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Introducción

El antiguo Irán, Persia, pero también Elam, constituye un ámbito de estudio apasionante del que cada vez tenemos más información. El número vigésimo sexto de nuestra revista hace un repaso por distintos aspectos que son objeto de investigación en la actualidad, y lo hace de la mano de investigadores iraníes, franceses, italianos y españoles.

Solemos recordar que la inscripción de Darío en Behistun fue la llave a partir de la cual se pudo descifrar el cuneiforme. La inscripción estaba escrita en persa antiguo, en babilonio y en elamita. A partir del persa se pudo comenzar a descifrar el babilonio, y el elamita tardaría algo más. Es muy interesante que la inscripción estuviese escrita en la lengua originaria de la zona, y que los aqueménidas lo reconociesen con su inscripción como tal. Visiones exógenas y posteriores no siempre han querido ver esta vinculación.

El trabajo de Silva Balatti sobre materiales inscritos del Irán aqueménida continúa una línea de trabajos sobre la escritura irania que aún hoy nos da alegrías y resultados interesantísimos.

La arquitectura irania es objeto de varios artículos en este volumen. El de Davide Solaris y Roberto Dan sobre el significado y la arqueología de Masjed-e Soleyman, reinterpretando su origen y su contexto socio-cultural, es el primero de ellos. El trasvase cultural que estudia Pierfrancesco Callieri de parte de babilonios en Persépolis nos habla de arquitectura, pero también de arqueología y de la información que obtenemos de ellas.

Carlos Fernández Rodríguez aborda la gestión del agua y de su papel en la habitabilidad en el sur de Irán durante la Edad del Hierro, que debe relacionarse con lo que sucede al otro lado del Golfo. Fernando Escribano Martín indaga en lo que conocemos como “jardín persa”, en sus orígenes y en cómo ha evolucionado, y para eso debe partir de Pasargada en Persia, pero ir también más atrás para comprenderlo.

Sébastien Gondet aborda el desarrollo de la agricultura y la historia de la ocupación de la Persépolis aqueménida, aspecto clave para entender el funcionamiento de la capital persa, y Alireza Khounani los viñedos de la Nisa arsácida parta, un ejemplo concreto de agricultura y de comercio en otro periodo clave de la historia irania.

El ámbito material viene tratado con el trabajo de Giulio Maresca sobre la cerámica de Sistán en la Edad del Hierro, o el estudio más específico de Negin Meri sobre una bulla concreta conservada en una institución museística de Teherán.

Cerramos esta temática tan variada e interesante que hemos ido tratando de agrupar en esta introducción con el trabajo de Zahara Gharenkhani, en el que realiza unas reflexiones sobre criaturas híbridas de la Persia preislámica y recapacita sobre su simbolismo, que va mucho más allá del tiempo en el que fueron concebidas.

La panoplia de estudios de diverso orden que aquí presentamos da cuenta del rico mundo que se está investigando en torno al Irán antiguo, cuyas manifestaciones elamita y persa, cada vez más claramente vinculadas, trascendieron también en el tiempo y en el espacio.

F. Escribano Martín, C. del Cerro Linares, C. Fernández Rodríguez y F. L. Borrego Gallardo

Foreword

Ancient Iran, Persia, and Elam constitute a fascinating field of study about which we have more and more information. The 26th issue of our journal allows a revision through several aspects of the current research along with Iranian, French, Italian and Spanish scholars.

We usually remember that cuneiform was deciphered thanks to the Darius' inscription in Behistun. It was written in Old Persian, Babylonian and Elamite. From Persian, it was possible to start deciphering the Babylonian, even if the Elamite took more time. It is indeed very interesting that the inscription was written in the native language of the region, and that Achaemenids recognised it. Some outside and later views have not understood this correlation.

The study of Silvia Balatti about written materials of Achaemenid Iran continues a line of research about the Iranian writing system that even today provides very interesting results.

The Iranian Architecture is the aim of some papers in this issue. The first one is the contribution of Davide Solaris and Roberto Dan about the signification and the archaeology of Masjed-e Soleyman, reinterpreting its origin and socio-cultural context. In the same way, the cultural transfer on behalf of Babylonians in Persepolis analysed by Pierfrancesco Callieri is related to architecture but also to Archaeology and to the information that we obtain from them.

Carlos Fernández Rodríguez explores water management and its function in the habitability of Southern Iran during the Iron Age, showing that it is to the situation on the other side of the Gulf. Fernando Escribano Martín investigates what we know as the 'Persian garden', as well as its origins and development. To do this, he should start from Pasargadae in Persia, but also from more ancient times.

Sébastien Gondet analyses agriculture's development and history of the Achaemenid Persepolis' occupation, which is a key aspect for understanding the functioning of this Persian capital. On the other hand, Alireza Khounani presents the vineyards of the Arsacid-Partian Nisa, a concrete example of agriculture and trade in another important period of Iranian history.

In terms of material culture, Giulio Maresca presented a paper about the Sistan pottery in the Iron Age, and Negin Meri developed specific research of an example of a bulla kept in a Museum of Teheran.

We close this wide ranging and interesting theme that we group in this foreword with the studies of Zahara Gharenkhani reflects on some hybrid creatures of the Pre-Islamic Persia, reconsidering their symbolism, which goes beyond the time when they were conceived.

The array of studies of different kind that we present in this issue accounts for the rich world that is under investigation around Ancient Iran, whose Elamite and Persian manifestations, progressively more related, transcend both in time and space.

F. Escribano Martín, C. del Cerro Linares, C. Fernández Rodríguez and F. L. Borrego Gallardo

THE VINEYARDS OF PARTHIAN ARSACID NISA (151–15 BCE): RENT FARMING AND CASH CROP AGRICULTURE FROM THE PERSPECTIVE OF THE OSTRACA

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ABSTRACT

This paper demonstrates that primarily private rent farmers oversaw wine production at Arsacid Old Nisa. The royal administration protected the frontier, resourced labor for irrigation, and collected the king's tribute from privately managed estates. Minimal interference in production, along with the introduction of a silver tax, compelled farmers to prioritize grapevines as cash crops. They engaged in commerce to fulfill their tax obligations. An unprecedented surge in productive activities reshaped the landscape of the Kopet-Dag mountain range. The primary evidence under examination is the Parthian ostraca from the royal storehouses in Old Nisa.

KEYWORDS

Ostraca, Cash crop, Storehouses, Arsacid Empire, Old Nisa, Turkmenistan.

RESUMEN

Este artículo demuestra que la producción de vino en la residencia real parsa Arsácida en la antigua Nisa (la actual Asjabad, Turkmenistán) estaba supervisada principalmente por arrendatarios privados. La administración real protegía la frontera, proporcionaba mano de obra para la irrigación y recolectaba el tributo del rey de las fincas gestionadas de forma privada. La mínima interferencia en la producción, junto con la introducción de un impuesto en plata, obligaba a los agricultores a priorizar las vides como cultivos comerciales y a participar en el comercio para cumplir con sus obligaciones fiscales. Un aumento sin precedentes en las actividades productivas transformó el paisaje de la cordillera de Kopet-Dag. La principal evidencia bajo examen son los documentos en ostraca partos descubiertos en los almacenes reales de la antigua Nisa.

PALABRAS CLAVE

Ostraca, Cultivo comercial, Almacenes, Imperio Arsácida, Antigua Nisa, Turkmenistán.

1. Introduction

The Arsacid period sites, Old and New Nisa, are adjacent mounds in the Bagyr neighborhood of Ashgabat, western Turkmenistan, approximately 20 kilometers east of the Iranian border and Northern Khorasan province. This paper focuses on Old Nisa, as archaeological excavations there yielded most of the economic ostraca¹. The transliteration of the Parthian terms in the ostraca are included in parentheses².

