, left after the process of excarnation, were then collected and stored in ossuaries made of clay (and gypsum) and covered with a lid. These *astōdāna* (“small coffins” in Chorasmian) were placed on summits in sterile/uncultivated grounds and not buried into the ground but just sheltered with stones. The containers had applied terracotta feet to isolate them from the terrain, and holes, made before firing in the fresh clay, in their bottom to avoid the stagnation of water (fig. 13). All of this is described in the *Vendīdād*:



FIGURE 10 Examples of canid gnaw marks on human skeletal remains. Left: detail of a fragmentary femur from Ossuary No. 13 (Individual 4); Right: fragmentary iliac crest from Ossuary No. 11 (Individual 1)

PHOTO: M. MINARDI



FIGURE 11 Example of human skeletal remains still in articulation inside Ossuary No. 2 (detail)

PHOTO: M. MINARDI



FIGURE 12 Ossuary No. 12 during its indoor excavation. Several “layers” of bones were already removed before the picture was taken such as the crania that were usually the last element to be inserted into the ossuary before its closure.
PHOTO: M. MINARDI



FIGURE 13 Ossuary No. 9 viewed from the bottom
PHOTO: M. MINARDI

there are major similarities between the ideal funerary ritual described in the Avesta and the evidence gathered in Chorasmia.¹¹⁶

4 Some Observations on Dakhmas and Dogs

Today's Zoroastrians no longer use dogs for defleshing but, as previously mentioned, several passages of the *Vendidād* indicate dogs, along with birds, as the preferred animals for this practice.¹¹⁷ This information corresponds with the evidence from Ancient Chorasmia, which strongly suggests that dogs were likely used in dakhmas at least since the 4th century AD, and possibly even earlier. This assumption is based on the existence of dakhmas from the 1st century AD in the polity. Additionally, some other sources that will be briefly discussed below appear to support this hypothesis on the use of specifically bred dogs for defleshing when interpreted in light of the previous discussion.

Onesicritus of Astypalaea (head steersman of Alexander's fleet)¹¹⁸ seems to have recorded the existence of an Achaemenid-time dakhma in Bactriana in which dogs were employed. Onesicritus (*apud* Strabo XI.11.3 – who did not consider him as a most reliable source: Strabo II.1.10) recorded that in Bactriana “those who have become helpless because of old age or sickness are thrown out alive as prey to dogs kept expressly for this purpose, which in their native language are called ‘undertakers’ [ἐνταφιαστὰς], and that while the land outside the walls of the metropolis of the Bactrians looks clean, yet most of the land inside the walls is full of human bones; but Alexander broke up the custom” (*cf.* Porphyry, *De abs.* IV.21). I believe that Onesicritus in this passage did not understand – or got his information from a second-hand source – what he saw. Apart the unlikely occurrence of throwing old people alive to dogs in Bactriana (connected more likely with a western literary *topos* on Scythian customs to whom the Bactrians were subject)¹¹⁹ there was some confusion: a

116 *Cf.* Cereti & Gondet 2015, 372 (small evacuation channels are attested in the rock-cut funerary niches of the Persepolis region).

117 Moreover, dogs play a very important role in Zoroastrianism and they are much revered animals (*Vd.* XIII; XIV.1–2; XV.3–6). *Cf.* IV.37 (Ahura Mazda's dogs); see also XIV.16; XV.36.

118 On the sources on this companion of Alexander, see Whitby 2016.

119 Agathias (2.23.4–6) appears to describe an unusual procedure in which a sick soldier who, “out on service”, is unable to be cured due to the risk of contagion is isolated and “exposed” while still alive. He is given the necessary provisions to survive for a few days and a stick to defend himself from wild animal attacks. If he successfully survives, however, he is deemed polluted and avoided by his family and community until he is purified by the priests. Perhaps in Bactria the sick were thus isolated to avoid the spread of contagions or merely to avoid their death among the living – so they were obviously brought

