



Bulletin of the Asia Institute

New Series/Volume 26

2012

Published with the assistance of the Neil Kreitman Foundation (U.K.)



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New Data on the Central Monument of Akchakhan-kala

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Introduction

In 2014 the Karakalpak-Australian Expedition to Ancient Chorasmia (KAE)¹ resumed the archaeological investigation of the Central Monument at the site of Akchakhan-kala in modern-day Uzbekistan/Karakalpakstan. This paper presents the results of the 2015 fieldwork season, supplementing, when possible, those relative to the first campaign which have been published recently.²

The gathering of new architectonic and archaeological data in 2015 has improved our knowledge of the Central Monument—thus called by reason of its rising at the exact centre of the Upper Enclosure of Akchakhan-kala—and leads to a further development of the hypotheses discussed in the first preliminary report. The scale and monumentality of the Central Monument has not only been confirmed but actually better comprehended.

This unique architectonic complex certainly played a major role within the socio-political setting of Ancient Chorasmia at the verge of the I millennium of our era. It was a cultic/ceremonial edifice built and used within the specific Zoroastrian and royal context of the *gorodishche* Akchakhan-kala in the time frame between the I century B.C. and the end of the II century A.D., when eventually the site was abandoned and despoiled.

The recent investigations appear to have rendered rather evident that the Central Monument may represent the architectonic outcome of a local process of assimilation and codification of earlier cultural contributions related to the first arrival in the area of the Achaemenids (or of their

Central Asian emissaries). On the other hand, the idea of a cultural convergence of practices due to a common Iranian religious background between Chorasmia and Achaemenid Persia has to be ruled out, due to the archaeological evidence from Akchakhan-kala and, more in general, owing to the archaeological and historical context of the polity.

Historical Background: Akchakhan-kala, the Achaemenid Legacy and Zoroastrianism

The Iranian polity of Ancient Chorasmia was located on the lower reaches of the Amu-Darya (the Greek Oxus), south of the Aral Sea (fig. 1). Its position at the north-eastern border of Central Asia, surrounded by deserts and lying between the northern steppes occupied by semi-nomadic populations (*Sakā*) and the urbanized civilisations to the south, stimulated a distinctive development of its society and culture.³

The polity, mentioned for the first time in the Avesta (*Yašt* 10), began to form around the VI century B.C. when, due to its position strategic for the control of the frontiers with the steppes, the Achaemenids intervened in the area. Chorasmia is recorded in all the lists of nations that according to the Persians were under their control.⁴

Since the advent of the Persians, the landscape of the polity was accordingly altered in relation to the presence of the Persians, mainly with the appearance of the *gorodishch*,⁵ fortified central places located within the “oasis” and at its borders, built to control the irrigated territory of the

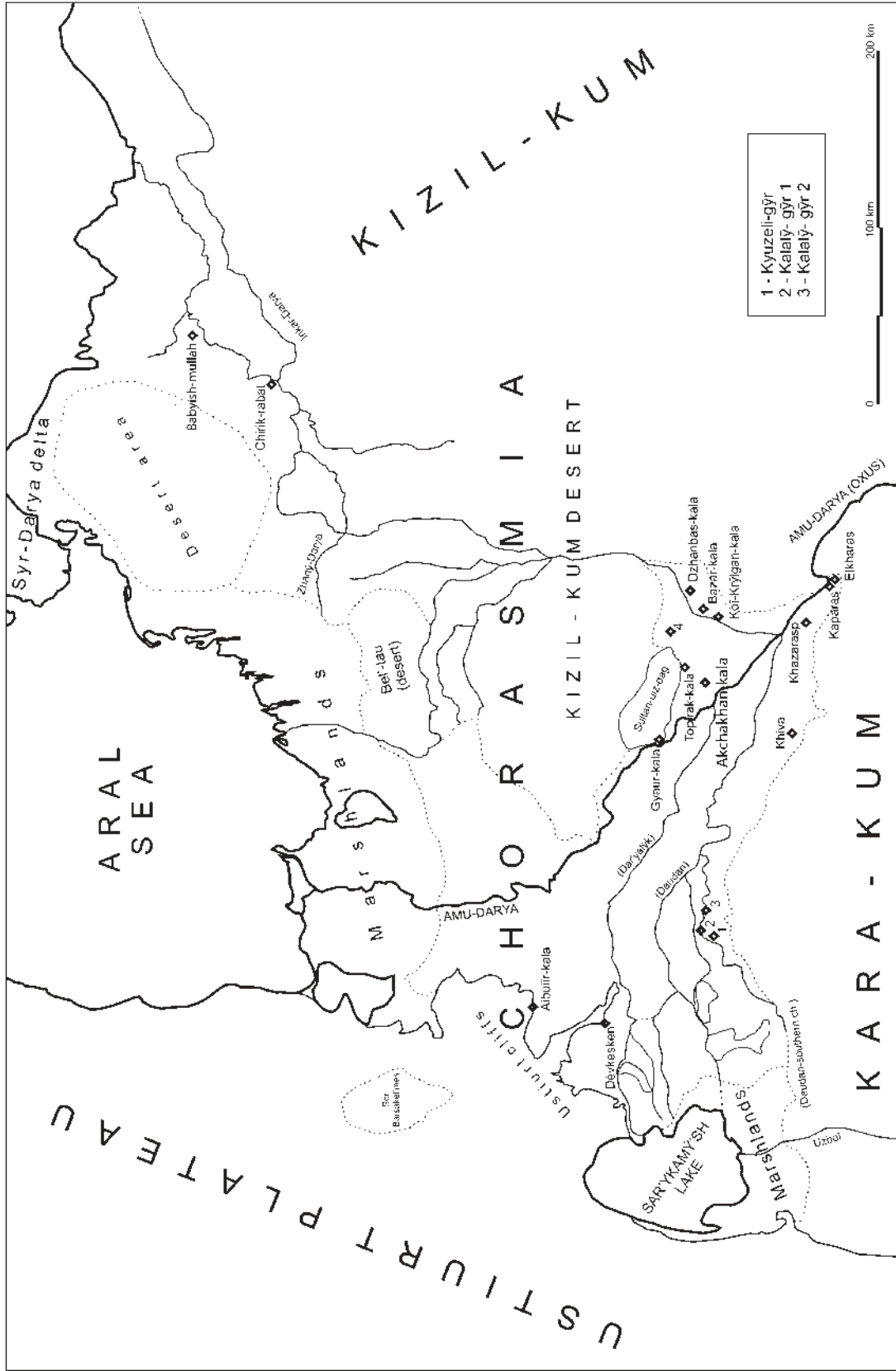


Fig. 1. Geographical outline of Ancient Chorasamia with location of the sites cited in the text.

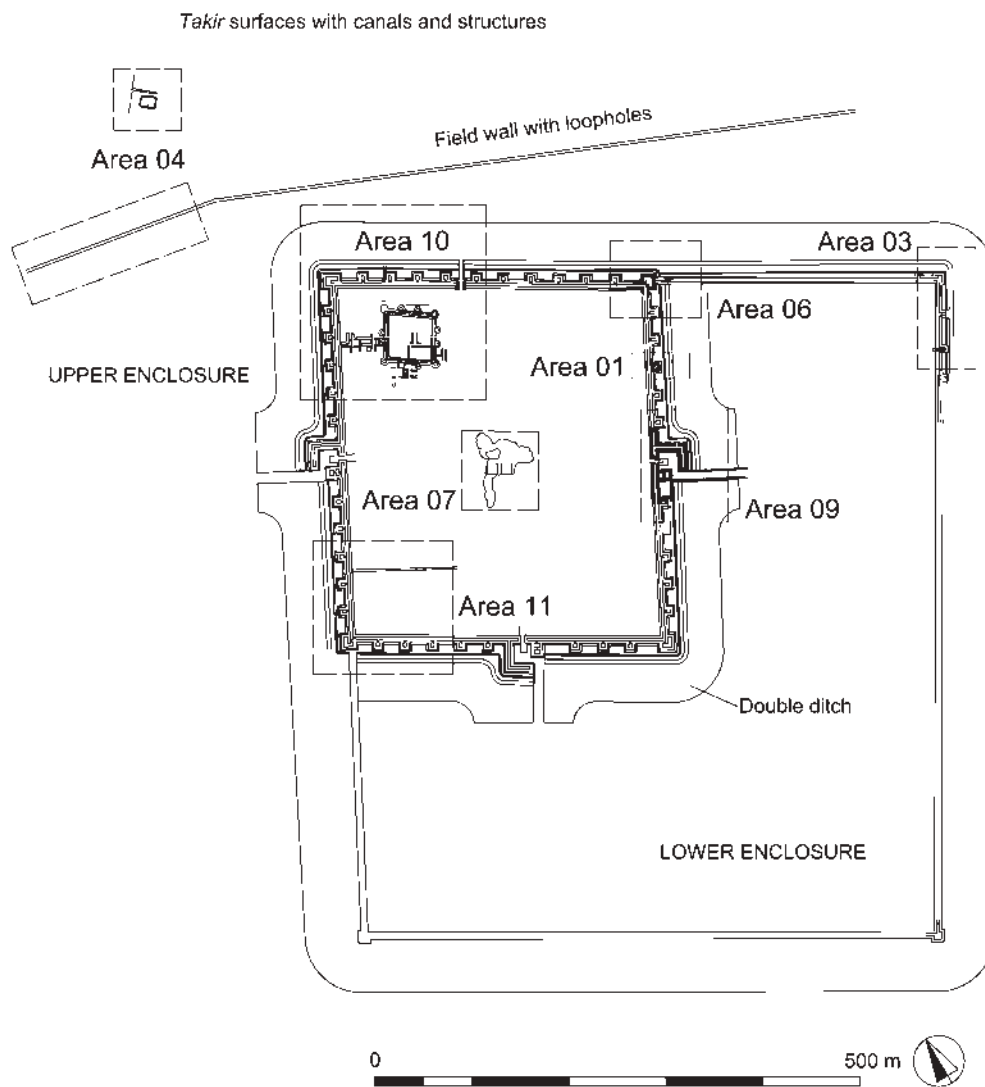


Fig. 2. General plan of Akchakhan-kala with indication of the excavation areas (KAE).

polity with its canalizations and to protect the boundaries of Chorasmia. Akchakhan-kala is one of these major strongholds, founded in the late III-II century B.C. on the east bank⁶ of the Amu-Darya (fig. 2).

