

Refining the Chronology of Historic Sites of the Čaača-Meana Survey, Turkmenistan

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Introduction

The southwestern region of Turkmenistan in Central Asia has been populated for thousands of years leaving behind evidence of small and large settlements along the piedmont of the Kopet Dag as well as of various rivers such as the Amu Darya, Tedjen and the Murghab. A reconnaissance surface survey was conducted in 2012 in the Čaača-Meana region that lies about 8 km east of the foothills of the Kopet Dag and about 2.5 km south-southeast of the Meana village (CMS: Čaača-Meana Survey; **Fig. 1**). The survey was led by Dr. Gabriela Castro Gessner and was funded through a grant from the Gerda Henkel foundation, and under the auspices of the Monjukli Depe excavation project led by Dr. Susan Pollock and Dr. Reinhard Bernbeck.

In the course of the survey, a total of 55 sites dating from the Neolithic through Islamic periods were surveyed and/or visited ([Pollock et al. 2018](#), 11–26). During that exploration it became quickly evident that sites dating from the Parthian through the Islamic and possibly later Medieval periods were better represented than earlier periods, often perhaps, obscuring those occupations beneath the surface. Some sites were only visited and not surveyed, and neither pottery nor other artifacts were collected; we reference some of those visited sites here but they do not form part of our dataset in this paper.

The goal of this paper is to refine some of the preliminary chronological observations made during the survey and to contribute to our understanding of settlement patterns in this area from the last centuries of the first millennium BCE through the first millennium CE. This region lies at the crossroads of east-west as well as north-south expansion, trade and migration and is not as well documented as the neighboring Murghab Delta ([Gubaev et al. 1998](#)) or the imposing city of Merv, which is only a few hundred kilometers away. We review the chronology of the sites assigned to the Parthian, Sasanian and Early Islamic periods; these cover roughly the 4th century BCE through the 10th century CE. Our efforts focus on these broad periods for three reasons: (1) they represent almost 60% of the sites surveyed; (2) ceramic sherds from these periods were more prevalent and better preserved than similar materials of earlier periods and thus are more easily compared to the ceramics at other sites; and (3) our revised chronology represents a joint collaboration that began in Berlin in 2016 and was facilitated by Dr. Pollock at the Freie Universität Berlin. With her support and Topoi fellowships both authors were able to collaborate on this work and expand it to its present state. This paper is dedicated to Susan Pollock in appreciation of her help and of her commitment as teacher, mentor and friend. Both authors were students under Dr. Pollock and the research on which this paper is based was prompted, influenced, and helped by her guidance and encouragement.

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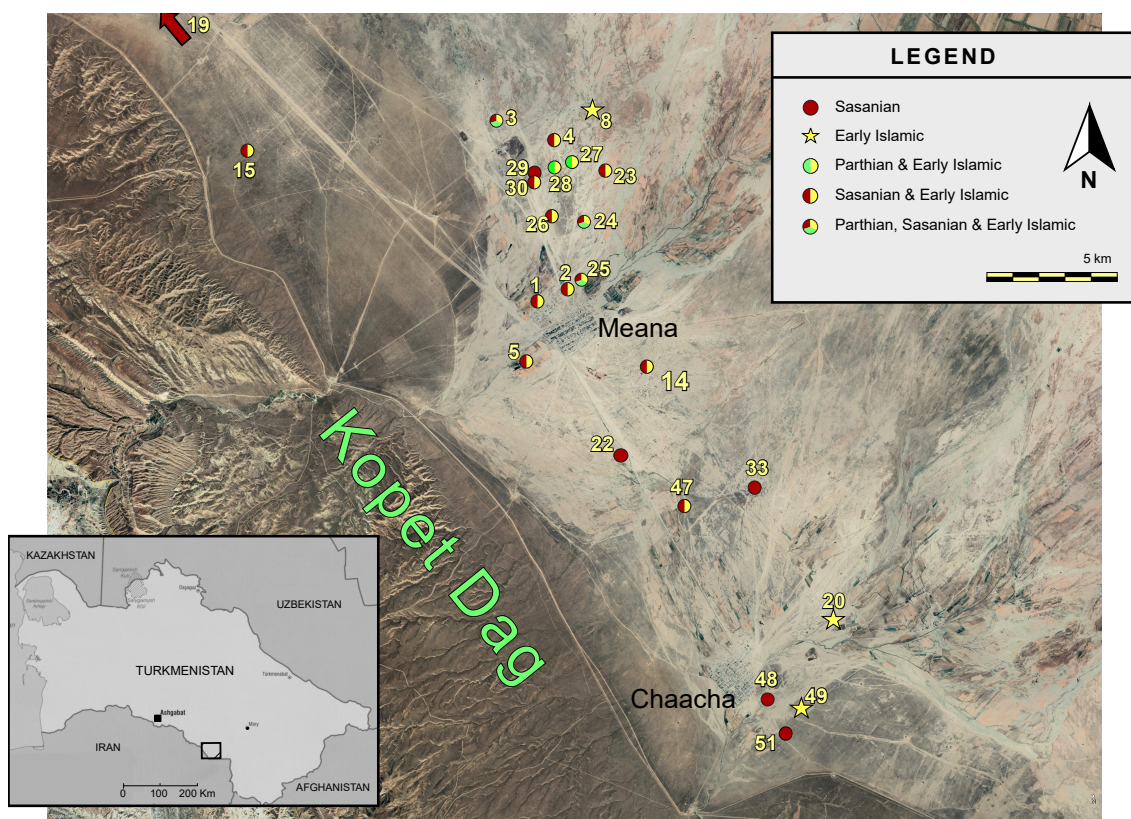


Fig. 1. Map of the Čaača-Meana survey region with location of sites discussed and against Google Earth background (Google Earth Pro. 2020 CNES/Airbus. US Dept. of State Geographer. Maxar Technologies) showing deltas for the Čaača and Meana rivers. Inset shows location of survey and surrounding area. Map by the authors.