Archaeological and literary evidence, particularly the ostraca, shows that private rent farmers were the primary force in agricultural production, particularly of wine, that transformed the Nisa valley landscape. The Arsacid royal administration had minimal

¹ An ostrakon (Greek: ὄστρακον) is a ceramic fragment bearing inscribed or inked writing. Interpreting the content hinges on discerning if it was applied before or after the vessel's breakage, each situation serving distinct purposes. When writing was on a whole vessel, it often labeled its contents. Yet, on a broken potsherd, it served different purposes like receipts, lists of deposits, lexical exercises, letter communication, omens, and medical prescriptions.

² I would like to warmly thank my mentor, Dr. Mahnaz Moazami (Associate Research Scholar at Columbia University's Ehsan Yarshater Center for Iranian Studies), for reviewing the transliteration of the Parthian words.

involvement in production, and concentrated instead on establishing stable political, legal, and infrastructural frameworks to support and streamline production. An effective tribute system was designed to collect the king's share from privately managed vineyards (*raz*).

The Arsacid Empire's political framework maintained a single dynasty that ensured territorial integrity over most of its 400-year rule across western Central Asia, Iranian Plateau, and Mesopotamia (247 BCE–224 CE)³. The legal framework encompassed the role of the King of Kings as the supreme judge, settling local disputes and conflicts, and safeguarding contractual agreements. The infrastructural framework involved the administration's direct or indirect role in sourcing labor for irrigation. The kings incentivized local rulers and satraps through rewarding such productive endeavors.

The king's order to collect tribute in silver compelled farmers to participate in trade (see Part 4.2). Increased mobility and the expansion of irrigation canals into arable lands attracted a growing population and a large number of new settlements in the Kopet-Dag region.

Apart from archaeological evidence⁴, the primary proof of an Arsacid administration at Old Nisa comes from the ostraca. In the archaeological excavation of the wine storage area in Old Nisa's Northern Complex, over 2700 ostraca were unearthed, containing 2758 texts in Parthian⁵. A smaller set of ostraca was also found in the Central Temple and Palace Complex, along with seven ostraca from New Nisa⁶.

The wine storage rooms in Old Nisa had holes in the floor for large ceramic vessels locally called *khum*⁷. Most ostraca are labels for these jars, detailing their contents. A smaller collection of inscribed potsherds includes lists of deposits, primarily wine but not exclusively, lexical exercises by scribal apprentices⁸, and even a loan document (see Part 5.3).

This paper begins by presenting the geographic characteristics of the Kopet-Dag mountain range (Part 2). Then, it discusses the cultural and political significance of Parthia and Arsacid Nisa (Part 3). The core of the paper centers on the administration of tribute (Part 4) and the management of wine production (Part 5).

2. Geography of Parthia and the Nisa Valley

He [Arsaces I, 247–211 BCE] founded a city also, called Dara, in Mount Zapaortenon, of which the situation is such, that no place can be more secure or more pleasant; for it is so encircled with steep rocks, that the strength of its position needs no defenders; and such is the fertility of the adjacent soil, that it is stored with its own produce. Such too is the plenty of springs and wood, that it is amply supplied with streams of water, and abounds with all the pleasures of the chace (Justin, Book XLI. 5).

The passage above by the Roman author Justin (c. second century CE) about a city between Old Nisa and Merv vividly describes the biodiversity of the Kopet-Dag mountain

³ The notion of a continuous and widespread civil war known as the "Parthian Dark Age" lacks support from archaeological and numismatic evidence (see Hauser 2005; Sinisi 2018).

⁴ Archaeological excavations at Old Nisa began in the 1930s with A. Marushchenko. The 1950s saw major excavations at both New and Old Nisa, led by M. E. Masson's YuTAKE' team. Subsequent excavations mainly focused on Old Nisa (Invernizzi 2000). In the late 20th and early 21st centuries, collaborative Italian-Turkmen excavations were conducted. For a detailed overview, refer to the Parthia website operated by Chris Hopkins (<https://www.parthia.com/nisa/default.htm>).

⁵ Diakonoff and Livshits 1976–2001. All the ostraca discussed in this paper are from this reference.

⁶ Pilipko and Livshits 2004.

⁷ In the local language, these rooms were known as *khumkhana*, meaning "house of khums" (Lippolis and Manassero 2015: 116).

⁸ The exercises were to train scribes for record-keeping at the king's storehouses. One says that "Our lord has demanded x of wine, the keeper" (Diakonoff and Livshits 1976–2001, no. 2644a).

range. Old Nisa is situated in the eastern foothills of the Kopet-Dag. Instead of being seen as a barrier between regions, this range forms an interconnected ecoregion encompassing a vast territory with distinctive fauna and flora⁹.

Nevertheless, settlements in the Kopet-Dag range, positioned on the western side of the Karakum Desert, were significantly influenced by water insecurity. In much of this area, conditions for rain-fed or dry farming were unsuitable, emphasizing the necessity of irrigation to sustain agriculture beyond a small scale¹⁰.

During the Iron Age (tenth–sixth centuries BCE) and Achaemenid period (550–330 BCE), new settlements arose in the Kopet-Dag range, thanks to increased irrigation canals, wells, and the introduction of qanats¹¹. By the Arsacid period, irrigation systems in this region were highly advanced. Polybius (ca. 200–118 BCE) notes that shortly after the Arsacid kingdom’s establishment in Parthia and its initial westward expansion into central Iran in the mid-third century BCE, Arsaces II (211–191 BCE) was defeated by the Seleucid King Antiochus III (223–187 BCE) near the new Arsacid capital, Hecatompylos (near modern Damghan). Fleeing east to Hyrcania and then Parthia, Arsaces tried to deter the pursuing Seleucid army by destroying “underground channels.” These qanats had been extensively developed due to an earlier Achaemenid policy that granted land for five generations to those who reclaimed it through irrigation¹².

The account of Arsaces II’s qanat destruction does not depict the entirety of the Arsacid period, especially after the empire’s formation in the mid-second century BCE. While a few sites were established under Alexander and the Seleucids, archaeological evidence reveal a significant surge in settlements and irrigation activities under the Arsacids, during the late second to early first centuries BCE, in western Central Asia (see below), the Iranian Plateau¹³, and Mesopotamia¹⁴.

During archaeological fieldwork in southwestern Turkmenistan in the 1980s and 1990s, more than 220 sites dating from the late third century BCE onwards were uncovered. These sites developed into fully-developed settlements with irrigation and cultivation by the end of the first century BCE, persisting continuously until the Sasanian period (224–651 CE)¹⁵. This timeframe aligns with the establishment of firm Arsacid rule in the region¹⁶.

⁹ The Kopet-Dag woodlands and forest steppe exhibit remarkable biodiversity across altitudes, from semi-arid, low hills at 300 meters (980 ft.) to rocky peaks of 2,800 meters (9,200 ft.). Habitats encompass juniper-covered slopes, montane grasslands, and fertile plains and oases along rivers (<https://www.oneearth.org/ecoregions/kopet-dag-woodlands-and-forest-steppe/>).

¹⁰ The need for extensive irrigation management increased as the region transitioned from the Bronze Age to the Iron Age and the historical period. This was due to both encroaching aeolian sand and changes in river courses, resulting in reduced water availability and a consequent decrease in arable land (Lhuillier and Mashkour 2017).

¹¹ Wu *et al.* 2015: 107.

¹² Plb. 10.28.

