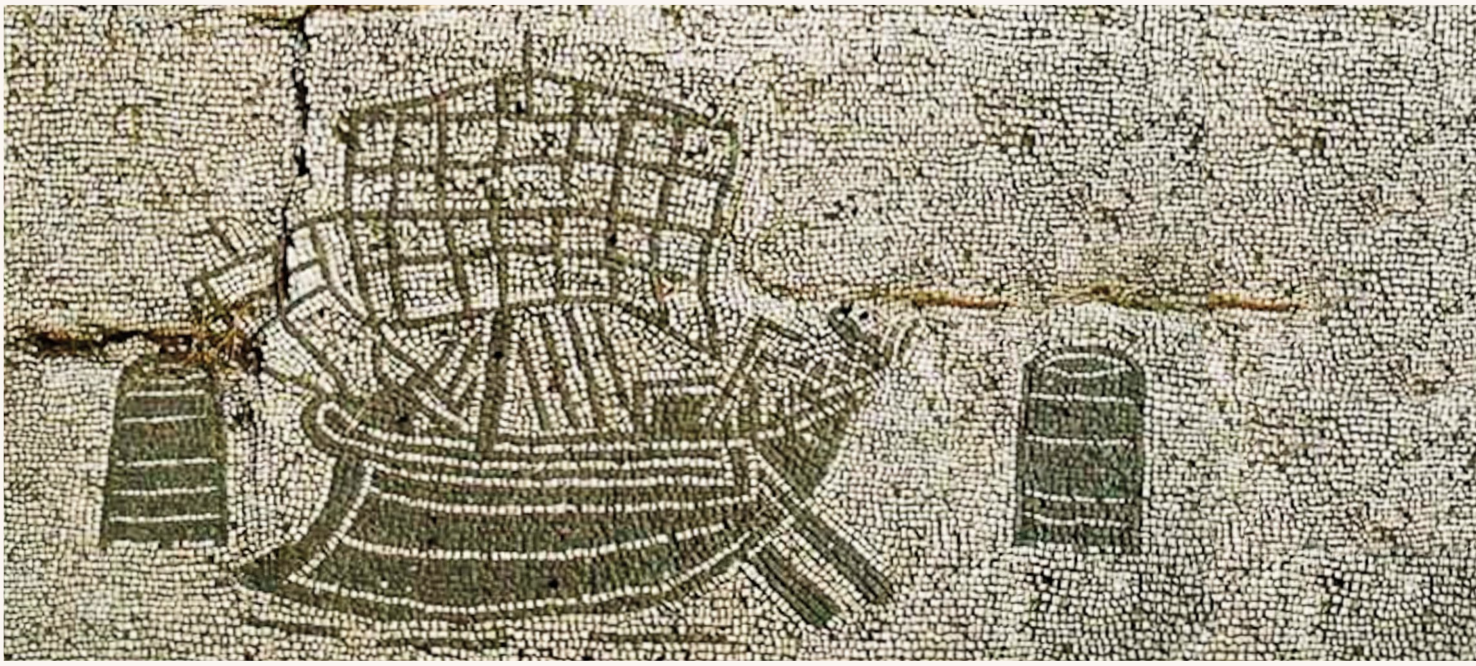
19th International Congress
of Classical Archaeology
Cologne/Bonn
22–26 May 2018

ICCA
XIX
AIAC

Archaeology and Economy in the Ancient World



29

Trade in Ancient Sardinia

Panel 5.4

Salvatore De Vincenzo (Ed.)

Propylaeum
SPECIALIZED INFORMATION
SERVICE CLASSICS

Proceedings of the

19th International Congress of Classical Archaeology

Volume 29: Trade in Ancient Sardinia

Proceedings of the
19th International Congress of Classical Archaeology

Cologne/Bonn, 22 – 26 May 2018
Archaeology and Economy in the Ancient World

Edited by

Martin Bentz and Michael Heinzelmann

Volume 29

ICCA
XIX
AIAC

Edited by

Salvatore De Vincenzo

Trade in Ancient Sardinia

Panel 5.4

Propylaeum
SPECIALIZED INFORMATION SERVICE CLASSICS

Bibliographic information published by the Deutsche Nationalbibliothek:
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie;
detailed bibliographic data are available on the Internet at http://dnb.dnb.de.

Propylaeum
SPECIALIZED INFORMATION SERVICE CLASSICS

Published at Propylaeum,
Heidelberg University Library 2022.

This publication is freely available under https://www.propylaeum.de (Open Access).
URN: urn:nbn:de:bsz:16-propylaeum-ebook-759-8
DOI: https://doi.org/10.11588/propylaeum.759

Editorial Coordination: Florian Birkner, Ina Borkenstein, Christian Schöne
Editorial Staff: Stefanie Herten, Katharina Zerzeropulos

Layout: Torsten Zimmer, Zwiebelfisch@quarium

Cover illustration: Piazzale delle Corporazioni in Ostia. Mosaic naming the Sardinian navicularii (Mastino 2005, 187, fig. 20).

ISBN: 978-3-96929-006-4
e-ISBN: 978-3-96929-005-7

CONTENTS

PREFACE

On behalf of the 'Associazione Internazionale di Archeologia Classica (AIAC)' the 19th International Congress for Classical Archaeology took place in Cologne and Bonn from 22 to 26 May 2018. It was jointly organized by the two Archaeological Institutes of the Universities of Cologne and Bonn, and the primary theme of the congress was 'Archaeology and Economy in the Ancient World'. In fact, economic aspects permeate all areas of public and private life in ancient societies, whether in urban development, religion, art, housing, or in death.

Research on ancient economies has long played a significant role in ancient history. Increasingly in the last decades, awareness has grown in archaeology that the material culture of ancient societies offers excellent opportunities for studying the structure, performance, and dynamics of ancient economic systems and economic processes. Therefore, the main objective of this congress was to understand economy as a central element of classical societies and to analyze its interaction with ecological, political, social, religious, and cultural factors. The theme of the congress was addressed to all disciplines that deal with the Greco-Roman civilization and their neighbouring cultures from the Aegean Bronze Age to the end of Late Antiquity.

The participation of more than 1.200 scholars from more than 40 countries demonstrates the great response to the topic of the congress. Altogether, more than 900 papers in 128 panels were presented, as were more than 110 posters. The publication of the congress is in two stages: larger panels are initially presented as independent volumes, such as this publication. Finally, at the end of the editing process, all contributions will be published in a joint conference volume.

We would like to take this opportunity to thank all participants and helpers of the congress who made it such a great success. Its realization would not have been possible without the generous support of many institutions, whom we would like to thank once again: the Universities of Bonn and Cologne, the Archaeological Society of Cologne, the Archaeology Foundation of Cologne, the Gerda Henkel Foundation, the Fritz Thyssen Foundation, the Sal. Oppenheim Foundation, the German Research Foundation (DFG), the German Academic Exchange Service (DAAD), the Romano-Germanic Museum Cologne and the LVR-LandesMuseum Bonn. Finally, our thanks go to all colleagues and panel organizers who were involved in the editing and printing process.

Bonn/Cologne, in August 2019

Martin Bentz & Michael Heinzelmann

Production and Trade in pre-Roman Sardinia. An Introduction

Chiara Blasetti Fantauzzi

Located centrally in the western Mediterranean Sea, Sardinia has long been an obligatory crossroad of all routes passing through the west Mediterranean and connecting the eastern and western basins (fig. 1).[1]

At the height of the Nuragic Civilization, which coincides with the Late Bronze Age, there are long-distance seafaring routes that merchants from Mycenaean Greece took to southern Italy and Sicily and from there to Sardinia and Spain, mainly looking for metals.[2] Sardinia, during this time, was fully incorporated in this trade because of its mineral wealth and because it lay on route to the Spanish and Etruscan coasts, which were also very rich in metals.[3] Increased contacts between Sardinia and these areas during the transition from the Late Bronze Age to the Early Iron Age is documented by finds of Sardinian objects, both pottery and bronzes including figurines, on the coasts of the Italian peninsula, Sicily, Crete, Cyprus, North Africa, Spain, Corsica and France. This Sardinian material was traded by merchants from Sardinia, Cyprus and the Levant, who took over after the collapse of the Mycenaean world.

By the second half of the 9th century BC Phoenician merchants had become the dominate group of merchants who moved from the east to the west, still mainly searching for metals. Between the 8th and 7th century BC the Phoenicians also establish themselves on the coasts of Sardinia – like Phoenician foundations in western Sicily, North Africa and southern Spain – with the foundation of a series of settlements such as Sulky (S. Antioco), Karaly (Cagliari), Tharros, Nora and Bithia.[4]

With regard to the oldest phase of the Phoenician colonization the most interesting data comes from Sant'Imbenia, which is situated on the west coast of Sardinia near Alghero. The results of the settlement excavation seem to indicate the existence of a hybrid culture, as in its layers Phoenician as well as indigenous materials were found. The analysis of the settlement provides a rare opportunity to trace the early steps of the colonization process. At the very early stage a mix of Phoenician and indigenous people seems very probable. This is also observable in other Phoenician settlements, where indigenous artifacts were found together with Phoenician materials of the first half of the 8th century BC.[5] The foundation layers of domestic contexts in Sulcy may serve as an example here.

In fact, Sant'Imbenia shows an indigenous society open to Levantine influence during the 9th century BC, but especially during the following 8th century BC. Numerous objects from Euboea show a connection with Euboea as well, which is comparable to phenomena occurring at Al Mina, the mouth of the Orontes, Pithekoussai, Carthage and Huelva (Tartessos) in Andalusia.