The Čaača-Meana region in brief historical and geographical context

The region of Čaača-Meana sits between two alluvial fans created by the fluvial deposits from the Čaača and the Meana rivers, which fluctuate seasonally in their discharge and flow in a northeasterly direction to meet the edges of the Tedjen River (see [Berking et al. 2017](#); [Pollock et al. 2018](#), 1–11). Both rivers provided the critical water sources for human habitation and development in this area as is evident based on the number of sites and their placement close to river beds or their branches. Water availability, however, might have varied seasonally and been greater in spring and lower at other times. Although we did not encounter evidence of alternate irrigation sources within the survey area, we suspect that underground water canals or qanats might have been in use. Qanats are said to have been in use in Iran since the 1st

millennium BCE ([Lightfoot 2000](#), 215) and are commonly found in the foothill ranges of alluvial fans where annual rainfall is low, such as the Čaača-Meana zone of Turkmenistan.

An important aspect of this region that became evident during the survey was the accrual of sedimentation over the Čaača-Meana area that appears to have affected the height of mounds as well as explain the dearth of earlier sites (Neolithic, Bronze Age, etc.) relative to historic sites. While many large mounds of varying periods remain visible today, it is possible that small mounded villages or towns were periodically washed over and eventually buried under alluvium. This may explain the approximately 60% of very low-mounded sites and also the small number of sites identified on the basis of artifact concentrations at ground level. The evidence for these sedimentation events was clear in the profile walls of the Čaača gully to the south, where cultural deposits – bricks,

pots and other artifacts – were jutting out in exposed sides of the gully walls 2 to 4 meters below the surface (see [Pollock et al. 2018](#), 15).

The region is situated north of northeastern Iran, and much of the pottery found during the CMS resembles ceramics in Iran and other locations in western Turkmenistan. Some of these sites include Tureng Tepe ([Boucharlat and Lecomte 1987](#)), the Gorgan Wall ([Priestman 2013](#)) located in the Gorgan Plain on the Caspian Sea as well as the ruins of Qal'eh Qabri ([Kleiss 1987](#)) that can be found today at Veramin south of Tehran. Other sites include Merv ([Puschnigg 2006](#); [Usmanova 1963](#); [Zaurova 1962](#)), Nishapur ([Rante and Collinet 2013](#)) and Damghan ([Trinkaus 1986](#)) that were stations on the Silk Road.

Coming from the Iranian side, the Silk Road led first over the Kopet Dag mountain range, passed through the Čaača-Meana region and past the neighboring oasis of the Tedjen river before reaching Merv ([Puschnigg 2006](#), 18). Merv was of great importance as it was at the junction of routes going east (and west) towards Herat in Afghanistan and routes heading south (and north) to and from Nishapur in northeast Iran to Bukhara in Uzbekistan. Merv, about 170 km from the vicinity of the Čaača-Meana region, was continuously inhabited from the Achaemenid period to the 15th century and may have functioned as a crossroads city during the reigns of various rulers, especially connecting to cities in Iran and Iraq ([Puschnigg 2008](#), 109). It is clear not only from their location halfway between Nishapur and Merv, but also from site size and artifact distribution that the sites surveyed and identified in the Čaača-Meana region were in some way part of the Silk Road system. They might have been situated at arms of the trade route and/or might have had contact to the trading center Merv, which is the most important point of reference for the location of the Čaača-Meana Survey in terms of the later history of the region and the comparative pottery.

Revising the chronology

During the 2012 survey, sites were dated using mostly diagnostic pottery, but glass, brick and metal objects also contributed to the preliminary and coarse-grained chronological attributions. The pottery recording methodology consisted of diagnostic pottery profile drawings and/or sketches (rims, bases, handles, decorated body sherds) and interior and exterior color photographs, detailed notes on fabric (coarse, fine, color, with inclusions, etc.), vessel type (open, closed, bowl, jar, etc.), manufacturing evidence (handmade, wheel-made, overfired, etc.), and any other distinctive characteristics. Each potsherd was assigned a unique identifying number that was linked back to its find spot and site. In 2016, both authors converged in Berlin and tackled revising original periodization by systematically looking at all diagnostic pottery recorded (photographs, drawings and field notes) and finding comparable pieces at other sites in the region. The pottery information from each site and sherd was transferred into Excel sheets, and parallels were added.

As is expected, pottery manufacture differs in slight manner everywhere, even within a single region, and many of our parallels may match the shape of a vessel, but not its size, or evoke similarities in application of decoration, but not the precise design. This does not seem unusual for Sasanian pottery, especially when comparing it to pottery from Merv, where production was likely local and mass produced, bearing little resemblance to vessels in other locations ([Simpson 2014](#), 133). Notwithstanding local production across the landscape, we tried to match as many characteristics of each sherd and assemblage as possible to those illustrated or photographed in publications: fabric, shape, size or decoration, but sometimes not all our criteria were present or clear. It is particularly noteworthy that distinguishing between Parthian and Sasanian wares was not always easy since many Parthian sites continued to be occupied during the Sasanian period ([Simpson 2014](#),

119). This ambiguity sometimes resulted in uncertainty regarding the dating of the ceramics and thus some sites were assigned as part of two (e.g., Parthian-Sasanian) or more periods (e.g., Parthian-Sasanian-Early Islamic). Given this ambiguity, here we have included only those sites where we can confidently assign pottery to a single one of the three periods (**Fig. 2**) and can thus provide a more reliable view on the changing settlement patterns of this region. Given space limitations, we include ceramic profiles and pictures of pottery that are representative of the three periods, rather than illustrating the pottery found at each site (**Figs. 3–5**).