dakhma was probably taken for a walled city. Onesicritus, quoted by Strabo – not by chance after having spoken about dogs expressly bred for the ritual practice of excarnation – clearly states that someone had observed a metropolis of the Bactrians on the *inside* full of human bones (not cadavers) while in the areas *outside* the walls (*i.e.*, the slopes of the ramparts), the terrain was free of skeletal remains: this description seems to fit that of a functioning “tower of silence”. Certainly, confusing a dakhma, no matter how big (Chilpyk is a circular building with a diameter of ca. 70 m, therefore bigger than some Chorasmian fortified sites), with a “metropolis” of Bactriana would seem almost impossible (as having within the wall of an ancient metropolis hazardous decomposing corpses). But it is known that the Greeks had the tendency to describe exotic things under their perspective, as well as it is known that they did not know what a dakhma was and did not care about how it functioned. The absence of evidence relative to ossuary burials in Bactriana may be linked to the custom indicated in Strabo of leaving the bones, after excarnation, withering on the spot; and the absence in Kushan Bactriana of evidence related to excarnation by carnivores to Alexander’s decision to stop the practice. However, two much later Bactrian documents from the kingdom of Rob confirm that in the 8th century dakhmas (*laxmigo*) still existed in the region.¹²⁰ Further, a Chinese source of 607 AD documents the existence in pre-Islamic Central Asia of a dakhma where defleshing was carried out especially by dogs,¹²¹ or at least this was the most evident part of this funerary custom noticeable by a foreigner. The Chinese envoy Wei Jie, specifically described an enclosure near Samarkand built by “two-hundred families specialized in taking care of funerals” in which they tended dogs; and he records that “whenever somebody dies, they go and take his corpse, place it in the enclosure, and have its flesh devoured by dogs. After that one gathers the bones to bury them; they use no

outside the city and not thrown to the dogs on its streets. *Cf.* the record by Agathias (2.22.6) in relation to the death (AD 555) of the Persian general Mermeroes whose body was “carried out of the city” by his servants who “following their ancestral customs, left it uncovered and unattended to be devoured by dogs and by such loathsome birds [vultures] as feed on carrion”. According to Curtius (VII.5.40) Bessos, the Satrap of Bactriana, was mutilated and crucified by order of Alexander, before his final delivery to Ecbatana for execution (VII.10.10). While crucified, Persian archers were set to guard – and, according to Curtius, torture with arrows – Bessos from the attack of “birds”. I do not think this episode has much to do with Zoroastrianism: Bessos at that time was only tortured and not yet executed, hence he was not “exposed” and the birds were not kept away for religious matters but to avoid his premature death (for a different view, see Jacobs 1992).

120 Sims-Williams 2012, 120–121;130–131. As remarked by Grenet (2013, 19) these are still archaeologically unknown.

121 Grenet 2013, 18–19.

coffin [...]”. The described “dog-enclosure” is again, in my opinion, nothing other than a dakhma. If the two-hundred figure relative to the families working in the dakhma is right and these were, as hypothesised by Grenet, *nasā-sālārs*,¹²² the dakhma must have been part of a quite important and large funerary site. The use of dogs, this time by the Parthians, is also recorded in Justin (41.3.5): “disposal of the dead normally involves the corpse being torn apart by birds or dogs, and the bones are finally buried when they are bare”.¹²³ A Sogdian document from Mount Mugh¹²⁴ further supports archaeology (and the mentioned Chinese source) in showing that several dakhmas (*eskese*) existed in Sogdiana before (and still some generations after)¹²⁵ the Arab conquest.

Since Herodotus (1.140) numerous other western literary sources dealt with the subject of corpses eaten by birds and/or dogs¹²⁶ and it is clear that among Greeks, Romans and Byzantines there was a total lack of knowledge about dakhmas. The involvement of dogs in the ritual recorded by the western literary sources is confirmed not only by the Avesta and by a Chinese source but also by archaeological evidence, and it does not merely reflect a Greek literary *topos*.¹²⁷ Agathias (2.23.1–3), specifying the use of dogs among the Persians of Sassanid Iran, points to the fact that a quick process of excarnation was considered the most auspicious: the employ of dogs within an enclosed building such as a dakhma, otherwise accessible only by birds (as in modern variants), might be then considered as a more efficient and quicker method for individual excarnation.¹²⁸ This seems thus to confirm the statement present in Cicero (*Tusc.* 1.45.108) that in Hyrcania, in the 4th century BC, dogs were bred with this specific purpose¹²⁹ and this might also explain why albeit rarely (only in two cases, one at Mizdakhkan and one at Tok-kala)¹³⁰ ossuaries found

122 Grenet 2015b, 143.

123 Although the Parthians also buried their dead, see Shahbazi 1987; *cf. supra* note 74.

124 Grenet 1984, 313–319; 2013, 18; Livshits 2015, 41–42.

125 In the early 9th century AD, the Zoroastrians of Samarkand were still able to plan the reconstruction a stone-built dakhma (Grenet & Azarnouche 2012, 159–160).