Published in: Salvatore De Vincenzo (Ed.), Trade in Ancient Sardinia, Panel 5.4, Archaeology and Economy in the Ancient World 29 (Heidelberg, Propylaeum 2022) 1–14.
DOI: *https://doi.org/10.11588/propylaeum.759.c10711*

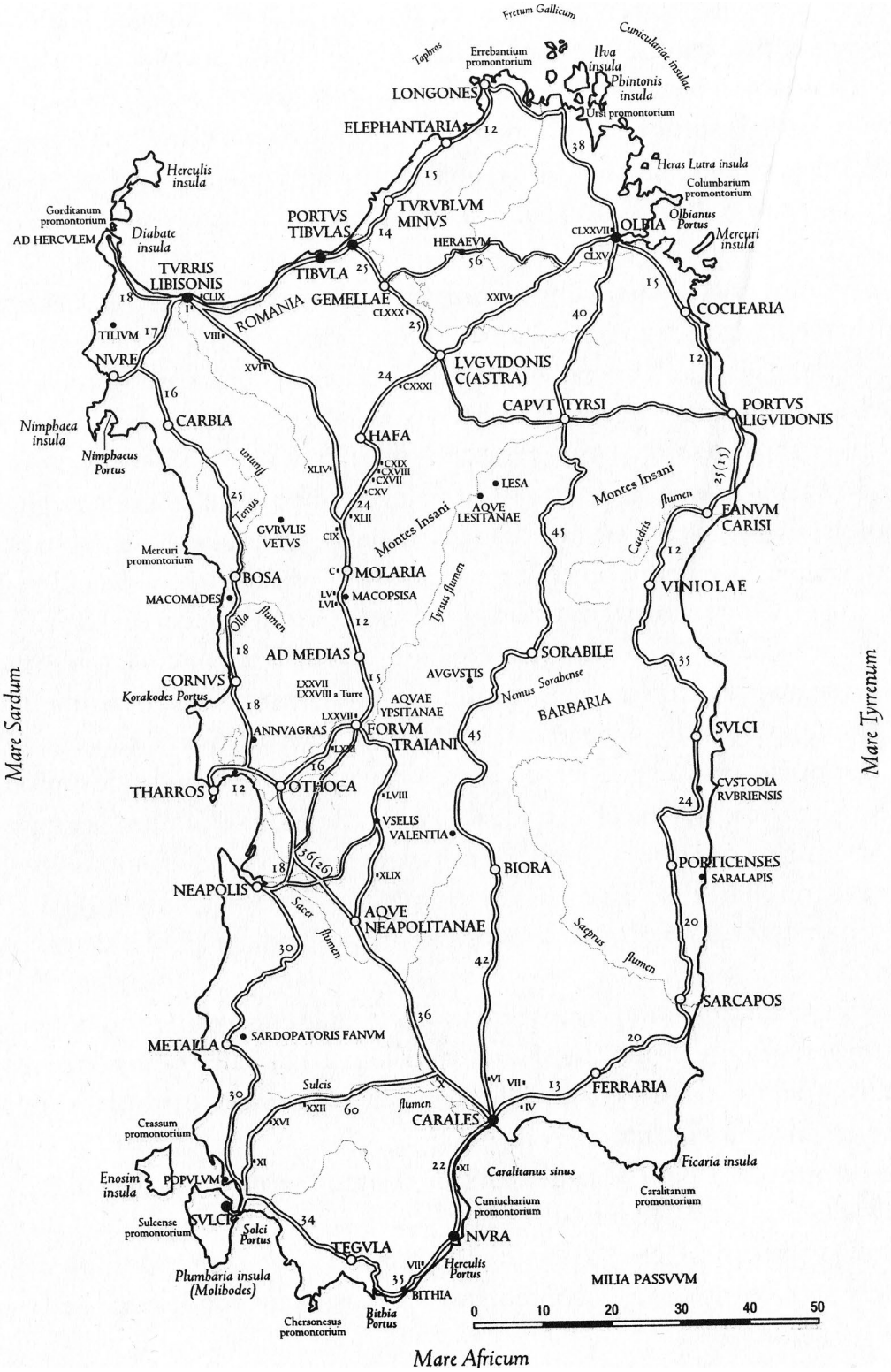


Fig. 1: Map of ancient Sardinia.

Direct relationships are also documented between Sardinia and the Villanovian communities of the Tuscan-Lazio area and, perhaps Campania (Pontecagnano and Sala Consilina) during the 9th and 8th century BC. Bronze objects from the Villanovian communities reached Sardinia, and especially the centres of central-northern Sardinia. They are dated to the early Iron Age.

The maritime connection between Sardinia and the ports of northern Etruria, therefore, is already evident in the first half of the 9th century BC, suggesting on the one hand a Tyrrhenian route along the eastern coast of Corsica and the Tuscan archipelago and on the other hand the role of Sardinians in the development of metallurgy in the mining areas of Etruria. It is thus no coincidence that the Sardinian materials in the vicinity of both Populonia and Vetulonia and in general in the mining areas of Etruria represent about two thirds of the total of the Sardinian indigenous artifacts distributed across the Italian peninsula.

As indicated by this early Sardinian evidence in Populonia and Vetulonia, it is clear that the Phoenicians tapped into this already existing special trading relationship between Sardinia and the mining areas of Etruria.

The Phoenician centres of Sardinia are, therefore, interested in the exchange relations between North Africa, the Tyrrhenian coast of mainland Italy and, by way of the Balearic Islands, the extreme western Mediterranean and Atlantic coasts. The colony of Sulci, the main trading port for the metal extracted from the mountains of the Iglesiente, participated in this network between 750 and 650 BC. Phoenician artifacts arrived via the Carthage and Andalusian-Mauritanian routes. In addition to Phoenician pottery there is a minor but relevant presence of Late-Geometric Euboean ceramics of both the east Mediterranean (Euboea-Cycladic) and Pithekoussai, as well as Protocorinthian and Corinthian pottery, indicating the existence of complex and diverse exchange relations during the Archaic period.[6]

Imported Etruscan and Greek objects that have been found in both the Phoenician and indigenous centres of Sardinia must be examined in the context of the exchange relations during the Archaic period.[7]

Current research rejects the concept of "Etruscan trade". As Michel Gras has pointed out, «la question du «commerce étrusque» ne se résume donc pas à la recherche des importations mais à leur place dans les sociétés».[8]

The role of Etruscan but also Greek imports in the Phoenician and Sardinian societies of Archaic Sardinia has been examined by various scholars, who noted the importance of "taste" to justify the selective choices made by the inhabitants of the various Phoenician settlements in Sardinia. Similar phenomena have been observed in Carthage, Ibiza, Malaga and in the region of Liguria and the Provence, where a large diffusion of Greek and Etruscan amphorae and Etruscan *bucchero* is found from the end of the 7th century BC onward.

Etruscan amphorae are also present in Carthage, Malaga and Sardinia, in particular in Sarcapos, Nora, Bithia, Neapolis, Korakodes and Ittireddu, however the quantities are

much smaller compared to those of the region of Liguria and the Provence. Etruscan-Corinthian aryballoi and alabastra are widely attested in Phoenician contexts (Mozia, Palermo, Carthage, Ibiza) but are absent in southern France.[9]

Most bucchero in Sardinia is dated between 600/590 BC and 560 BC, but it can be found during the entire 6th century and the first half of the 5th century BC, as in Nora, where smooth forms of *bucchero* have been discovered that can be related to symposia and that cannot easily be assigned to a workshop.

The Phoenician ports of Sardinia mainly received Etruscan pottery that was produced in the *poleis* of southern Etruria. Especially the Etruscan-Corinthian pottery, dated between 580 and 540/530 BC, can be ascribed to workshops in Tarquinia, Vulci, which are prevalent, and Cerveteri, which are dated later.

Attic black glazed, black-figure pottery as well as "Ionic cups", mainly produced in western ateliers, are only documented in the Phoenician centres of Sardinia and not in other sites on the island. Athenian amphorae à la brosse, Corinthian A, Chiote, Milesian or Samian, "Ionian-Massaliote" vessels of Magna Graecia and rare Massaliote amphorae with micaceous paste have been attested in Sardinia as well. The chronological scope of this pottery ranges between 620 and the end of the 6th century BC, although the greatest concentration is dated to the third and fourth quarter of the 6th century BC. The number of documented examples, however, is very limited, even if the ones discovered on indigenous sites are taken into account.[10]

It is clear that during the first half of the 6th century BC Greek imports arrived in Sardinia Etrurian ports, while this might have changed in the second half of this century, when a reduction of Etruscan imports is visible. The Phocaean *apoikia* of Alalia and the subsequent battle of Alalia unmistakably had an impact on traffic in the western Mediterranean. [11] Before the defeat of Alalia, there may have been a Phocaean *emporium* in the port of Olbia, situated on the north-eastern coast of the island.[12]

During the 6th century BC Carthaginian authority was established in Sardinia without a sharp break with the previous Phoenician phase and this brought about a reorganization of trade in the centres of Sardinia.[13] Large areas of the island became dedicated to growing grain and the exploitation of lead, iron and copper mines led to an increase of the island's export.[14] This explains the enormous production of Sardinian amphorae, evidenced by the "a sacco" and "a siluro" types, dated to especially the late 5th and 4th century BC. They mainly contained Sardinian grain for export.

The imported amphorae from the Aegean area, Magna Graecia, Etruria and Massalia in particular contained wine. Sardinian wheat is assumed to have arrived in Sardinian amphorae in the port of Neapolis in Campania before it was further distributed across Magna Graecia, as this port played an important role for the grain supply of Athens. Attic red and black-figure pottery dating to the 5th and 4th century BC and widespread in the Punic cities and their hinterland of Sardinia, especially south east of the Gulf of Oristano at Neapolis (Oristano), must have come from this port in return.

This hypothesis seems to be confirmed by the increased number of amphorae from Magna Graecia. It cannot be excluded that these arrived in Sardinia through Carthaginian intermediaries, especially when the spread of Attic pottery in Carthage, Ibiza and the south of the Iberian Peninsula is taken into consideration. The cargo of a shipwreck, dated to 350 BC, discovered off the island of Sec, in the bay of Palma de Mallorca, was made up of a vast assortment of goods, including red-figure Attic pottery, black-glazed wares with both Greek and Punic commercial graffiti, Greek and Punic amphorae from the central Mediterranean and trachyte millstones either from Pantelleria or Mulargia. The diverse origin of this cargo demonstrates how difficult it is to identify the route by which the Attic imports arrived in Punic Sardinia.[15]

Carthage lost control of Sardinia at the end of the First Punic War (237 BC) and in 227 BC the Roman provincia of Sardinia was established.[16] This, however, did not stop the Sardinians from revolting. The battle of Cornus in 215 BC is well known but there is also the triumph celebrated by Tiberius Gracchus in 175 BC for his successes against the Ilienses and the Balari. To commemorate his triumph, the consul dedicated a bronze tablet (*tabula*) with the map of the island and the campaigns he fought in Sardinia in the temple of Mater Matuta in Rome. The last known triumph, celebrated because of military success in Sardinia, is of *M. Cecilius Metellus* and dates to 111 BC. This does not mean that disturbances in Sardinia had come to an end, as is well known from literary and epigraphic evidence, in particular in the interior of the island.