Sites and periods

The Čaača-Meana survey region is largely flat with a few prominent archaeological mounds (e.g., the imposing Bronze Age site of Altyn Depe) dotting the landscape. It was thus surprising to find numerous areas with density of artifacts scattered on the ground without a mound nearby. These areas were categorized as sites and their pottery used to indicate occupation period. We recognize the difficulty of asserting continuity or re-settlement of a site with surface collections, and especially for low-mounded sites, but we think that the quantity of artifact distributions is a good indicator of occupation until substantiated with excavations. Low mounds have been considered reflections of short occupation periods (Wilkinson and Algaze 1990, 193) but it is possible, however, that what we saw as a low mound and identified as a short occupation is really the tip of a much larger site whose settlement is covered under the alluvium.

From the survey we determined that the Čaača-Meana region has a greater number of Sasanian sites than Parthian ones, and an almost equal number of identified Early Islamic occupations (**Tab. 1; Fig. 1**). This plurality of Sasanian over Parthian sites was also noted in the Merv oasis where the number of Sasanian sites was double that identified as Parthian (Simpson 2014, 119). For this

paper, we confirmed 5 Parthian, 19 Sasanian and 18 Early Islamic sites (**Tab. 1**); some of these may have been continuously occupied or were perhaps re-settled but that remains to be determined. We identified three sites as multi-period since they appear to have had continuous occupation from Parthian through Early Islamic times.

Site #	Parthian	Sasanian	Early Islamic
S1		x	x
S2		x	x
S3	x	x	x
S4		x	x
S5		x	x
S8			x
S14		x	x
S15		x	x
S19		x	
S20			x
S22		x	
S23		x	x
S24	x	x	x
S25	x	x	x
S26		x	x
S27	x		x
S28	x		x
S29		x	
S30		x	x
S33		x	
S47		x	x
S48		x	
S49			x
S51		x	
TOTAL	5	19	18

Orange = sites with evidence of 3 types of pottery; Blue = sites with only Sasanian pottery; Purple = sites with only Early Islamic pottery.

Tab. 1. Sites assigned to each period.

In the following sections, we outline the Parthian-Early Islamic sites covered by the survey, focusing on their geographic location, general dimensions and the main characteristics of the pottery for each period. We also integrate the relevance of these sites in terms of the historic importance of the locality.

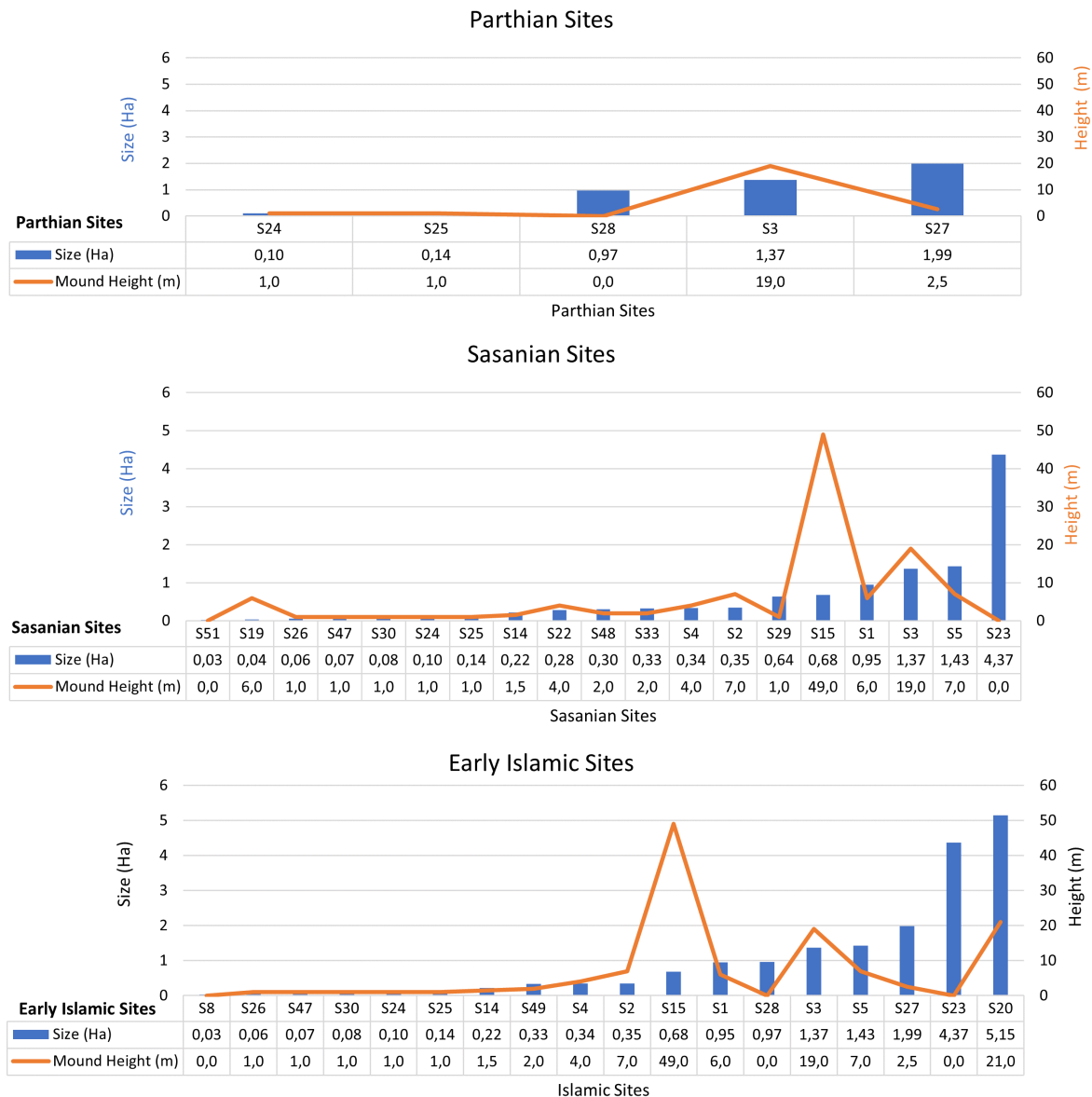


Fig. 2. Three graphs with sites assigned to each period including size in hectares and mound height in meters: Parthian (top), Sasanian (middle) and Early Islamic (bottom). Site numbers are indicated by S1, S2, etc.