After the first Soviet surveys in the area during the 20s and 30s of the XX century, Ancient Chorasmia was for the first time systematically studied by the member of the multidisciplinary Khorezm Expedition (KhAEE) founded in 1937 and led by S. P. Tolstov (1907–1976).⁷ Since 1995 the Karakalpak-Australian Expedition to Ancient Chorasmia (KAE) has further pursued the archae-

ological research in the region. The KAE focused its activities on the Tash-k'irman oasis in north-western Uzbekistan (modern District of Biruni, Karakalpakstan), and in particular on the site of Tash-k'irman tepe and on Akchakhan-kala, from both of which a new perspective regarding Zoroastrianism and kingship in the region is emerging.⁸

In recent years, despite the fact that at a certain moment at the end of the II century A.D. Akchakhan-kala was abandoned and robbed,⁹ the work of the KAE has led to important new discoveries which are integrating and enlarging our previous knowledge about Chorasmia

with repercussions regarding the entire Central Asian region. This material is not only relative to the Chorasmian visual arts at the turn of the I millennium A.D. but is also related to the notions of religion and kingship which were central within the Chorasmian society. The evidence is principally constituted by the wall paintings discovered in the Ceremonial Complex of the *gorod-ishche*¹⁰ and in the Columned Hall of the Central Building.¹¹

In particular, the southern wall of this latter hypostyle hall revealed a colossal depiction of a divinity (preserved for an height of 5 m from his knee) wearing a mural crown and with a sheathed *akinakes* strapped to his right leg who has been identified with the Avestan god Srōsh.¹² The identification is principally based on the presence on the broad central panel of the god's tunic of the motif of two opposing androcephalous roosters wearing the *padām* and holding a *barsom*, the ritual bundle of twigs associated with the Zoroastrian ritual, elements that unmistakably designate them as representations of Zoroastrian priests (fig. 3).¹³

A still in progress work of cleaning and conservation of other fragments of wall paintings originally from the same sector of the Columned Hall of Akchakhan-kala revealed that this divinity was not an isolated image but instead part of a larger composition: at least two other depictions of likewise colossal divine figures, each one distinguished by different attributes but with analogous iconography, were there painted.¹⁴ Moreover, from the Western Area of the same Ceremonial Complex, a depiction of a recumbent ibex viewed in profile seems to further link these spaces with Avestan beliefs and ceremonials if the symbolical association of this animal with the god Verethraghna/Wahrām is confirmed.¹⁵

For present purposes, it is important to underline the fact that some of the artistic conventions relative to the iconography of these Chorasmian wall paintings of Avestan character are still indebted to an at least three centuries antecedent Achaemenid tradition.¹⁶ This occurrence highlights the peculiarity of the Chorasmian culture which, in the I century B.C.–I century A.D., yet shows cultural links with its Persian legacy notwithstanding a new opening toward the prevalent Hellenistic culture of Central Asia.¹⁷ Ancient Chorasmia, unlike its southern neighbours, developed this particular aspect of its culture, amid

other factors, due to its geographical (and partially historical) isolation.¹⁸

This Chorasmian trait of archaism or conservatism,¹⁹ in addition to the areas of iconography and religion, is also witnessed at Akchakhan-kala, for example by the use of the Aramaic script for the epigraphs in Chorasmian language that were painted on the walls of the Ceremonial Complex.²⁰ Of the foremost importance for the present argument is the fact that these painted inscriptions explicitly witness the central role of Akchakhan-kala within the socio-political environment of Chorasmia: it is safe to assume that the site was a Chorasmian royal seat of a local regal dynasty²¹ when the wall painting decoration, which followed the restructuring of the Ceremonial Complex (Stage 3), was commissioned.²²

The above evidence does make it conceivable to see in the Main Fire Altar area of the Ceremonial Complex the *locus* in which the regnal fire of the king was placed.²³ A large portion of one of the carved ivory props of the altar was found *in situ*: it is carved in the shape of a lion's leg with the addition of a frontal part composed of a fantastic beast (of which only one wing remains).²⁴ The style of this ivory piece of furniture is once again archaic and reminiscent of the Achaemenid "baldaquins" carved for instance on the bas-reliefs of the rock-cut tombs of Persia (although also comparable with the legs of fire altars depicted on later Sasanian coins),²⁵ but the stylised acanthus on its back and the now-lost winged monster protome (?) points toward Hellenised environments.²⁶ The Main Fire Altar area of the Central Building is still only partially investigated. The discovery in a space immediately adjoining the altar of fragments of unbaked clay modelled sculptures of mythological/religious character (and Hellenistic style)²⁷—along with other fire features²⁸—give us additional data in support of the idea that the whole altar area, accessible from the Columned Hall, had a particular importance²⁹ and probably a private and revered character.

To summarize, it is now paramount to underline the fact that archaeology has confirmed the Chorasmians as Zoroastrian worshippers, a datum of vital importance in order to endeavour to interpret the most singular Central Monument of Akchakhan-kala. The Akchakhan-kala wall paintings depicting Avestan gods (or in case of the ibex a symbol related to a god) address the common themes of dynastic kingship strengthened



Fig. 3. Detail of the tunic of the colossal figure identified with Srōsh that is decorated with bird-priests (KAE; picture of the restoration work in progress with tracing).

through divine association, an interpretation reinforced by the correlated epigraphic evidence.

These circumstances, in addition to our awareness about the ancient cultural and historical ties that Chorasmia had with its Indo-Iranian substratum and with Achaemenid Persia, must be taken into account if a hypothesis on the original function of the Central Monument is to be advanced. All the available data relative to Akchakhan-kala indicate that the site was a royal seat of the Ancient Chorasmian polity. This cannot lead to any conclusion other than that the Central Monument was a Zoroastrian ceremonial complex related to practices involving this religion and the Chorasmian kings.

Notes on the Stratigraphy and Architecture of the Central Monument

As already illustrated in the previous report (Minardi and Khozhaniyazov 2015), the Central Monument of Akchakhan-kala (Area 07) can be described as an architectonic complex shaped as an artificial high-ground/substructured terrace accessible on one of its sides through a monumental ramp (fig. 4). It rises isolated at the centre of the almost empty Upper Enclosure of the *gorodishche* (fig. 2). The monument is characterised by two massive plinths connected by a main vaulted chamber and, on its north side, by an auxiliary gathering room characterized by internal steps, which seems comparable only with some assembly/accessory chapels attested in the contemporary temple of Dura Europos in Syria (and apparently a phenomenon exclusive to the I–II centuries A.D.).³⁰ The importance of this room rests on the fact that it indicates the non-private character of the complex, in addition to considerations on its general architectural layout. Two other vaulted “rooms” that complete the substructure of the top part of the complex, are erected on the north side of the two plinths.

The Central Monument cannot be considered as a temple *stricto sensu* for the lack of available living spaces for the clergy, and it cannot be considered a fire temple either for absence of evidence in this regard.

The results of the 2015 field activities have in general confirmed the data gathered in 2014, with the exception of the platform on which the whole structure was supposed to stand (*infra*).³¹ More-

over, the already remarked monumental scale of the complex is now not only reaffirmed, but the results are even greater and beyond what has been previously believed: the height of its main architectonic element, i.e. the plinths, is at least equivalent to 12 m and not to 8 m as thought (fig. 5, A–C).

The 2015 excavations first concentrated in front of the eastern plinth—on the area opposite to the “room with steps” (fig. 4: “Area 07–03”)—with the aim of ascertaining the existence of additional structures opposite to this room, and in order to determine the floor level of the area not reached in 2014; secondly, the archaeological examination was pursued within the main vaulted chamber of the monument (fig. 4, no. 2).

The objectives of the investigation have been only partially achieved. Due to centuries-long aeolian processes, abundant sand silting filled the whole area in front of the plinths, which had been previously disturbed by post-abandonment activities (*infra*), resulting in excavation limits/sections of loose sand up to 5 m in height. This, in addition to a strong, constant wind blowing toward the Central Monument from the north during fieldwork, unfortunately prevented the full exploration of the area in a single season (fig. 5; fig. 4, areas marked with no. 5). Nevertheless, the existence of an eastern chamber opposite to the “room with steps” has been confirmed (fig. 4, “E chamber”), the floor level of the eastern plinth has been reached and the existence of the eastern vaulted room confirmed by the presence of its debris (fig. 4, no. 6).