Archaeological data and literary sources provide reliable knowledge of the system of ports and landings in Sardinia during the Roman period. First of all, this system is described in the Itinerarium Antonini and the Geography of Claudius Ptolemy. The older pre-existing coastal cities, Tharros, Karaly, Sulky, Olbia, etc., newly founded centres such as the colony of Turris Libisonis (Porto Torres) and natural landings now equipped with suitable infrastructures are all part of this system. The main ports during the Roman period are Longone (Santa Teresa Gallura), Portus Tibulas (Castelsardo), Turris Libisonis, Porto Conte, Bosa, Cala su Pallosu, Tharros, Othoca (Santa Giusta), Neapolis (Santa Maria de Nabui), Sulci (Phoenician Sulky), Bithia, Nora, Karales (Phoenician Karaly), Sarcapos (Santa Maria di Villaputzu), Sulci (Tortolì), Portus Liguidonis (Posada?) and Olbia.[17]

Some ports, like Olbia and Karales, were equipped with typical facilities such as shipyards for repairs if not construction and sanctuaries for the worshipping of deities, among others Venus, who protected sea voyages. Not only cargo ships were docked in the ports but also warships. In 215 BC, for example, Titus Manlius Torquatus set off from Karales to Cornus to fight Ampsicora and his son Hostus, duces Sardorum and troops from the main military basis of Miseno in Campania from where the western Mediterranean was controlled, were detached in Olbia and Karales.[18]

Regarding trade goods, as is known in general only non-perishable materials (pottery, glass, metal, bone, stone) survive on the seabed and in the subsoil, while the bulk of the trade in antiquity consisted of grain, fruit and vegetables, cheese, timber, salt and spices,

textiles, slaves, dyes, raw clay, livestock, animal hides etc.) which were transported in perishable containers or otherwise loaded onto the ship. To identify the Sardinian export goods, therefore, the support of literary and epigraphic sources is necessary.

Sardinia was primarily, as during the Punic period, an important source for the supply of grain, not only for Rome itself, but also for Greece and Asia Minor as reported in literary sources.[19]

Moreover, during the Phoenician, Punic and even Roman period, Sardinia assumably produced salt in the many lagoons that not by chance are situated very close to important inhabited centres such as Olbia, Othoca, Neapolis, Sulky, Karaly, Nora and Bithia.[20]

Meat and other animal products like cheese and hides were an important export product for Sardinia as well as livestock, such as horse breeds. Leather processing is closely linked to the presence of alum in Sardinia, which is an optimal mineral for the tanning but is also used in glass production. Its scarcity in the western Mediterranean made it an important export good for the few areas where it is present, among which the mountains of the Nuorese in Sardinia can be counted.[21]

A purple dye workshop, just several meters from the port of Olbia may indicate that this precious product was produced for oversea trade.[22]

The granite of Santa Teresa Gallura, Olbia and perhaps of the Isola di Cavallo (part of the La Maddalena archipelago) was certainly exported, not only to Rome but also Spain, North Africa and Sicily.[23] Sardinian granite was used in the construction of, for example, the Colosseum, the church of San Giovanni in Laterano, the church of Santa Maria sopra Minerva and the basilica of Saints Cosma and Damiano in Rome.

When the map of the Roman road network of Sardinia is compared with maps that display the island's Roman productions (grain, minerals, etc.) it becomes clear how the road system was organised to enable the transport of resources to the main ports, above all Karales, Olbia and Turris Libisonis, where the annonae were operating.

With regards to imports, the range of known materials is notably extensive. The bulk of the import consists, naturally, of west Mediterranean products: oil, wine, fish sauce, bricks, fine pottery, coarse wares and lamps, glass, metals and perfumes, arriving from the entire coastal and sub-coastal circuit comprising the Italian Peninsula, Sicily, North Africa, Spain and France.

The production and export of metals deserves a more in-depth analysis (copper, lead, silver, iron, especially from Sulcis and Alghero) as these had been a primary resource, exploited since the Nuragic period.

Sardinia's mining and metallurgy are, generally, equally important as those of Populonia and Vetulonia in Etruria.[24] Sardinia, in fact, was named Argyròphleps nésos, the "island of the silver veins", by the scholiast of Plato's Timaeus (p. 25, B), certainly because of its metal resources, which made the island one of the most privileged destinations among the western Mediterranean commercial routes.[25] Study of iron objects from the Nuragic period demonstrate that iron use started in the Late Bronze Age. The indigenous Nuragic people knew iron and its characteristics well, probably

introduced by and learned from Cypriot ironsmiths. According to another theory, the production of iron started in Sardinia during the final part of the Bronze Age and was later diffused to the rest of Italy.

In regard to urban areas, fragments of tannur, metal fragments and slags have been found in several Phoenician, Carthaginian, and Roman contexts in Sardinia.

In the northern part of Tharros, situated on the Gulf of Oristano, a pottery and iron production site has been identified that can be dated between the 5th and 4th century BC.[26] The site yielded several pottery fragments characterised by considerable signs of burning and vitrification and interpreted as furnace or pyro-metallurgical remains and iron scums. The discovery of an extensive variety of tools indicates the existence of metallurgical artisanal workshops.

In Neapolis, located in Gulf of Oristano like Tharros, the presence of iron in the urban area suggest the existence of metallurgical workshops, even though at present the available data does not permit the identification of any specific location or chronology.[27]

Other important artisanal workshops have been identified in Carthaginian and Roman settlements in the southern part of Sardinia. In Sulcis, for example, situated on the southwestern coast, an iron refining and production workshop has been discovered.[28] Recent investigations in Nora brought to light elements connected to artisanal workshops found both in urban and extra-urban areas. In the northern part of the city, iron and copper fragments, *tannur* platforms and fragments, and small basins for forging and cooling have been documented, indicating a possible (s)melting installation, dating between the 3rd and 1st century BC.

Long-term investigations in the hinterland of Nora[29] discovered open-air copper, iron, and silver-bearing galena mines, probably exploited for local demand and in order to trade with foreigners. Sant'Imbenia, situated on the coast of north-western Sardinia, is one of the most important excavated sites: the excavation provided evidence of early contact between indigenous people and Phoenicians. Sant'Imbenia's territory is rich in pastures and agricultural and mineral resources. In particular, silver mines are located in the Argentiera area, iron mines in Canaglia area, and copper mines in Calabona area.[30]

Along the northern coast (Olbia) artisanal areas have been identified and – near the presumed ancient port – pottery and metallurgical workshops have been discovered.

Another area of particular interest is that of iron mining in the mountains of the Montiferru massif.[31] The mines are located about 2,5 km east of Cornus. Some tunnels drilled in the side of the mountain are still visible. Micro-chemical analyses carried out on iron samples from the Montiferru confirmed the presence of iron from Montiferru in the metallurgical workshops of Tharros. The presence of mineral resources surely played an important role for the foundation of Cornus, as it is located along the south-western part of the Montiferru. Moreover, Nuragic Iron Age villages such as S'Urachi seem to be located along the natural communication route between the Gulf

of Oristano and the Montiferru. Not far from Tharros, in the indigenous centre of Nuraxinieddu, considerable evidence for iron production has been discovered: a Punic circular (s)melting furnace, cylindrical mouths, and iron fragments.

Notes

[1] Tronchetti 1988; Bernardini 1997; Lo Schiavo 1997a–b; van Dommelen 1998; Usai 2007; De Vincenzo 2015a–b; D'Oriano 2017b; Mastino 2017.

[2] Lo Schiavo 1997b; Mastino et al. 2005, 77–91; Bernardini 2017a; Zucca 2017.

[3] Usai – Zucca 2011; Rendeli 2017a.

[4] Barreca 1986; Lilliu et al. 1988; Bernardini et al. 2000; Bernardini 2009; Blasetti Fantauzzi 2012; Ead. 2015; Botto 2017. The only Greek settlement in Sardinia is assumed was that of Olbia, at least between the end of the 7th and the end of the 6th century BC: D'Oriano 2017b.

[5] Mastino et al. 2005, 91–103.

[6] Ugas – Zucca 1984; Tronchetti 2017.

[7] Rendeli 2017a; Bernardini 2017b; Tronchetti 2017, 177–214.

[8] Gras 2004, 229.

[9] Mastino et al. 2005,100 f.

[10] Tronchetti 2003; Del Vais 2006b; Guirguis 2007.

[11] Bernardini et al. 2000; Bernardini 2017b.

[12] D'Oriano 2017a.

[13] Mastino et al. 2005, 103–107. About the chronology of the installation of the Carthage domain in Sardinia s. Blasetti Fantauzzi 2015, 20–22.

[14] van Dommelen et al. 2010; van Dommelen et al. 2012; Roppa 2013.

[15] Del Vais 1997; Ead. 2006b; Mastino et al. 2005,105 f.; Tronchetti 2008.

[16] Meloni 1990; Mastino 2005. About the Roman provincia of Sardinia s. also De Vincenzo – Blasetti Fantauzzi 2016; Bonetto – Ghiotto 2017; Pianu 2017; Sechi 2017.

[17] Mastino 2005, 165–172; Mastino et al. 2005, 161–206; Mastino et al. 2006; Bartoloni 2009; Spanu – Zucca 2009; D'Oriano 2017b, 35.

[18] Mastino 2016.

[19] Rowland 1994.

[20] Mastino 2005, 184; Fariselli 2006a; Stiglitz 2006; D'Oriano 2017b, 35 f.

[21] D'Oriano 2017b, 36.

[22] Fariselli 2006b.

[23] Angiolillo 2005, 210; D'Oriano 2017b, 36 f.

[24] Zifferero 2002.

[25] Bernardini 2001; Id. 2010.

[26] Emporikòs Kòlpos 2005; Ingo et al. 1997.

[27] Zucca 2005, 159.

[28] Pompianu 2010.

[29] Finocchi 2002.

[30] Rendeli 2017b.

[31] Blasetti Fantauzzi – De Vincenzo 2016; Blasetti Fantauzzi 2019.