¹³ For Khorasan and Gorgan plain in northeast Iran, see Rante 2015, Mirzaye *et al.* 2020. For Sistan in the east, see Josi and Mehr Afarin 2014. For northern and central Iran, see Miles 1938, Bivar 1982. For the Susiana plain in the southwest, see Wenke 1981, Alizadeh 1985, Potts 2016: 348-406.

¹⁴ See Keall 1975, Kawami 1982, Reade 1998, Potts 2011, Dirven 2013, Campbell *et al.* 2019.

¹⁵ Gaibov *et al.* 1995: 273.

¹⁶ Besides Nisa, other fortified settlements with administrative and religious functions emerged in western Turkmenistan and northeastern Iran dated to the Arsacid period. Notably, Gobekli-depe in the Merv oasis (Koshelenko and Nikitin 1991: 108-121), Viranshahr in North Khorasan province of Iran (“Archaeologists hail find of Parthian administrative center in northeast Iran,” *Tehran Times*), Mansur-depe, located 5 km west of Old Nisa (Gaibov and Koshelenko 2012: 161-164), Ak-depe, about 100 km east of Old Nisa and 20 km west of the Dargaz plain in Iranian Khorasan (Gaibov and Koshelenko 2012: 164-166), and Mele Hairam south of Merv in the Serakhs oasis (Kaim 2004). Noteworthy evidence of heightened irrigation activities during this period can be observed in Merv (Loginov and Nikitin 1996), Serakhs (Kaim 2008: 134), Tedjen oases, and in the Akhal region surrounding Old Nisa and the Dargaz plain in Iran. For a comprehensive survey of settlement expansion

3. Significance of Parthia and Nisa to the Arsacid Dynasty

The historical and cultural significance of Parthia in the Achaemenid period is evident in the Behistun inscription of Darius I (522–486 BCE)¹⁷, and Arian's *Anabasis*¹⁸. The precise geographical extent of Parthia is not entirely clear, as its boundaries shifted over time. However, there is consensus that the core of Parthia, prior to its westward expansion with the Arsacids, encompassed Iranian Khorasan and the foothill plains of the Kopet-Dag in western Turkmenistan, north of the Merv oases (ancient Margiana) and west of the Karakum Desert¹⁹.

The Parthian language is closely related to Persian, and these two Middle Iranian languages are mutually intelligible. Parthian was primarily spoken in the area stretching from northwest to northeast Iran and southwestern Turkmenistan, while Persian was spoken in southern Iran, specifically around Pars (province of Fars in modern Iran). The ostraca documents found at Old and New Nisa are in Parthian, given Nisa's role as an administrative and religious center of the Parthian Arsacid dynasty²⁰.

Parthia was significant as both the sacred homeland of the Arsacid dynasty and a vital border and commercial region with substantial agricultural and craft production. Nisa's strategic importance in Parthia, on the northeastern frontier of the Arsacid empire, is evident through the presence of a royal *marzpān* —a military commander responsible for border provinces²¹—.

Mithradatkirt²², also known as Nisa and Parthaunisa²³, was not the location of Arsaces I's coronation and the establishment of his dynasty²⁴. Its prominence emerged a century later during the reign of Mithradates I (171–138 BCE)²⁵. This period, in the mid-second century BCE, marked the solidification of the dynasty's position and its transformation into an empire.

during this period in western Turkmenistan and northeast Iran, see Olbrycht 2021: 257-293.

¹⁷ In the beginning of Darius I's reign, widespread rebellions were severely oppressed. At the time, his father Hystaspes ruled over Parthia and Hyrcania when the rebellion broke out, which was quashed after Darius sent troops to his aid (DB 2.92-8).

¹⁸ In numerous cases, Arrian mentions Phrataphernes, the former commander of Darius III's cavalry and the viceroy of Hyrcania and Parthia, who switched allegiance to Alexander and played a crucial role in his success in Media and Parthia. He and his sons formed military units on par with Macedonian regiments in Alexander's army (Arr. An. 3.8, 4.6, 6.27).

¹⁹ Sherwin-White and Kuhrt 1993, 84–85. The significant rise in trade between northeast Iran and western Turkmenistan at the beginning of the Arsacid period is well-documented through ceramic analyses of both regions (see Hansman and Stronach 1970: 58; Puschnigg et al. 2019: 37-38).

²⁰ Few Classical references have ignited a heated scholarly debate on the origins of Arsaces (see Hauser 2005 for opposing views). This paper contends that the biodiversity within the Kopet Dag range accommodated both mobile and settled populations, fostering interactions beyond Parthia and Margiana in Central Asia. Whether Arsaces hailed from a sedentary or nomadic background, or spoke a western Iranian language (Parthian or Persian) or an eastern Iranian language (Scythian, Bactrian, or Sogdian), claiming an Achaemenid or Iranian heritage was available to him. However, noteworthy is that all Arsacid kings bore western Iranian names, and the dynasty maintained a close connection with Parthia and the Parthian language (Skjærvø 2006). The importance of the Parthian language endured beyond the Arsacids, notably in the northern regions of the Iranian plateau, spanning from Khorasan to Kurdistan. An inscription on a rock relief from the early Sasanian period in southern Khorasan (near Birjand) references a satrap in Parthian (Henning 1953: 133). Additionally, the Paikuli inscription by Sasanian King Narseh (293–303 CE) in Iraqi Kurdistan is in both Middle Persian and Parthian (Cereti and Terribili 2014).

²¹ Nos. 1624; 1787; 2301; 2303.

²² According to Nisa ostraca (nos. 681; 1693; 2624).

²³ According to Isidore of Charax (see next footnote).

²⁴ Isidore of Charax's "Parthian Stations", dated to the first century BCE, records that at a city called Asaac in the west of Nisa (modern Iranian Khorasan), "Arsaces was first proclaimed king, and an everlasting fire is guarded there" (Parthian Stations, 11-12).

²⁵ The fortified site of New Nisa was flourishing for some time before Mithradates I founded or re-founded Old Nisa before the middle of the second century BCE (Lippolis 2014: 2).

Old Nisa served as an early royal residence and administrative center for the Arsacid dynasty, with its significance lasting until abandonment in the second century CE, a few decades before the fall of the Arsacids²⁶.

In the king's frequent absence, the fortress was under the control of the royal satrap responsible for representing the king's interests, especially in collecting tribute. Evidence of Old Nisa's political and economic importance in Parthia is found in numerous mentions of satraps (*hštrp*, *xšahrap*), who oversaw tribute collection and transport to royal storehouses. Among these recorded satraps, Kōfīzāt stands out. This name appears more frequently than any other satraps in the Nisa ostraca, but within a relatively short period. He is mentioned in 18 ostraca dated to years between 85 and 80 BCE, and four undated ones, all from the reign of Gotarzes I (91–80 BCE)²⁷. He is noted for supervising wine tribute collection and occasionally personally delivering wine to the Nisa storehouse.

At Behistun in western Iran is an inscription accompanying a rock relief depicting Mithradates II (124-91 BCE) in profile, with a raised hand, standing alone and facing left towards four other profiled figures, likely his chosen satraps. In the inscription, Mithradates is titled as the "Great King", and his son and heir, Gotarzes, holds the unique title of "satrap of satraps". Among the listed satraps alongside Gotarzes, one is named Kophasates²⁸.

It is likely that the satrap named Kōfīzāt in the Nisa ostraca is the same individual referred to as Kophasates in the Behistun inscription²⁹. This official continued to serve as a satrap under Gotarzes I. He was assigned to Nisa to represent Gotarzes' interests, as the king often resided in Media and Babylonia, on the opposite side of the empire. Historical records from the Achaemenid period show that a satrap's influence could extend beyond his designated territory, and his jurisdiction might change during the course of his career³⁰.