*Parthian sites and pottery
(ca. 3rd century BCE–3rd century CE)*

The Greek historian Polybius states that by the end of the 3rd century BCE, the border between the Seleucid satrapy Parthia and the Graeco-Bactrian Empire lay west of the modern Tedjen (Polybius, The Histories, 10.49.1–15). This is particularly relevant to the Čaača-Meana region. It appears from historical sources that the Parthian Empire (247–224 CE) was characterized neither by a centralized administration nor by interference in local production or trade (Hauser 2013).

After the migration of the center of power from Nisa to Ctesiphon in the 1st century BCE, the northeast sector of the empire was mostly left to itself (Trinkaus 1986, 47).

The five sites under Parthian rule in the survey region are located to the north of the Meana Wadi (Sites 3, 24, 25, 27 and 28) and in close proximity to each other, except for Site 3 (Göbekli Depe). They are at varying distances to the Meana river bed of today, with Site 3 the furthest away at a distance of almost 8 km (Fig. 1). Although the water path could have

changed over time and branches of the main river could have flowed nearer to some sites, this great distance to water sources can possibly be explained by the use of underground canals, so-called *kyariz* or *qanats* (Lewis 1966, 470). Use of *qanats* in other regions under Parthian rule have been documented in the Deh Lurah Plain in Iran (e.g., Neely 2016, 242).

Sites 3 (Göbekli Depe), 24 and 25 remained populated through Islamic times, and sites 27 and 28 were re-occupied during Islamic times. It is interesting that Sites 27 and 28 are separated by less than a kilometer and neither was settled during Sasanian times. One aspect of a non-centralized administration could be the varying number of residents in each of these small settlements, the ensuing result being that

not all of them are of similar dimensions. Only Göbekli Depe (Site 3) towers over the plain: it clearly grew into a busy center and was probably a node in the network of sites of the region. In contrast, all other Parthian sites are either low-mounded (Sites 24 and 25) or almost flat but with artifact distributions covering up to 2 ha (Sites 27 and 28; Fig. 2, top). Parthian sites on average measure less than 1 ha in size in contrast to the large, 10-ha mounds with fortress walls along northern regions of the Silk Road, such as the Hecatompylos-Bukhara section (Cerasetti 2004, 41).

The pottery from Sites 27 and 28 is similar in terms of its reddish fabric, white-slipped pieces and concentric lines from the manufacturing process. A few small sherds have a stamped diamond pattern, reminiscent of those found

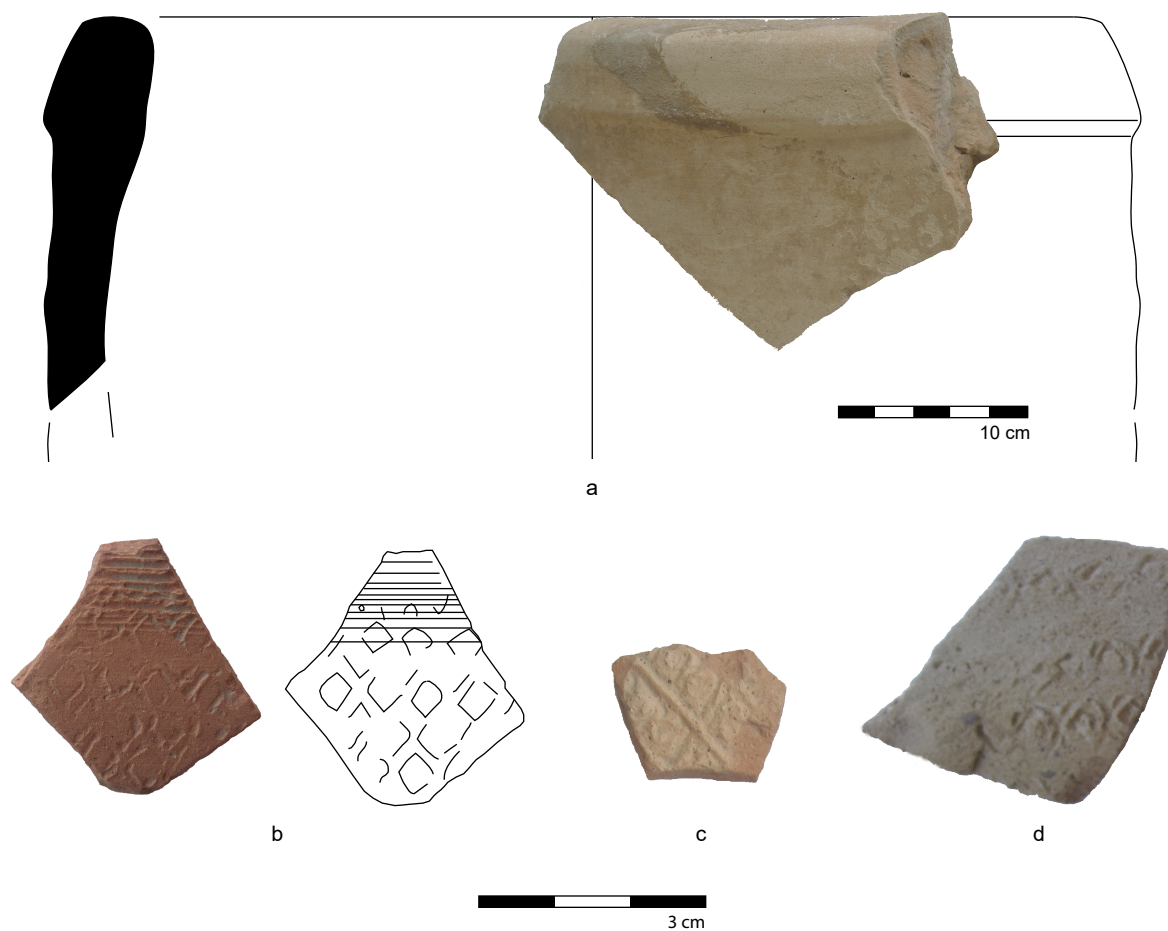


Fig. 3. Photographs and illustrations of sherds representative of Parthian pottery; (a): *Khum* vessel, Site 25, RN 176.1 (RN=CMS recording number), see photo in Vladimir Livshits 2004, fig. 1; (b)- (d) show diamond-stamped pottery, comparable to Gavagnin et al. 2016, fig. 24 and Wilkinson and Tucker 1995, fig. 76: 2, 6; (b): Site 27, RN 144.4; (c): Site 5, RN 120; (d): Site 8, RN 130.4. Illustration by the authors.