Unexpectedly, the floor elevation of the Ceremonial Complex in the area in front of the eastern plinth almost matches that of the Columned Hall of the Ceremonial Complex: contrary to what was supposed in 2014, there is no platform supporting the eastern part of the Central Monument but only one on its western portion (fig. 5, A and C). The floor in front of the eastern plinth is paved with slabs of sandstone connected with *alabaster* (a Chorasmian type of gypsum) and the plinth on its north façade presents a *pakhsa* socle separated from the plinth itself by a context of sand (fig. 4, no. 6; fig. 5, C).³²

The new partially excavated room in front of the eastern plinth (fig. 4, “E chamber”) appears to be a space open on its west side, mirroring the “room with steps.” Of its perimetric walls only the north wall, already identified as “structures

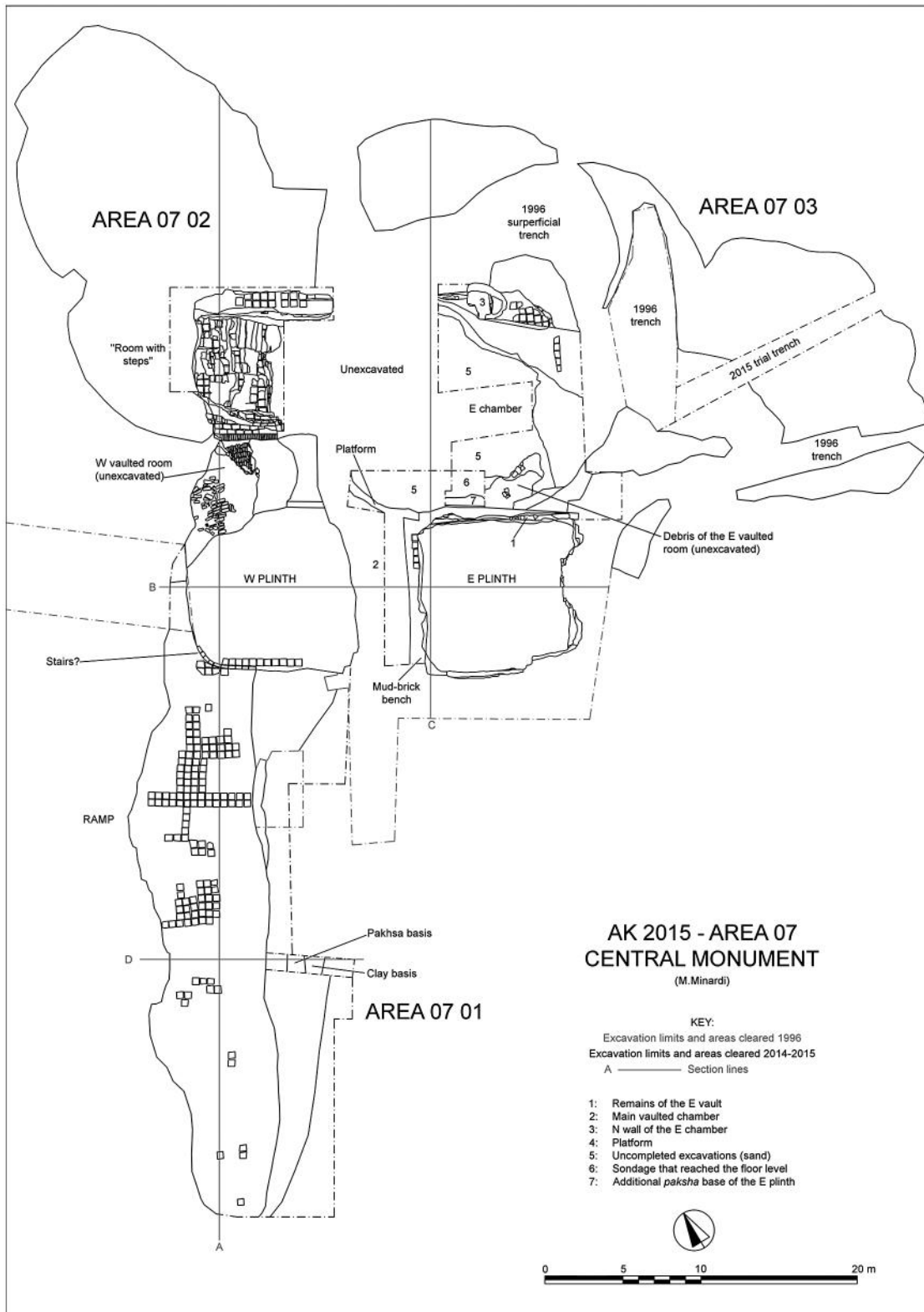


Fig. 4. General plan of the Central Monument of Akchakhan-kala as surveyed in 2014 and 2015.

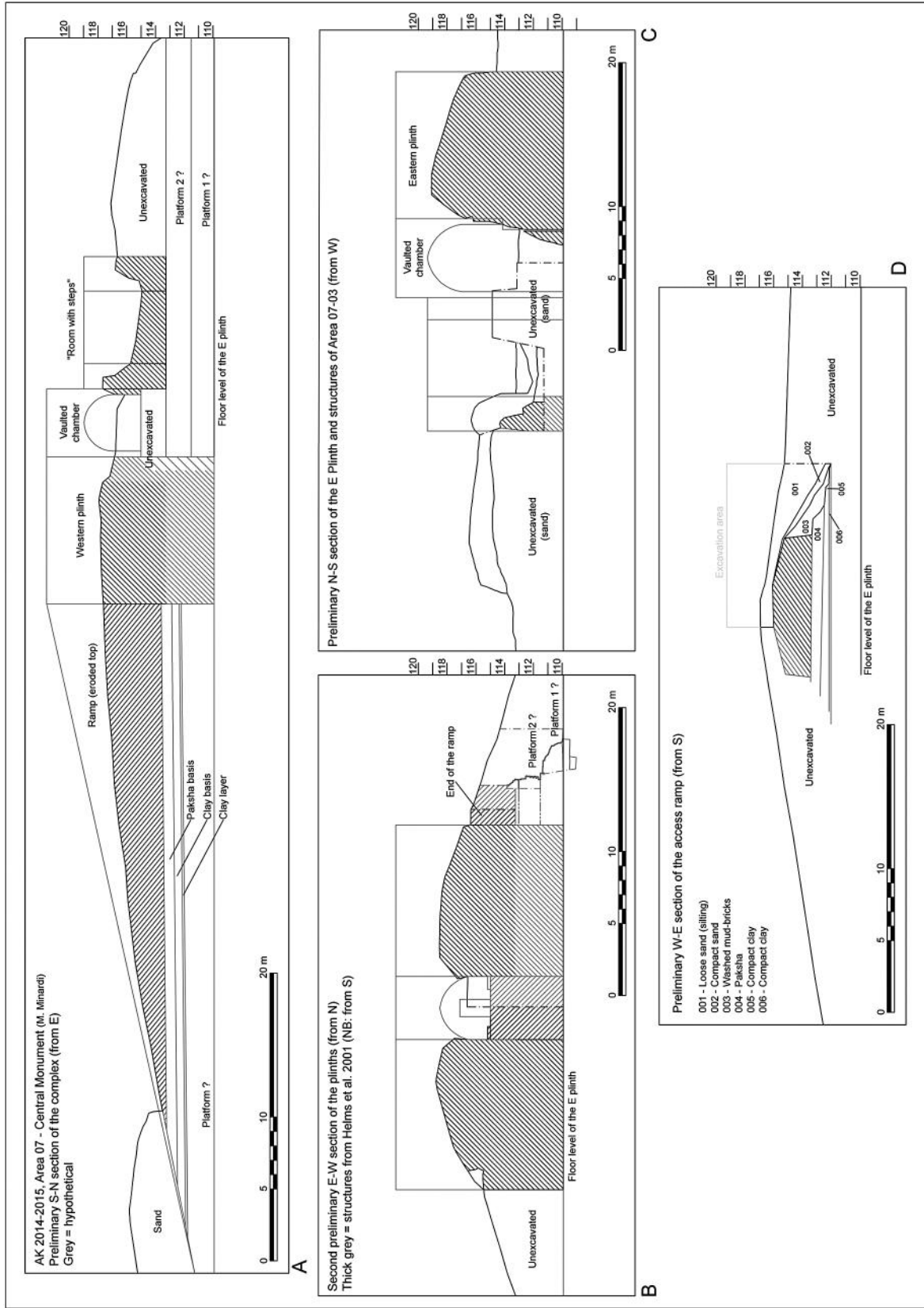


Fig. 5. Updated preliminary sections of the Central Monument.



Fig. 6. View of the northern wall of the east chamber from the south.

N of the E plinth" in the previous report, fig. 3, no. 3 (fig. 6) and the east wall have been recognized, while the south wall in front of the eastern plinth has not been discovered. The existence of this latter wall is however confirmed by the debris of the vaulted space that connected the plinth with the chamber, a vault certainly built on its south wall (fig. 4, "debris of the E vaulted room"; fig. 7).³³ The eastern vaulted room thus appears to have been a very high passage (more than 9 m in height),³⁴ contrary to the opposite, similar western vaulted room (unexcavated).

The partially uncovered north wall of the east chamber measures 7.5 m in length, with a thickness of ca. 2.6 m and a recorded height of ca. 5 m. On its inner side the north wall has collapsed. Another structure seems to depart from it toward the north, but this remains unclear and is a matter that needs further investigation to be ascertained.

The rectangular "E chamber" seems to originally have had almost a tower-like appearance,

if we take into account the height of the impost of the vault of the east vaulted room (which was likely a passageway) and the floor level of the area (*supra*), with walls equivalent to a height of ca. 9.5 m (fig. 5, C).³⁵

Contrary to the "E chamber"—which seems to not have been built above a platform—the main vaulted chamber delimited by the plinths of the complex, as well as the west vaulted room and also apparently the "room with steps," were elevated (fig. 5; fig. 8).

The floor level of the main vaulted chamber is +5.1 m in elevation compared to the floor level of the eastern plinth: thus, surprisingly, this central space of the complex is a raised room, characterized by a vault with a rise of 3.5 m, covering approximately a surface of 43 sq. m (fig. 4, no. 2; fig. 5, A–B). The remains of its partially washed *pakhsa* platform, originally probably protected by a mud-brick revetment, stand not only between the plinths but also partially in the area in the front of the main



Fig. 7. General view of the area in front of the eastern plinth with the debris of the vault of the east vaulted room. On the façade of the plinth the robber pit made when the vault had already collapsed is clearly visible.



Fig. 8. General view of the two plinths and of the main vaulted chamber of the Central Monument from the north-east. The man portrayed in the photo is standing on the platform between the plinths.

vaulted chamber itself. Furthermore, this asymmetrical platform (it does not exist in front of the eastern plinth) continues toward the west beneath the unexcavated debris of the western vaulted room (fig. 4, "Platform"; fig. 8—on the right), indicating that this latter space was similarly raised although on a different and composite basis compared to the main vaulted chamber (see sections, fig. 5, A).