4. Administration of Royal Tribute at Nisa

Old Nisa has the layout of a fortified citadel with both palaces and temples, which also functioned as political and administrative hub³¹. Several storage rooms in the northern and central portions of the citadel served to hold the collected tribute. Most of the Nisa ostraca were discovered in the Northern Complex³².

Some ostraca lack dates. On others, the dates have become illegible over time. The earliest dated text is from 151 BCE during Mithradates I's reign, while the latest is from 15 BCE during Phraates IV's reign (38–2 BCE)³³. Despite chronological gaps in the documents, a trend becomes evident in the phrasing of records dated to 90 BCE onwards. These documents show a notable increase in information, often including the Arsacid era date, collecting agents' details, wine measured by the *mari* capacity measure, the land category for taxation, and the vineyard or estate's name. Occasionally, the ostraca record wine quality and its designated

²⁶ Old and New Nisa remained abandoned until between 8th and 15th century when the Kopet Dag mountain range. There may have been a Sasanian occupation at New Nisa in the 5th century, but new massive defense walls were built around New Nisa in the Islamic era between 8th and 9th centuries (Lippolis and Messina 2015: 39).

²⁷ Nos. 996; 997; 998; 999; 1000; 1002; 1003; 1004; 1005; 1006; 1007; 1023; 1038; 1039; 1040; 1041; 1042; 1050; 1051; 1052; 1053; 2584.

²⁸ For the relief, see Kawami 1987: 35-37. For the inscription, see Herzfeld 1920: 35-40.

²⁹ Hackl et al. 2010: 507.

³⁰ For the career of Satrap Arshama, see Tuplin and Ma 2020. For the career of Satrap Mazaeus, see Heckel 2006.

³¹ The architecture of Old Nisa exhibits a fusion of diverse styles, echoing the varied cultural influences permeating the region. Within the citadel, the royal palaces were elaborate constructs made of mud-bricks, embellished with intricate wall paintings, gems, and stucco decorations (see Lippolis 2009).

³² Lippolis and Manassero 2015: 116.

³³ No. 451.

purpose, and in rare cases, the tribute payer's name. This standardized formula remained consistent for at least seventy years.

The ostraca reveal that the Arsacid kings owned the collected tribute at Nisa, not a local king or satrap. All documents are dated according to the Arsacid era³⁴. There are mentions to the temple or shrine of King Phraates I (176–171 BCE) or Phraates II (138–127 BCE)³⁵, the accession of three Arsacid kings³⁶, and various administrative and military roles closely linked to royal administration tasked with collecting tribute (see below).

The only unit of measure found on the ostraca is the *mari*³⁷, and the dimensions of the jars show a remarkable degree of consistency³⁸. These factors show the presence of a central authority responsible for establishing and guarding this weight standard and jar capacity to ensure accurate cording of tribute.

A well-preserved jar, found in the excavation of room No. 1, is evidence of the Arsacid King as the authority presiding over units of measure. This jar was found on the south of the wine-storage area within the Northern Complex. It was buried deeper than others and had undergone multiple repairs over time; reinforced with lead staples.

The jar bears an engraved Parthian inscription, unlike the inked texts on other ostraca. The inscription consists of a single word, *Aršak* (Arsaces), the throne name of the Arsacid kings. Igor Diakonoff and Vladimir Livshits proposed that this “Royal jar” served as a standard for verifying the capacities of other vessels. They also suggest that the original inscription on the jar may have been **rsk MLK* (King Arsaces)³⁹. However, *Aršak* alone may have constituted the complete inscription, because this title was exclusively used for the Arsacid Kings. The jar served as the king's official standard, and the collected tribute belonged to him.

The collection and transportation of wine tribute likely followed a standardized procedure. Wine porters (*mdwbry*, *mad(u)bar*) were responsible for gathering tribute at agricultural estates and delivering it to the royal storehouse at Old Nisa. The ostraca frequently note that the wine was brought “under the authority of”⁴⁰ various officials, mainly the satrap, occasionally the fortress commanders (*dyszpty*, *dizpat*)⁴¹, and rarely military commanders overseeing the border (*mrzwpn*, *marzpān*)⁴². This formula likely indicates the official in charge of the citadel at the time of a particular tribute deposit. Military unit commanders

³⁴ Unlike the Achaemenids, Sasanians, and Roman emperors who practiced regnal calendars, the Seleucids first and then the Arsacids adopted the system of continuous year numbering. Seleucid era began with coronation of Seleucus I (312/11–281 BCE), and Arsacid era with the coronation of Arsaces I (247–211 BCE). For the Seleucid era, see Strootman 2015. For the Arsacid era and its centennial, the era of the Saka King Azes I (c. 48/47 BCE – 25 BCE), see Falk and Bennett 2009: 209-211.

³⁵ “*MN 'yzny prhtk(n)*, from the temple Frahātakān” (No. 1640). This undated text is on the internal surface of an ostrakon. Another text is on the external surface (No. 2571) which is dated to 95 BCE. The term *āyazan* is regularly translated as temple and used for other temples on site, including the temple of Nana (No. 1636-1639).

³⁶ Gotarzes I (No. 2638, 91 BCE), Sinacutes (No. 2639, 78 BCE), and Phraates III (No. 2640, 68 BCE).

³⁷ Both the Elamite *marriš*, and Greek *maris*, are probably loanwords from Old Persian, but the original Iranian world remains unidentified (Hallock 1969: 2). 1 *mari* at Nisa was equal to about 10 liters (Diakonoff and Livshits 1976–2001: 197).

³⁸ In general, the average capacity of these large, pear-shaped containers, which would frequently measure 120–130 cm in height and up to 80 cm in diameter, could be as much as 280–300 liters (Lippolis and Manassero 2015: 129–130).

³⁹ Diakonoff and Livshits 1976–2001: 181.

⁴⁰ *LYD*. Diakonoff and Livshits translated this Aramaic term as “which came through”. On the other hand, Christopher Brunner, by relying on the use of the term in the Aramaic ritual tablets found at Achaemenid Persepolis, argues that this term should be translated as “under the authority of” in the Parthian language (Brunner 1978: 133).

⁴¹ For instance, no. 2573.

⁴² For instance, no. 1624.

(*tgmdr*, *tagmadār*), and cavalry officers (*ʾsppty*, *asppat*) are also mentioned, but they donated wine personally from their own lands and were not in charge of the fortress (see Part 5.2)⁴³.

A consistent figure in these records, apart from the satrap, is the wine porter, also referred to as wine-factor⁴⁴, wine-bearer⁴⁵, and wine merchant⁴⁶. Within the Arsacid administration, the rank of the wine porter was likely similar to or slightly higher than that of a scribe or sealer⁴⁷, possibly akin to a tax collector.

The records often mention the residences of these wine porters, which were typically villages. It appears that they did not collect taxes from the estates they lived on, which suggests the existence of an administrative regulation related to tax districts⁴⁸. An undated ostrakon lists over nine wine porters who answered to the satrap and fortress commanders and who were assigned to more than nine different vineyards in five different estates⁴⁹. Wine porters may also have had a role in trading surplus wine for silver (see Part 5.3).

The evidence on sealing practices indicates that the process of securing the jars was simple and straightforward⁵⁰, but the ostraca reveal that the storage and categorization of goods were rather complex tasks, involving multiple functionaries. These functionaries included sealing masters (*mwdrwrt*, *muhrwart*), treasurers (*gnzbr*, *ganzbar*), storehouse chiefs (*hwrybr*, *xwarībar*), head scribes (*dpyrpty*, *dipīrpat*), accountants (*ʾhmrkr*, *ahmārkar*), and keepers (*ʾwpdyt*, *updēt*). The ostraca also occasionally provide indications of the quality of the stored wine⁵¹.