in the northern Jazira of Iraq (Wilkinson and Tucker 1995, fig. 76: 2, 6), and several ceramic pieces belonged to large storage vessels known as Khum (Fig. 3). Distinctly Parthian pottery from Sites 3, 24 and 25 has proven more challenging to identify since all three sites were occupied also during the Sasanian period, and there could have been some mixing of styles.

Sasanian sites and pottery
(ca. 3rd–7th century CE)

Under the Sasanian dynasty (224–651 CE), whose rule exerted increased influence on the economy and politics of the provinces through reforms, it seems that the areas south of the Kopet Dag Mountains in modern Iran were more integrated into the empire than the northeastern part of the country. In response to the invasions of the Hephtalites and Khorasan's population attempts to secede from the Sasanian Empire, the areas north of the Kopet Dag were again more closely tied to the Sasanian Empire and Merv became a strategic base under Bahram V (421–439 CE). A century later, the province of Merv gained influence and developed into an administrative, cultural and military center of the empire and Khosrow II Parviz (590–628 CE) specifically settled soldiers for border defense (Trinkaus 1986, 47; Puschnigg 2006, 28). This political upheaval resulted in an increase in the number of settlements compared to the Parthian period and is reflected in our survey. In contrast to Parthian sites, Sasanian sites are three or so meters taller, though not always larger in size with a few exceptions (Sites 3, 5 and 23; Fig. 2, middle). Some Sasanian sites exhibit squarish mound shapes as seen from Google Earth with tall eroded walls, such as Site 3 (Göbekli Depe), Site 5 (Gelin Depe), Site 15 (Mahmal Depe) and Site 22 (Dowkala). Some smaller sites could have functioned as part of larger fortified centers in the area, clustering around them, but that was only evident with the visited Sites 9, 10, 11 and 12 (Shordepe), for which no further information or pottery was collected (and thus are not considered further here).

The increase in the number of Sasanian sites and their distribution across the landscape between the two rivers substantiates the increased presence, military or otherwise, that was felt necessary by the Sasanian rulers. Ten sites (1, 2, 3, 4, 23, 24, 25, 26, 29 and 30), not including Sites 15 and 19, cluster on the north side of the Meana Wadi in close proximity to each other (roughly under 3 km distance between them); five sites (Sites 5, 14, 22, 33 and 47) are located between the two wadis (Čaača and Meana), and only two sites are closer to the Čaača wadi to the south (Sites 48, 51; Fig. 1). A definite increase in the number of settlements and in population in this area could have guarded and stopped the flow of goods or people over a wider swath of land between the two rivers. Additional evidence of features to defend or control migration of refugees (or water?) into and out of the Merv oasis from the south is a Sasanian wall in the region. The Sasanian wall is not imposing or at the scale of the Gorgan Plain Wall (Iran), as it appears as a short rise and dip on the landscape and is covered in low vegetation. Its location about 12 km east of the Kopet Dag piedmont and perpendicular to both river courses seems significant. None of the sites surveyed are close to it, but the wall is evident from Google Earth between the distal arms of both river courses.

Six out of the 19 Sasanian sites identified are unique in that their occupation seems to have been limited to the Sasanian period (Sites 19, 22, 29, 33, 48 and 51; Table 1). Far more common, however, are Sasanian sites that seem to be occupied either continuously through the Early Islamic period or were re-settled during Early Islamic times (Sites 1, 2, 3, 4, 5, 14, 15, 23, 24, 25, 26, 30 and 47). Sasanian sites in this region are found in areas of slightly higher elevation than Parthian sites, and, on average, mound height is just under 6 m above ground level, including height of 49 meters of Site 15 (without Site 15, mound elevation is 3.6 m above ground level) (Fig. 2, middle). Site 15 (Mahmal Depe) stands out from the others in

