

Offprint from

Urban Cultures of Central Asia from the Bronze Age to the Karakhanids

Learnings and conclusions from new archaeological
investigations and discoveries

Proceedings of the First International Congress on Central Asian
Archaeology held at the University of Bern, 4–6 February 2016

Edited by
Christoph Baumer and Mirko Novák

2019

Harrassowitz Verlag · Wiesbaden

Parthian Nisa

Landscape, topography and settlement planning

Carlo Lippolis

Abstract: Despite almost 80 years of scientific research, the dynamics of settlement in the territory of Parthian Nisa during the Hellenistic/Parthian period are still little understood. Recently, some aspects of the landscape and territory immediately surrounding the two ancient districts (Old and New Nisa) have been further investigated. Concerning the internal “urban” layout, today Old Nisa is comparatively well known, while very little is known about New Nisa: no extensive excavations have been ever conducted in the latter. Furthermore, the recent discovery of pottery fragments dated to pre- and proto-historical times seems to suggest the existence of ancient cultural levels at Old Nisa (3rd–2nd millennium BCE), albeit smaller and partially removed by the levelling work carried out during later phases.

Keywords: Parthian Nisa, topography, settlement pattern, water systems.

Резюме: Динамика поселения на территории парфянской Нисы эллинистического и парфянского периодов до сих пор мало изучена, несмотря на почти восемьдесят лет научных исследований. В последнее время были более тщательно изучены некоторые аспекты ландшафта и территории, непосредственно соседствующую с двумя древними районами (Старая и Новая Ниса). Результаты многочисленных раскопок Старой Нисы сегодня дают немало сведений о внутренней “городской” планировке, в то время как Новая Ниса остаётся мало изученной, поскольку там не проводились интенсивные археологические раскопки. Следует заметить, что недавнее открытие фрагментов керамики, датируемых доисторической эпохой, предполагает наличие в Старой Нисе более древних слоев (III–II тысячелетия), частично разрушенных из-за строительства в более поздние периоды.

Ключевые слова: Старая Ниса, динамика поселения, топография, водоснабжение.



Fig. 1: Settlements of the 3rd century BCE to 3rd century CE along the central part of the Kopet Dagh's piedmont (nowadays Akhal district, with its capital Ashgabat; © C. Fossati).

Little systematic research has been carried out and published regarding Parthia, and the location and identification of ancient toponyms still remain highly uncertain.¹ After the mid-3rd century BCE, the Parthians, of nomadic origins and led by their first king, Arsaces, invaded the province (now southern Turkmenistan and north-eastern Iran) and adopted its name (Parthava-Parthyene) as their own; it was only later that they gradually emerged as a power. According to Strabo, Parthia comprised Hyrcania and part of Media. In Isidore's itinerary, Parthia had at least three administrative districts:² Astauene, Parthiene (with Parthauinisa as its main centre), and Apauarktike (near present-day Kaakhka). Even today, Isidore's description is not immune from doubts:³ the identity of the main sites cannot be thoroughly demonstrated on a purely archaeological basis.

Though arid, the northern slopes of the Kopet Dagh and the foothills have since ancient times supported a thriving agricultural community, with lands watered by ancient canals, *qanats*, wells and seasonal rivers.

The majority of Parthian settlements lying at the foot of the Kopet Dagh Mountains can be related to the agricultural exploitation of a territory that must have been provided with an effective irrigation system in part dating back to the Achaemenid age. Ancient canals took advantage of springs and secondary streams, while wells reached the water table. After the winter season, the water provided by secondary streams flowing from the Kopet Dagh was not negligible. This was the case at Nisa, where even viticulture was practised, as is well documented by the numerous ostraka brought to light in the large storehouses of Old Nisa.⁴

While there is no doubt that the environmental characteristics of the area, which was devoid of large permanent water courses, were not ideal for the development of a substantial agricultural civilisation, its geographical position played a key role within the communications system linking the lands inhabited by both nomadic and sedentary peoples.

The frontiers and routes of the Achaemenid satrapy of Parthava were apparently maintained by the Seleucids, though the topography and geography for this period are still relatively unknown. Nevertheless, according to Pilipko,⁵ in Hellenistic times the culture of the central Kopet Dagh piedmont (i.e. present-day Akhal district) seems to have been typically local, a "western" influence in the pot-

tery production, for example, increasing only in the 2nd century BCE.⁶

About 140 sites with Parthian-age layers – datable to between the 3rd century BCE and the 3rd century CE – were identified in the region immediately west and east of Ashgabat, i.e. the ancient Parthyene and Apauarktike. Most of them are on the plain immediately at the foot of the Kopet Dagh range, along the country's main road from west to east. This position guaranteed the water supply from the seasonal streams and the "alluvial" fans associated with the mountains slopes.