Considering in addition the first data collected in 1996,³⁶ which identified two platforms overlaid by the structure that leans against the end of the ramp (another basis: Platforms 1 and 2, indicated with thick grey in fig. 5, B),³⁷ it is possible to assume that the western vaulted room had the same floor level as the main vaulted chamber. The fact that the west vaulted room very likely had no exit on its western end—due to the presence of the structure against which the end of the ramp is leaned—and hence was accessible only through the main vaulted chamber indicates that both spaces had the same floor level. It is also important to note that the floor level of the lower platform (fig. 5, B—"Platform 1") matches the elevation of the floor level of the western plinth.

Since the top part of Platform 2 corresponds with the lower elevation recorded in 2014 for the "room with steps" (perhaps at this level there is a landing—*infra*), Platforms 1 and 2 might also compose the basis of the "room with steps" although this should still be considered as hypothetical (fig. 5, A). If this is correct, and the west vaulted room, as it seems, was only accessible from the main vaulted chamber and both these spaces were raised, the question concerning how to gain access to them remains to be answered. Considering the technique used to build the vaults of the Central Monument—i.e. the "pitched brick method" discussed in detail in the first report—it is very likely that both rooms had an end-wall in order to sustain their structures: the main chamber on its south side and the west room on its west side, as indicated by the incline of the remaining vertical bricks on their walls. As already seen, the west vaulted room was very likely blocked on its west end by the massive structure that is the continuation of the ramp. Thus, it seems plausible to hypothesize that an access to the raised floor of the main vaulted chamber was opened on its south (blocked) side³⁸ (*infra*—"The Central Monument and Its Reconstruction").

On the other hand, the "room with steps" also might have had an opening on its south wall

used to gain access to the floor of the two elevated vaulted rooms. This might be the reason for the correspondence of a hypothetical landing (i.e. what was considered the floor level of this room in 2014 because of the lack of further steps) with the apparent shortness of the south wall of the room (fig. 4, "Room with steps").³⁹

The main vaulted chamber has been only partially excavated. Its stratigraphy mainly consists of layers of silting and scattered debris without significant contexts aside from some post-abandonment contexts related to activities indicated by small irregular cuts on the floor level filled with ashes and charcoals. The new main datum is that this room is raised and thus cannot be merely considered as a vaulted passage between the plinths. Inside this space, along its excavated east side, a bench/small platform composed of two rows of mud-bricks has been found along all the length of the room (fig. 9; indicated in fig. 4 as "Mud-brick bench"). In the back of the room toward the south, on the side of this bench, a clay area reddened due to a prolonged exposure to heat has been recorded: this is the first trace of fire of this kind found in the entire complex. At present, it is not clear whether this belongs to the original stage of the monument or to its post-abandonment period. Additional excavations will be necessary in order to ascertain the implications of this feature.

The spandrels of the vault of the central chamber present the peculiarity of being packed with broken cow bones in order to improve the bonding between the arch and the walls of the plinths.⁴⁰ This is the second of the expedients used by the builders of the vaulted spaces of the Central Monument in order to achieve a better solidity for the structure. The first one is the use of potshards (mostly of *khoums/pithoi*) inserted between the trapezoidal bricks of the vaults, a more common feature found in the Ancient Chorasmanian architecture.⁴¹ Additionally, most of the trapezoidal mud-bricks specifically manufactured for these arches and vaults⁴² were, when still not completely dried out, impressed with finger holes along with their *tamgas* once again in order to better secure the strength of the mud mortar.⁴³

The post-abandonment stage of the Central Monument consisted of two phases of squatter occupation: the first in the Late Antique Chorasmanian phase ("Afrighid," early IV–VIII centuries A.D.—Late Antiquity) and the second belonging to the time of the Khorezm shahs who ruled before



Fig. 9. View of the main vaulted chamber after excavation from the west.

the advent of the Mongols. Due to its characteristics (elevation and massive structures) it appears then that the building was likely reused as a guard post/watch tower during the partial reoccupation of Akchakhan-kala (the “donjon” or Area 11) after the abandonment and spoliation of the site and later when Middle Ages Khorezm tried to resist what would be a disastrous event.⁴⁴ These post-abandonment activities also explain the two robber pits that were dug, the first on the west side of the western plinth (identified in 2014) and the second on the façade of the eastern plinth, which took place before the final abandonment and the consequent accumulation of the sands (fig. 7). The plinths are solidly built with mud-bricks, but this was evidently unknown to the looters who made these soundings.

More detailed stratigraphy and associated ceramics indicate that the vault of the main vaulted chamber of the complex was still partially standing during the Khorezm shahs phase and still offered shelter, while the vault of the east vaulted

room (the passageway) collapsed before this period, probably during Late Antiquity.⁴⁵ Besides, it seems that after the spoliation and the abandonment of the whole area at the end of the II century A.D., during the Late Antique/Middle Ages phases, the area in front of the eastern plinth was thoroughly disturbed by various human activities. This could explain the large area of scattered debris that encompasses the northern side of the complex, constituted of a thick context of clay wash, fragments of mud-bricks, an abundance of potshards, fragments of baked tiles, ceramic pipes and stone (including a fragment of threshold) that belonged to the original decorative apparatus of the monument, along with slugs (from a destroyed kiln of large dimensions).⁴⁶ This context overlies the sand silting and must have been formed by the slow and lengthy erosion of the heaps of debris accumulated as a result of post-abandonment excavations in the area.⁴⁷ This might also explain the absence of debris up to the level reached in 2015 inside the east chamber (as well as the interior of the “rooms

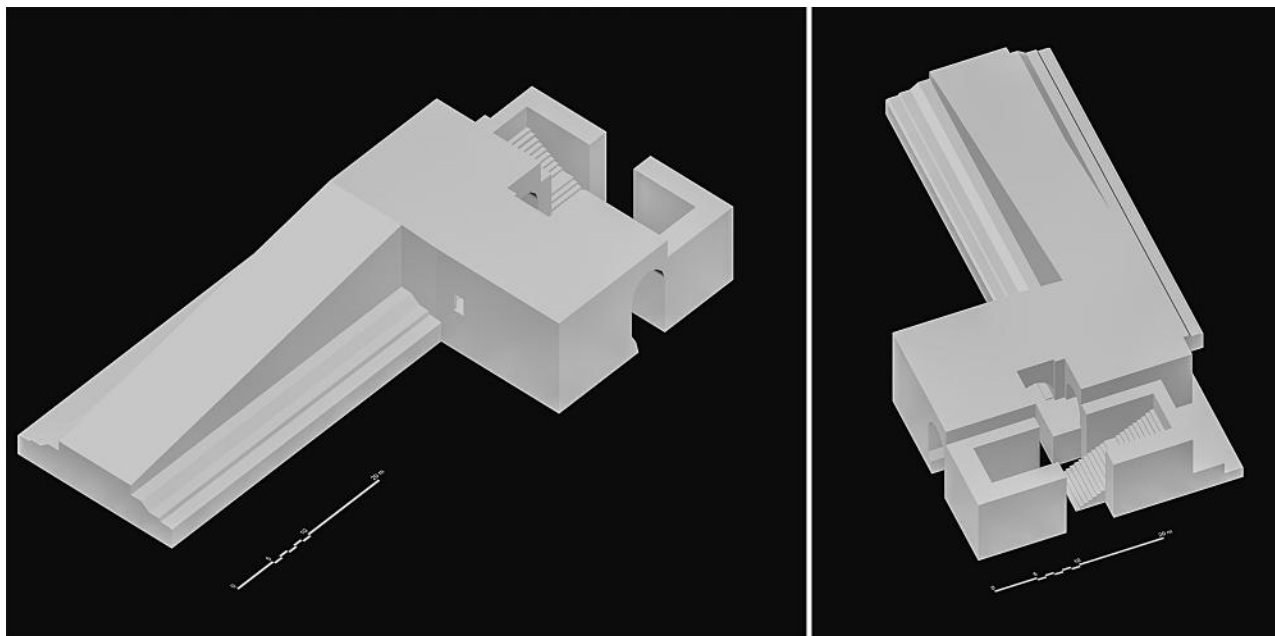


Fig. 10. Preliminary volumetric reconstruction of the Central Monument. Views from the south-east (left) and from the north-west (right).

with steps"),⁴⁸ which was very likely cleared of its debris for reuse, or more likely for the mining of its materials, and thence naturally back-filled with sand by the winds (but these northern rooms may have been without roofing—*infra*).

The Central Monument and Its Reconstruction

A preliminary reconstruction of the architectural complex of the Central Monument, presented here (fig. 10), is not a definitive, detailed work but should be seen as a way to illustrate the remains of the Central Monument to the layman. The 3D volumetric model is intended to be a useful tool to further understand the structures and circulation/accesses, and thus the functions, of the Monument, despite the lack of data, especially the lost decoration and architectonic elements.

First of all, it is important to note that the maximum height of the Central Monument could have been even greater than as shown in the reconstruction: this is purely based on the available evidence, and hence it shows the maximum elevation of the structures as recorded with the integration of that portion of the western plinth slumped toward the west documented in 1996 (*supra*).

The evidence regarding the decorative apparatus of the Central Monument is unfortunately scant. As written above, the site had been robbed and sporadically reoccupied since the II century A.D. throughout Antiquity and the Middle Ages, and fragments of various kinds of worked stone (all quarried in the Sultan-uiz-dag)⁴⁹ have been found in the superficial layers of debris that covers the area north of the plinths (Area 07–03). This rubble includes fragments of column bases made of a particular green pyroxenite nowhere else used at Akchakhan-kala. Consequently, the monument ought to have been completed with columned spaces, was paved with sandstone slabs (as found in the sondage in front of the eastern plinth—*supra*) and was definitively very rich and even lively in its original aspect. At this stage of the research, whether these columns were on top of the terrace or, more likely, in the lower northern area of the monument, remains uncertain. No traces of wall paintings have been found, but sporadic traces of Chorasmian gypsum (*alabaster*—probably decorative) were recorded in the main vaulted chamber, although within the described disturbed late contexts of post-abandonment occupation. The fragments of ceramic pipes, found in the same area of rubble in front of the eastern plinth and in the contexts of the main vaulted chamber, belonged to

canalizations likely used to dispose rainwater (in the region abundant during the winter).