The storehouse staff maintained transparency by conducting regular inspections and addressing initial oversights⁵². In certain instances, a single ostrakon bears two labels, often in palimpsest, indicating the reuse of the jar for two different sets of wine or two simultaneous deliveries in the same jar⁵³. Additionally, empty jars were labeled so as to indicate their former contents. Some held inferior quality wine, while others were labeled as “surplus.” Furthermore, when a storage room collapsed or was destroyed, retrieved jars were labeled “retrieved from a collapsed building.”

There has been some disagreement over the translation of the term *xwarībar*, which appears almost exclusively in plurals in the phrase *ʾphršt hwrybrn* in the Nisa ostraca. Diakonoff and Livshits translate *xwarībar* as “cupbearer,” and the phrase as “left by the cupbearers”, but do not provide an explanation of the office’s responsibilities⁵⁴. Andrei Bader accepts this translation and suggests that the primary role of this office was to check the quality

⁴³ For fortress commanders, see no. 2580. For cavalry officers, see no. 1653.

⁴⁴ Diakonoff and Livshits 1976–2001.

⁴⁵ Brunner 1978: 134.

⁴⁶ Hackl et al. 2010: 520.

⁴⁷ This is indicated by instances where the latter officials occasionally carried out deliveries on behalf of the wine porter (nos. 14, 166, 209, 258, 455, 604, 810, 812-13, 858).

⁴⁸ Brunner 1978: 134.

⁴⁹ No. 2625.

⁵⁰ Besides sealing the jars, the practice of sealing doors is well known in the Square House and in general is obvious for the most important rooms of a storehouse or treasury at Nisa (Lippolis 2010: 40).

⁵¹ There are references to “old wine”, “new wine”, wine turned vinegary (“gone sour”), wine “newly fit to drink”, “inferior” wine, “fortified wine”, and “colorless” wine (white or rosé?) (Lippolis and Manassero 2015: 130).

⁵² Two jar labels, one dated 78 BCE (no. 2314) and the other undated (no. 2324), note the wine’s weight and quality, mentioning that these jars “had not been previously taken into account”. This practice was consistent regardless of the stored goods’ value; the first text refers to quality wine “dispatched by the store-house chiefs”, while the second jar contained vinegar.

⁵³ For instance, nos. 1541; 1542.

⁵⁴ Diakonoff and Livshits 1976–2001. This term is also accepted by Lippolis and Manassero (2015: 130).

of the wine and bring it to the royal table⁵⁵. This translation suggests that a portion of the wine tribute was used in royal banquets or ritual celebrations, and the *xwarībar* played a role in ensuring its quality. This interpretation may explain why this office appears infrequently on the labels, typically authenticating wine reserved for these official events.

On the other hand, it is possible that the term and the office have a much broader meaning. In Middle Iranian languages (Middle Persian and Parthian), the word *xwar* means food, drink, or provisions more broadly⁵⁶. Christopher Brunner translates the term *xwarībar* as “chief of storehouse” or “steward”, and the phrase as “dispatched by the stewards”. He explains that the chiefs of storehouses would oversee the delivery, weighing, and labeling of the wine tribute, as well as ensuring its quality for presentation to the royal table⁵⁷.

This part of the article demonstrates that all the offices attested in the Nisa ostraca were involved in the collection and management of the king’s tribute, but not in the production of wine and other goods in the region. Subsequent sections of this article detail the categories of tribute and the functions of storehouses at Old Nisa. This part helps explain the influence of the royal administration in agricultural production, even though these activities were primarily managed by private rent farmers.

4.1. Types of Storehouses and Categories of Tribute

Tribute collection was the main domain in which the King depended on his satrap and military officers. These ostraca, along with archaeological excavations in the Northern and Central Complexes, reveal multiple storerooms in various buildings. An undated ostrakon mentions that in “the fortress of Mithradatkirt”, there were “wine-stores” called “new” and “Second”, housing jars of wine and vinegar⁵⁸.

The annual stored goods calculation may have been done separately for each storeroom. One ostrakon from 72 BCE notes that the total “old wine” at a single wine-store that year was 6,351 *mari*, roughly 22 jars based on Nisa’s wine jar capacity. A single Nisa storeroom could hold about this number of jars⁵⁹, although the ostrakon might only account for “old wine” at that specific store, not all of its contents.

The ostraca reveal that wine storehouses held various items beyond wine and vinegar, including raisins, sesame seeds, flax seeds, oil, flour, barley, and wheat. These goods were primarily stored in separate storerooms but occasionally placed in the wine storerooms for specific reasons⁶⁰.

The Nisa ostraca mention four types of wine tribute: *patbāžīk* (*ptbzyk*), *uzbari* (*wzbry*), *pt(y)syk*, and *sygpr(y)*. *Patbāžīk*, from Old Persian *bāži-*, encompasses various tribute types in Parthian, including goods and precious metals for the king. *Uzbari*, most frequently mentioned, is a wine tribute collected from vineyards as rent share. Diakonoff and Livshits translate *pt(y)syk* and *sygpr(y)* as “dues”, likely referring to specific land tax categories or taxes collected in wine for conversion⁶¹.

While Diakonoff and Livshits do not provide a translation for the word *Uzbari*, Brunner suggests it should be translated as “share-rented”. He cites *uz-bāra* (*‘zb’r*) in 7-8th century

⁵⁵ Bader 1996: 267.

⁵⁶ MacKenzie 1971: 95.

⁵⁷ Brunner 1978: 134.

⁵⁸ No. 2624.

⁵⁹ For instance, storage room 33 in the South-Western Building could fit about 23 jars (see Lippolis and Manassero 2015, fig. 14).

⁶⁰ For instance, an ostrakon (no. 2595) from 84 BCE provides a list of flour deposits that were “accounted for at the wine-store”.

⁶¹ Over thirty texts refer to wine being collected “as dues”. For instance, nos. 1554; 606.

Sogdian Mount Mug documents (Tajikistan) as “produce-payment” for royal-owned land farmed by private individuals⁶². Share renting is discussed in detail in Part 5.2.

4.2. Silver Tax at Nisa

Jar labels were not the sole means of record-keeping at Nisa. Parchments (writing material made from animal skin), though none survived, were likely used, especially for recording valuable items. The Square House adjacent to the wine storehouses, potentially served as a treasury⁶³. It is also possible that there were multiple treasuries on-site. Regardless, the ostraca show these treasuries did not exclusively hold precious items.

An undated ostrakon provides crucial evidence about silver tax collection at Nisa. The label states the jar held wine “on account of silver tax”⁶⁴ brought by Frahāk the keeper⁶⁵. In other ostraca, keepers are often mentioned in relation to wine owed by the fortress commanders⁶⁶. Whether the military officers owed the silver tax remains uncertain, but the keeper’s role is tied to the importance of a specific tribute.

Why is there no other mention of silver tax on Nisa ostraca, when, at earlier Idumaeen sites of late Achaemenid and early Hellenistic date in the southern Levant⁶⁷, and at Greco-Bactrian Ai Khanoum in northern Afghanistan⁶⁸, silver was frequently collected in ceramic jars, and labeled like other goods? Does the single reference to silver tax on a Nisa ostrakon imply less frequent collection of this tribute at this site?

The language of the ostrakon above suggests that the silver tax and the payment of wine in lieu of silver tax were common. Keeping archaeological and numismatic evidence in mind, silver was more prevalent in this region during the Arsacid period than in earlier periods⁶⁹. The near absence of mentions of silver tax on the ostraca suggests that the collection of silver tribute at Nisa was handled separately from the collection of tribute in kind. Silver tribute was not stored in jars.

