STORING OIL IN NISA

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Summary. An interesting group of ten ostraca dating back to the Parthian period comes from two rooms of the so-called south-western Building, in Old Nisa (Turkmenistan). These ostraca record quantities of oil stored in the north-eastern sector of the building and provide information on methods of storage and the chronology of relevant structures.

Key words: Old Nisa, south-western Building, oil, storage practices.

Резюме. Интересная группа из десяти остраков, относящаяся к парфянскому периоду, происходит из двух комнат так называемого Юго-Западного корпуса в Старой Нисе (Туркменистан). Эти остраки регистрируют количество масла, хранившегося в северо-восточном секторе здания, и предоставляют информацию о методах хранения и хронологии соответствующих сооружений.

Ключевые слова: Старая Ниса, Юго-Западный корпус, масло, способы хранения.

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This contribution, dedicated to the esteemed colleague V.N. Pilipko on the occasion of his 80th birthday, focuses on a series of ostraca from the south-western corner of Old Nisa (SW Area - Sector I of the Italian-Turkmen excavations: Fig. 1).[2] The structures brought to light in this area belong to a large complex situated along to the fortification walls and divided into two adjoining and connecting buildings, conventionally called 'south-western Building' and 'eastern Building' in the preliminary excavation reports (Fig. 2).

1. Context of discovery

The south-western Building consists of a large central quadrangular courtyard encircled by one or two rows of rooms,[3] which were originally destined for production and/or storage activities.[4] The so-called eastern Building, on the other hand, probably had a different function, since the features of its three east-west aligned rooms, each presenting two columns, seem to suggest a representative and/or residential character.[5]

The limits of this large complex[6] are clear only on its western and southern sides, which run parallel to the fortification walls, while they remain uncertain to the north and the east, where soundings have revealed traces of mud-brick walls extending well beyond the excavated area.[7]

[1] Paragraph 1. by C. Lippolis, paragraph 2. by E. Morano, paragraph 3. by both authors.

[2] The excavations in this part of the citadel of Old Nisa have not been completed yet. After a three-year suspension of fieldwork, archaeological activities resumed in 2019 with the investigation of an underground water system located at the south-western corner of the south-western architectural complex (*Lippolis*, 2019), before they were stopped once again by the pandemic.

[3] It is possible to ascribe the external row of rooms on the northern and eastern sides of the south-western Building to a later expansion of its original nucleus concentrated around the central courtyard.

[4] These activities could encompass food processing (as testified by the grindstones found in various rooms), firing activities (as documented by numerous ovens and fireplaces) and the manufacturing of gypsum stucco (in the north-western corner of the complex) (*Lippolis*, 2013).

[5] The drafting of the final report on the excavation of the south-western complex, which will better define the characteristics of the various sectors within the excavated area, is currently in progress. For insights into storage practices at Nisa and for a preliminary report see *Lippolis*, *Manassero*, 2015 and *Lippolis*, 2013, respectively. In previous works, the western quadrant (quadrangular courtyard and surrounding rooms) has been interpreted as an area essentially designated for the storage of goods, but also connected with manufacturing processes (see note 4), while, regarding the rooms of the eastern Building, it has been proposed that, in spite of their functional association with the nearby storerooms, they had a more residential or representative character and were potentially linked to the officer in charge of the administration of the storerooms. As already mentioned in note 3, the structures exposed by the excavations in this sector can likely be attributed to different building phases (two main ones), which saw the progressive northward and eastward expansion of the complex with respect to the original nucleus built from the south-western corner of the fortification walls.

[6] The excavations have covered an area of 80x65 m so far.

[7] The state of preservation of the structures on these two sides is very precarious, with only the foundations or impressions of walls surviving in some places. This is due both to strong erosion (to the east) and to mechanical damage caused by the transit of heavy vehicles for the transport of soil removed during old and recent excavations (to the north).