The lowest floor elevation of the Central Monument corresponds with that of the Columned Hall of the Ceremonial Complex, and this emends an incorrect hypothesis expressed in the first report (fig. 5).⁵⁰ The new data, however, do not contradict the idea that the Central Monument was built on an elevated position created at the centre of Akchakhan-kala: likewise the Ceremonial Complex was probably built on a ground prepared for this contingency, and this datum might be seen as another proof for the unity of project and design of these two monumental areas of the *gorodishche*, perhaps with regard to its Stage 2 (*infra*).

The “room with steps” and the central and the west vaulted chambers, on the other hand, are raised above the ground. This characteristic creates issues regarding the interpretation of the complex as per its accesses and inner circulation.

The access to the main vaulted chamber of the Ceremonial Complex now seems impossible if approaching this space from the north: no traces of stairs were found but only a context of debris related to the main vault overlying the platform of the chamber and other silting contexts below and in front of this latter (fig. 11). We should probably consider the possibility of there having been a staircase used to enter the central chamber through the western vaulted room, itself accessible from the “room with steps” (this option is not illustrated in fig. 10). This would explain why the south wall of the “room with steps” is approximately 2 m shorter than its northern correspondent and why the steps of the “small theatre” seemed to end (fig. 4). Otherwise, the main vaulted chamber would have been accessible only from the southern side of the complex, which is unfortunately unexcavated. In the reconstruction, a rectangular passage/postern raised above the ground has been hypothetically opened on this side to at least indicate the possibility of the existence of an access.

Ultimately, it seems apparent that the Ceremonial Complex had a twofold access/circulation: individuals approaching from the north could have access to the rooms in front of the plinths, i.e. the “room with steps,” to attend an event held in the room in front of it and/or some performance carried out on the top of the plinths (the terrace) if, as it seems from the lack of debris and material from both rooms, these were not roofed. Individuals approaching from the south, however,

would have certainly used the massive ramp to gain access to the top of the monument (fig. 12) and perhaps also the interior of the main vaulted chamber through a smaller and secluded passage (with the aid of a mobile ladder?).

The monumental mud-brick access ramp in the reconstruction presents a sloped basis elaborated from the data gained in a 2014 sondage at its east flank (fig. 4 “clay basis” and “*pakhsa* basis”). It is important to note that this sondage did not cover a large excavation area and that the clay and mud contexts forming the “stepped” base of the ramp might have been partially eroded or washed. Furthermore, the total length of the ramp very likely exceeds the one shown in the reconstruction and its foundations rest unknown (these are hypothetically drawn as a rectangular structure overlain by the aforesaid bases in the reconstruction).⁵¹

The reconstruction of the “room with steps” is provisionally presented with additionally hypothetical steps, following the supposition that these reached the lowest floor level of the area.

Still, it remains unclear in which way the three vaults of the Ceremonial Complex might have converged. They could have joined together although no traces of the pillars necessary to sustain the intersecting of these “pitched” vaults⁵² have been discovered.

Preliminary Conclusions: An Attempt at Interpretation

The Central Monument, although not a temple structure, shows the characteristics of a communal monument which rises at the isolated centre of the Upper Enclosure of Akchakhan-kala. Due to the presence of a massive mud-brick ramp on one of its flanks, it is safe to conclude that the top terrace of the building was accessible through a specific path coming from the western part of the *gorodishche* (actually the south-west, in line with a gate of the enclosure), and that there some open-air ceremony was performed. This is one of the few theories regarding the functions of the monument that can be advanced with confidence. Moreover, pondering the existence of a fire altar in the private chambers of the Ceremonial Complex of the same site—perhaps the “regal fire” of the king—it can also be inferred that this central place, even visible from outside the walls of the *gorodishche*, could have been used to display such fire during seasonal community festivals (*gāhāmbārs*)



Fig. 11. Debris of the vault of the main vaulted chamber viewed from the north.



Fig. 12. The monument and its ramp viewed from the south-west (at the end of the 2014 campaign).

or “court ceremonies that involved the king” as hypothesised in the last report. Now this last generic remark can be narrowed down in an attempt at interpretation, albeit arguing with due caution.

In the first report, the Sacred Precinct complex of Pasargadae with its two stone plinths of Cyrus’ times was proposed as a possible archetype for the Central Monument.⁵³ I still consider this a valid theory: I believe that the Central Monument is in fact a Chorasmian interpretation that developed locally through the centuries of this kind of structure, as shown by the earliest Chorasmian evidence from Kyuzeli-gŷr.⁵⁴ A similar ritual, which needed a similar implement for the king and his sacred fire, was performed on both sites although within a different—but historically related—chronological and socio-political context. It is also important not to forget that the Central Monument was an organic component of the whole *gorodishche* Akchakhan-kala that entirely was a site in which official ceremonies were performed.

Now that we have begun to better understand the scale and the structure of the Central Monument, we may attempt a refinement of its interpretation. What is clear is that, although the structure is an architectonic *unicum* with a complete lack of any written sources on its functions and purpose, it is part of a known archaeological context, Akchakhan-kala, a Chorasmian royal seat with an Iranian and Zoroastrian background.

Thus, it might also have the function of an investiture structure. Archetypes—not close parallels—are once again to be found, in my opinion, in Achaemenid Persia in the complexes that comprise the towers known as the Zendan-i Sulaiman (hereafter Zendan) in Pasargadae⁵⁵ and the Ka‘bah-i Zardusht (hereafter Ka‘bah) of Naqsh-e Rostam.⁵⁶ The interpretative problems related to these buildings have been discussed extensively, and the theories regarding the reason why these two towers were erected vary: fire temples, archives for the preservation of the Avesta, repositories of Zoroastrian paraphernalia, royal tombs and/or coronation structures.⁵⁷ Sancisi-Weerdenburg, in 1983, attempted to reconcile the various and distinct hypotheses on the original function of the towers by suggesting that they may have served in a ritual sense all the array of the proposed functions.⁵⁸ As common background, all these theories have the fact that they are related to royal ceremonials and Zoroastrian practices.

In recent years new fieldwork activities in the areas of the Persian towers has led to the under-

standing that the two constructions were not isolated monuments as previously thought but part of larger complexes.⁵⁹ This datum added significant evidence in favour of a probable central role of the towers within the (unclear) investiture ritual of the Persian kings, as freshly reconsidered by Boucharlat⁶⁰ after the first hypothesis advanced on this regard by Frye⁶¹ and extended by Sancisi-Weerdenburg.⁶²

The Zendan and the Ka‘bah are both tower-shaped monuments built of stone, with an essentially square plan (7.25 m per side the former, 7.30 m the second) and a maximum height of 14 and 12.77 m respectively. Both towers have a single access to their only room that is provided by a steep flight of stone steps. The Zendan was built during the second half of the reign of Cyrus, the Ka‘bah by Darius.

The two mud-brick plinths of the Central Monument are at least 12 m each in height, with a side of 10.5 m. Nothing of the top part of the Chorasmian complex is preserved, but it is safe to assume that it was decorated somehow, perhaps with battlements similar to those depicted on the mural crown of the Srōsh painted in the Columned Hall of Akchakhan-kala. This crown presents towers with characteristics similar to those of the Achaemenid architecture such as dentils, as in the Zendan and the Ka‘bah, with the addition of horned battlements and pointed arrow slits—cf. Palace H at Persepolis.⁶³ The ramp is also very different in dimensions and typology when compared with the flights of stone steps of the Persian towers.

The architecture of the Central Monument is clearly not modelled after these two Persian examples, although it is now known that, at least for the Zendan, this monument was part of a larger complex constituted by another at least 10 m high building aligned with it.⁶⁴ Still, the premeditated, dominant characteristic of being raised from the ground is something that the Achaemenid towers and the Chorasmian monument share. As already discussed in the previous report, this characteristic is common in Iran and Mesopotamia with regard to places of worship not necessarily Zoroastrian-related and belonging to different chronological horizons, but, as noted by Sancisi-Weerdenburg, “elevation is an aspect that can be discerned in several aspects of the Achaemenid royal ritual” as clearly witnessed by the iconographic peculiarities of Achaemenid art.⁶⁵