The Parthian settlements were classified by the Soviet scientific literature as:

1. Urban settlements. According to Pugačenkova,⁷ the typical urban scheme has three main elements: a main dwelling area (*shahristan*), possibly surrounded by walls; a fortified inner citadel (*ark*); and the outlying suburbs immediately outside the city walls. One of the main sites exhibiting this pattern is New Nisa, with an approximately 4 ha citadel on the southern corner of a settlement surrounded by walls (the total area being 18–20 ha).

2. Rural settlements. Among larger rural settlements, two basic patterns are found: sites showing a high density of structures, and with flattened-out outlines blending into the surroundings; and sites whose shapes can be either quadrangular or oval (between 0.25 and 4 ha), with fortified outer wall and vast inner open areas. There is also a series of smaller estates or plots of land never exceeding 0.5 ha, usually with a square/rectangular plan.

3. We may include in this last category (rural settlements) settlements made up of small, independent but close buildings that could even be enclosed by an outer defensive perimeter. The site of Garry-Kjariz (60 km north-west of Ashgabat) comprises 14 mounds of varying size, 9 of which date from the Parthian era. On the surface of almost all of these mounds, originally separated by green areas and gardens over a total surface of approximately 12 ha, both quadrangular and oval dwellings with an inner court meant for domestic work and economic activities can be recognised.⁸

An even larger (ca. 1 sq km) "diffused" settlement corresponding to the same pattern may be the series of approximately 50 mounds located bet-

1 See Parthyene - Map 97 (compiled by E.J. Keall, M. Roaf), in R.J.A. TALBERT (ED.), *Barrington Atlas of the Greek and Roman World*, 1997, Princeton.

2 Isidore 11, 12, 13 (ISIDORE OF CHARAX: 8–9).

3 PILIPKO 1989.

4 DIAKONOFF/LIVSHITS 1976–1979 and 2001.

5 PILIPKO 2012.

6 For a recent overview on the early Arsacid period's pottery in this area, see: BRUNO, forthcoming.

7 PUGAČENKOVA 1958: 29; KOŠELENKO 1985: 209–225.

8 PILIPKO 1975.



Fig. 2: CORONA satellite image (DS1010-2071DF152, Sept. 1964): clearly visible are New Nisa and Old Nisa, and the seasonal streams (left) descending from the mountains.

ween the present-day towns of Arman-Sagat and Dushak.

4. Monuments with a particular meaning (a merely indicative definition including several variables). In this context, two sites stand out for their significance, Old Nisa and Mansur depe, owing both to their monumental and ceremonial architecture, and to their outstanding artistic production.

This four-fold classification, albeit general, still remains valid. In fact, we know very little about the dynamics of the Parthian settlements and even less about the internal organisation of the large sites. In general, we may add that between the end of the 1st century BCE and the 1st century CE, many of these “northern” Parthian settlements were abandoned. In this regard, Parthian Nisa, with its urban core New Nisa (unfortunately almost totally unknown) and the ceremonial citadel of Old Nisa, represents an important reference.

First of all, in so far as New Nisa still remains unexplored at its more ancient cultural levels, the idea that Nisa is the first capital, or one of the first capitals, of the Parthian empire (still present in some literature) is no longer sustainable: Old Nisa is a ceremonial site and its planning does not display the

features typical for a settlement, but rather those of a large Eastern sanctuary.

We can now consider the topography and the landscape of Old Nisa. The two hills, which emerge from the plain at the foot of the mountains, are in a favourable position. Obtaining water was probably easier in ancient times than it is today. In addition to the alluvial fans visible here and there at the foot of the mountain slopes (a large one is visible to the east of Nisa, in the proximity of modern Ashgabat) numerous seasonal streams run down from the Kopet Dagh to the plain (**Fig. 2; Fig. 3**). Moreover, it should be noted that natural springs still exist in the area, and it is also likely that, in ancient times, the water table was higher than it is today and more easily accessed.

As far as the water supply is concerned, we now have some data. At New Nisa, a channel (maybe full of water only during the winter and spring seasons) entered through the city walls from the south, probably after having picked up water from the mountain slopes (and/or from the water table). In the area south of New Nisa, a large number of *qanats*, probably of Islamic period, are still visible as evidence of how this system for supplying and distributing water was employed in antiquity, and was still in use until recent times.