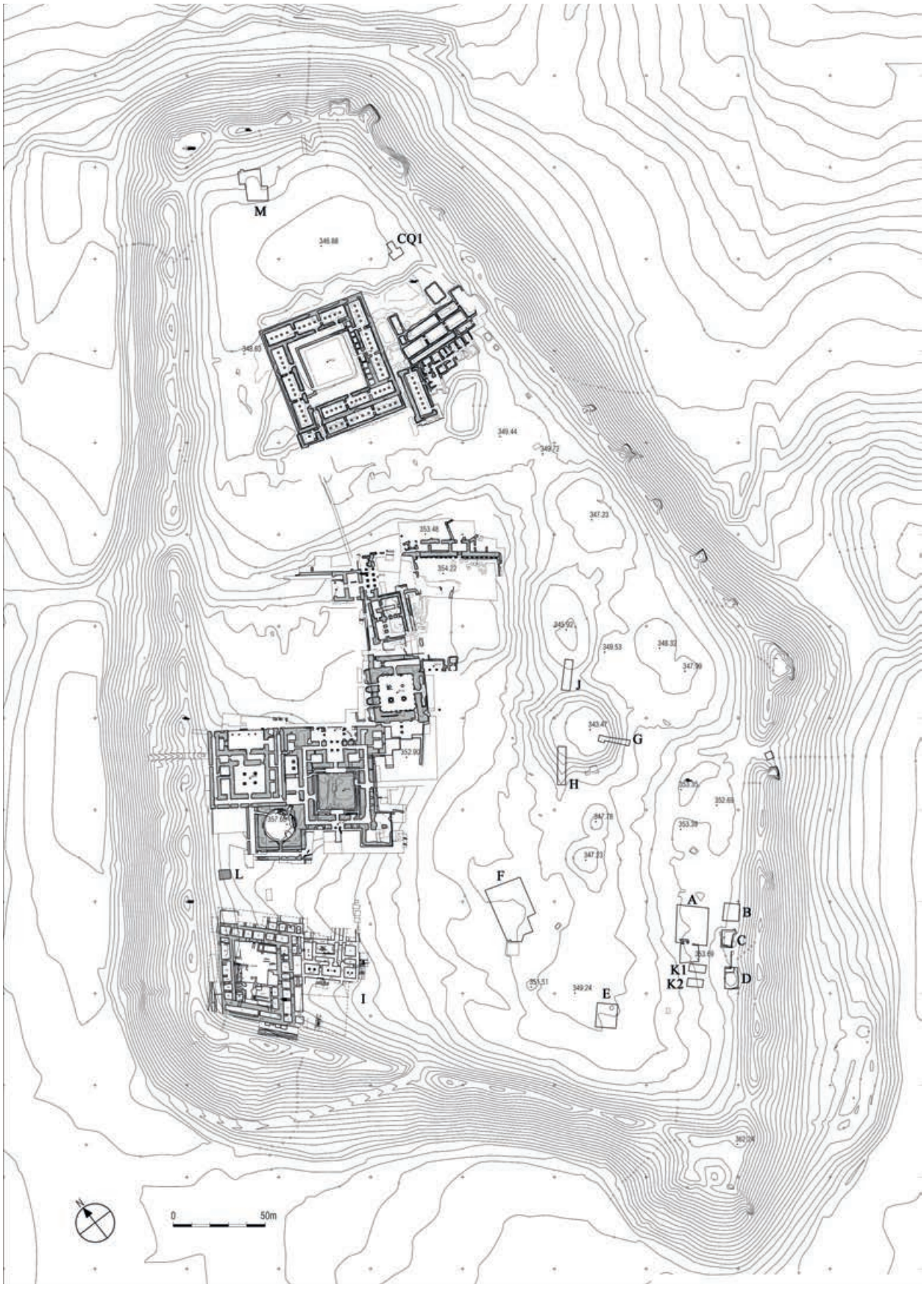

Fig. 1. General plan of Old Nisa (*C. Bonfanti* 2021)
Общий план Старой Нисы (*C. Bonfanti* 2021)