Image Credits

Fig. 1: Mastino 2005, 340 fig. 37.

References

Angiolillo 2005
S. Angiolillo, Sardinia, in: E.C. Portale – S. Angiolillo – C. Vismara (eds.), Le grandi isole del Mediterraneo occidentale. Sicilia, Sardinia, Corsica (Rome 2005) 189–315.

Angiolillo et al. 2017
S. Angiolillo – R. Martorelli – M. Giuman – A.M. Corda – D. Artizzu (eds.), La Sardegna Romana e altomedievale. Storia e materiali. Corpora delle antichità della Sardegna (Florence 2017).

Barreca 1986
F. Barreca, La civiltà fenicio-punica in Sardegna (Sassari 1986).

Bartoloni 2009
P. Bartoloni, Porti e approdi dell'antica Sulcis, in: A. Mastino – P.G. Spanu – R. Zucca (eds.), Naves plenis velis euntes (Rome 2009) 178–192.

Bernardini 1997
P. Bernardini, I Fenici lungo le rotte dell'Occidente, in: P. Bernardini – R. D'Oriano – P.G. Spanu (eds.), B SHRDN Phoinikes. I Fenici in Sardegna: nuove acquisizioni (Cagliari 1997) 41–42.

Bernardini 2001
P. Bernardini, Argyróphleps nesos. L'isola dalle vene d'argento. Esploratori, mercanti e coloni in Sardegna tra il XIV e il VI sec. a.C. (Bondeno 2001).

Bernardini 2009
P. Bernardini, Dati di cronologia sulla presenza fenicia e punica in Sardegna (IX–V sec. a.C.), Sardinia, Corsica et Baleares Antiquae 7, 2009, 19–69.

Bernardini 2010
P. Bernardini, Le torri, i metalli, il mare. Storie antiche di un'isola mediterranea (Sassari 2010).

Bernardini 2017a
P. Bernardini, La Sardegna prima dei Fenici: Micenei, Ciprioti e Filistei, in: M. Guirguis, La Sardegna fenicia e punica. Storia materiali (Nuoro 2017) 39–43.

Bernardini 2017b
P. Bernardini, La Sardegna fenicia e il mondo greco, in: M. Guirguis, La Sardegna fenicia e punica. Storia materiali (Nuoro 2017) 63–66.

Bernardini et al. 1997
P. Bernardini – R. D'Oriano – P.G. Spanu (eds.), B SHRDN Phoinikes. I Fenici in Sardegna: nuove acquisizioni (Cagliari 1997).

Bernardini et al. 2000
P. Bernardini – P. G. Spanu – R. Zucca, Μάχη. La battaglia del Mare Sardonio. Studi e ricerche (Cagliari 2000).

Blasetti Fantauzzi 2012
C. Blasetti Fantauzzi, Die archäologischen Kontexte auf Sardinien, in: C. Blasetti Fantauzzi – S. De Vincenzo, Die phönizische Kolonisation auf Sizilien und Sardinien und die Problematik der Machtentstehung Karthagos, KuBA 2, 2012, 5–15.

Blasetti Fantauzzi 2015
C. Blasetti Fantauzzi, Origine e sviluppo dei centri urbani punici della Sardegna fino all'età della romanizzazione, Tübinger Archäologische Forschungen 20 (Rahden/Westf. 2015).

Blasetti Fantauzzi 2019
C. Blasetti Fantauzzi, Cornus e il Montiferru in età punica e romana. Indagini archeologiche e topografiche, in: M. Bolder-Boos – N. Bagherpour Kashani (ed.), Von Kanaan nach Gibraltar und zurück – die Phönizier im Mittelmeerraum, Carthage Studies 11 (Gent 2019).

Blasetti Fantauzzi – De Vincenzo 2016
C. Blasetti Fantauzzi – S. De Vincenzo, Indagini archeologiche nella città romana di Cornus (OR), in: Bosa. La città e il suo territorio dall'età antica al mondo contemporaneo. Bosa, 24–25/10/2014 (Sassari 2016) 141–153.

Bonetto – Ghiotto 2017
J. Bonetto – A.R. Ghiotto, Le città della Sardegna in età romana, in: S. Angiolillo – R. Martorelli – M. Giuman – A.M. Corda – D. Artizzu (eds.), La Sardegna Romana e altomedievale. Storia e materiali. Corpora delle antichità della Sardegna (Florence 2017) 45–56.

Botto 2017
M. Botto, La Sardegna lungo le rotte dell'Occidente fenicio, in: M. Guirguis, La Sardegna fenicia e punica. Storia materiali (Nuoro 2017) 73–77.

Del Vais 1997
C. Del Vais, Tharros XXIV. La ceramica a vernice nera non attica, RSF 25, Suppl. 1997, 97–120.

Del Vais 2006a
C. Del Vais, In pescosissimo mari. Il mare e le sue risorse tra antichità e tradizione. Guida alla mostra, Cabras 11 febbraio – 30 giugno 2006 (Iglesias 2006).

Del Vais 2006b
C. Del Vais, La ceramica etrusco-corinzia, attica a figure nere, a vernice nera e gli unguentari, in: E. Acquaro – C. Del Vais – A. C. Fariselli (eds.), Beni Culturali e antichità puniche. La necropoli meridionale di Tharros. Tharrhica-I, Biblioteca di Byrsa 4 (La Spezia 2006) 203–230.

De Vincenzo 2015a
DNP Suppl. 10 (2015) 225–233 s. v. Phönizier auf Sardinien (S. De Vincenzo).

De Vincenzo 2015b
DNP Suppl. 10 (2015) 233–241 s. v. Sardinien: Indigenen (S. De Vincenzo).

De Vincenzo – Blasetti Fantauzzi 2016
S. De Vincenzo – C. Blasetti Fantauzzi (eds.), Il processo di romanizzazione della provincia Sardinia et Corsica. Atti del Convegno Internazionale di Studi Cuglieri (OR) 26–28 marzo 2015 (Rome 2016).

D'Oriano 2017a
R. D'Oriano, Olbia fenicia, greca e punica, in: M. Guirguis, La Sardegna fenicia e punica. Storia materiali (Nuoro 2017) 251–254.

D'Oriano 2017b
R. D'Oriano, La Sardegna e il mare, in: S. Angiolillo – R. Martorelli – M. Giuman – A.M. Corda – D. Artizzu (eds.), La Sardegna Romana e altomedievale. Storia e materiali. Corpora delle antichità della Sardegna (Florence 2017) 33–44.

Emporikòs Kòlpos 2005
Emporikòs Kòlpos. Il golfo degli empori. Oristano, Antiquarium Arborense 22 luglio 2005–31 marzo 2006 (Cagliari 2005).

Fariselli 2006a
A.C. Fariselli, Saline e salagione nell'Occidente fenicio-punico e romano, in: C. Del Vais, In pescosissimo mari. Il mare e le sue risorse tra antichità e tradizione. Guida alla mostra, Cabras 11 febbraio – 30 giugno 2006 (Iglesias 2006) 31–32.

Fariselli 2006b
A.C. Fariselli, La porpora nell'Occidente fenicio-punico, in: C. Del Vais, In pescosissimo mari. Il mare e le sue risorse tra antichità e tradizione. Guida alla mostra, Cabras 11 febbraio – 30 giugno 2006 (Iglesias 2006) 37–38.

Finocchi 2002
S. Finocchi, Considerazioni sugli aspetti produttivi di Nora e del suo territorio in epoca fenicia e punica, RStudFen 30, 147–186.

Gras 2004
M. Gras, Les Étrusques vus de la Gaule. Échanges maritimes et implantations, DocAMerid 27, 2004, 213–235.

Guirguis 2007
M. Guirguis, Contesti funerari con ceramica ionica e attica da Monte Sirai (Campagne di scavo 2005-2008), Sardinia Corsica et Baleares Antiquae. An International Journal of Archaeology 5, 2007, 121–132.

Guirguis 2017
M. Guirguis, La Sardegna fenicia e punica. Storia materiali (Nuoro 2017).

Ingo et al. 1997
G. Ingo – E. Acquaro – L. I. Manfredi – G. Bultrini – G. Chiozzini, La pirometallurgia, in: E. Acquaro (ed.), Progetto Tharros (Rome 1997) 29–46.

Lilliu et al. 1988
G. Lilliu et alii (eds.), L'Antiquarium arborense e i civici musei archeologici della Sardegna (Milan 1988).

Lo Schiavo 1997a
F. Lo Schiavo, La Sardegna prima dell'insediamento dei Fenici, in: P. Bernardini – R. D'Oriano – P.G. Spanu (eds.), B SHRDN Phoinikes. I Fenici in Sardegna: nuove acquisizioni (Cagliari 1997) 29–32.

Lo Schiavo 1997b

F. Lo Schiavo, La navigazione nel Mediterraneo dai Micenei ai Fenici, in: P. Bernardini – R. D'Oriano – P.G. Spanu (eds.), B SHRDN Phoinikes. I Fenici in Sardegna: nuove acquisizioni (Cagliari 1997) 33–36.

Mastino 2005

A. Mastino, Storia della Sardegna antica (Recco 2005).

Mastino 2016

A. Mastino, Cornus e il Bellum Sardum di Hampsicora e Hostus Storia o mito? Processo a Tito Livio, in: S. De Vincenzo – C. Blasetti Fantauzzi (ed.), Il processo di romanizzazione della provincia Sardinia et Corsica, Convegno internazionale di Cuglieri/OR, 26–28 marzo 2015. Analysis Archaeologica. An International Journal of Western Mediterranean Archaeology, Monograph Series N° 1 (Rome 2016) 15–67.

Mastino 2017

A. Mastino, La Sardegna al centro del Mediterraneo, in: S. Angiolillo – R. Martorelli – M. Giuman – A.M. Corda – D. Artizzu (eds.), La Sardegna Romana e altomedievale. Storia e materiali. Corpora delle antichità della Sardegna (Florence 2017) 17–32.

Mastino et al. 2005

A. Mastino – P.G. Spanu – R. Zucca (eds.), Mare Sardum. Merci, mercati e scambi marittimi della Sardegna antica (Rome 2005).