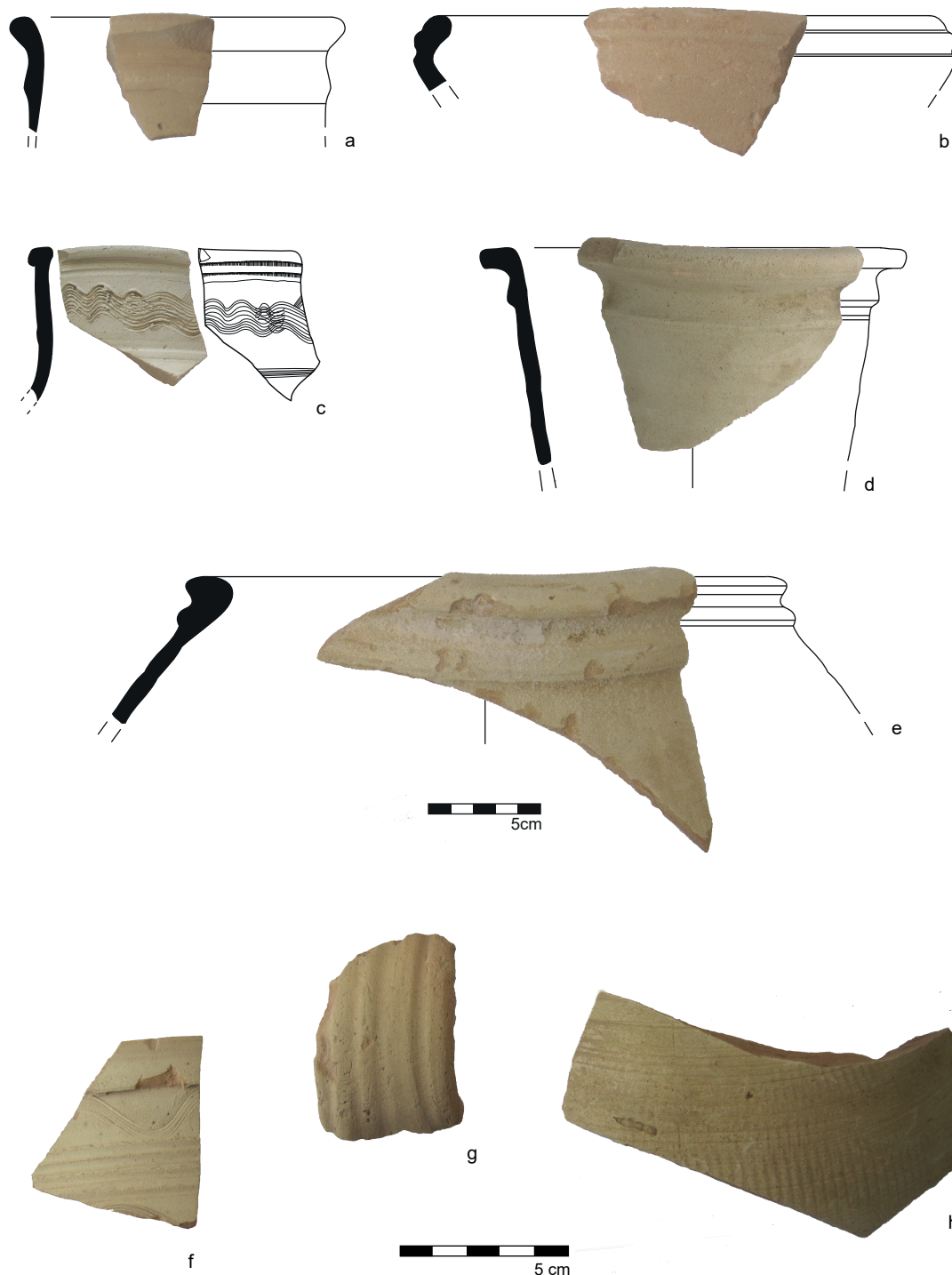


Fig. 4. Photographs and illustrations of sherds representative of Sasanian pottery; (a): Jar, Site 5, RN 121.14, compare to *Puschnigg 2006*, 156, sR137 and *YuTAKE 1976* in *Puschnigg 2006*, fig. A3.22.3; (b): Bowl, Reddish ware, Site 5, RN 161.6, compare to *Puschnigg 2006*, 195, R83, and *Boucharlat and Lecomte 1987*, pl. 57.6 and 49.3; (c): Buff Ware Jar, Site 14, RN 231.3, possibly comparable to *Puschnigg 2006*, 183, R 138 and *Zaurova* in *Puschnigg*, fig. A3.29.3; (d): Tall necked Jar, Site 5, RN 98.2, compare to *Puschnigg 2006*, R 137 and fig. 7.7; (e): Jar, Buff Ware, Site 3, RN 25.2, compare to *Puschnigg 2006*, 150, R115; (f)-(h): Pottery fragments; (f): Rim/Neck Jar with wavy incised line, Site 3, RN 55, see fragments from *YuTake* in *Puschnigg 2006*, fig. A3.19; (g): Sturdy jar handle, Site 3, RN 55, possibly comparable to *Puschnigg 2006*, fig 6.7, 6.12; (h): Body sherd with chattering, Site 3, RN 57.10, compare to *Puschnigg 2006*, fig 6.6. Illustration by the authors.

having a height measured at 49 m. It is in an isolated location relative to other sites in the survey, lying further north of the Meana river delta and close to the foothills of the Kopet Dag. Mahmal Depe's double-mound contours is suggestive of a citadel surrounded by a wall, and although it is quite tall, we estimated it to be only about 1 ha in size. In contrast, two-thirds of the sites assigned to the Sasanian period in this study are under 0.5 ha (Sites 2, 3, 14, 19, 22, 24, 25, 26, 30, 33, 47, 48 and 51), while five sites are estimated to be between 0.5 and 1.5 ha (Sites 1, 3, 5, 15, and 29; **Fig. 2**, middle). Site 23, determined by the quantity and area of sherd scatters to be about 4.37 ha, was completely flat. On average, Sasanian sites were just over half a hectare in size (smaller than the average size of Parthian sites), but were taller with an average height of almost 6 m (including Site 15 at a height of 49 m).

Closed vessel forms were more common than open forms at Sasanian sites (**Fig. 4**). The majority of the rims belonged to jugs and pots with rim diameters ranging between 12 and 29 cm. Some pieces – predominantly fragments collected at Sites 3 and 5 – are comparable to shapes found in Merv, such as for example R83 ([Puschnigg 2006](#), 195), sR137 ([Puschnigg 2006](#), 156), R137 ([Puschnigg 2006](#), 156) and R115 ([Puschnigg 2006](#), 150) as shown in **Fig. 4**. Jars had sturdy handles and handles were found in large quantities. Jars were decorated at the shoulder with wavy incisions consisting of either combed wavy patterns of 3-6 lines, single waves or chattering (**Fig. 4**). Open forms are represented in large bowls with incised rims. The predominant color for all shapes is buff, with either buff, reddish or tan cores, and the majority of the pieces show a buff slip. The fabric ranges from fine wares with mineral and organic inclusions to medium fabrics tempered with chalk.