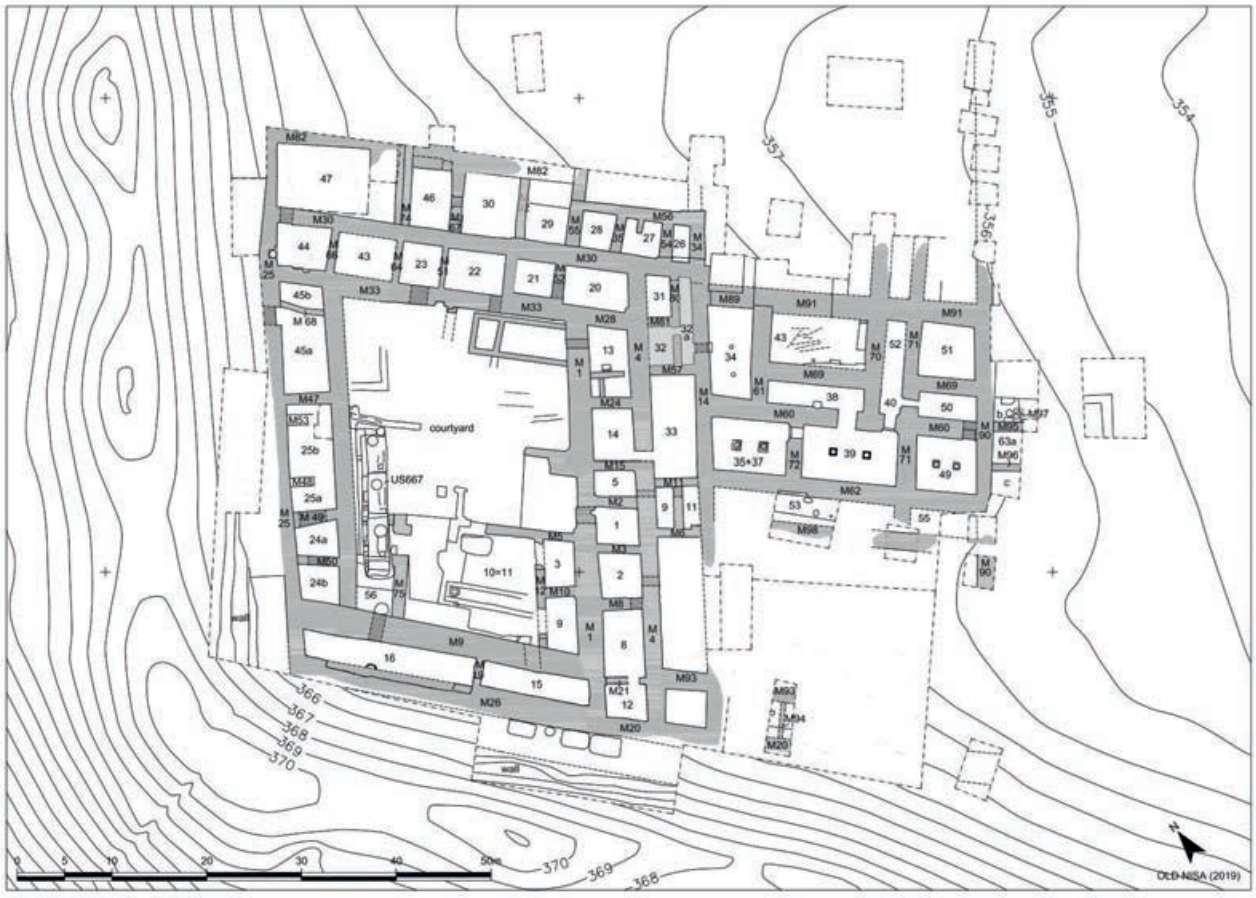

Fig. 2. Old Nisa, south-western Building, schematic layout (*C. Bonfanti*, 2021)
Старая Ниса, Юго-Западный комплекс, помещение 32 (*C. Bonfanti*, 2021)

Fig. 3. Old Nisa, south-western Building, room 32 (Archive: CRAST)
Старая Ниса, Юго-Западный комплекс, помещение 32 (Архив CRAST)