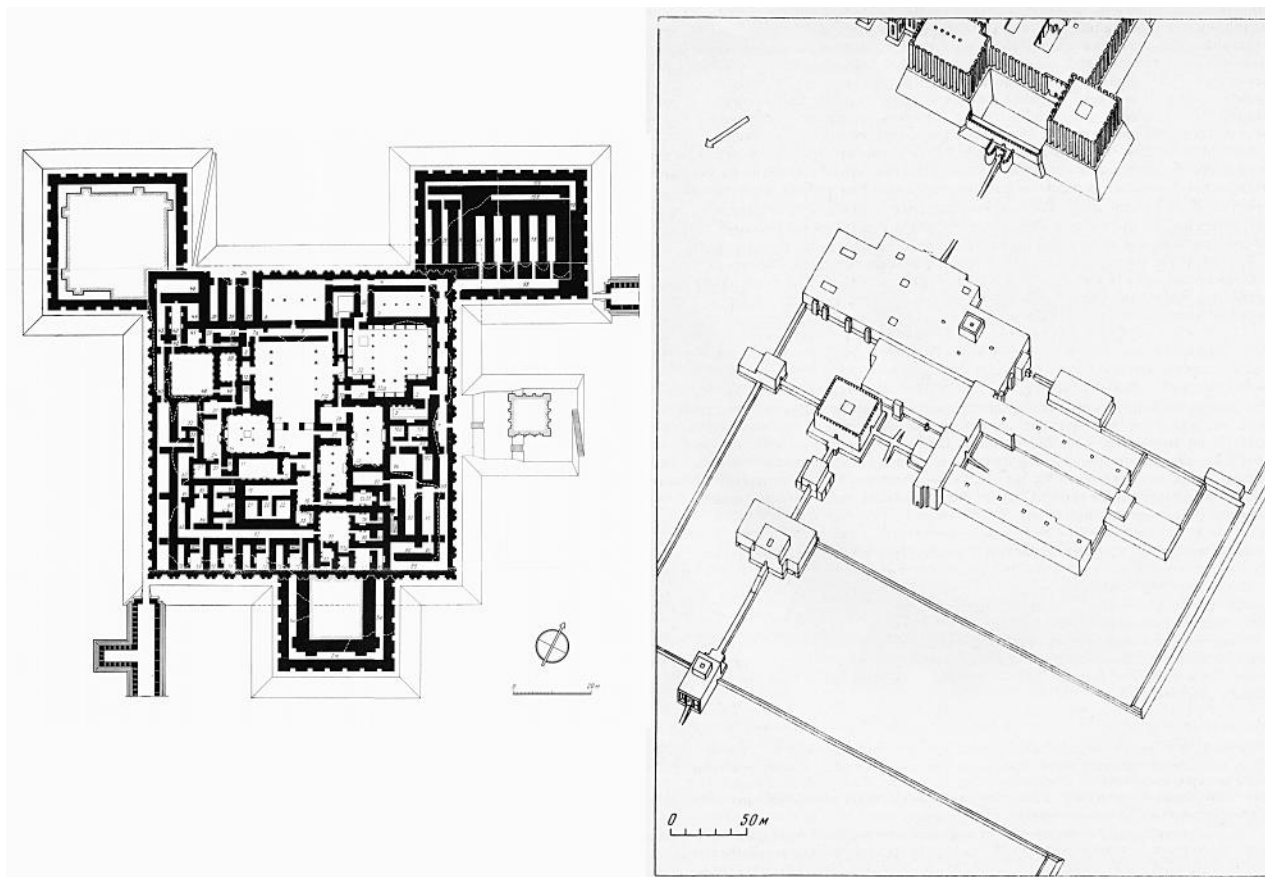


Fig. 13. Toprak-kala: reconstruction plan of the "High Palace" (after Rapoport and Nerazik 1984: fig. 6), and axonometric reconstruction of the "Palace-Temple Complex" (after Rapoport 1993: fig. 11).

It is not here assumed that the Central Monument had exactly the same (uncertain in the specific, but certain in the macro sphere) functions of the Achaemenid complexes, but there are undoubtedly links of cultural character. As repeatedly said, these monuments share a purpose(s) in the background of the same (or at least very similar) religious concepts and ideological approach to kingship (*infra*). Consequently it may be inferred that, since all the available evidence points toward this conclusion, the Central Monument was a complex built by the Chorasmian kings for the celebration of their dynasty.

Ancient Chorasmia is also characterized by an indigenous calculation of its own era that, as I have tried to show elsewhere, likely begins in the middle of the I century B.C. (*terminus ante quem* 27 B.C.)⁶⁶ and ends centuries later with the Arab conquest of the polity. The correspondence of this *terminus* not only with the renovation of

the Ceremonial Complex and the construction (or yet a renovation?) of the Ceremonial Monument in Akchakhan-kala Stage 3 but also with a shift in the Chorasmian material culture, cannot be considered as a mere chronological accident. This historical event might be the consequence of conflicts within the polity, as the traces of sieges found during the excavations of the Upper Enclosure of Akchakhan-kala⁶⁷ and at the contemporary site of Koï-Krÿlgan-kala (34 km to the south-east of Akchakhan-kala)⁶⁸ seem to corroborate.

There is a link in Chorasmia between the creation of its era—that usually denotes the emergence of a ruling party⁶⁹—and the building activities of one (although the only known for this period) of its royal seats, Akchakhan-kala.

To advance the argument, it might even be inferred that the erection of the palace of Toprak-kala (fig. 13) that very likely started during the abandonment of Akchakhan-kala during the

II century A.D. was the ultimate achievement of this dynasty, which chose to build a new seat perhaps forced by environmental⁷⁰ and other political (yet unknown) reasons.⁷¹ The so-called Kushan (Antique 3—Early)⁷² Chorasmian material culture made its first appearance at Akchakhan-kala during Stage 3 and further flourished and developed at Toprak-kala (Antique 3—Late). The construction techniques in both sites are also the same, although these two sites have quite different architecture. The Ceremonial Complex and the Central Monument of Akchakhan-kala do not show traces of destruction for Stage 4, but only evidence regarding a phenomenon of prolonged and complete spoliation of its materials without a proper material culture *caesura* with Toprak-kala. This latter new royal seat, built at a distance of less than 15 km from Akchakhan-kala, is manifestly characterized by a further adoption of Hellenistic-influenced designs and models mainly by reason of a chronological and historical development. This outcome is due to an acculturation process in continuity with what was witnessed at Akchakhan-kala, where, for instance, unbaked-clay modelled sculptures of Hellenistic style were already used together with wall paintings, both elements abundantly found, with minor differences of style due to their chronological distinction, at Toprak-kala as well.⁷³

Evidently a different and new architectonic concept was developed for Toprak-kala, which has an innovative layout even for Ancient Chorasmia, where a great variation in architectural typology is the norm. Contrary to Akchakhan-kala, which has two almost empty enclosures, the Upper and Lower ones, and within the former two main complexes on its north-west corner and at the centre of the same (the Ceremonial Complex and the Central Monument), the main constitutive element of Toprak-kala is a raised fortified palace (the “High Palace,” built on a ca. 15 m high mud-brick platform). The palace dominates both a densely built *gorodishche* at its south and another complex external to the walls at its north (the “Palace-Temple Complex,” possibly of the III century A.D.) at which the main buildings are aligned with the axis of the palace (fig. 13).⁷⁴ The palace is enclosed by an upper fortification wall (the “Citadel”) in the north-western corner of the wall of the *gorodishche*, and it is characterized by elevated projecting works (proper bastions)⁷⁵ apparently added in a second construction stage.⁷⁶

It is beyond the scope of the present article to extensively analyse the site of Toprak-kala and its significance,⁷⁷ but it is important to consider in particular the two north bastions that face each other and that stand in front of the Sultan-uiz-dag ridge. The Sultan-uiz-dag is the only mountainous area of the almost entirely flat Right/east-bank Chorasmia and undoubtedly—due to the presence of ossuary cemeteries of long duration on its mountain peaks—was revered by the Chorasmians.⁷⁸ The same mountains are clearly visible from the (current and eroded) top of the Central Monument of Akchakhan-kala, which is oriented almost exactly mirroring Toprak-kala: in consequence both sites are oriented in the same direction, i.e. toward the eastern part of the ridge characterised by elevated black peaks, the same in which the ossuary necropolis are attested.

The two main bastions of Toprak-kala, the highest towers of the palace (up to at least 23 m), scarcely had a defensive purpose. They faced not only the Sultan-uiz-dag but also the external northern “Palace-Temple Complex,” of which Building V, with its double monumental staircase leading to the roof, had a reconstructed height of 13 m. This last structure is the closest Chorasmian example of a building comparable with the Iranian “temple with cella.”⁷⁹

On the southern side another minor bastion projected toward the lower city, where what was considered a fire temple was excavated.⁸⁰ Bearing in mind the background of Chorasmian history in the light of the most recent discoveries, the two Toprak-kala northern bastions were very likely used to display and perform ceremonies related to royalty (there is little doubt that the palace was an actual royal residence) in continuity with the practice supposed in this study for the Central Monument of Akchakhan-kala; these may have previously occurred at Kyuzeli-g'yr, where three adjacent tower-like structures of unknown function were excavated by the KhAEE.⁸¹

It is the opinion of the author that Toprak-kala was designed with the purpose of replicating and including the functions of the previous royal seat of Akchakhan-kala, enhancing and adapting these to similar needs although in different periods. The “High Palace” of Toprak-kala included both the non-religious and official functions of the Ceremonial Complex of Akchakhan-kala⁸² with the inclusion of the necessary architectonic devices associated with royal ritual praxis, i.e. the

Central Monument now “imitated” by the two opposite bastions of the “High Palace”; whilst the addition of the external complex at Toprak-kala might be compared with the religious areas of the Ceremonial Complex of Akchakhan-kala (i.e. the “fire altar area” of the Central Building). Unfortunately, it is not yet possible to ascertain in detail the interconnections between sacred and profane that most likely occurred in such main centres.⁸³

In conclusion, it might be affirmed that the Central Monument, a ceremonial monument built by the Chorasmian kings to perform public rituals likely modelled on those earlier implemented at the Achaemenid royal complexes, probably had a function which transcended architectonic standardization, a feature generally absent in the Ancient Chorasmian constructions. At Kyuzeli-g'yr in the VI century B.C. we have the first examples of such an approach.

In this perspective the Central Monument might be seen as an entirely indigenous building which was, however, related to ancestral Zoroastrian and Achaemenid ceremonies, possibly including investiture rituals.⁸⁴ It is safe to assume that at Akchakhan-kala this complex was an integral and main part of the royal propaganda mechanism of its kings (as the wall paintings indicate with their divinities and with the depiction of an animal and men procession,⁸⁵ the columned spaces, the epigraphs etc.), perhaps of a new ruling dynasty that at that time was consolidating its power.

We know from al-Bīrūnī that the Chorasmian kings considered themselves the descendants of the *Kisrās*, i.e. very likely the descendants of the Achaemenid kings,⁸⁶ and it also might be possible, although the evidence is scant, to catch a glimpse of a connection between the artistic archaism of Chorasmia and the ideology of its rulers in some iconographic elements of the wall paintings of Akchakhan-kala. These elements, although they display a certain degree of local development, show ties with centuries older Persian models: very likely the Chorasmians somehow felt the ancient Persian legacy consciously, and these ties were one of the reasons for the particular traditional aspect of the Chorasmian society.