126 For a full analysis of the western literary sources dealing with the funerary customs of the “Persians”, see de Jong 1997.

127 *Cf.* de Jong 1997, 441; Boyce 1993: “Reference to these two as excarnators [dogs and birds] is standard, occurring in other passages from the Vidēvdād and Pahlavi texts, and their activity as such is well attested in historical times”.

128 *Cf. supra* note 36.

129 As noted in Boyce 1993. *Cf. Vd.* iv.37 (Ahura Mazda’s dogs).

130 Yagodin & Khodzhaiov 1970, 68, 143–144; Gudkova 1964, 86 with note 160 (an ossuary was apparently entirely devoted to a dog). Not many details are given in these publications. Discussed also in Grenet 1984, 247–248. A painted ossuary from Tok-kala (Gudkova 1964, 101, fig. 30 – drawing) is decorated with an animal interpreted as a dog which looks more like a boar. See also Grenet 2013, 18 on the excarnated dogs and human bones found in a

in Chorasmia contained some dog bones: these are probably those of specimens who died during their cleansing task inside the structure. Some animal bones, very likely also belonging to a dog, have been found in ossuaries of SUD Site 01 (further analyses are in progress).¹³¹ We may infer that known dakhmas are enclosed by a wall not, as some scholars think plausible, because it was necessary to defend the locale from non-Zoroastrian defilers but because it was a necessity to isolate the dangerous content of the structure. Possibly, in light of the above, dakhmas were walled also to contain the dogs necessary for excarnation and to avoid the dispersal of human remains as several times told to us by the *Vendīdād*.

5 Some Concluding Remarks

Sedentary Central Asia since the mid-2nd millennium BC, according to H.-P. Francfort, is characterized by a total lack of burials¹³² and this seems associated with the appearance of excarnation as the most common funeral practice.¹³³ A form of excarnation, it has been recently archaeologically confirmed, was practiced at the end of the Achaemenid period in Bactra (Tepe Zargaran).¹³⁴ Later, still in Bactriana but this time under the Kushans, ossuaries were still not used and the excarnation procedure seems to have

“potter’s kiln near Samarkand [...] reused as a dakhma” at about the time of Alexander’s conquest.

131 Few specimens of animal bones (seven fragments in total) have been identified among the human remains contained in ossuaries Nos. 5, 8, 10 and 11. In particular, it appears that Ossuary No. 5 contained at least one fragment of dog bone while the other animal specimens may belong to bovines. Among these, a possibly bovine bone fragment found in Ossuary No. 8 presents canid gnaw marks associated to cut ones. If confirmed, this would sustain the idea that dogs were fed with animal meat in the dakhma during periods of scarcity of human cadavers. We may infer that the few fragments of animal bones that we have found mixed with human ones in the ossuaries of SUD Site 01 were collected by the *nasā-sālārs* by accident.

132 Francfort 2005, 335; see also Teufer 2013. This might be valid for Chorasmia if we consider the Kockha 3 cemetery (belonging to the so-called Tazabag”yab facies, 17th–15th centuries BC) of a non-settled population (for references, see Minardi 2015, 61–64). There are no data on the funerary customs of the ensuing local “Right Bank” “Amirabad” culture (13th/12th centuries BC–mid-6th century BC; *idem*, 63, 126). Cf. Vidale *et alii* 2016 and Vidale & Micheli 2017 on the protohistoric graveyards of Swat (Pakistan) where a distinctive (non-Zoroastrian) practice of defleshing, which may also have involved exposure (Vidale & Micheli 2017, 399), was undertaken. Cf. *Vd.* 1.12 for Arachosia where an unlawful practice of exposure (VI.3) was carried out.