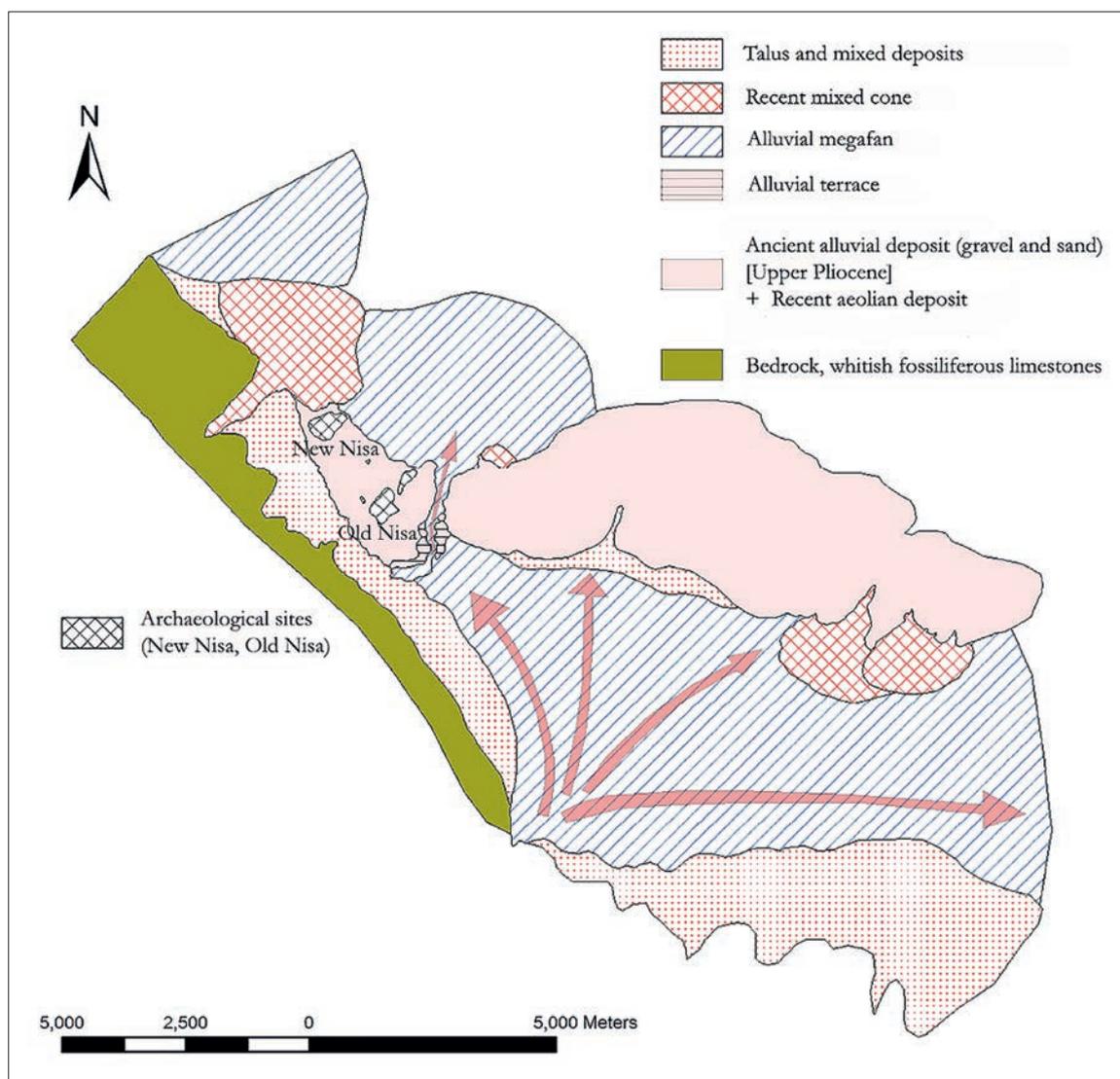


Fig. 3: Geological map of the area around Old and New Nisa (elaborated by B. Monopoli).

For Old Nisa, the picture is more complex (Fig. 4). It lies on a higher hill and, though seasonal streams from the mountains flowed towards and surrounded it, none of them apparently entered the site. The only remains that could relate to such a system is a terracotta pipeline found in the 1930s by Maruščenko on the external slope of the southern fortification walls.⁹ According to him, this could be part of a water-supply system connected with the area at the foot of the mountains (though no traces of other water-related equipment remain in this area). Furthermore, this pipeline – which has not been further identified inside the site – was associated, by the YuTAKE¹⁰ archaeologists, with the large and more or less regular depressions or basins in the

⁹ PILIPKO 2001: 139–140, Fig. 107.

¹⁰ YuTAKE (South Turkmenistan Archaeological Complex Expedition), was a Soviet expedition, headed by M.E. Masson, which carried out work at New and Old Nisa from 1946 to 1967.

central-east part of the site. These depressions are difficult to interpret and their nature and origin not totally clear.

In most of the YuTAKE reconstruction sketches, these large hollows have been indicated as an area of water basins and “depressions” (*vodoemy*), and, possibly, gardens. This interpretation fits well with the presence of a slight and elongated depression in the ground at the foot of the external walls (beyond their north-eastern segment), which could be interpreted as the mark of an ancient channel overflowing from the city walls. However, this interpretation remains problematic, for the surveys carried out recently did not find any trace of walls or masonry, nor stratigraphic levels of water deposit inside these “depressions”. Moreover, the natural virgin soil at Nisa is quite porous and not suitable for retaining water. All this seems to exclude the possibility that these depressions could have been used for the permanent storage of water.



Fig. 4: Topographic map of Old Nisa (elaborated by C. Bonfanti).