Mastino et al. 2006

A. Mastino – P.G. Spanu – R. Zucca (eds.), Tharros Felix 2 (Rome 2006).

Mastino et al. 2009

A. Mastino – P.G. Spanu – R. Zucca (eds.), Naves plenis velis euntes (Rome 2009).

Meloni 1990

P. Meloni, La Sardegna romana (Sassari 1990).

Pompianu 2010

E. Pompianu, Un impianto artigianale per la lavorazione del ferro dall'antica Sulky (Sardegna), in: L'Africa romana XVIII. Atti del XVIII convegno di studi, Olbia 11–14 dicembre 2008 (Rome 2010) 1267–1282.

Pianu 2017

G. Pianu, Città e territorio, vici, pagi, stationes, in: S. Angiolillo – R. Martorelli – M. Giuman – A.M. Corda – D. Artizzu (eds.), La Sardegna Romana e altomedievale. Storia e materiali. Corpora delle antichità della Sardegna (Florence 2017) 57–63.

Rendeli 2017a

M. Rendeli, La Sardegna e il mondo etrusco, in: M. Guirguis, La Sardegna fenicia e punica. Storia materiali (Nuoro 2017) 67–71.

Rendeli 2017b

M. Rendeli, Sant'Imbenia, in: M. Guirguis, La Sardegna fenicia e punica. Storia materiali (Nuoro 2017) 245–249.

Roppa 2013

A. Roppa, Comunità urbane e rurali della Sardegna punica di età ellenistica (Valencia 2013).

Rowland 1994

R.J. Rowland Jr., Sardinia Provincia frumentaria, in: Le ravitaillement en blé de Rome et des centres urbains des débuts de la république jusqu'au haut empire. Actes du colloque international organisé par le Centre Jean Bérard et l'URA 994 du CNRS – Naples 14–16 Février 1991 (Naples 1994) 255–260.

Sechi 2017

M. Sechi, Quadro generale della viabilità romana in Sardegna, in: S. Angiolillo – R. Martorelli – M. Giuman – A.M. Corda – D. Artizzu (eds.), La Sardegna Romana e altomedievale. Storia e materiali. Corpora delle antichità della Sardegna (Florence 2017) 193–198.

Spanu – Zucca 2009

P.G. Spanu – R. Zucca, Il Neapolitanus portus alla luce delle ricerche di archeologia subacquea, in: A. Mastino – P.G. Spanu – R. Zucca (eds.), Naves plenis velis euntes (Rome 2009) 217–235.

Stiglitz 2006

A. Stiglitz, Le saline del Capo Mannu e la localizzazione del Korakodes portus. Studi sull'entroterra tharrense, in: A. Mastino – P.G. Spanu – R. Zucca (eds.), Naves plenis velis euntes (Rome 2009) 60–80.

Tronchetti 1988

C. Tronchetti, I Sardi. Traffici, relazioni, ideologie nella Sardegna arcaica (Milan 1988).

Tronchetti 1998

C. Tronchetti, Problemi di cronologia ceramica nella Sardegna romana, in: M.S. Balmuth – R.H. Tykot (ed.), Sardinian and Aegean Chronology. Towards the Resolution of Relative and Absolute Dating in the Mediterranean. Proceedings of the International Colloquium 'Sardinian Stratigraphy and Mediterranean Chronology', Tufts University, Medford, Massachusetts, March 17–19, 1995 (Oxford 1998) 371–381.

Tronchetti 2003

C. Tronchetti, La ceramica attica in Sardegna tra VI e IV sec. a.C.: significato e problemi, in: F. Giudice – R. Panvini (ed.), Il greco, il barbaro e la ceramica attica. Immaginario del diverso, processi di scambio e autorappresentazione degli indigeni. Atti del convegno internazionale di studi 14–19 maggio 2001, Catania, Caltanissetta, Gela, Camarina, Vittoria, Siracusa (Rome 2003) 177–182.

Tronchetti 2008

C. Tronchetti, Bere vino "alla greca" nella Sardegna punica?, in: Meetings between Cultures in the Ancient Mediterranean. Proceedings of the 17th International Congress of Classical Archaeology, Rome 22–26 September 2008, Bollettino di Archeologia on-line, Volume speciale, 29–36.

Tronchetti 2017

C. Tronchetti, Studi sul commercio nel Mediterraneo antico: Atene, Etruria, Sardegna (Tricase 2017).

Ugas – Zucca 1984

G. Ugas – R. Zucca, Il commercio arcaico in Sardegna. Importazioni etrusche e greche (620–480 a.C.) (Cagliari 1984).

Usai 2007

A. Usai, Riflessioni sul problema delle relazioni tra i Nuragici e i Fenici, Sardinia, Corsica et Baleares Antiquae 5, 2007, 39–62.

Usai – Zucca 2011

E. Usai – R. Zucca, Nuovi bronzi nuragici dell'Antiquarium Arborense di Oristano: contributo alle rotte mediterranee della Sardegna, in: A. Mastino – P.G. Spanu – A. Usai – R. Zucca (eds.), Tharros Felix 4 (Rome 2011) 323–350.

van Dommelen 1998

P. van Dommelen, On Colonial Grounds. A Comparative Study of Colonialism and Rural Settlement in First Millennium BC West Central Sardinia (Leiden 1988).

van Dommelen et al. 2010

P. van Dommelen – C. Gómez Bellard – G. Pérez Jordá, Produzione agraria nella Sardegna punica fra cereali e vino, in: L'Africa romana XVIII. Atti del XVIII convegno di studi, Olbia 11–14 dicembre 2008 (Rome 2010) 1187–1202.

van Dommelen et al. 2012

P. van Dommelen – C. Gómez Bellard – C. Tronchetti 2012: Insediamento rurale e produzione agraria nella Sardegna punica: la fattoria di Truncu ʻe Molas (Terralba, OR), in: C. Del Vais (ed.), EPI OINOPA PONTON. Studi sul Mediterraneo antico in ricordo di Giovanni Tore (Oristano 2012) 501–516.

Zifferero 2002

A. Zifferero, Attività estrattive e metallurgiche nell'area tirrenica. Alcune osservazioni sui rapporti tra Etruria e Sardegna, in: O. Paoletti – L. Tamagno Perna (ed.), Etruria e Sardegna centrosettentrionale tra l'età del bronzo finale e l'arcaismo. Atti del XXI Convegno di Studi Etruschi ed Italici, Sassari-Alghero-Oristano-Torralba 13–17 ottobre 1998 (Pisa 2002) 179–212.

Zucca 2005

R. Zucca, Splendidissima civitas Neapolitanorum (Rome 2005).

Zucca 2017

R. Zucca, Rapporti di interazione tra Fenici e Nuragici, in: M. Guirguis, La Sardegna fenicia e punica. Storia materiali (Nuoro 2017) 45–53.

Production and Trade in Roman Sardinia. An Introduction

Salvatore De Vincenzo

Analysis of production and trade in Sardinia shows that the Roman conquest did neither overturn the economic structure of the island nor disturb the interactions with North Africa, since Rome's predominant focus was the acquisition of grain. However, after the Second Punic War a new economic era came into being, as the Sardinian-Punic protagonists faced competition from Roman and Italian *negotiators*.[1]

The geographical position of Sardinia halfway Rome and Carthage made it an obligatory stop on the maritime routes between Africa and Italy.[2] Since the Republican period the port of Karales served this purpose. Ships coming from Africa docked on the eastern side of Sardinia, at the most northern part of the island at *Bocche di Bonifacio*, where they met ships coming from Gaul and from the Iberian Peninsula on their way to Roman ports. On the return journey, however, ships were more likely to follow a different route. From the *Bocche di Bonifacio*, they stopped at the port of Turris Libisonis on the western coast, using the northwest winds.[3]

Inscriptions from Ostia of the 2nd century BC are very enlightening in this regard, mentioning *navicularii* and *domini navium* of Sardinia. Their existence is furthermore attested by two *stationes* in the *Piazzale delle Corporazioni* in Ostia, respectively named the *navicularii Turritani* and the *navicularii et negotiantes Karalitani* (fig. 1).[4]

Remarks regarding the prosperity of Sardinia, first and foremost as a producer of wheat, are numerous throughout Roman history. It seems likely that the province's obligations to supply grain were not the same during the whole period of Roman domination. Fiscal pressure must have been greater during the Republican period. The burden may have been temporarily lightened when Egypt was conquered by the Romans, only to become more burdensome when, following the foundation of Constantinople, the Egyptian grain was shipped to the East and after the Vandal conquest of Africa in 429 AD.

The importance of Sardinia as a wheat-producing island is depicted in a mosaic of the *navicul(arii) et negotiantes Karalitani* in Ostia as a ship in the middle of two *modii*. Yet, it has overshadowed the importance of other products that may have been exported and re-enforced this particular image of the Sardinian *navicularii*: they have become known as ship owners in the exclusive service of the *annona*.

Nevertheless, historical and epigraphic data as well as archaeological data clearly document free and intensive activity of the Sardinian *navicularii*. They traded in three directions: to Italy, to North Africa and to the provinces of Gallia and Spain. Its main centres the ports of Karales and Turris Libisonis.[5]

A well-known inscription from Ostia dated to 173 AD and dedicated to M. Iunius Faustus, *mercator frumentarius* and *patronus* of the *corpus curatorum navium marinarum*,

Published in: Salvatore De Vincenzo (Ed.), Trade in Ancient Sardinia, Panel 5.4, Archaeology and Economy in the Ancient World 29 (Heidelberg, Propylaeum 2022) 15–25.
DOI: *https://doi.org/10.11588/propylaeum.759.c10712*

Fig. 1: Piazzale delle Corporazioni in Ostia. Mosaic naming the Sardinian *navicularii*.

mentions *navium Afrarum universarum item Sardorum*, illustrates that the *navicularis* of the two provinces could act jointly and operated in a trade triangle of North Africa (Carthage) – Sardinia – Ostia, with each side of the triangle almost equal in length.

A close link between agricultural production, especially wheat farming, and overseas export has been postulated for Sardinia in accordance to what has been documented in Africa. The owners of the ships that traded between the Sardinian ports and Ostia were also the estate holders in Sardinia.