133 Bendezu-Sarmiento & Lhuillier 2013.

134 Bendezu-Sarmiento *et alii* 2018.

been modified: in some documented cases corpses were left to decay naturally in *naus* where subsequently bones were kept.¹³⁵ According to Boyce and Grenet this radical modification of the practice might have been driven by the hostility of the Greek conquerors toward the original Zoroastrian practice. In the light of what is assumed here – that *dakhmas* existed in Bactria when Alexander arrived but that ossuaries were not used – this hypothesis still seems very plausible. The impact of the Hellenistic civilization reshaped the tradition of a country at the centre of the formation of Zoroastrianism while in Chorasmia, where Hellenism did not have any major relevant and direct impact until the 2nd century AD (and even then, it was assimilated by the local elite, not imposed), the Zoroastrian funerary tradition continued “intact”, with some obvious variations through its thousand-year-old history (ca. 4th century BC–712 AD and somewhat beyond). The presence of three colossal Zoroastrian deities, and in particular of Sraosha and of his assistant priest Parōdarsh, within the ceremonial and royal complex of Akchakhan-kala, might eventually indicate a particular attentiveness of the Chorasmians toward ritual praxis. In Chorasmia we probably have the sole example of an eastern Iranian polity that, untouched by an alien culture, was capable of developing a strong tradition that endured for centuries.

Avestan geography is neither centred on western Iran nor in the area of Chorasmia, although this latter appears in the list of countries of *Yasht* 10. Chorasmia on the other hand did not exist as a polity before the Persians. One may indulge then on pondering the possibility that the Zoroastrian ritual (in the form recorded by the Avesta) might have arrived south of the Aral along with those emissaries of the Persians whose influence is clearly attested in Chorasmia by the introduction of an entirely new material culture and society. Considering also that this emissary was, under the Achaemenids, very likely the satrapy of Bactriana (the alien Yaz-III material culture enters the polity and locally develops in this period) where ossuaries are however not attested, the use of bone receptacles might have been a local Chorasmian innovation, an interpretation/adaptation of Avestan prescriptions, keeping in mind that Chorasmian ossuaries are the earliest known.

We do not yet have data on ossuaries belonging to the 5th–3rd centuries BC in Chorasmia proper but we have Chorasmian vessels and ossuaries used by those populations at the fringe of the polity clearly influenced by its culture and funerary customs. Inhumation was certainly practiced in Chorasmia during this period to eventually stop completely: that is why it is difficult to consider the absence of any external contribution to the very particular funerary praxis

135 Boyce & Grenet 1991, 190 with references.

as described in the *Vendīdād* and adopted in Chorasmia. In the 5th century BC, the gypsum coffin inhumation of Dingil'dzhe, belonging to a lesser aristocrat buried with Persian paraphernalia (including signet rings and seals), was conceivably done in imitation of similar Achaemenid-time burials, while the cemetery of Bazar-kala¹³⁶ shows us (if the corpses buried belonged to Chorasmians) that conceivably the complete transition to the exposition-excarnation-burial in the ossuary ritual took a certain time. In this light the exploration of the SUD becomes highly significant – as likewise would be the excavation of some still unexplored extended ossuary cemeteries of Chorasmia – for the presence of Antique I *khoums* (storage vessels) in a specific area of the range – the “nameless peak” – that data suggest was constantly used up to Late Antiquity as a Zoroastrian ossuary necropolis. If these *khoums* were bone-containers as they seem, they would confirm (as implied by the non-Chorasmian evidence from Tarým-kaya with a clear influence coming from Chorasmia) that in the eastern part of the polity, excarnation was already established around the 6th/5th century BC (but more precise chronological data are still missing and the Antique I material culture currently dates from the mid-6th to the late 4th century BC). These *khoums* are attested also on other summits of the SUD (e.g., the Karachingel) and their not very high-frequency might also suggest that at that time at least the bones of part of the polity's population were left on the excarnation spot and not stored in containers – without leaving any trace, while some others still practiced inhumation. Some parts of the SUD indeed might have been used also as a natural dakhma, but this is impossible to demonstrate. It seems that in the earlier periods of Chorasmian history the preservation of the bones was not deemed in every case a necessity and that this attitude has changed with time (ossuaries multiply in the later periods). This fact might have been also related to census and socio-economic factors as explicitly considered in the *Vendīdād*.