Early Islamic sites and their pottery
(ca. 7th–12th century CE)

The arrival of Islamic settlers into the area did not substantially alter the distribution of

sites or increase the number of locales that could be identified solely as Islamic; however, the unrest caused by the Hephtalite invasions in the 5th century CE seems to have brought instability to the region. It is possible that some settlements and main irrigation zones were abandoned, transforming the land again into steppe in later periods. Like populations before them, Early Islamic settlers preferred sites relatively close to water sources (under 5 km distance), although a few sites located at greater distance from the main river courses remained occupied (3, 15 and 47). Some of these settlement changes might have also been influenced by the administrative and taxation shift that other regions, such as Damghan in Iran, experienced during the transition from Sasanian to Early Islamic and that resulted in increases in specialized trade and participation in a wider regional economy ([Trinkaus 1985](#)).

Sasanian settlement or outposts were likely to be re-settled in Early Islamic times, and like the latter, they straddle the Čaača and Meana wadis. Based on pottery alone, only three Early Islamic sites did not re-settle Sasanian locations; two of those were located in the southernmost region of the survey, closest to the Čaača wadi and to the modern town of Akdzhadepe (Sites 49 and 20), and Site 8 was in the opposite direction, north of the Meana wadi and less than 2 km distant from Site 4 (Welnamy). Six Sasanian sites were not re-settled, but all others were populated by Islamic settlers (Sites 1, 2, 4, 5, 14, 15, 23, 26, 30 and 47). Only two sites had ceramic evidence of Parthian and Early Islamic habitation (Sites 27 and 28) without an intervening Sasanian occupation (**Fig. 1**).

Even though most sites assigned to the Early Islamic period include prior Sasanian occupations, average site size and mound height is greater for Early Islamic sites than Sasanian sites (average size over 1 ha; average mound height 4.4 meters; **Fig. 2**, bottom). Half of the Early Islamic sites are under 0.5 ha (Sites 2, 4, 8, 14, 24, 25, 26, 30, 47 and 49); six are