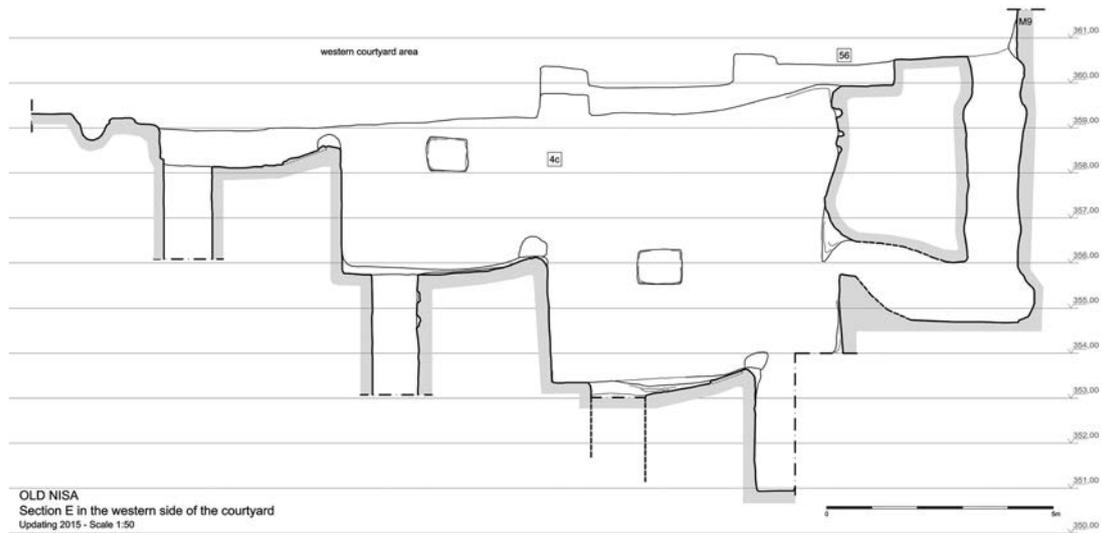


Fig. 5: North-south section of the underground water/well system in the South-Western Building at Old Nisa (elaborated by C. Bonfanti).

According to the topography of the site, Masson¹¹ has suggested that water entered Nisa (or was brought into the site) from the west side and was then distributed through drains and pipelines (up to now, only a few segments have been found) to the main complexes. This reconstruction, though highly speculative, seems to be supported by recent discoveries by the Italian expedition¹² (2007–2015) in the south-western corner.

In Old Nisa, water was provided by groundwater wells, and the presence of a water-supply system discovered during the latest excavations in the south-western corner of the fortress should be interpreted as part of this system. Here, inside a functional building (a large storehouse, the so-called South-Western Building),¹³ four underground rooms – each with a well reaching down to the water table (Fig. 5) – have been brought to light. These wells were also connected with features (drains or channels cut in the bedrock) that allowed rainwater from the central courtyard of the building to be gathered and stored.

The planimetric organisation of the inner buildings of Old Nisa is better known. The fortification

11 MASSON 1952: 16; PILIPKO 2001: 139.

12 Since the very beginning of the 1990s, an Italian-Turkmen Archaeological Expedition has been operating in Parthian Nisa, thanks to a fruitful scientific collaboration between the Ministry of Culture of Turkmenistan (National Department for Study, Research and Preservation of Cultural Monuments of Turkmenistan), the local museums and university, and the Centro Ricerche Archeologiche e Scavi di Torino (Italy). Since 2001, the project has been supported by the Italian Ministry of Foreign Affairs and International Cooperation.

13 LIPPOLIS/MANASSERO 2015. For a preliminary report, see also LIPPOLIS 2013.

walls were of course built first, and the alignment of the main complexes of Nisa follow the orientation of the different sections of the fortification, highlighting how the construction method, starting from the defensive line and then proceeding inwards, anticipated the erection.

It is worth mentioning that the walls of Old Nisa were erected only after a massive effort undertaken to regularise the natural hill. Indeed, if we compare New with Old Nisa, the smoother, geometric shape of the latter stands out instantly. We cannot consider the straight and steep sides of the trapezoidal shape of Old Nisa as a natural one: the existing relief, a ridge that emerges from the plain of about 10 metres, had to be carefully regularised and cut into the almost trapezoidal shape we see today. This did not happen at New Nisa (Fig. 7), which originally rose much less above the plain (our perception today is distorted by the superimposed Islamic layers). We might think that such a deliberate regularisation of the hill is somehow connected to the sacred function of Old Nisa itself and to the visual meaning it must have had.

The main entrance is likely to have been in the middle of the western side (Fig. 4), where in the Middle Ages a road still ran from west to east. From this point, the lowest in the hill, it was possible to reach the nearby northern sector (Square House) to the left, or the Monumental Complex to the right, and, behind it, the southern blocks.