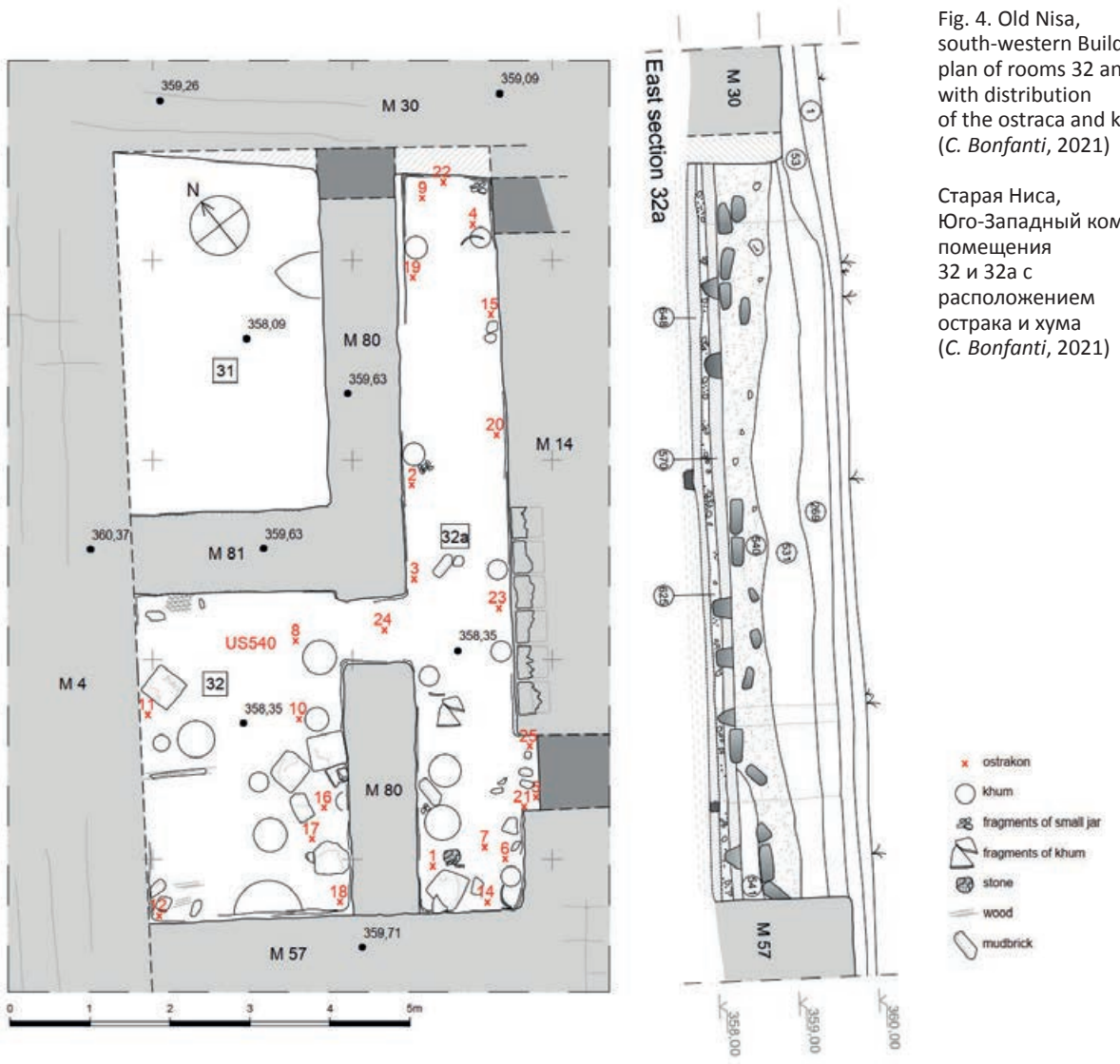

Fig. 4. Old Nisa, south-western Building, plan of rooms 32 and 32a with distribution of the ostraca and khum (*C. Bonfanti*, 2021)

Старая Ниса, Юго-Западный комплекс, помещения 32 и 32а с расположением острака и хума (*C. Bonfanti*, 2021)

The ostraca considered here have the common characteristic of mentioning oil as the content of large storage jars. With the exception of ostracon CH10.o5 (see below and note 17), they all come from two adjacent and connecting rooms (Room 32 and Room 32a) located in the north-eastern sector of the large complex of storerooms forming the south-western Building, which was excavated by the Italian-Turkmen archaeological expedition[8] between 2008 and 2015.

Room 32 and Room 32a came to be delimited with the erection of walls M80 and M81. Room 32a is a corridor with a length of 9,5 m and a width of 1,35 m, which communicates with the eastern sector of the complex through two openings[9] and with the adjacent Rooms 31 and 32, to the west (along wall M80), through two other passages. The southern passage, which is 84 cm wide, leads to a rectangular room (Room 32), whose dimensions correspond approximately to 2,5x4,1 m (Fig. 3).

Other rooms housing storage jars are found in the eastern wing of the south-western Building, which appears to have been at least partially constructed in a second building phase. Worthy of note is, in particular, Room 33, located immediately south of Rooms 32 and 32a (but not adjoining them) and characterised by the presence of more than forty holes in the floor for the lodging of small, medium and large jars.

With regard to Room 32 and Room 32a, hollows for the housing of *khums* and sparse body sherds belonging to these containers were detected in association with the second floor level. Many of the excavated ostraca come from inside these holes (at times partly dug into the virgin soil) or from their immediate proximity, and particularly from the collapse layer covering the second floor level (Fig. 4). An important consideration concerns the arrangement of the *khums*, which, more than elsewhere, appears to be orderly and carefully planned. Indeed, as evidenced by the hollows in the floor, *khums* would have been neatly placed along

[8] The Italian-Turkmen Archaeological Expedition has been active in Old Nisa since 1990, is sponsored by the Centro Ricerche Archeologiche e Scavi di Torino (CRAST), the University of Torino and the Italian Ministry of Foreign Affairs and International Cooperation, and works in collaboration with the National Department for Protection, Research and Restoration of Historical and Cultural Monuments of the Ministry of Culture of Turkmenistan.

[9] The south-eastern passage in wall M14 has been entirely cleared. More uncertain is the presence of another passage in the same wall, at the opposite end of the corridor, which might have been filled during a later phase, in a sector where structural collapses have complicated the reading of structures.

the walls, mainly on the sides of Room 32a, but also, although less systematically, along wall M80, in Room 32. This agrees with what was recorded during the excavation, namely the original existence of a single, larger room (or perhaps an open space?), which was later subdivided into Rooms 31, 32 and 32a through the construction of walls M80 and M81 (the *terminus ante quem* for this second building phase can be partially established based on the dates reported on some of the ostraca discussed here, see below). As confirmation that these two walls belong to a later phase compared to the others in the same sector (such as wall M4 and wall M14), the choice of building material appears unusual in their preserved upper part, as they are both made of reddish brick fragments, earth and gravel, while their lower part consists of courses of the same bricks that are traditionally used in Nisa. Moreover, their base lies on the latest floor level recorded in the sector and not on the virgin soil, as is the case for wall M4 and wall M14.