Even after the silver tax was instituted by the Arsacid administration, the collection of tribute in kind was more common. Due to the difficulty of acquiring silver outside of large urban centers, vineyard owners and rent farmers sometimes offered wine instead of the silver tax, which the royal treasury accepted.

The label of silver tax substitute possibly reminded the treasurer or chief of the wine storehouse to convert the wine jar into silver for the king. There are 22 texts that mention wine deliveries “to the royal treasury” (*L GNZ’ MLK*)⁷⁰. Possibly, the treasury accepted wine as a silver tax substitute. An ostrakon dated to 72 BCE notes that the total “new wine” delivered to a royal treasury that year was 2,933 *mari*⁷¹, roughly 10 jars.

⁶² Brunner 1978: 133. *Uzbāra* has also been translated as “crown land” (Pirngruber 2017: 48). The Georgian *zvari*, “large vineyard, wine-growing estate” is a direct loan from Sasanian Parthian **(i)zβar*, going back to Arsacid Parthian *uzbari* (Bielmeier 2008: 295).

⁶³ Over thirty silver coins of Seleucid, Bactrian, Arsacid, Sogdian, and Pontic (the coinage of Amisos) origins were found in the Square Building, along with fragments of silver vessels, objects fashioned of cloth-of-gold, small pieces of sculpture, marble sculpture of Greek origin, and richly carved ivory rhytons (Pilipko 1994: 103).

⁶⁴ *HLP KSP ’psyky*. Diakonoff and Livshits translate *KSP (asēm)* as “money in cash” (Diakonoff and Livshits 1977-2001: 178), while Oktor Skjærvø translates it as “silver”, particularly in the case of objects (Skjærvø 1997: 94).

⁶⁵ No. 2682.

⁶⁶ For instance, no. 1514.

⁶⁷ Porten and Yardeni 2020: 157-163.

⁶⁸ Rapin and Grenet 1983.

⁶⁹ Sinisi 2018.

⁷⁰ Nos. 1526-1540.

⁷¹ No. 2576.

The ostrakon linking wine to the silver tax suggests categorization of storehouses, each with a specialized administrator. The importance of enforcing the silver tax, its financial implications, its association with the surplus mentioned on some ostraca, and the potential role of wine porters as trade intermediaries will be discussed in Part 5.3.

5. Agricultural Production: State or Private Management?

This part aims to demonstrate that, in addition to taxation, the royal administration played a role in resourcing and managing labor for irrigation. The system of private tenure rent farming in agricultural estates entailed little administrative costs for the king. A focus on grapevines as cash crops may have been the farmers' choice. The desirability of wine enabled easier conversion into silver in order to fulfill the silver tax obligation to the king. Additionally, the royal staff and private farmers generated profits selling surplus wine in the market.

5.1. Irrigation

In addition to archaeological evidence of increased irrigation⁷², Nisa ostraca frequently mention collection of wine tribute from “newly cultivated lands”; some explicitly note an irrigation canal named “trans-montane”⁷³. The construction of this canal, which substantially altered the landscape of the region, required a large labor force and regular upkeep under strict control. This was crucial for sustaining the newly established towns and villages. Existing evidence suggests the potential involvement of the imperial administration. The goal of managing irrigation was to stimulate agricultural output in the region to secure a reliable income for the king and his staff.

Apart from the existence of an irrigation canal and newly cultivated lands near Nisa, the current evidence does not definitively determine whether the royal administration managed irrigation in this region. However, examining other parts of the Arsacid empire, Susiana in southwest Iran and Babylonia in central Mesopotamia, although conjectural, may be revealing. This examination shows that while private entrepreneurial families and local customs may have led inhabitants to voluntarily participate in building and repairing the irrigation systems, the King and his agents acted as enforcers who compelled people to engage in this arduous labor.

Concurrently with the final phase of ostraca documents at Old Nisa, significant events unfolded in the Susiana plain of southwest Iran (Elam or Gr: Elymais). The local Kamnaskirid dynasty, who had served as Arsacid satraps since the reign of Mithradates I⁷⁴, were ousted from Susiana by Phraates IV (37–2 BCE)⁷⁵. His army occupied Susa and briefly renamed the city and its Greek *Polis* Seleucia on the Eulaeus⁷⁶, to Phraata⁷⁷. Geoarchaeological evidence indicates that the canal system that irrigated the entire Susiana fluvial plain was fully established at this time. It remained largely unaltered throughout the Arsacid and subsequent Sasanian periods⁷⁸.

⁷² In recent years the question of the water supply connected to the presence –inside Old Nisa– of the sub-circular depressions to the east of the central complex (water reservoirs?) has been reconsidered by the Italian expedition (Lippolis 2010: p3, f. 1).

⁷³ No. 1621.

⁷⁴ For Babylonian and Numismatic evidence, see Dąbrowa 2006: 39.

⁷⁵ The Kamnaskirid dynasty continued to operate at Seleucia on the Hedyphon (Behbahan) before being fully dissolved in a branch of the Arsacid house that came to rule over Susa later (Sarbisheh *et al.* 2022: 56).

⁷⁶ The letter of Artabanus II to Seleucia on the Eulaeus dated to 21 CE shows that *Polis* continued to exist after Phraates IV (Welles 1979).

⁷⁷ Le Rider 1965: 253.

⁷⁸ Soroush 2020: 76-77.

The satrapal system continued in Susiana, but Phraates chose a Parthian named Tiridates (Tīridāt), not an Elymaean, to assume the position. Toward the end of Phraates' reign, two Greek inscriptions were commissioned at Susa, one dated to 9 BCE and one after his death in 1 CE, describing irrigation projects in the region. The inscriptions mention that the royal court honored local leaders who revitalized a Susiana river or artificial stream named Gondeisos. In the inscription dated 9 BCE, Phraates IV commends a “noble” named Zamaspes (Zāmāsp), chosen by Strategos (satrap) Tiridates, for his role in excavating streams and clearing blockages from the dried-up river⁷⁹.

The 1 CE inscription, a decade later, is another commemorative that names King Phraates IV. The inscription mentions that it was attached to a bronze statue of Zamaspes in Susa. It reports that Zamaspes was promoted to satrap for his noteworthy irrigation projects. His promotion was not solely because he was a “reputable companion” of the king, but more importantly, due to his popularity among Susa's people for his services. The inscription explicitly acknowledges that the statue, which honored Zamaspes, was constructed and erected by Susa's “inhabitants and guardians”⁸⁰.

The Zamaspes case in Susa exemplifies the intricate relationship between satrapal and royal engagement in infrastructural development during in the Arsacid Empire. Initiative, planning, and execution were predominantly local. While the imperial court did not directly fund these endeavors, the incentives from the royal administration in appointing and promoting worthy officials played a pivotal role in the success of these local initiatives.

Evidence from Babylonia, where Seleucia-Ctesiphon served as the seat of the Arsacid kings, shows a direct royal role in enforcing irrigation labor. While hired laborers and slaves were available⁸¹, the king regularly imposed *corvée* duties on Babylonian inhabitants, especially for canal maintenance. An entry from the Astronomical Diaries dated to 94 BCE, under Gotarzes I, reports of “a heavy obligation” where the king's order did not exclude pregnant women from digging a canal above Seleucia on the Euphrates (Zeguma). The text specifies that such orders had been issued before and were recurrent affairs⁸².

Babylonian temple officials, appointed by the king, played a vital role in enforcing these duties. The same entry from the Diaries notes that the names of the Babylonians assigned to irrigation labor were read from a parchment letter from the king at the House of Council by the head administrator of the major temple in Babylon, Esagila⁸³.