The Monumental Complex (or Central Complex), which lay on a raised terrace, consisted of buildings around a central open area. In order to rise above this height (ca. 3 m), the front of this court must have had a ramp or staircase; this area has not yet been systematically investigated.

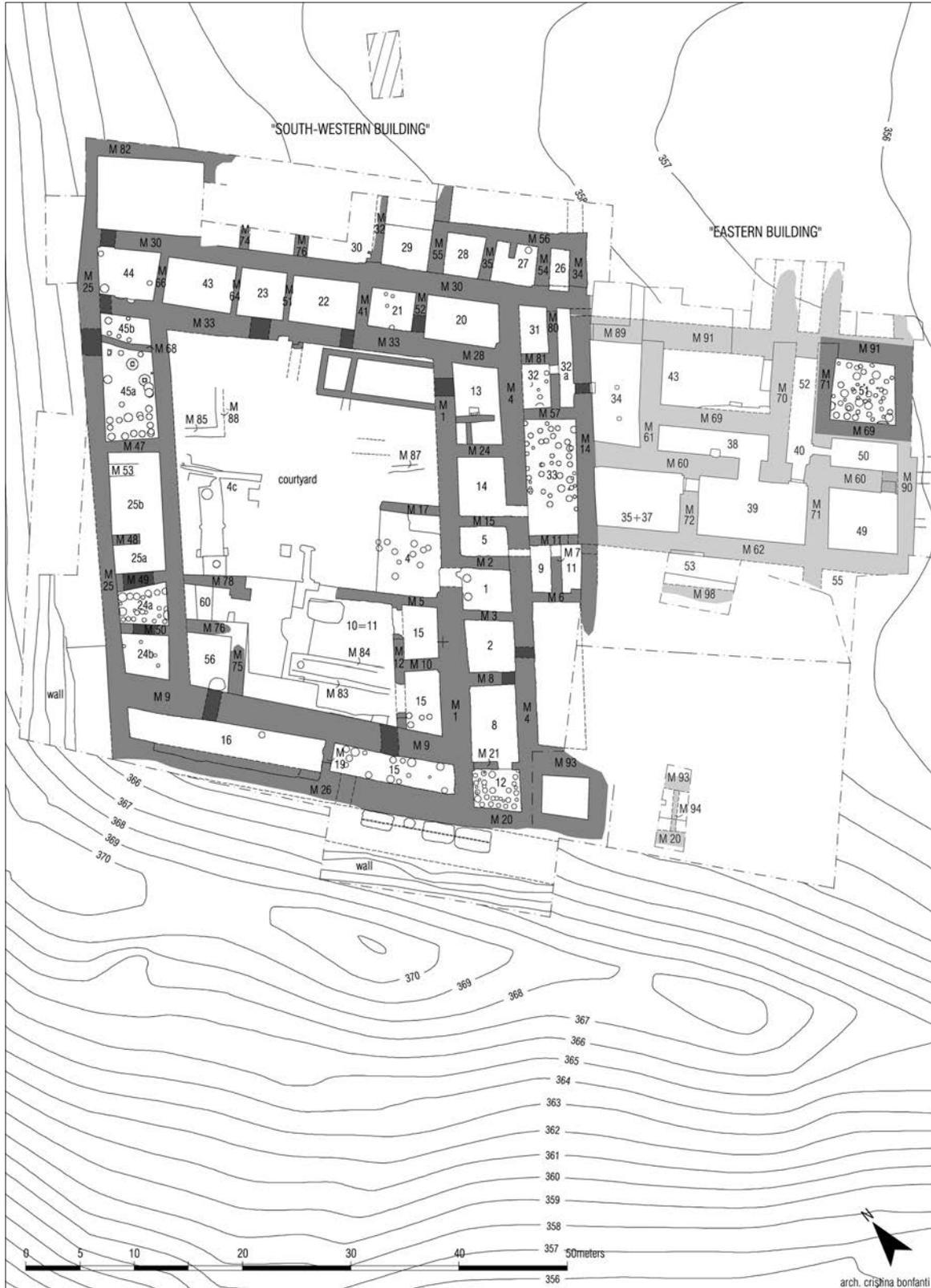


Fig. 6: The South-Western Building at Old Nisa: The spatial distribution of the *khums* inside the rooms (elaborated by C. Bonfanti).