The stratigraphic sequence in the rooms considered here sees a first level (US648, elevation = 358,01 m), which may correspond to the earliest floor level (or a preparatory layer?), resting directly on the virgin soil and consisting of pressed clay. In Room 31 and Room 32a, this was covered by a levelling layer of soft clay, on which the second floor (US570, elevation = 358,17 m) was set, flush with walls M80 and M81, which therefore relate to the latest building phase documented in this sector. This second floor was sealed by two collapse layers (US540 and US541, the latter concentrated at the south-eastern corner of Room 32a) including fragments of *khums*, ostraca and sealings.[10] Above these strata, there was a thick layer of clay devoid of materials extending up to the top of the preserved walls and corresponding to an abandonment layer of windblown sediment, which is frequently observed in Nisa. Finally, the top of the walls was covered by two superficial strata: a soft, dusty layer and the topsoil.

A total of twenty-four ostraca emerged during the excavation of Room 32a and Room 32. Some of these were found in proximity to the holes for the insertion of *khums* (sixteen recorded) identified in the floors of the two rooms. Among the recovered ostraca, seven from Room 32a and three from the adjacent Room 32 contain the word 'oil'.

Mentions of oil, although already attested from Old Nisa, are not very frequent. In the over 2700 published ostraca, there are only four more or less explicit references to this product. Only two of the ostraca included in the series "*Parthian Economics Documents from Nisa*"[11] *deal with MŠḤ*'- 'oil'; in particular, the term appears in ostraca no. *2629 (Nova 355 int.)[12] and no. 2642 (Nova 306)[13] from Old Nisa. Two other ostraca from the site, published by V.N. Pilipko and V.A. Livshits,[14] originate from the Central Building Complex. On these, the content of jars is referred to as *WMŠ(Ḥ)*, translated as 'and butter'(ostracon no. 10, from the Tower Temple),[15] and as *šrp* (equal to Parthian *čarb*), rendered as 'fat' (ostracon no. 13, from the Building with the Square Hall), respectively.[16]

The usage of the arameogram *MŠḤ'*, which mainly indicates olive oil in the Semitic tradition, could lead to think that this was indeed the product stored in jars in Nisa. In general, however, mentions of olive oil or relative findings are quite rare in Central Asia.[17] For example, the third-century AD Chinese historical text "*Weilüe*", by Yu Huan, does not list olive oil among the Roman goods reaching China from the West, even though this does not represent conclusive evidence of an absence of this product in the area.

In this context, a recent finding in Kafyr Kala (Uzbekistan) by a Japanese team of the Tezukayama University of Nara, is of particular interest, albeit ascribable to a later historical period. This discovery, which currently awaits final publication, is relevant to a 'royal pantry' containing jars that were likely destined for the storage of wine and olive oil in the palace of the Sogdian ruler Tarhun.[18]

All the other ostraca from Rooms 32 and 32a are poorly legible or completely illegible and, therefore, the occurrence of the term 'oil' on at least some of them cannot be excluded *a priori*. In any case, it does not seem far-fetched to propose that this sector of the building, and particularly Rooms 32 and 32a, was mainly (if not exclusively) used for the storage and preservation of oil. It is also worth mentioning that the designation *'ṬYQ MŠḤ'*, 'old oil', is here documented for the first time at Nisa (ostraca CH12.o1, CH12.o2, CH12.o3, CH12.o5 and CH12.o11).

[10] Four fragments of clay sealings (CH12 S01-S04) come from Room 32a. One of these displays a concave side that appears consistent with the impression of the rim of a storage jar. The seal impressions registered on these sealings, when present, are not legible.

[11] *Diakonov, Livshits*, 2001.

[12] *Ibidem*. P. 173: */1/ To Afzarut (?) 1 h. of linseed (?), /2-3/ 3 k. 2 ah. 3 x. of wine, 2 . . . of vinegar, 3 k. of oil. To Human (?) /4/ 3 k. 1 ah. of wine, 1 ah. of oil, /5/ 1 ah. of vinegar*.

[13] *Diakonov, Livshits*, 2001. P. 174: "The document appears to be a register of deliveries of flour and oil, but line 6 contains an unexpected *'LYMK* 'thy servant'. Or to be read *'L YMN* 'for (the) days', cf. *'L YWM'* in no. 2628?". Ostracon no. 2635 is not included here, as, excluding Livshits' published note ("Record of totals of receipts and issues of wine and oil"), none of its signs seems to clearly refer to oil (line 2 contains the signs *'R . ŠH*, which, however, are simply rendered as "designation of a product" in note 3), see *Diakonov, Livshits*, 2001. P. 173-174. See also Diakonov et al., 1951 and Bader, 1996.