The main vaulted room of the Central Monument with its side bench(es), elevated and hardly accessible from the north of the monument, may have contained those tools necessary to perform the ceremonies for which the complex was built.

The “room with steps,” accessible from the north (and secondarily from the east), was the venue in which a few individuals (members of the elite?) gathered to attend rituals performed in the room in front of it and, chiefly, on the top of the structure accessible by a massive ramp from the south.

It would be natural to assume that the Central Monument, for its position within the Upper Enclosure of Akchakhan-kala and for the discussed cultural aspect that its architecture voices, was built at the foundation of the site or at least in its Stage 2. But according to the available data this is still highly hypothetical. Possibly those kings who began the Chorasmian Era built *ex novo* the Central Monument or perhaps they had only enhanced/modified its aspect, as happened in the *gorodishche* for the whole Ceremonial Complex in Stage 3.

Approximately three generations later we may reckon that some ruler (of the same Chorasmian dynasty?) decided to move the seat of the polity to Toprak-kala, which was for different and unknown reasons—not the least environmental ones—more apt or easier to be managed in a location closer to the sacred mountains (the Sultan-uiz-dag, locus of ossuary burial grounds). There, in Toprak-kala, the Chorasmian rulers along with their architects and craftsmen, now fully aware of the cultural climate of Central and South Asia, further developed the architectonic aspect of a Chorasmian main centre of ritual and power such as was Akchakhan-kala, again a building new and unique in the entire polity according to the requirements and the functions of a royal site.

Notes

1. The KAE, led by A. V. G. Betts (University of Sydney) and G. Khozhaniyazov (Research Institute of the Humanities, Academy of Sciences of Uzbekistan, Karakalpak branch, Nukus), is a joint archaeological project supported by the Australian Research Council (DP130101268). The author's postdoctoral project has received financial support from the French State in the framework of the “Investments for the Future” programme IdEx Bordeaux, reference ANR-10-IDEX-03-02.

2. Minardi and Khozhaniyazov 2015.

3. The historical background of Ancient Chorasmia has been delineated in a series of recent papers (see *infra* n. 8) and analysed in a monograph by the author (Minardi 2015). In particular, the historical and archaeological setting of the Central Monument

in the background of the site of Akchakhan-kala (also spelled Akshakhan-kala and formerly known as Kazakly-yatkan) has been described in detail in the previous report (Minardi and Khozhaniyazov 2015 with references).

4. Minardi 2015 with lit.

5. Khozhaniyazov 2005. According to the available data, the first *gorodishche* was Kyuzeli-g'yr in western Chorasmia (Minardi 2015 with lit.). It is more difficult to identify a VI century B.C. site for the eastern part of the polity. One candidate is the site of Bazar-kala (Betts et al. 2009; Tolstov 1948a: 112–13; 1948b: p. 113, fig. 25; 1962: 104; Andrianov 1969: 117; also noted by Helms in Khozhaniyazov 2005: p. 51, n. 163).

6. An area also known as “Right-bank Chorasmia.”

7. Principally see Tolstov 1948a; 1948b; 1962. For further references and considerations on the works of the KhAEE, see Minardi 2015.

8. Zoroastrianism, as the religion followed in Ancient Chorasmia, has recently received a confirmation although its worship has always been sustained by the KhAEE on the tracks of the onomastic evidence, burial practices and other sources (for further details, see Minardi 2015 with lit.). Well known already was the *dashkma* of Chil'pyk, contemporary with Akchakhan-kala (Man'lov 1981 with refs.; Grenet 1984: 229), as well as its ossuary burials see, Rapoport 1971; Grenet 1984. On the fire temple of Tash-k'irman tepe, see Betts and Yagodin 2007; 2008. On Akchakhan-kala, see: Betts et al. 2016; Betts et al. forthcoming; Minardi et al. forthcoming; Minardi and Betts forthcoming 2016; Minardi 2016; Minardi forthcoming; Minardi 2015; Minardi and Khozhaniyazov 2015; Kidd et al. 2012; Kidd 2011; Kidd and Betts 2010; Betts et al. 2009; Kidd et al. 2008; Betts et al. 2005; Helms et al. 2002; 2001; Helms and Yagodin 1997.

9. Probably in relation to the foundation of a new main centre less than 15 km at its east, Toprak-kala (*infra*). On the chronology of Akchakhan-kala and on its series of C14 dates, see Betts et al. 2009; 2015.

10. Kidd 2011; 2012; Kidd et al. 2012; 2008; Kidd and Betts 2010; Minardi et al. forthcoming; Betts et al. forthcoming.

11. Minardi and Betts forthcoming 2016.

12. Grenet in Betts et al. forthcoming 2016.

13. Betts et al. forthcoming 2016; Riboud (2012) has discussed all the depictions of bird-priests known prior to the Akchakhan-kala discovery.

14. Betts et al. forthcoming. These two additional gigantic figures are still under conservation. The first fragmentary colossal depiction represents a deity with raised hands holding a blue scarf with red circles of different dimensions, probably symbolizing the canopy of heaven. The dress, quite similar to that worn by Srōsh (Betts et al. forthcoming 2016), is decorated with panels depicting scenes involving different characters and not bird-priests. The second divine figure, more fragmentary, shows an attire with the customary panels

decorated this time with animals. It definitely seems that in the Ceremonial Complex of Akchakhan-kala a Chorasmian pantheon has been discovered.

15. Grenet in Minardi et al. forthcoming. This new painting is so far unique to the Akchakhan-kala corpus, in its content and its location. However, it must be assumed that, like the other paintings, it addresses the common themes of dynastic kingship strengthened through divine association. As such, it is logical to seek its meaning in Avestan symbolism, and there are good grounds for its identification with Verethragna/Wahrām, god of Victory. The style of the painting appears to show a conservatism that recalls Achaemenid art, seeming to draw little from post-Achaemenid models to be found in the later Hellenised Central Asian corpora.

16. Minardi in Betts et al. forthcoming 2016.

17. More in general, this is the case regarding the entire Ancient Chorasmian material culture. For further references and considerations of historical character, see Minardi 2015 with lit. For considerations on the Persian legacy in Chorasmian art, see Minardi in Betts et al. forthcoming 2016; Minardi et al. forthcoming. On the Hellenistic culture in Chorasmia, see Minardi 2016; Minardi forthcoming.

18. Chorasmia was not directly influenced by the Hellenistic culture, neither during its first impact at the time of Alexander nor later by the Seleucids. It ought to be kept in mind also that the Chorasmian sites in most cases present a lesser degree of superimpositions compared to Sogdiana or Bactriana.

19. Discussed in: Minardi 2013; 2015; Betts et al. forthcoming 2016.

20. The Chorasmian Aramaic script derives from the Persian Imperial Aramaic (Minardi 2013: p. 120, n. 20 with references to Livshits and Lukonin 1964; Livshits 1968; 1970; 2003) and might be considered as an example of the longevity that the original Achaemenid imprint left in the cultural development of the polity. This is for the moment only a likely assumption, due to the absence of Chorasmo-Aramaic epigraphic evidence prior to the III century B.C. (Minardi 2013: p. 119, n. 20 with references). Contrary to Parthia, in which a similar script was adopted, in Chorasmia this writing was still in use—with some changes and a noticeable development through the centuries—at the beginning of the IX century A.D. when the Arabs arrived in the polity (for further references and for further considerations on the conservatism of Chorasmia, see Minardi 2013; 2015 with lit.).

21. Several painted epigraphs have been discovered in the Ceremonial Complex referring to kings' names (preliminary reading by P. Lurje, Betts pers. comm.). One seems even to mention a “prince” and thus the existence of a dynasty (reading by Livshits, V. N. Yagodin pers. comm.; Kidd and Betts 2010: 654–55).