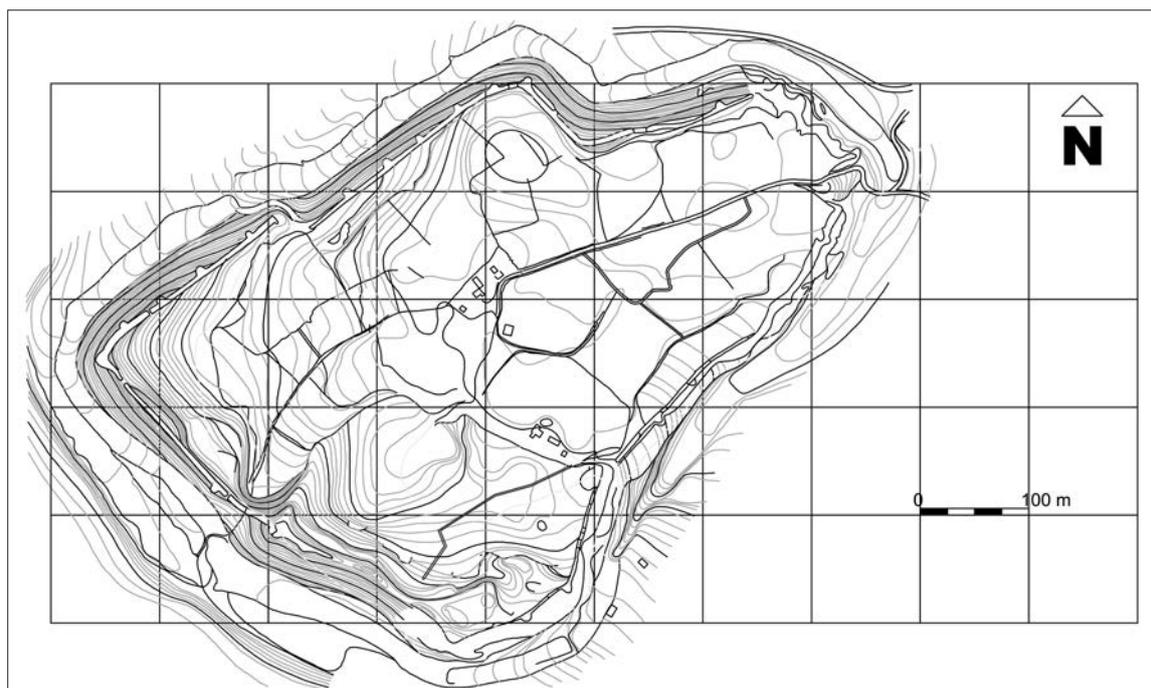


Fig. 7: New Nisa: Digitalised drawing of the 1936 topographic map of the site (elaborated by A. Barrocu).

A discussion of the planning of the single buildings at Nisa is beyond the aim of this study. What we can consider here, after almost a century of research, is the general organisation of the site. First, we can note that the plan here reflects the “state of art” in the period of maximum activity at the complex (i.e. between the 2nd and 1st century BCE).

Anyhow, even though Old Nisa is the result of a series of built interventions spread over two centuries or more, we may recognise the existence of an organic project that, at least in general terms, was anticipated from the beginning.

In general, it can be observed how the great ceremonial complexes, both the northern and the central, are placed side by side with, and possibly entirely surrounded by, large built areas used for storage, which sometimes could include production activities (food preparation, gypsum production, and so on). In addition to the well-known facilities to the east and south of the Square House, recent excavations have confirmed the presence of other storage areas on its north side as well.

Large storage jars (*khums*, indicated by circles) also emerged on the north side of the Monumental Complex, and, in particular, recent excavation in the south-western corner of the citadel brought to light an even larger storage complex (Fig. 6). Russian scholars, after only a few trenches limited in extent, supposed for this area the existence of a small house or of some military barracks flanked by open areas.¹⁴

¹⁴ According to short notes in the (sometimes unpublished) preliminary reports, Kraščennikova apparently inter-

In fact, the Italian excavations have established the presence of a large block of storehouses where flour, oil and wine were stored side by side, as well as other rooms perhaps intended for the food preparation, and also workshops.

The eastern limits of this building have not yet been identified on the ground: the micro-topography of the site seems to indicate that the block goes further to the east, along the fortification walls and almost as far as their middle section. In this way, the total length of the west-east side of the storage block would have matched the length of the southern front of the entire Monumental Complex.

Finally, the northern walls of this block were very close to the Monumental Complex, and we may suppose that the two areas were simply separated by a road. This demonstrates, once again, how the two sectors were linked functionally and even conceptually.

According to all this data, we may therefore suppose that all along the fortification walls of Old Nisa were storage areas as well as workshops and military barracks. The site of Old Nisa, in this way, would fully fit the tradition of the great Oriental sanctuaries, where ceremonial buildings are surrounded by economic and functional structures meeting the needs of the entire compound.

preted these structures as the remains of the watchman's house; Pugačenkova speaks more generally of military barracks and block along the fortification walls of Nisa.

Returning to New Nisa, this site must have been the city proper in a more extended settled territory comprising nearby Old Nisa and Mansur depe.

In spite of the Soviet surveys, and owing to the substantial depth of the Islamic layers (which attests to the importance of New Nisa during the Islamic age), it is still difficult to reconstruct the characteristics of Parthian urban planning. The more ancient layers have been reached through a few trenches limited in extent, with the sole exception of the northern side of the city, where a cultic complex and burial chambers of the late Parthian era have been found. The soundings in the south-west sector of the site, on the other hand, have produced traces of rather simple dwelling structures, perhaps pointing to a productive area.