[14] *Livshits, Pililko*, 2004.

[15] *Ibidem*, P. 167-168. Here *MŠḤ'* is translated as 'butter', while in a former publication (*Diakonov, Livshits*, 2001) it is always rendered as 'oil'. Concerning the translation of this term, it seems preferable to opt for 'oil' rather than 'butter', as, in the ostraca presented here, the relative unit of measurement is that used for liquids (i.e. *mari*). Moreover, the adjective that sometimes accompanies this term, *'TYQ* ('old'), seems appropriate if associated with 'oil', but not with 'butter'. Indeed, it can perhaps be hypothesised that the expression 'old oil' referred to oil from previous years' harvests, or to a product not destined for human consumption, such as the oil used as fuel for oil lamps.

[16] *Ibidem*, P. 171.

[17] *Spengler III*, 2019. P. 216: Russian olives (*Elaeagnus spp.)* are still cultivated in the foothills of Uzbekistan and in the Khorezm Oasis, along the southern coast of the Aral Sea, where these olive trees appeared as early as the 4th or 3rd century BC.

[18] https://newsinfo.inquirer.net/1404912/look-remains-of-royal-pantry-uncovered-in-samarkand and http://www.asahi.com/ajw/articles/14254419?fbclid=IwAR3JgAicg567rOcMetULb5u4QuL-y0hfhiYLXRFtB6fcHXcFKLPZWYQRtws.

Fig. 5. Ostracon CH10.o5
остракон CH10.o5

Fig. 6. Ostracon CH12.o1
остракон CH12.o1

Fig. 7. Ostracon CH12.o2
остракон CH12.o2

Fig. 8. Ostracon CH12.o3
остракон CH12.o3

Fig. 9. Ostracon CH12.o5
остракон CH12.o5

Fig. 10. Ostracon CH12.o11
остракон CH12.o11

Fig. 11. Ostracon CH12.12
остракон CH12.12

Fig. 12. Ostracon CH12.o16
остракон CH12.o16

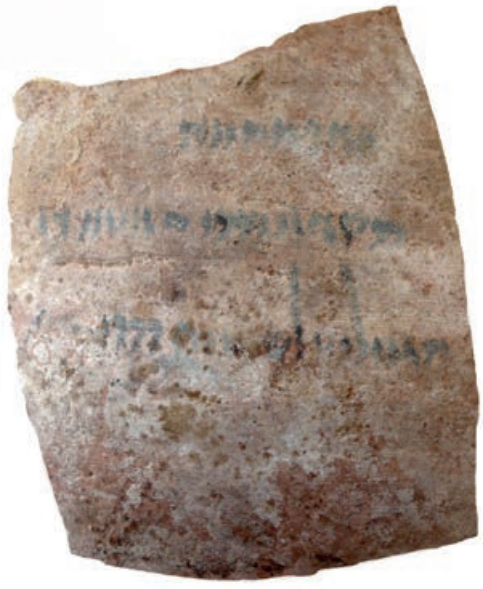

Fig. 13. Ostracon CH12.o19
остракон CH12.o19

Fig. 14. Ostracon CH12.o22
остракон CH12.o22

Fig. 15. Ostracon CH12.o24
остракон CH12.o24

A further aspect of interest, briefly mentioned above, is the presence of dates on some of these ostraca. Four of the ostraca from Room 32a bear indication of the following years of the Arsacid Era: 200 (CH12.o1), 160 (CH12.o2), 180 (CH12.o3) and 161-169 (CH12.o19).[19] Similarly, three ostraca from Room 32 mention the years 162 (CH12.o11), 161 (CH12.o12) and 162 (CH12.o16).[20] Thus, the documented chronological span seems to extend approximately from 88 BC, *terminus ante quem* for the second building phase in this sector (with the construction of walls M80 and M81 and the creation of Rooms 31, 32 and 32a), to 48 BC (date reported exclusively on one ostracon).[21]

Among the ostraca listed here, ostracon CH10.o5 (the first of the list) is the only one that does not belong to the aforementioned group, as it comes from a different context, Room 30, which is about 25 m away from Rooms 32 and 32a.

2. Ostraca from the north-eastern sector of the south-western Building (SW Area, Sector I)

CH10.o5 (Fig. 5)
11.3x11.4x2 cm. SW Area, Sector I, Room 30, US (= SU) 162. Ostracon, from a sherd of a *khum*.
Side A: 3 lines, incomplete (top right corner broken off).