The key question which arises from this preliminary discussion is about the role of early Zoroastrianism in Chorasmia. If it is true that around the turn of the first millennium of our era the sources of the Avesta were used as a source of inspiration for the Akchakhan-kala gods,¹³⁷ who also are, iconographically speaking, clearly echoing Achaemenid art,¹³⁸ then this fact has significant implications. As seen in the introduction, the presence of Chorasmia in the Hymn to Mithra and not in the *Vendīdād* list, shows that this country likely entered the “Avestan milieu” in parallel with the Achaemenid conquest.

136 Gudkova & Manjlov 1981; already discussed in Minardi & Amirov 2017.

137 Minardi 2018; Grenet & Minardi 2021; 2022.

138 Minardi 2020a.

Archaeology confirms that following a Bronze Age period of steppe background, the development of the Chorasmian polity was caused by external inputs and that social complexity emerged through processes of emulation and social stratification not before the mid-6th century BC when an entirely new material culture of southern origin appeared.¹³⁹ The concept of kingship at Akchakhan-kala (since the 1st century BC/1st century AD) and Toprak-kala (since the early 2nd century AD) was certainly linked to Zoroastrianism and it was almost certainly inherited from this foundational past.¹⁴⁰ After evaluating the unambiguous archaeological evidence from these two royal and dynastic centres, and that from the extended necropolis of the SUD – which will be the object of further publications – we may conclude that the Chorasmian state (centralized or not, this has yet to be ascertained) must have had an elaborate priesthood who was aware of the future contents of the Avesta. Since the oral character of the early Zoroastrian tradition is an established fact, and seeing the strict adherence to Avestan prescriptions of the Chorasmians as evidenced in the funerary ritual until the 4th/5th century AD (and likely beyond, up to the Islamisation of the country as indicated, for instance, by the evidence of Tok-kala), one may consider the possibility of a religious development occurring in Chorasmia during the first centuries of its formation (6th–4th), which might have been stimulated through priests (with knowledge of Avestan?) encouraged to settle in the country by the Achaemenid imperial administration, as argued by Kreyenbroek for western Iran.¹⁴¹ The promotion of a form of Achaemenid/state Zoroastrianism adapted to its ruling class was possibly upheld in the newly conquered territory of Chorasmia for political reasons and that is possibly why the Chorasmian concepts of kingship and royalty seem derived from Persia to serve this scope.¹⁴² Ritual and observance, on the

¹³⁹ Minardi 2015, 64–85; Minardi 2023.

¹⁴⁰ Minardi 2015, 64–85; Minardi & Khozhaniyazov 2015; Minardi 2016a; 2016b; 2018; Minardi *et alii* 2020. On Toprak-kala: Minardi 2020b; Grenet 2018.

¹⁴¹ Kreyenbroek 2010; 2012; 2015, 95. Cf. Skjaervø 2005, 80–81; 2013, 563.

¹⁴² According to Kreyenbroek (2010; 2012; 2013) and de Jong (2010) the Achaemenids adapted and transformed certain aspects of Zoroastrianism for their political ends. “Much of what became traditional – as was the case of funerary arrangements, and possibly the royal investiture – was evidently designed (by priests, it is assumed) with the wish to establish conventions that were able to connect the kings both with their important new role in the world and with the religious traditions of their ancestors and their subjects. The royal wish for a unity of expression remains by and large hypothetical, but it is currently the only hypothesis that enables us to understand the genesis of the calendar, with its fixed cycle of festivals, the streamlining of the priesthood [...] and the origin of the “framework” of Zoroastrian theology: the doctrine of the 9,000 years” (de Jong 2010, 553). See also de Jong 2015, 88 on the Zoroastrian “missionaries” evoked by M. Boyce.

other hand, were very likely kept in a more traditional Avestan sphere¹⁴³ and they had in the unique context of Chorasmia the chance to develop across a centuries-long history unaffected by major historical *caesurae*. Eventually, the Avesta as we know it in its Sassanid systematisation seems to reproduce a situation which was previously rooted in Chorasmia and that may reflect some of its sources.

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143 “While Zoroastrians of Achaemenid times evidently borrowed some rituals from other traditions, adapted their own to the new conditions of a World empire, and invented new ones, the fact that Zoroastrianism had its distinctive liturgy in the Avestan language ensured the uninterrupted transmission of key elements of Zoroastrianism” (Kreyenbroek 2012, 54).

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