The suburbs were no doubt less densely settled area, but no archaeological data is so far available. Also, for the rampart built of *pakhsa*¹⁵ identified by soviet archaeologist outside New Nisa, to the south of the hill, we do not have up-to-date information. The area supposed to be encircled by this earthen rampart apparently included only New Nisa and its suburbs, not Old Nisa. We do not know if the extension of this rampart can be supposed for the Parthian era, as the material coming from the soundings included only a few diagnostic Parthian pottery sherds among the more copious finds of Islamic pottery.

A final reflection on the earlier phases in the district of Nisa

Ancient cultural levels prior to the Hellenistic-Parthian period are not documented by excavations either in Old or New Nisa. Nevertheless, the presence of sporadic pottery fragments (from the Middle Bronze Age if not earlier) is attested in both the hills and in the surrounding area.¹⁶

Unfortunately, we do not have any trustworthy source relating to the foundation of Nisa. We have only some clues about the antiquity of the settle-

ment in this area. The following list summarises the archaeological evidence to date – mainly sporadic pottery sherds – related to the most ancient periods in the district of Nisa.

1. For the Northern Complex: The Square House of Old Nisa (YuTAKE expedition, 1951–1952), M.E. Masson reported some 2nd millennium pottery sherds (V.N. Pilipko more cautiously describes them as “pre-Arsacid”).

2. From the Central Complex of Old Nisa (YuTAKE and Parfianskaja Ekspedicija, 1950–1980s): reports mention three flint blades from the Tower Temple and one “Namazga I (ca. 3700–3500)” pottery sherd from the Tower Temple (*pomesenije* 2).

3. During the excavations of the Round Hall at Old Nisa (YuTAKE, 1951–1953), Kraščenninikova reported “Eneolithic pottery” and “Jaz pottery” (the latter, according Pilipko, could be “Namazga I” pottery).

4. Always from the Central Complex, Soviet reports mention several jars and bowl fragments of Jaz III/Achaemenid period. In response, we have to say that Hellenistic/Arsacid pottery in Parthia may display features (as, for example, carinated profiles and everted rims) that recall some Late Iron Age types: today, we cannot exclude the possibility that some of the so-called “Achaemenid pottery” is, in fact, of the Hellenistic or early Arsacid period.

5. Also in New Nisa, where no really extensive excavations have ever been carried out, Jeytun period (ca. 4500 BCE), Bronze and Iron Age pottery has been recorded in the southern and north-western areas of the site.

6. In the surroundings of Nisa, the presence of a Namazga I, Namazga IV (Early Bronze Age, ca. 2500 BCE) and Namazga V (2000–1600 BCE) settlements can be also supposed (as, for example, for some evidences near Geokcha) and these few pottery sherds could have been brought to Nisa from there. According to Pilipko, the Iron Age/Achaemenid pottery sherds could also come from the surrounding areas, or may have been transported inside the citadel along with the clay needed for the making of the bricks during the huge works of the Arsacid era; in particular, this pottery could have come from the low hill immediately to the north of Old Nisa (nowadays a military camp), where YuTAKE registered the presence of “Achaemenid pottery”.¹⁷

15 The building technique of *pakhsa* (i.e. beaten clay or *pisé*) is widespread at Nisa; it may appear together with the mud-brick technique in the same building, though the *pakhsa* is mainly used for the fortification walls and in the latest occupational phases.

16 An Islamic tradition is reported by the Arab historian Šihāb ad-Dīn Muḥammad an-Nisawī (13th century) regarding the construction of the platform foundation of the *shahristan* of New Nisa in the period of (the first) Hystaspes: the fortress would have been part of a defensive line on the northern frontier of the empire. A “royal Nisaea, in Parthia” is also mentioned by Pliny (VI, 25: 113) when he recalls the foundation of an Alexandropolis by the Macedon. Of course, in this case the problem of the identification of “Nisaea” with the Turkmen site (on a road likely not covered by Alexander’s army) raises several problematic issues.

17 PILIPKO 2001: 125–129, Fig. 99.



Fig. 8: Old Nisa: Pottery from a deep sounding in the central area (basins) of the site shows comparison with Anau II's production (Archive Centro Scavi Torino).

Taking into account data from recent Italian excavations, we think it is necessary to reconsider these assumptions, at least partially. Although we did not find ancient cultural levels or structures, we can in a preliminary way add more data and observations to the above picture:

1. Deep soundings in the south-western area of Old Nisa have revealed that a huge amount of levelling work was carried out, and not only in the central Monumental Complex. Large areas were probably flattened or levelled, with large amounts of virgin soil (bedrocks as well) being removed from some areas and unloaded in other. Possible ancient cultural layers would then have been completely removed or obliterated by the levelling carried out by the Arsacid kings.