As a matter of interest, a lead anchor discovered in the sea off Turas beach near Bosa and dated to the 1st and 2nd century AD, bears the name of the *navicularius* Lucius Fulvius Euti (chianus?), a trader also mentioned on another anchor preserved in the National Museum of Palermo. The surname may refer to the Eutychians (or Euthicians) mentioned on the boundary stones discovered north of Cornus, which attests to the existence of a vast latifundium.[6]

Sardinian *navicularii* thus are shown to be very active in the trade of Italian and African goods, in particular wine, oil and fine pottery, as well as in their own goods. In addition to wheat, mineral resources (lead silver, iron, copper) and granite of Gallura, whose quarries were located on and near Capo Testa, the ancient Portus Tibulae, were exported.

Sardinian animals must have been traded as well, as the *Expositio totius mundi* describes Sardinia as very wellknown to be *ditissima fructibus et iumentis*. Sardinian horses were particularly appreciated. The island also supplied Rome with pork in the mid-5th century AD, as we know from the Constitution of Valentinian III.[7]

The most important indicator of traded products when analysing the commercial dynamics of Sardinia, is pottery and especially amphorae.[8]

The originally Punic centres in Sardinia continued the production of *a siluro* amphorae, which developed from older Punic amphorae types, probably designed for the transport of grain, but also for cured foodstuffs.[9] Amphorae of the so-called Punic tradition dating to the 2nd and 1st century BC are widely attested in Sardinia and contained cured foodstuffs, oil and perhaps wine. They were produced in North-African, more specifically Tunisian, but also in Iberian workshops.[10]

Furthermore, a route from eastern Iberia to Sardinia has been postulated based on the distribution of Iberian pottery on the island (*sombreros de copa* and grey ware basins from Ampurias).[11]

The intensification of cereal monocultures on the island after the Roman conquest made import of products like oil, fruit, fish sauce and above all wine necessary. Goods, such as fine pottery, coarse wares, oil lamps and glass accompanied those products to Sardinia as well.

As a result, starting in the late 3rd, but predominantly during the 2nd century BC, a large quantity of Greco-Italic wine amphorae from central and southern Tyrrhenian Italy arrived in the coastal centres of Sardinia; they are also found in their hinterland.

During the late Republican period, mainly the late 2nd century BC, there is a wide distribution of wine amphorae of the Rhodian type on Sardinia.[12] It remains unclear

how these amphorae arrived in the central-western basin of the Mediterranean Sea and given their distribution in Carthage and Sicily as well, it seems plausible that they arrived in Sardinia from Sicily or North Africa.

In the same 2nd century BC, the Dressel I wine amphorae is attested on Sardinia as well. These amphorae came mainly from Etruscan and Campanian workshops, they replaced the Greco-Italic amphorae around 150 BC and remained in use during the 1st century BC. When discovered in the cargo of shipwrecks these amphorae are associated with Apulian amphorae and amphorae produced in other centres on the Adriatic coast like Lamboglia 2 / Dressel 6A.[13]

Shipwrecks dated to the late Republican period with their cargo full of wine amphorae clearly document the presence of filler cargo, occupying the empty spaces between the amphorae. They consist of especially black-painted ceramics of Campana (Campana A) and Etruria (Campana B), other painted ceramic vessels like *Megaresi* cups of Italic production, oil lamps, thin-walled vessels and unguentaria.[14]

Italian imports continue to arrive in Sardinia during the High Imperial period. Dressel 2/4 wine amphorae from Tyrrhenian workshops are infrequently attested in Nora,[15] Bithia, Tharros, Magomadas (Ager Bosanus), Turris Libisonis, and Olbia, while Dressel 2-4 amphorae from the workshops of Hispania Tarraconensis (NE Spain) are relatively more frequently documented.[16]

Sardinia itself saw the establishment of many pottery workshops, distributed all over the island from the middle of the 2nd century BC onward. They produced fine pottery mimicking the imported wares. Sardinian potters used black paint but on grey ware of different shades on which a black opaque or dark grey colour was applied. These vessels literally inundate Sardinia as it was the most widely used tableware between the final decades of the 2nd century BC and just after the middle of the 1st century AD.

The most widespread shape is the wide curved cup on a large foot. The repertoire of this locally made black glazed ware differs completely from the earlier locally made pottery in the Attic and Punic tradition and includes shapes that originated from central Italy. These workshops continued their production until at least the central decades of the 1st century AD.[17]

During the same period, thin-walled pottery (cups and beakers) for the consumption of liquids were imported together with wine amphorae from the same central Italian region. Fusiform unguentaria, a generic Mediterranean shape, were locally produced and have a wide distribution in burial and residential contexts.[18]

Filler cargo during the Imperial period consists, first and foremost, of Italic and Late-Italic Sigillata, red-glazed pottery, late shapes of thin-walled pots and oil lamps. The large quantities of Italic and Late-Italic Sigillata found on the island were mainly produced in the workshops of Pisa. Very refined thin-walled jars, sometimes imitating expensive cups made of precious metal like gold are found in Sardinia as well. Dolia must be considered separately, they are often marked and made in urban workshops. They have

Fig. 2: Sardinian Sigillata.

been predominantly found in the coastal urban centres (Karales, Nora, Tharros, Elmas, Dolianova, Gergei, Biora) and in shipwrecks.[19]

From the middle of the 1st century AD the scope of pottery imports discovered on Sardinia widens considerably. In addition to Italian wine, Gallic wine produced in southern France found its way to Sardinia. This Gallic wine arrived together with south Gallic Sigillata, characterised by their bright, red-coloured varnish.

Smooth and decorated Sigillata vessel shapes are imported as well, even the marbled variety of La Graufesenque. Amphorae of Gallia that transported wine and, perhaps, garum, have been found in Sardinia. Especially the Gauloise 4 (Pélichet 47) type was widely distributed between the Flavian and Antonine period, but examples of Gauloise 3 and 5 are also known on the island.[20]

On Sardinia, pottery workshops continued producing imitations. At the beginning of the 1st century AD "Sardinian Sigillata", an imitation of Italian Sigillata, began to be produced in Sardinian workshops (Fig. 2). Those workshops were mainly, but not only, located in the interior of the island and their production dates to the 1st century AD.[21]

Starting in the 3rd century AD other important local pottery productions are documented, for example "flamed pottery", named for its characteristic decoration of short brown brushstrokes spread over the body of the vessel (Fig. 3). The typology consists of mostly large basins, ollae and pitchers. They were certainly produced in Sant'Antioco and from there distributed in significant quantities to all the south-western coastal centres of Sardinia. Outside Sardinia this "flamed pottery" has only been attested in Ostia.[22]

Fig. 3: "Ceramica fiammata".

Trade between Sardinia and the Iberian Peninsula started in the Julio-Claudian period with the import of Dressel 2/4 amphorae of Hispania Tarraconensis. Other imports are amphorae of Baetica (and perhaps also of Mauretania Tingitana), fish sauce transported in Dressel 7-11, 14, 17 amphorae and Beltrán II A and II B. Also from Baetica are Haltern 70 amphorae that perhaps contained defrutum, a derivative of must, and oil amphorae Dressel 20, all attested between the 1st and 2nd century AD, with examples dated to the 3rd and 4th century AD.[23]

From the last quarter of the 1st century AD until the beginning of the 7th century AD African goods were also imported. From the Tripolitania region oil was exported in amphorae called Tripolitana I, II and III. They have been found in all the coastal towns of the island.

The most important African imports however come from Zeugitana and Byzacena: African amphora I (olive oil) and African amphora II (mainly used to hold fish sauce). These amphorae have been widely found in the various centres of the island as well.[24]

The Proconsul of Tripolitania exported huge quantities of Sigillata (African Red Slip) A and D between the last decades of the 1st and 5th century AD, this declined by the 6th century AD and came to a stop at the beginning of the 7th century AD. Sigillata C, produced in the workshops of Byzacena, has been far less documented in Sardinia. Furthermore, notable quantities of African cooking ware and oil lamps (*figlinae*), sometimes decorated, have been recorded as well.[25]

The large quantities of tiles and dolia fragments (*opus doliare*) that have been found on the island could have reached Sardinia both as ballast and as part of the cargo. Bricks have been recorded in numerous urban centres on the island. In Tharros and

Fig. 4: *Massa plumbea* from the area of Metalla.

the praetorium of Muru is Bangius bricks from Gallia Narbonensis with the stamped inscription *L. Her(ennius) Opt(atus)* are documented. In south-east Sardinia, in a shipwreck off the Costa Rei coast, tiles with palm-shaped antefixes were discovered and a shipwreck near the Isola dei Cavoli (Villasimius) contained bricks and *tubuli*, dating to the Neronian period.[26]

The exploitation of mineral resources, such as iron, lead, copper and silver-bearing galena, especially in the Iglesiente region, played an important role in Sardinia as well.

Because of the wealth of lead, the modern-day island of Sant'Antioco was called Plumbaria in antiquity. Names of road stations like Ferrara near San Gregorio in Sarrabus and Metalla in the Antas area, allude to the presence of mines, which were overseen by a *procurator metallorum*.

A shipwreck near Porto Pistis, south of the Frasca Promontory (central-western Sardinia) carried a large load of lead ingots inscribed with *Imp(eratoris) Caes(aris) Hadr(iani) Aug(usti)* (Fig. 4). About 30 lead ingots have been recovered, weighing circa 100 Roman pounds. They come from Metalla as the ingots carry the same mark attested on lead discovered in the 19th century AD in Carcinadas, near Metalla. A lead ingot with the inscription *Caesaris Aug(usti)* discovered in Rome, has also been attributed to Metalla. These inscriptions document the imperial rights on the manufacture of lead.[27]

Production and trade of salt continued during the Roman period. A famous trilingual inscription in Latin, Greek and Punic was discovered in 1861 in San Nicolò Gerrei in the hinterland of Cagliari. The inscription was dedicated by Cleon, *salari(orum) soc(iorum) s(ervus)* and dates to the second half of the 1st century AD. It mentions servants who worked as salt winners for *publicani* (public contractors) in the flat salt lagoons most likely located in the immediate vicinity of Cagliari: the Santa Gilla lagoon and the lagoon of Molentargius. Salt winning stayed a vital economic activity in Sardinia as an inscription of the 7th century AD attest to its survival well into the Byzantine period.