22. For the Akchakhan-kala phasing, see Betts et al. forthcoming 2016.

23. Minardi and Khozhaniyazov 2015: 123; 137–38.
24. Kidd 2011: 250, fig. 8 a-b; Minardi 2015: fig. 27.
25. The Akchakhan-kala ivory altar leg/prop differs from those represented on Sasanian coins since the time of Ardashir I (that were until now without antecedents—Yamamoto 1981: 68) for the latter have neither wings of animals nor additional frontal parts. Unfortunately, what remains of the Chorasmian fire altar is a rectangular area of burnt clay, very likely the base of the now lost altar. But the comparison between the Sasanian Achaemenid-style three stepped altar with lion legs and the remains of the Chorasmian specimen is still noteworthy.
26. The ivory prop in the shape of a lion's leg with an additional winged creature does not have many *comparanda* if we exclude the Sasanid altar legs (*supra* note 25). The piece has already been compared with the Hellenistic ivory legs from Old Nisa published by Pugachenkova (Kidd 2011: 251–52) and other (fully Hellenistic) pieces from the same site (*ibid.*). It is opinion of the writer that the prop is an import likely manufactured in a southern Hellenised workshop (possibly Bactrian—see Minardi forthcoming for considerations relative to another fragment of ivory belonging to a rhyton likewise discovered in Akchakhan-kala Area 10; see also Minardi 2016 for further considerations on the Hellenistic elements and influences of Akchakhan-kala). It is interesting to note that laboratory analysis on the ivory proved that the raw elephant tusk used for this carved item was ancient (Betts et al. 2016).
27. For further details, see Minardi 2016.
28. Betts pers. comm.
29. As further indicated by the deconsecrating/cleaning of the Ceremonial Complex in Stage 4.
30. Arnaud 1997.
31. Minardi and Khozhaniyazov 2015: 124, 137.
32. Probably naturally occurred for the detachment of the two structures.
33. Trapezoid bricks belonging to the vault abundantly composed the context of collapsed material found below the sand layers.
34. The remains of the impost of the vault are still present on the façade of the plinth and the rise can be thus estimated (see Minardi and Khozhaniyazov 2015: p. 130, fig. 10).
35. At present, whether the interior of the chamber (or its walls) are based on some other structures remains speculative.
36. Helms et al. 2001. Section and related data already discussed in Minardi and Khozhaniyazov 2015: 133.
37. In this figure the old section does not accurately match the new one (a gap of ca. 20 cm occurs with the top part of "Platform 2"). Thus it has been decided to align the floor level of the former with that recorded for the area in front of the eastern plinth.
38. In the architecture of Chorasmia it is common to observe rectangular openings in end walls of vaulted chambers built with the "pitched-brick method" (e.g. Toprak-kala, personal observation).
39. The presence of remains of the vault of the western vaulted chamber on the façade of the west plinth indicated that this wall was extended at least for the same length of the north wall of the same structure.
40. Cf. Barak-tam, a IV–V century A.D. (Tolstov 1959: 31–32; 1962: 239) Chorasmian castle (*замок*) in which the same use of animal bones was observed by Orlov (1952: 144; confirmed in Nerazik and Lapirov-Skoblo 1959: 88) and where, however, this feature was exclusive and not in association with the use of potshards (*ibid.*) as in the Central Monument. I would like to thank my colleague S. Amirov for having indicated this comparison. Furthermore, "Purity and pollution are twin themes which run through almost every aspect of Zoroastrianism" (Williams 2015: 347), and so it might be maintained that the cow bones used by the masons of the Central Complex in its vaulted structures to increase the bond between the walls and the side of the vaults would pollute the complex and that this might conflict with the argued ceremonial function of the structure. The *Vīdēvdād* however states that cleaned/dried up bones do not contaminate by contact (VI, 33–34; cf. also VIII, 47–48: after one year). Moreover, in Ancient Chorasmia cow and camel bones, along with dried leather (e.g. Toprak-kala, see Livshits in Rapoport and Nerazik 1984: 251–86), were common supports for inscriptions and records. This is also witnessed by an unpublished specimen from Akchakhan-kala and even by the support(s) of the Main Fire Altar of the Ceremonial Complex which was made of ivory.
41. E.g. Toprak-kala, Kaparas; for further details, see Minardi and Khozhaniyazov 2015: 135 with n. 38. A third technique uses baked tiles bounded with *alabaster* for the ending arches of mud-brick "pitched" vaults, as observable at Toprak-kala. Fragments of baked tiles have been found in the area (and in Area 10 with *alabaster*) but none of them in situ.
42. Minardi and Khozhaniyazov 2015, n. 31.
43. Cf. Toprak-kala, Voronina 1952: 95 (although the example illustrated shows a different technique of impression).
44. Cf. with the contemporary strengthening of Kizil-kala (XII–beginning of XIII century A.D.—Khozhaniyazov 1986), a small fortress located 3 km west of Toprak-kala (and less than 10 km from Akchakhan-kala).
45. The debris of the vault of the main vaulted chamber overlaid sand contexts, while those of the vault of the eastern vaulted passage overlaid contexts of washed clay lying on the floor of this area. Furthermore the debris of the eastern vaulted passage was used

as floor level by the diggers of the hole in the façade of the eastern plinth.

46. Large similar slugs are scattered although concentrated in some areas of the lower settlement of Toprak-kala.

47. A fact confirmed by the observations of the trench sections dating back to 1996 and by the cut of a trial trench in the area behind the end wall of the eastern chamber across the whole length of the context.

48. For the lack of debris and its poor preservation in the “room with steps,” see Minardi and Khozhaniyazov 2015: 126. The partial dig in the symmetrical north chamber confirms this datum. Although deconstructed, however, it seems unlikely that the two rooms used to be roofed.

49. Squared blocks of yellow sandstone, fragments of column bases and chips of green pyroxenite, flakes and fragments of other kind of stones.

50. Cf. Minardi and Khozhaniyazov 2015: fig. 4.

51. See Minardi and Khozhaniyazov 2015: 126–27. In the 3D model the ramp-end abruptly terminates for these reasons.

52. Cf. Babyish-mullah (Minardi and Khozhaniyazov 2015: p. 139, n. 35).

53. Minardi and Khozhaniyazov 2015: 135–38. On the Sacred Precinct, see Stronach 1978: 138–45.

54. Minardi and Khozhaniyazov 2015: 135–38, with references.

55. Stronach 1978: 117–37.

56. Schmidt 1970: 18–49. Schmidt considered the towers to be fire temples. See also Gropp 2009.

57. For extensive literature on the contributors of this discussion, see Schippmann 1971: 185–99 (on the Ka’bah), 204–8 (on the Zendan); Schmidt 1970; Stronach 1978; Sancisi-Weerdenburg 1983; Boucharlat 2003b; Potts 2007; Stronach and Gopnik 2009.

58. Sancisi-Weerdenburg 1983.

59. Boucharlat 2002; 2003a; 2003b; Boucharlat and Benech 2002; Benech et al. 2012.

60. Boucharlat 2003a: 96–97.

61. Frye 1974: 386. More specifically, according to Frye the Zendan was “the safe where the accoutrements for the coronation of the new king were kept to be used in the special ceremony by the new king after the interment of the old.”

62. Sancisi-Weerdenburg 1983; see also Boucharlat 2003a.

63. Britt Tilia 1969; 1972, pl. 59, fig. 129, cited in Betts et al. forthcoming 2016 with further references and comparanda.

64. For details, see Boucharlat 2003a.

65. Sancisi-Weerdenburg 1983: 126 (ibid. discussed, *contra* Potts 2007: 287–88); see also Root 1979: 131–64, in particular on the iconography of the king supported by the allegories of the subdued “nations” and on the iconography of the king standing in front of a fire altar.

66. Minardi 2013; 2015 with literature on the other previously advanced theories.

67. Helms et al. 2001.

68. Tolstov 1962: 135; Tolstov and Vainberg 1967: 60–61, discussed in details in Minardi 2015.

69. E.g. the Seleucid Era and the Arsacid Era, two of the time reckoning systems of Hellenised Central Asia that probably inspired the Chorasmian system (for references, see Minardi 2013; 2015).

70. Dodson et al. 2015.

71. Rapoport (1996) had already suggested something very similar and he linked the erection of Toprak-kala to “the accession of a new dynasty” (cf. Rapoport and Nerazik 1984: 287–88). According to him the Chorasmian Era started in the first half of the I century A.D. and marked the independence of Chorasmia which, in his opinion, was before under the sway of the Kangyui (on this, see Minardi 2015 with lit.). This is unlikely, but he could not possibly have known the evidence from Akchakhan-kala. Main references on the site of Toprak-kala remain the works published by the KhAEE (Tolstov 1948a: 119–23; 1948b: 164–89; 1962: 204–26; Nerazik and Rapoport 1981; Rapoport and Nerazik 1984; Rapoport 1993); for a non-Russian summary, see Nerazik and Rapoport 1978; Rapoport 1996; for considerations on the interpretation of the site, see Grenet 1986.

72. Minardi 2015.

73. On the wall paintings and modelled sculpture of Toprak-kala, see references at n. 67; see also Kovaleva and Rapoport 1991.

74. Rapoport 1993; 1996.

75. The North-western Bastion raises on a truncated-pyramid shaped platform of 40 x 40 m, ca. 14.5 m high with on top another parallelepiped structure of 26 x 27 m and ca. 9 m of height (Rapoport and Nerazik 1984: 195); the North-eastern Bastion presents a similar (ca. 15 m high) but larger platform (in its last stage ca. 60 x 50 m) and the total height of its upper part seems to have been at least 7.5 m (ibid.: 206–7). The second floor of this latter tower was clearly elevated on substructures (parallel elongated rectangular chambers with massive walls), which were wrongly interpreted as later barracks by Rapoport and Nerazik (ibid.: 209).

76. The “High Palace,” according to its final publication (Rapoport and Nerazik 1984: 246–47), was built in the II century A.D. and it stopped functioning as a proper royal residence around the beginning of the mid III–IV century A.D. (while the lower settlement, completed in the III century A.D., continued up to the VI century A.D.). The bastions, and in particular the North-western one, although they both seem a later addition to the main “central” part of the complex (they lean against it—see fig. 12), present problems concerning the interpretation of their stratigraphy: it is unlikely that the North-western Bastion was raised, with a great effort, merely to host new military barracks (which is a wrong

assumption, see n. above) when the palace ceased its original functions in its second stage. Thus it is possible to argue that the bastions were actually built in a secondary building phase not necessarily belonging to the final stage of the palace, probably the first and according to an organic plan.

77. See Grenet 1986.

78. As also assumed by Rapoport and Nerazik (1984: 288).

79. Considered in Minardi and Khozhaniyazov 2015: 17, with main reference to Rapin 1992.

80. Nerazik and Rapoport 1981: 42–56.

81. Tolstov 1962: p. 102, fig. 42; Vishnevskaya and Rapoport 1997: p. 158, fig. 5. Thus this site, the most ancient *gorodisch* of Chorasmia, not only gave evidence of raised altars with steps (see refs. in Minardi and Khozhaniyazov 2015) but also of tower-like structures of unknown function related to what seems to be an elite residence (as noted by Tolstov, 1962).

82. Although the main role of Akchakhan-kala was very likely ceremonial, a royal seat presupposes the existence of private and public quarters (e.g. the Columned Hall). Moreover, it is very likely that this site had also an administrative function as shown by an ink-written document on a bone found on site (unpublished).

83. On this, see Grenet 1986; see also Betts et al. forthcoming 2016: n. 74 on the Zoroastrian attributes, such as the *padām*, of some modeled unbaked clay statues of Toprak-kala which have now gained a new significance due to the discoveries at Akchakhan-kala.

84. Since at least Darius I (e.g. the Behistun inscription), the Persian royal propaganda indicates the king as the agent of Ahura Mazdā on earth. Due to the available evidence (albeit keeping in mind the lack of written sources) it might be possible to assume the same with regard to the Chorasmian kings.

85. Kidd 2012.

86. Minardi 2015.

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