/1/ H](YTY?) MŠḤ’
/2/ III k III
/3/ [.....]('L Š)[NT I C](XX XX) X III

/1/ brought(?) oil /2/ 3 ... 3 k. /3/ (for the year 1)53(?)

CH12.o1 (Fig. 6)
11.9x6.8x1.1 cm. SW Area, Sector I, Room 32a, US (= SU) 541. Ostracon, from the base of a vessel (jar?).
Side A: 4 lines, clearly legible.
/1/ B ḤWTH Z[NH]
/2/ 'TYQ MŠḤ’
/3/ mry III III III k III
/4/ Q’YLt 'L ŠNT II C

/1/ In this jar /2/ old oil /3/ 9 mari 3 k. /4/ accounted for the year 200

CH12.o2 (Fig. 7)
10x9.5x1.7 cm. SW Area, Sector I, Room 32a, US (= SU) 540. Ostracon, from a body sherd of a *khum*.
Side A: 6 lines, clearly legible.

/1/ (ŠNT I C XX XX XX) B ḤWT(')
/2/ ZNH 'TYQ MŠḤ’
/3/ mr(y) X III III (III)
/4/ k I ZY Q’YLW
/5/ mtrbwzn
/6/ SPR’

/1/ Year 160 in this /2/ jar old oil /3/ 19 mari /4/ 1 k. which was taken into account /5/ Mihrbōžan[22] /6/ scribe

CH12.o3 (Fig. 8)
16.9x8.9x2.8 cm. SW Area, Sector I, Room 32a, US (= SU) 540. Ostracon, from the base of a *khum*; white slip (or more likely gypsum).
Side A: 5 lines, legible.

/1/ B ḤWT(H) [ZNH]
/2/ ('TYQ) MŠḤ’
/3/ (...) III H III k II
/4/ ŠNT I C XX XX XX XX
/5/ (III H IIII)[.]

/1/ in [this] jar /2/ old oil /3/ ... 3 h. 2 k. 2 /4/ year180 /5/ 3 h. 4 ...

CH12.o5 (Fig. 9)
7.7x8.4x1 cm. SW Area, Sector I, Room 32a, US (= SU) 540. Ostracon, from a body sherd of a vessel (jar?). Inscription located on the outer surface.
Side A: 4 lines, clearly legible.

/1/ B ḤWTH (ZNH)
/2/ 'ṬYQ MŠḤ’
/3/ mry III I k II
/4/ ’H I Q’YLt

/1/ In this jar /2/ old oil /3/ 4 mari 2 k. /4/ 1 ah. accounted

CH12.o11 (Fig. 10)
7.5x5.4x2.1 cm. SW Area, Sector I, Room 32, US (= SU) 540. Ostracon, from a body sherd of a *khum*. Inscription located on the outer surface.
Side A: 6 lines, partially legible.

/1/ (ŠNT I C) XX XX XX II
/2/ B (ḤWT’) ZNH
/3/ ['](T)[YQ MŠḤ'...](.)
/4/ (...)[.....](Q’Y)LW
/5/ mtrbwzn
/6/ SPR’

/1/ year 162 /2/ in this jar /3/ ol[d oil?] /4/ [...] accounted /5/ (for) Mihrbōžan[23] /6/ scribe

CH12.o12 (Fig. 11)
9.1x11.1x1.2 cm. SW Area, Sector I, Room 32, US (= SU) 540. Ostracon, from a body sherd of a vessel (jar?). Inscription located on the outer surface.
Side A: 3 lines, clearly legible.

[19] For what concerns Room 32a, these years correspond to 48/47, 88/87, 68/67 and 87/78 BC(?), respectively.
[20] For what concerns Room 32, these years correspond to 86/85, 87/86 and 86/85 BC, respectively.
[21] A different, older date is apparently recorded on ostracon CH10.o5, which comes from a disturbed context in Room 30, north-west of the sector considered here. The ostracon, in truth poorly legible, bears indication of the year (1)53 (although the reading of the date is uncertain), which would correspond to 95/94 BC.
[22] On this name, see *Livshits*, 2010. P. 110. N. 352. The scribe Mihrbōžan is also mentioned in CH12.o11, see below.
[23] See above, on CH12.o2.

/1/ B ḤWT[24] *ZNH MŠḤ'*
/2/ mry X III II H'LT[25]
/3/ 'L ŠNT I C XX XX XX I

/1/ in this jar oil /2/ 15 mari delivered /3/ for the year 161

CH12.o16 (Fig. 12)
13.2x9.4x1.8 cm. SW Area, Sector I, Room 32, US (= SU) 571. Ostracon, from a body sherd of a *khum*. Inscription located on the outer surface.
Side A: 7 lines, clearly legible.