2. Deep sounding in the northern "basin" of Old Nisa produced sherds that can be compared with some of the Anau II pottery from the site of Anau (generally dated to the end of the 4th/ the beginning of the 3rd millennium: **Fig. 8**). We cannot consider these fragments as sporadic, as they compose an almost entire jar; and this is not the only vessel, almost complete, coming from the above-mentioned sounding. Moreover, these pottery sherds and shapes are connected with a layer of ashes and gypsum (maybe a floor?) only partially intercepted by our trench. Although the

available data is still provisional and limited, we may consider this to be the first prehistoric cultural layer ever discovered in Old Nisa attesting to the presence of ancient phases at the site.

3. In the south-west area, layers cut by the Parthian levelling work and Islamic graves returned some flint blades and pottery sherds of the Jeytun and Namazga (?) cultures. We can also add the recovery of some little plaster fragments painted in a dark red that we cannot really consider as Parthian or Islamic in date.

According to this overall picture, then, we cannot totally rule out the presence of small prehistoric settled areas not only in the "surroundings" of New Nisa or Old Nisa, but also on the top of the two hills (which we know have been extensively inhabited only since the Parthian era). Unfortunately, at the moment we are not able to understand fully, or to define, the main features of these cultural phases, and it is also likely that some of these ancient layers have been levelled and removed by the substantial building activities of the Arsacids kings.

On the other hand, the picture seems to confirm the absence (or only sporadic presence) of Achaemenid materials in the Nisa district, even from the deepest trenches (as, for example, those dug by the YuTAKE along the fortification walls of New Nisa).

Bibliography

- BRUNO, J.
Forthcoming: Ceramics of the Parthian Homeland: New and Old Data on the Ceramic Production of the Early Arsacid Period from the Italian Excavations in Old Nisa (Turkmenistan), in: PEIGNARD-GIROS, A. (ED.), *Daily Life in a Cosmopolitan World: Pottery and Culture in the Hellenistic Period, Hellenistic Period. Proceedings of the 2nd Conference of the International Association for Research on Pottery of the Hellenistic Period*, Lyon, 2015.
- DIAKONOFF, I.M./LIVSHITS, V.A.
1976–1979: *Parthian Economic Documents from Nisa*, edited by D.N. MacKenzie (= Corpus Inscriptionum Iranicarum. Part 2: Inscriptions of the Seleucid and Parthian Periods and of Eastern Iran and Central Asia 2), 3 vols., London.
2001: *Parthian Economic Documents from Nisa, Texts I*, edited D.N. MacKenzie, A.N. Bader, N. Sims-Williams (= Corpus Inscriptionum Iranicarum 2: Inscriptions of the Seleucid and Parthian Periods and of Eastern Iran and Central Asia 2.1), London.
- ISIDORE OF CHARAX
Parthian Stations. An Account of the Overland Trade Route between the Levant and India in the First Century B.C. The Greek Text with a Translation and Commentary by W.H. Schoff, 1976 (reprint), Chicago.
- KOŠELENKO, G.A. (ED.)
1985: *Drevnejšie gosudarstva Kavkaza i Srednej Azii*, Moscow.
- LIPPOLIS, C.
2013: Old Nisa: Excavations in the South-Western Area. Second Preliminary Report (2008–2012), *Parthica* 15, 89–115.
- LIPPOLIS, C./MANASSERO, N.
2015: Storehouses and Storage Practices in Old Nisa (Turkmenistan), *Electrum* 22, 115–142.
- MASSON, M.E.
1952: Novye arheologičeskije dannye k istorii Parfii, *Izvestiâ akademii nauk Turkmenskoi SSR* 5, 14–20.
- PILIPKO, V.N.
1989: K voprosu o lokalizacij Parfavnisy, *Izvestiâ akademii nauk Turkmenskoi SSR* 2, 17–25.
1975: *Parfânskoe sel'skoe poselenie Garry-Kâriz*, Ashgabat.
1990: *Pozdneparfânskie pamâtniki Ahala*, Ashgabat.
2001: *Staraâ Nisa. Osnovnye itogiarheologičeskogo izučeniâ v sovetskij period*, Moscow.
2012: Remarks on the Material Culture of the Akhal Area in the Hellenistic Period, *Anabasis* 3, 109–125.
- PUGAČENKOVA, G.A.
1949: Arhitekturnye pamâtniki Nisy, in: MASSON, M.E. (ED.), *Trudy Ūžno-Turkmenistanskoj arheologičeskoi kompleksnoj èkspedicii. Tom 1*, Ashgabat, 201–259.
1952: Parfânskie kreposti Ūžnogo Turkmenistana (iz materialov rabot ŪTAKÈ), *Vestnik drevnej istorii* 40, 215–225.
1958: *Puti razvitiâ arhitektury Ūžnogo Turkmenistana pory rabovladieniâ i feodalizma* (= Trudy Ūžno-Turkmenistanskoj arheologičeskoi kompleksnoj èkspedicii 6), Moscow.