5.2. Private Agriculture: Rent Farming at Nisa

From the king's perspective, he was the landlord of all properties, by the right of conquest, and had preemption over all resources, by the right of first refusal⁸⁴. Then, all his subjects owed him rent or tribute for his protection. Royal agents were tasked with collecting tribute and managing canal systems, but overseeing the cultivation of farmlands

⁷⁹ Potts 1989: 328.

⁸⁰ Potts 1989: 329.

⁸¹ In the Rahimesu archives, there are mentions of “hired laborers” who were paid in shekels of silver (CT 49, 152 (22.VI.218 = 20.IX.94 BC). Three child slaves consecration, dated to the reign of Phraates II (138–127 BCE), were donated to the temple of Uruk to participate “in the clay works of the temples of the gods of Uruk” (MLC 2153; A 3689; A 3690).

⁸² No. -93A: Rev' 11-13; 22-27.

⁸³ No. -93A: Rev' 11-13; 22-27.

⁸⁴ This should not be a surprise, as in contemporary times, the US government is given priority access to resources, and if a particular piece of land were to be reclaimed, the private owner must comply in all instances, as per US law (*Environment and Natural Resources Division | History of the Federal Use of Eminent Domain [justice.gov]*).

was not their responsibility. While the king's demand for tribute from his property stimulated agricultural production, particularly in winemaking, this production was primarily managed by private families.

More than 48 villages, estates, and vineyards mentioned in the ostraca were likely situated in the Nisa valley and immediate surroundings, potentially beneath the modern city of Ashgabad. A curious instance is the recurring mention of "Sakān", found in at least 38 texts, which had numerous vineyards that paid wine tribute. Wine porters from Sakān transported wine not just from there but more frequently from other places. While it is unclear if Sakān specifically denotes the kingdom (or satrapy) of Sakastan, which is over 500 km to the south, a more plausible interpretation is that it refers to an agricultural estate in the Nisa valley. Similarly, the vineyard of Hindūkān probably does not refer to India or Bactria⁸⁵.

Some agricultural estates might have been granted to soldiers who then sublet them to entrepreneurial families⁸⁶. These powerful families also played a significant role in sourcing labor from their communities for the construction of secondary canals to existing ones. While some of the lands were directly rented out by palace officials, others were possibly owned by these families. The use of the phrase *MN NPŠH* "out of his own estate/house" in some of the ostraca indicates that the land tax designated as *uzabri* was owed by various persons with no official status⁸⁷.

Landowners commonly rented out their vineyards through long-term, and even inter-generational contracts, following a tenure system found in other parts of the empire. The Avroman parchments, which consist of three vineyard contracts, were discovered in northwest Iran (ancient Media), adjacent to Mesopotamia. The first two documents date contemporaneously to the Nisa ostraca. Documents I and II, written in Greek and dated to 88/87 BCE and 22/21 BCE respectively, are rental agreements between private individuals. In these contracts, the renters secured the right to cultivate the vineyard by paying an advance in coined silver⁸⁸. However, they remained obligated to the original owner by providing a portion of the annual harvest. Document III, written in Parthian and dated to 53 CE, records the outright sale of half a vineyard between two partners or brothers⁸⁹.

An ostrakon from Nisa dated to 84 BCE provides insight into the private management of cultivated lands⁹⁰. It registers flour deposits in the wine-store from individuals named Barzēn, Mihrdāt, and Patwēšīk for two brothers or partners named Mihršahr and Spanddātič. In this record, where official titles are absent, it is likely that the initial trio were rent farmers who cultivated the land owned by latter two who were actually responsible for paying the tribute.

In the ostraca's standard formula, the king's agents, including the satrap, scribes, wine porters, and military commanders, are consistently identified by their titles, even when their personal names are omitted. Some of those who were liable for paying tribute are named, but they usually lack official titles and are identified by their personal names, and the names of their villages, districts, or estates. In some cases, the term *razpān* (wine-grower) appears⁹¹, interpreted as the owner of the vineyard⁹².

⁸⁵ Nos. И-I; И-III.

⁸⁶ In the Hellenistic period, it was common for the king to pay his soldiers in land allotment, commonly termed a "cleruchy". For Seleucid cleruchies, see Briant 2015.

⁸⁷ No. 1646.

⁸⁸ Minns 1915.

⁸⁹ Hackl et al. 2010: 566-7.

⁹⁰ No. 2595.

⁹¹ In more than 20 texts, wine is directly collected from wine-growers (e.g. no. 1670).

⁹² Lippolis and Manassero 2015: 130.

The ostraca frequently specify if land was managed by a royal official or if those officials paid tribute. In certain texts, the word “personally” is added, referring to individuals with or without official titles. Cavalry officer Tīridāt, accompanied by a few treasurers, “personally” provided wine, later conveyed by wine porters⁹³. In a 70 BCE record, treasurer Warhagn “personally” supplied wine from the Kōzar estate, delivered by wine-porter Sāsān⁹⁴. Another text from 50 BCE cites two treasurers who delivered wine, ending with a repetition of the phrase “personally from treasurers”⁹⁵.

5.3. Factors Driving Commerce: Silver Tax and Cash Cropping in Nisa

Besides consumption in royal banquets and ritual functions⁹⁶, a portion of wine tribute was consumed by the local staff under the satrap’s authority⁹⁷. However, not only the storage staff and the fortress commanders, but also the private vineyard owners needed to dispose of their surplus wine by converting them into more durable goods. The main object in this final section of the paper concerns the evidence of commerce at Nisa.

The Nisa valley’s reliance on commerce is evidenced by: (1) the selection of grapevines as cash crops for maximum yield in a dry region with limited water access; (2) mention of wine “surplus” in various ostraca; (3) the existence of the silver tax, which caused farmers to sell at least some of their wine for silver; (4) the presence of wine porters, who were intermediaries or traders given their mobility and road knowledge; and (5) wine used for loans to reputable figures.

The Nisa documents from Parthia, the Avroman parchment contracts from Media, and parchment documents from Arsacid Dura in the Middle Euphrates all show that wine production was central to agriculture across the Arsacid Empire, echoing indications from Classical sources⁹⁸.

The ancient Iranian nobility and elites had a profound affinity for wine in rituals and lavish banquets following royal hunts—a core component of Iranian royal practice—. This demand for quality wine, from local lords to the King of Kings, drove enterprising farmers to prioritize large-scale wine production. This process underscores the influence of cultural practices, social preferences, technological advancements, and economic motivations on the environment and landscape.

Wine, growable in arid regions with the help of irrigation, functioned as a cash crop. Cash cropping entails specializing in a single crop to generate surplus for local markets or export. This practice spurred agricultural growth, expanded the amount of cultivated land, and increased production, which led to population growth and greater reliance on trade. Cash cropping played a significant role in cultural exchanges by integrating international and interregional commerce into daily life. Cash cropping may have concentrated extensive land under the control of few families who thereby gained sizable wealth and social standing, helping to foster alliances with the ruling elite, who often rented their land on tenure⁹⁹.

⁹³ No. 1646.

⁹⁴ No. 1659.

⁹⁵ No. 1664.

⁹⁶ Some of the wine tribute served temple rituals. Three ostraca indicate Zoroastrian priests at Nisa. One, from 91 BCE (no. 2675) and another from 72 BCE (no. 2577) mention a magus (*MGWŠH*, *mog*). Another undated ostrakon (no. 2580) refers to a fire priest (*ʾtwršpty*, *āturšpat*).

⁹⁷ One ostrakon dated to 60 BCE (no. 1514) mentions that wine was reserved for a fortress commander in charge of a different fort called Mihr.