Notes

[1] Angiolillo 1987, 11–15; Ead. 2005, 207–210; Meloni 1990, 97–138. 115–187; Rowland 1994; Mastino 2005, 175–193; Mastino et al. 2005, 107–125; Tronchetti 1989; Id. 2017a.
[2] Mastino 2017, 27 f.
[3] D'Oriano 2017, 39–41.
[4] Mastino 2005, 186 f.
[5] Mastino et al. 2005, 186 f.
[6] Mastino 2005, 181. 272.
[7] Mastino 2005, 177 f.
[8] Tronchetti 1996.
[9] van Dommelen et al. 2010; van Dommelen et al. 2012.
[10] Mastino et al. 2005, 108 f.
[11] Mastino et al. 2005, 109.
[12] Porcheddu 2014.
[13] Mastino et al. 2005, 109–111; Tronchetti 2017, 74 f.
[14] Tronchetti 1998; Falezza 2009.
[15] Tronchetti 2004.
[16] Mastino et al. 2005, 113.
[17] Tronchetti 2017, 75.
[18] Tronchetti 2017, 75.
[19] Tronchetti 2017, 75.
[20] Mastino et al. 2005, 114; Tronchetti 2017, 78.
[21] Tronchetti 2006.
[22] Tronchetti 2010.
[23] Mastino et al. 2005, 114 f.; Tronchetti 2017, 78 f.
[24] Tronchetti 2017, 79 f. The *Fannius Fortunatus stamps of the col(onia) Hadr(umenti) in Turris Libisonis* and *Tharros* and *Claudius Optatus of Leptis Minus in Turris* are documented. From the Mauretania Caesarensis derived also vine containers, including a branded product, of Tubusuctu, found in Karales.
[25] Mastino et al. 2005, 115 f.; Tronchetti 2017, 85; De Vincenzo – Pisciotta (forthcoming).
[26] Mastino et al. 2005, 117 f.
[27] Mastino et al. 2005, 119–121.
[28] CIL 10.7856 = ILS 1874 = ILLRP 4.

Image Credits

Fig. 1: Mastino 2005, 187 fig. 20. 21. – Fig. 2: Tronchetti 2014, 287 fig. 2. – Fig. 3: Lilliu et al. 1988, 266 fig. 11. – Fig. 4: By the author.

References

Angiolillo et al. 2017
S. Angiolillo – R. Martorelli – M. Giuman – A.M. Corda – D. Artizzu (eds.), La Sardegna Romana e altomedievale. Storia e materiali. Corpora delle antichità della Sardegna (Florence 2017).

Angiolillo 1987
S. Angiolillo, L'arte della Sardegna romana (Milan 1987).

Angiolillo 2005
S. Angiolillo, Sardinia, in: E.C. Portale – S. Angiolillo – C. Vismara (eds.), Le grandi isole del Mediterraneo occidentale. Sicilia, Sardinia, Corsica (Rome 2005) 189–315.

De Vincenzo – Pisciotta (forthcoming)
S. De Vincenzo – F. Pisciotta, Cornus: i materiali ceramici tardoantichi e bizantini dell'area urbana, in: LRCW6. Sixth International Conference on Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry Land and sea: Pottery Routes, Agrigento, 24–28 maggio 2017 (forthcoming).

D'Oriano 2017
R. D'Oriano, La Sardegna e il mare, in: S. Angiolillo – R. Martorelli – M. Giuman – A.M. Corda – D. Artizzu (eds.), La Sardegna Romana e altomedievale. Storia e materiali. Corpora delle antichità della Sardegna (Florence 2017) 33–44.

Falezza 2009
G. Falezza, La ceramica romana a vernice nera, in: J. Bonetto (ed.), Nora. Il foro romano. Storia di un'area urbana dall'età fenicia alla tarda antichità (1997–2006), II. 2. I materiali romani e gli altri reperti (Padova 2009) 621–645.

Mastino 2005
A. Mastino, Storia della Sardegna antica (Recco 2005).

Mastino et al. 2005
A. Mastino – P.G. Spanu – R. Zucca (eds.), Mare Sardum. Merci, mercati e scambi marittimi della Sardegna antica (Rome 2005).

Mastino et al. 2006
A. Mastino – P.G. Spanu – R. Zucca (eds.), Tharros Felix 2 (Rome 2006).

Mastino 2017
A. Mastino, La Sardegna al centro del Mediterraneo, in: S. Angiolillo – R. Martorelli – M. Giuman – A.M. Corda – D. Artizzu (eds.), La Sardegna Romana e altomedievale. Storia e materiali. Corpora delle antichità della Sardegna (Florence 2017) 17–32.

Meloni 1990
P. Meloni, La Sardegna romana ²(Sassari 1990).

Porcheddu 2014
V. Porcheddu, Le anfore rodie della Sardegna tra archeologia antiquaria e nuove scoperte, Epigraphica 76, 2014, 515–533.

Rowland 1994
R.J. Rowland Jr., Sardinia Provincia frumentaria, in: Le ravitaillement en blé de Rome et des centres urbains des débuts de la république jusqu'au haut empire. Actes du colloque international organisé par le Centre Jean Bérard et l'URA 994 du CNRS – Naples 14–16 Février 1991 (Naples 1994) 255–260.

Tronchetti 1989
C. Tronchetti, La civiltà romana. Cultura materiale e monetazione, in: V. Santoni (ed.), Il Museo archeologico nazionale di Cagliari (Milan 1989) 179–200.

Tronchetti 1996
C. Tronchetti, La ceramica della Sardegna romana (Milan 1996).

Tronchetti 1998
C. Tronchetti, Problemi di cronologia ceramica nella Sardegna romana, in: M.S. Balmuth – R.H. Tykot (ed.), Sardinian and Aegean Chronology. Towards the Resolution of Relative and Absolute Dating in the Mediterranean. Proceedings of the International Colloquium 'Sardinian Stratigraphy and Mediterranean Chronology', Tufts University, Medford, Massachusetts, March 17–19, 1995 (Oxford 1998) 371–381.

Tronchetti 2004
C. Tronchetti, La facies commerciale di Nora (Pula, CA) nella prima età imperiale, in: B.M. Giannattasio – C. Canepa – L. Grasso – E. Piccardi (eds.), Aequora, pontos, jam, mare…Mare uomini e merci nel Mediterraneo antico. Atti del convegno internazionale, Genova 9–10 dicembre 2004 (Borgo S. Lorenzo 2006) 268–274.

Tronchetti 2006
C. Tronchetti, La sigillata italica con bollo della Sardegna, in: A. Mastino – P.G. Spanu – R. Zucca (eds.), Tharros Felix 2 (Rome 2006) 243–267.

Tronchetti 2010
C. Tronchetti, Una produzione sarda di età imperiale: la "ceramica fiammata", in: M. Milanese – P. Ruggeri – C. Vismara (ed.), L'Africa romana. I luoghi e le forme dei mestieri e della produzione nelle province africane. Atti del 18. convegno di studio, Olbia, 11–14 dicembre 2008 (Rome 2010) 1169–1186.

Tronchetti 2014
C. Tronchetti, Prima nota sulla sigillata sarda, QuadACagl 25, 2014, 285–295.

Tronchetti 2017
C. Tronchetti, La ceramica: importazioni e produzioni locali, in: S. Angiolillo – R. Martorelli – M. Giuman – A.M. Corda – D. Artizzu (eds.), La Sardegna Romana e altomedievale. Storia e materiali. Corpora delle antichità della Sardegna (Florence 2017) 73–86.

van Dommelen et al. 2010
P. van Dommelen – C. Gómez Bellard – G. Pérez Jordá, Produzione agraria nella Sardegna punica fra cereali e vino, in: L'Africa romana XVIII. Atti del XVIII convegno di studi, Olbia 11–14 dicembre 2008 (Rome 2010) 1187–1202.

van Dommelen et al. 2012

P. van Dommelen – C. Gómez Bellard – C. Tronchetti 2012: Insediamento rurale e produzione agraria nella Sardegna punica: la fattoria di Truncu ʻe Molas (Terralba, OR), in: C. Del Vais (ed.), EPI OINOPA PONTON. Studi sul Mediterraneo antico in ricordo di Giovanni Tore (Oristano 2012) 501–516.

Cult Places and Votive Objects as Markers of Commercial and Cultural Relations in Late Punic and Roman Sardinia

Romina Carboni

As confirmed by the case of Punic-Roman Sardinia, cultural overlaps and interactions often make the interpretation of acculturation dynamics complex. The island, in fact, during the transition from the Punic to the Roman period, and even after the final conquest of the island by Rome, show some peculiarities that were due to the presence of different traditions; the presence of the Punic and the Roman element, as well as of a substratum that shows cultural continuity with the Nuragic period, involves the alternation and coexistence, on the one hand, of forms of innovation and on the other of events linked to strong conservative phenomena. It follows that in this province of the Empire, as well as in other areas under the control of Rome, the religion, on which this written contribution will focus, expressed itself through forms of innovation and persistence, which had an essential ideological value. What emerges is a scenario in which the influences of North Africa are evident and fundamental, as well as Roman-Italic influences, which led to the creation of a peculiar model of integration, rather than of contrast. We find, in fact, many examples that show a clear intention of foreign populations to conform to local traditions, while creating something original, the result of the syncretic relationship between different cultures and the importation of "external" traditions and beliefs. This combination of cultural and cultic traditions emerges both from the analysis of sacred facilities and from that of votive deposits.