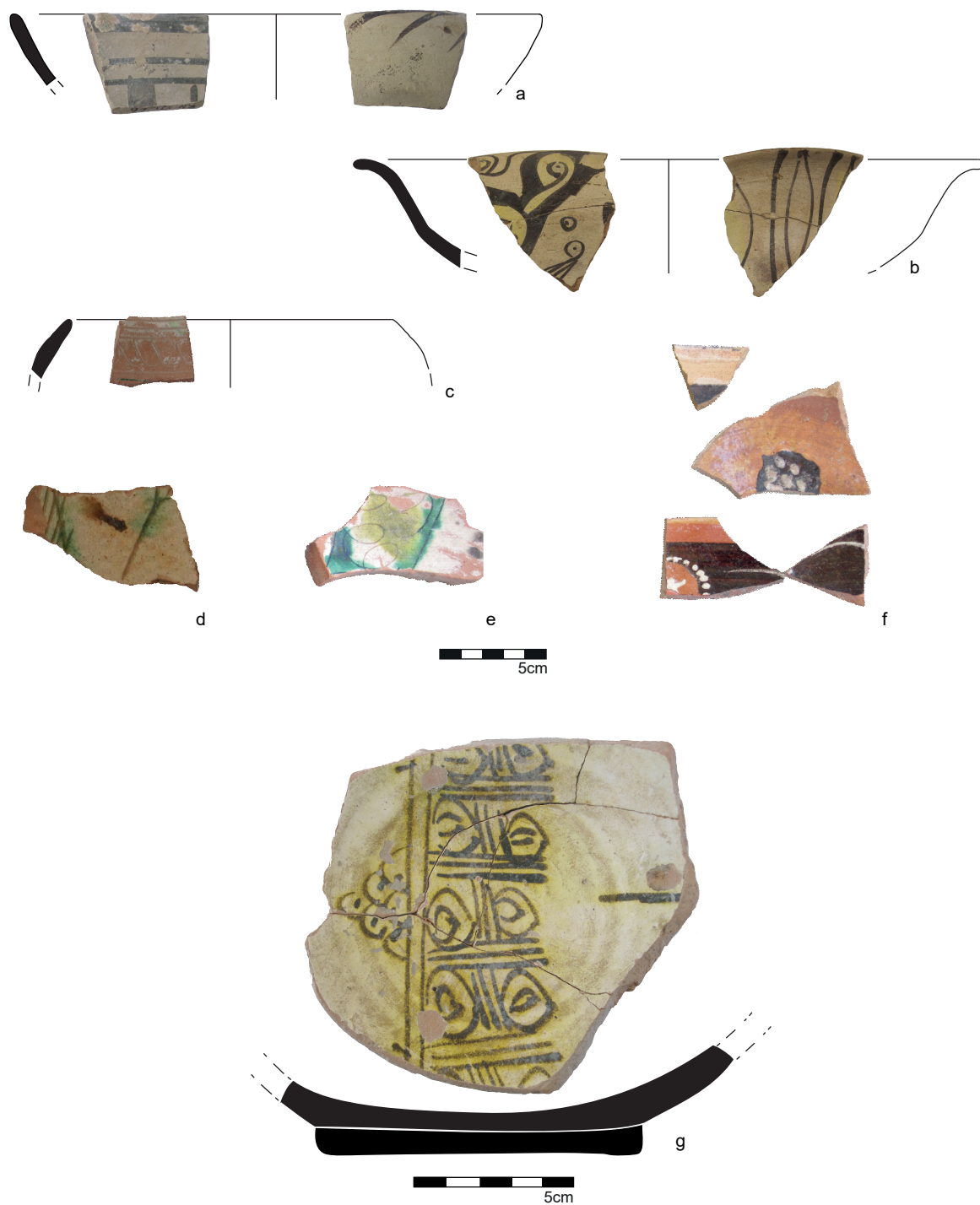


Fig. 5. Photographs and illustrations of sherds representative of Early Islamic pottery; (a)-(b): Slip painted buff wares, bowl fragments, earthenware, underglaze painted in black slip, and yellow and green, Site 5, RN 121.66 (a), Site 2, RN 13.6 (b), compare to *Wilkinson 1973*, chapter 1; (c)-(e): Sgraffito Splash ware, bowl fragments, red earthenware with a white slip, incised decoration, and splashes of green and yellow in a transparent glaze, Site 2, RN 13.9 (c), Site 3, RN 25 (d) and Site 1, RN 1 (e), compare to *Wilkinson 1973*, chapter 2; (f): Slip-painted Ware with Colored Engobe, rim and body bowl fragments, earthenware, black slip with white, olive and red slip decoration under a transparent glaze, Site 1, RN 5, compare to *Wilkinson 1973*, chapter 5; (g): Ware with Yellow-staining Black, base center fragment of bowl, earthenware, white slip with yellow-staining black slip decoration, Site 30, RN 152.5, compare to *Wilkinson 1973*, chapter 8. Illustration by the authors.

between 0.5 and two hectares (1, 3, 5, 15, 27, 28); and two are over 4 ha (Sites 20, 23). In other words, a few locales may have increased in population, but the majority still remained rather small settlements or outposts within walking distance of larger centers.

In the sites interpreted as Early Islamic, the pottery shapes feature larger diameters (a minimum of 25 cm) and a higher quantity of bowls than do the Sasanian sites (**Fig. 5**). Vessels with rounded bottoms that sit directly on the ground, and surface treatment with glaze and/or painting occur exclusively in the sites interpreted as Early Islamic. The fabrics show few mineral inclusions, and common wares that occur frequently at these sites are Slip-painted Buff Wares, Sgraffito Splash Wares, Slip-painted Ware with Colored Engobe and Yellow-staining Black Wares that have their closest comparisons to the pottery of Nishapur ([Wilkinson 1973](#), Chapters 1, 2, 5 and 8) in Iran, dated to the 9th to 10th centuries CE. In addition, the proportion of sherds that show a surface decoration consisting of grooves, carvings, comb line patterns and chattering is around 30% higher at these sites compared to sites dated to the Sasanian period.

Multi-period sites

Three sites stand out as having evidence of pottery from all three periods (Sites 3, 24 and 25) and all three are located north of the Meana Wadi (**Fig. 1**). Site 3 (Göbekli Depe – not to be confused with the site of the same name in the Merv Oasis) has an imposing height (roughly 19 m) over the surrounding plain and is frequented to this day by visitors to the Meana Baba Sanctuary, approximately half a kilometer to its south. Unlike Göbekli Depe (Site 3), Sites 24 and 25 are very low mounds, almost flat, mostly distinguishable as sites based on the quantity of artifacts on the surface. It is notable that Göbekli Depe is in the outer areas of the delta, while Sites 24 and 25 are closer to the modern wadi and could have been mounded sites that were buried

under continuous sedimentation events. Given the sites' proximity to the modern town and the sanctuary of Meana Baba, all three sites had quantities of modern trash in addition to iron slag, ochre, copper implements and/or glass from Islamic times.

The pottery at these three multi-period sites is similar to that shown in (**Figs. 3-5**) and described more generally under each period's section. In Göbekli Depe there were far more open than closed vessels, which is also reflected in the small number of handles. Also interesting is the high proportion of glazed fragments (20% of the total fragments), whereas Buff Ware is only presented in a very small percentage (ca 3.5%). It is worth mentioning, however, that Göbekli Depe's findings indicate a bustling center with access to glassware, polished stone vessels, copper implements and faceted beads, plus evidence of Medieval occupation in architectural details that were visible on the mound's surface. Surprisingly, no coins were found at Göbekli Tepe or any other site surveyed.

Conclusions

The survey area of the Čaača-Meana region, although shielded by the Kopet Dag mountains to the south and outside the immediate reaches of the city of Merv, shows changing settlement patterns that coincided with shifting rulers and variable empire priorities. As in other areas, there is evidence of increasing settlements from Parthian through the Sasanian periods that can be indications of population growth that continued through to the Early Islamic period. This development is at a par with other regions that were some distance to major centers and where agricultural livelihoods adjusted as water management practices altered and as economic and political strategies changed. Although neither the Parthian, Sasanian or early Islamic rulers were probably particularly interested in this locality as much as local residents, they determined the local economy directly or indirectly through their

politics. Their influence is not only evident in the contraction and expansion of settlements, but also in the material remains left behind. As a material of daily use and as an object produced locally and distributed through local trade, the pottery has contributed to shed light on these historically significant periods hardly known from written sources.

We have used the pottery found at the sites to date the various occupations, and their decorative styles and shapes evoke the influence and equivalents of vessels from the Sasanian period in Merv and some from Tureng Tepe in Iran. Similarly, the Islamic buff wares, Sgraffito Splash Wares and others clearly had strong likenesses in the vessels produced by the potters of Nishapur. We suggest that the pottery is an indication of contact with or influence from neighbors to the north and south during the various reigns, and a sign of connection to the Silk Road trade. In addition to pottery,

the fragmentary artifacts of glass and metal, the carnelian beads and the architectural remains indicate that the material culture of the Čaača-Meana area was influenced or part of well-known sites of the Silk Road trade network like Damghan and Merv in the Sasanian period, and Nishapur and the Gorgan Plain in the Early Islamic period. Recent studies have shown that the overland Silk Roads of Eurasia formed a complex network of pathways linking trade centers from the Eastern Mediterranean to China (Frachetti et al. 2017, 193). The close connection between the material culture of the sites of the Čaača-Meana and the well-known sites on the Silk Road trade network might imply that some of the sites of the Čaača-Meana region, such as Göbekli Depe (Site 3), Gelin Depe (Site 5) and Karakala (Site 20), may have been located at arms of the trade route and might have served as smaller trading posts or stopovers for trade caravans between the larger cities on the route.

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