⁹⁸ Pliny mentions that abundant vineyards can be found in Margiana and Carmania (VI.27). Strabo reports the same for Aria, Marginana, Carmania, Susiana, and Babylonia (XI.10; XV.3).

⁹⁹ For the Rahimesu family in Babylonia, see van der Spek 1998.

Large-scale agriculture and trade in Arsacid Mesopotamia and Iran were not solely driven by profit-seeking farmers. Many preferred small-scale exchanges within villages based on the immediate needs of their family. The law mandating silver taxation was a driving force, which compelled those obliged to pay tribute to trade in order to meet their obligations.

Despite increased coin minting, silver remained scarce and difficult to obtain. Royal wine porters, familiar with village needs, effectively matched parties in transactions, acting as intermediaries. Their role in tribute collection prepared them for a mercantile function. They converted surplus royal wine in silver and sourced silver and goods for specialized vineyard farmers.

Already in the Achaemenid period, a process termed “silverization” had begun, which accelerated in the Seleucid and Arsacid periods¹⁰⁰. The Arsacid period witnessed the culmination of this process, which resulted in substantial urbanization and agricultural growth. This process coincided with a surge in standardized low-value silver and bronze coins, which were more useful than the heavy Seleucid tetradrachms for facilitating worker payments, land sales, and marketplace transactions¹⁰¹.

Crucial evidence for the flourishing of commerce is the presence of credit institutions. For millennia, the Babylonian temples and palace treasuries served as the main creditors, providing short-term loans at no interest to needy farmers before the time of harvest and, more significantly, loans with interest to wealthy individuals for trade consignments.

An ostrakon from Nisa presents a palimpsest with an old and new text concerning the resolution of a wine debt. The texts indicate that wine was “removed from the *naxwadār*” and transported by *Srōšdāt*, the wine porter from the village of *Kāmuk*¹⁰².

The term *naxwadār*, an official under the satrap, functioned like a mayor or governor. It is improbable that this high-ranking official sought a loan from the royal storeroom purely to satisfy his subsistence needs; rather, the motive was almost certainly investment for trade and profit. His strong ties to the administration instilled trust in his ability to repay the loan.

The text above shows that the wine storeroom staff were not solely involved in categorization and storage but also utilized surplus for credit, who capitalized on collected tribute for the king’s benefit. The wine porter who collected the debt may have also acted as intermediaries, who assisted the *naxwadār* in his trade venture.

6. Conclusion: The Problem of “Feudalism” as an Antithesis to Private Production

The basis of this study is on the fundamental questions in historical analysis: To what extent did ancient states align with the welfare of their subjects? And did they prioritize antagonism or diplomacy as the principle for their interactions on the international stage?

The governance methods in the Greco-Roman Mediterranean reflect a recognition that promoting cooperation and social cohesion would lead to comfort and efficiency. Despite conflicts among diverse people, an inclination towards cooperation emerged, nurturing dynamic societies and economic ventures that capitalized on the Mediterranean Sea’s interconnectivity. Fragmented Greek city-states forged political and commercial leagues, especially during times of imminent danger like the Achaemenid invasion. These leagues centralized and standardized communication methods, focusing on weight measures and currencies¹⁰³.

¹⁰⁰ Tamerus 2016.

¹⁰¹ See Sinisi 2018. The *Sylloge Nummorum Parthicorum* (SNP) will document the collections of Parthian coins in the cabinets of Berlin, London, New York, Paris, Tehran and Vienna in a nine-volume catalogue, as well as those from important private collections. Two volumes have been published so far (Sinisi 2012; Curtis *et al.* 2020).

¹⁰² No. 1687.

¹⁰³ Bresson 2016: 260-286.

Social cohesion in the ancient Mediterranean can be attributed to the notion that non-elite individuals had personal agency and made life decisions independently from ruling powers. While the Roman Republic and Principate experienced regular unrest and civil conflicts, these were not indicative of societal norms. Commerce, ritual observations, tax collection, and other affairs continued unaffected, even as emperors were assassinated on the Palatine Hill or killed in campaigns¹⁰⁴.

In contrast, when examining ancient West and Central Asian societies, especially in the context of the Parthian Arsacid Empire, many academic publications depict a narrative of self-destructive antagonism and exploitative governance. This view portrays ancient Iranian empires as brief phases of stability followed by extended periods of decline and conflict¹⁰⁵.

The assumption that these dynasties exhibited predatory behavior contributes to the perception of perpetual conflict across a vast region. Regardless of their strength, it is believed that the default framework was one of total control over production, resources, and labor. While conflicts were equally prevalent in the Roman Empire, it is assumed that within the Arsacid territories, these conflicts more strongly shaped societal norms and resulted in an extreme version of feudalism that controlled the production of all its subjects who were the king's serfs¹⁰⁶.

The question of how a declining political system established a fully redistributive economy remains unanswered. The only possibility is that the general population lacked agency and legal means to voice demands against oppressive rulers. Private exchange was inconceivable within such an unstable and despotic system.

Looking at the systematic tribute collection in wine, the abundance of vineyards, and the silver tax implication, private vineyard owners, and the military/administrative staff receiving wine payments had to rely on exchanges for tax obligations and selling wine for other goods, especially grains.

The Nisa ostraca shows that the creation of a large wine surplus relied on extensive irrigation activities and the stability ensured by the presence of the Arsacid royal administration. Comparing Arsacid Mithradatkert with Achaemenid Persepolis would help understand the influence of royal presence on the economic landscape. A network of villages and vineyards orbited Old Nisa, not only as the result of the king's demand for wine tribute. Entrepreneurial families relied on the stability and found an opportunity to benefit from the lucrative trade in wine.

¹⁰⁴ The most recently accepted analysis of Roman coinage indicates that, despite claims by Classical authors, Nero's reign was a period of economic reform attributed to the stabilization of the currency system. This development persisted during the "civil war" following Nero's suicide. Furthermore, there has been questioning whether the "Crisis of the Third century" was truly a crisis, as it might have been another period of monetary and social reforms (Butcher and Ponting 2015: 201-265).

¹⁰⁵ It has been suggested that during the Achaemenid period, economic developments and political stability under Darius I (522–486 BCE) did not endure after his death, leading to a period of decline and stagnation lasting over 150 years until Alexander's conquests in 330 BCE (Briant 2009). Regarding the Arsacid period, the term "Parthian Dark Age", initially attributed by numismatists to the span between 90 BCE and 55 BCE, gradually came to encompass the entire 500-year era. David Sellwood noted that "when compared to our understanding of contemporary Greece and Rome, the entirety of Parthian history might be aptly termed a 'Dark Age'" (Sellwood 1976: 2). Also see Boillet 2016.

¹⁰⁶ David Engels attributes the root of this presumably everlasting instability to an overarching phenomenon known as "Middle Eastern Feudalism". He suggests that this system was established during the Achaemenid period, interrupted by Alexander and the Seleucids with a brief period of urban growth, but later reinstated in a more pronounced form under the Arsacids. In fact, the author attributes the main cause of instability within the Seleucid Empire to this cultural phenomenon originating from their eastern territories, not to the Seleucid policies (Engels 2011: 19).

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Dolce 2010: 14-15.

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Dolce, R., 2017, *Losing One's Head in the Ancient Near East: Interpretation and Meaning of Decapitation*, London.

Article in scientific journal

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Chapter in a collective work

Dolce, R., 2012, "On Urban and Ideological Routes at Ebla. A look at the Topography of Cult Places in the Early Syrian City", in R. Matthews *et al.* (eds.), *Proceedings of the 7 ICAANE*, Vol. 1, London, pp. 35-52.

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