/1/ ŠNT C XX XX XX II
/2/ B ḤWT' ZNH
/3/ (..)tk/n MŠḤ'
/4/ mry X III II
/5/ (ZY) Q'YLW
/6/ mtrbwzn
/7/ SP(R')

/1/ year 162 /2/ in this jar /3/ ?? oil /4/ 15 mari /5/ which has been taken into account (for) /6/ Mihrbōžan[26] /7/ scribe

CH12.o19 (Fig. 13)
11.4x9.4 cm. SW Area, Sector I, Room 32a, US (= SU) 540 (passage leading to room 34).
Ostracon, from a body sherd of a globular jar. Inscription located on the outer surface.
Side A: 3 lines, mostly clearly legible.

/1/ B ḤWTH ZNH
/2/ MŠḤ' mry X III III (..)
/3/ Q'YLW 'L ŠNT I C XX XX XX (I....)

/1/In this jar /2/oil mari 16 /3/ accounted for the year 16(.)[27]

CH12.o22 (Fig. 14)
9.5x9.8x0.8 cm. SW Area, Sector I, Room 32a, US (= SU) 540. Ostracon, from a fragment of a roof tile or ceramic drainpipe (?). Inscription located on the outer surface.
Side A: 3 lines, legible.

/1/ B ḤWT(H) ZNH (MN d/r)myt MN
/2/ kwzry hwmny MŠḤ'
/3/ (mry)X 'H III I

/1/ In this jar from Dāmyāt/Rāmyāt[28] from /2/ Human[29] from Kōzar[30] oil /3/ 10 mari 4 ah.

CH12.o24 (Fig. 15)
9.4x10.4 cm. SW Area, Sector I, Room 32a, US (= SU) 540 (passage leading to room 32). Ostracon, from a body sherd of a *khum*. Inscription located on the outer surface.
Side A: 2 lines, partially legible and likely incomplete.

/1/ B ḤW(T' ZN)H MŠḤ'
/2/ m(ry) (....'L) [...][31]

/1/ In this jar oil /2/ ... mari for ...

3. Concluding remarks
In conclusion, the available archaeological data and the information provided by the group of ostraca presented in this paper allow to reconstruct a rather accurate picture of the organisation and function of the north-eastern sector of the south-western Building. A large room, originally enclosed by walls M4 to the west, M30 to the north, M14 to the east and M57 to the south, was at a some point subdivided into three rooms through the construction of two walls, M80 and M81, ascribable to the same building phase as the second floor level identified in the area. During this phase, to be dated to the beginning of the 1st century BC according to the years reported on some of the ostraca, large jars (*khums*) were neatly arranged along the walls of Rooms 32 and 32a, while no traces of storage activities have emerged in Room 31. The orderly arrangement of the *khums* along walls M80 and M81, which, as already mentioned, were erected in a second building phase, constitutes evidence that the jars are to be related to this later structural intervention.

At least a dozen of the storage jars in Rooms 32 and 32a contained oil, although it is not clear of which type. The years reported on the ostraca from these two rooms seem to indicate that they had been used specifically for the storage/conservation of oil for a rather long period, corresponding to at least forty years, between 88/87 BC and 48/47 BC.[32] Furthermore, the specific indication *'ṬYQ MŠḤ'* - 'old oil' appears here for the first time at Nisa.

Finally, the collation of all these data raises the question of the chronological attribution of the entire south-western complex and its different building phases. Indeed, an absolute date for its erection is not available at this stage; however, since the construction and use of Rooms 32 and 32a are to be dated to the very beginning of the 1st century BC, the original layout of the complex can reasonably be placed in the 2nd century BC. Accordingly, it is possible to attribute the south-western complex to one of the first building phases at Old Nisa.

[24] The final *'* or *H* is missing.
[25] A mistaken spelling for *HN'LT*?
[26] On this name, see *Livshits*, 2010. P. 110. N. 353.
[27] After the three signs for '20' there is space for about 6 characters. Perhaps the year could be 166.
[28] The word *d/rmyt*, which can be read either as Dāmyāt or Rāmyāt, is attested elsewhere at Nisa; see *Diakonov, Livshits*, 2001. P. 190; *Livshits*, 2010. P. 82. N. 182.
[29] See: *Livshits*, 2010. P. 91. N. 237
[30] The reading of the relevant signs is uncertain, but if *kwzr* is accepted as the correct interpretation, the word can be taken to refer to an estate whose name is largely documented at Nisa; see: *Livshits*, 2010. P. 191. N. 829.
[31] After *'L*, which translates as 'for', either the space is left blank or the text is broken off.
[32] Ostracon CH10.o5 is excluded, as it is perhaps slightly older and comes from a different context (see note 21).

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