This is confirmed, first of all, by a peculiar architectural model in Sardinia: Nuragic facilities reused as sanctuaries, in the Punic period and then also in the Roman period, which show a continuity of worship, with an evident syncretism, over the centuries.[1] On the island there are many examples of nuraghes reused for cultural purposes, as evidenced by the presence of votive deposits inside them: in some cases a continuity of use from the Nuragic period up to the Roman period was identified,[2] while in other cases the reuse of Nuragic facilities for cults began in the Punic period and continues up to the late Imperial period.[3] A significant example in this regard is offered by the Lugherras Nuraghe (fig. 1).[4] This facility was used at least until the early Iron Age,[5] and was then abandoned and turned, from the late Punic period and probably already starting from the 4th century BC and until the late Imperial period, into an outdoor rock sanctuary dedicated to the worship of a goddess of harvest.[6] The central tower of the nuraghe had a double overlapping room, with a *sacellum* in the upper room and a votive deposit in the lower room. In the latter more than 700 specimens of female head *thymiateria*[7] (fig. 2) were found as well as many lamps[8] and coins.[9] The presence of matrices and the high number of finds allowed to hypothesise a local production of the same, used by lower classes.[10] The many *thymiateria* discovered, or rather the features of some specimens with a disk and a crescent moon on the kalathos, are a

Published in: Salvatore De Vincenzo (Ed.), Trade in Ancient Sardinia, Panel 5.4, Archaeology and Economy in the Ancient World 29 (Heidelberg, Propylaeum 2022) 27–53.
DOI: *https://doi.org/10.11588/propylaeum.759.c10713*

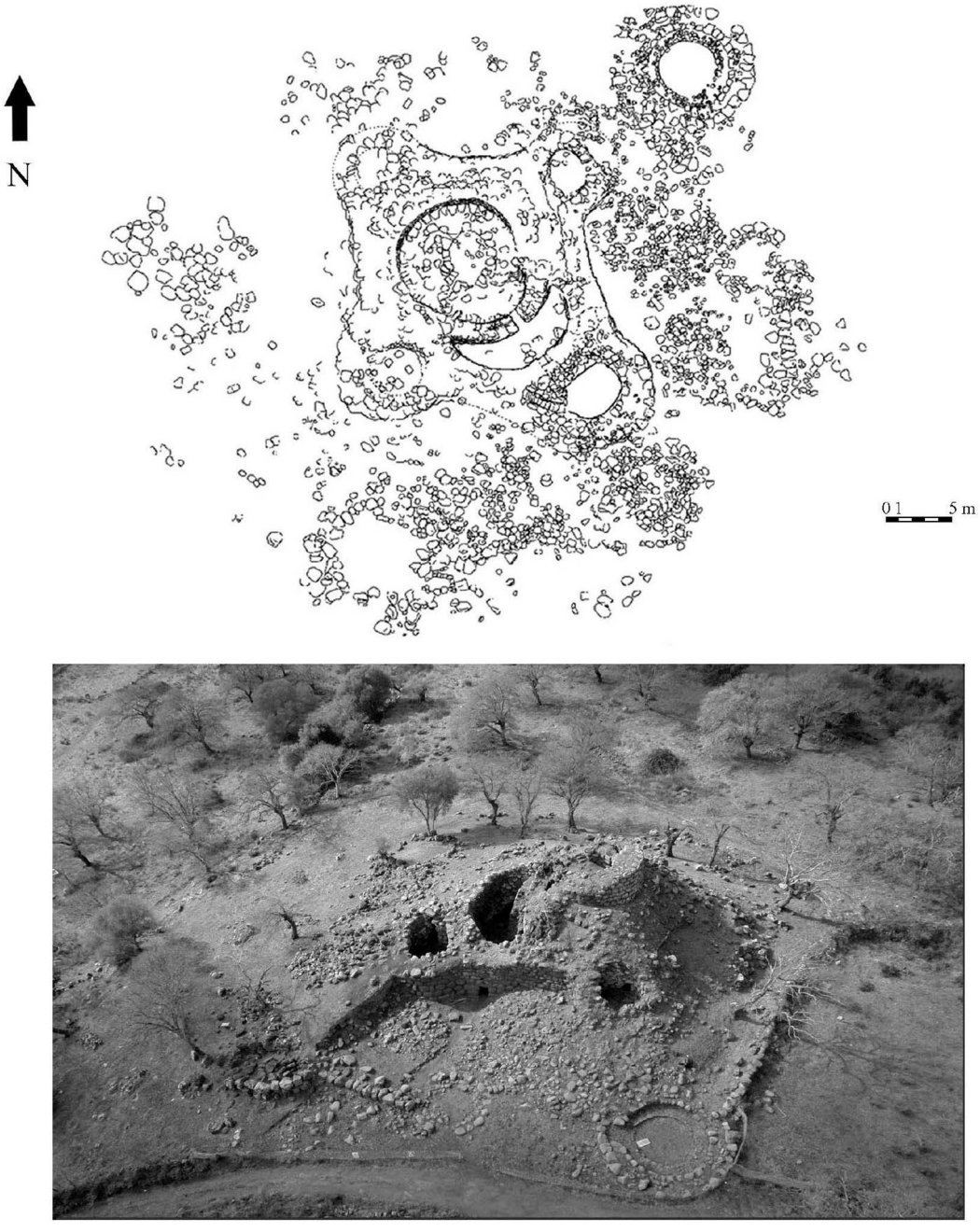


Fig. 1: Lugherras Nuraghe: plan and aerial view.

clear sign of the coexistence of different traditions that, in this case, refer to the cult of a female deity belonging to the rural world; the deity in question can be identified indifferently, based on the available data, both with Demeter and with Tanit or Astarte. For this reason we prefer to speak more generally of a female deity belonging to the agricultural world, to be identified as a goddess of the harvest, probably the result

Fig. 2: Lugherras Nuraghe: female head *thymiateria*.

of a syncretism between different local and imported divinities, with no prevailing features of any of them.[11] Even the presence of a figurine of Bes God in the sacred area does not seem to be a coincidence, since he is often linked to sacred places dedicated to female cults, in its original healing role of protector of motherhood and infants.[12]

Of course, this difficulty in identifying precise deities and any overlapping phenomena are strongly linked also to the reference historical period. The period of transition from the Punic to the Roman influence coincided with the spread of a new language, that of Hellenism. In this phase the scenario of the cults was very varied and the local culture continued to play an important role as evidenced, in fact, by the continuity of frequentation of some sectors of the nuraghes for religious purposes.

The same temples built in Sardinia, whether they were urban or extra-urban, between the 3rd century BC and the 4th century AD confirms, on the one hand, the persistence of pre-Roman building traditions, and on the other the innovations coming from the eastern and Italic world. Two extra-urban sacred buildings, those of Antas and Terreseu, and the urban temple on Via Malta in Cagliari are some examples of the integration between the local and the "external" language.

Fig. 3: Antas temple.

In the first case it is a temple built along the west coast of Sardinia, in the area of Fluminimaggiore,[13] known for the exploitation of silver-bearing lead[14]. Among the ruins of the temple (fig. 3), the fragments of the dedicatory inscription addressed to the Sardus Pater, whose cult seems to end around the 4th century AD with the spread of Christianity, were found.

The temple was built on an area already occupied since the Iron Age and went through several construction phases between the Punic period (4th–5th or 5th–4th BC[15]) and the kingdom of Caracalla.[16] In the early centuries of Roman rule a new temple was built,[17] with an altar probably set on the sacred rock dating back to the Punic period, to sanction the continuity of worship.[18] The Roman temple (fig. 4), to which the architectural terracotta seems to refer – usually attributed to good quality urban matrixes of Italic inspiration[19] – consisted of a pronaos, a cell and a bipartite *adyton*, revealing the presence of some elements that refer to the Greek-Roman world and other elements that have different origins.[20] The general structure of the temple features an architectural type of Phoenician-Punic tradition with a front room and two smaller rooms at the bottom, of which some examples can be found in Phoenician area, but more generally in the eastern world, and in Sicily.[21] The bipartite *adyton* could be interpreted as a reference to the eastern influence, but also be considered in relation to a joint cult, with dedication to a couple of deities well known in the Phoenician and Punic tradition: Melqart and Sid, replaced in Roman times by Sardus Pater[22] and Hercules-Augustus, celebrated on the pediment of the temple of Antas.[23] This cult duality could have been intentionally preserved by Augustus for two main reasons: on the one hand for political-religious purposes, and on the other for purely economic reasons. In the

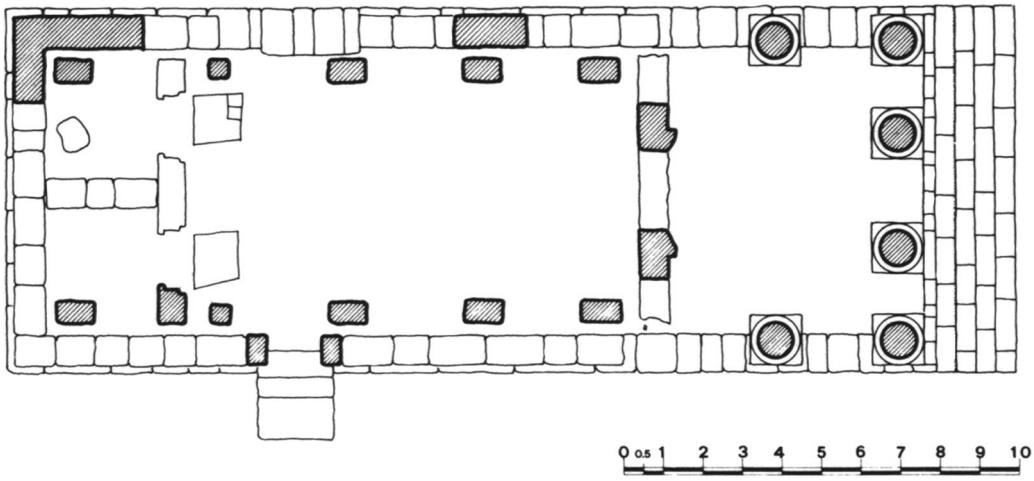


Fig. 4: Antas temple: plan of Severan age.

first case, in fact, it appears evident that the emperor deliberately supported a local cult of great importance for the inhabitants of the place in order to maintain control of the area, through a peaceful acceptance of its role, in order to "fare del tempio e del dio degli abitanti della valle il tramite della sua legittimazione".[24] On the other hand, there were also more practical reasons, linked to the economic revenues deriving from the metal resources in the area, the already mentioned silver and lead mines, already an object of interest in the Carthaginian period.[25]

The temple of Antas was, therefore, the seat of a Punic cult that found continuity in the Roman period, through a re-functionalization aimed at the political propaganda in Rome. The place of worship is of great importance as a symbol of coexistence and union of Roman and Punic elements under the aegis of a local deity, venerated as a patriotic god of the Sardinians.

Although from a different point of view, the combination of Punic, Roman and eastern tradition also emerges in another extra-urban religious context, that of Strumpu Bagoi in Terreseu, a hamlet of Narcao, a municipality in southern Sardinia. The sanctuary belonged to a small settlement of the Nuragic civilization and survived until the Aurelian period. Although it is not possible to determine a precise chronology of the construction phases of the complex, due to the lack of stratigraphic data, the materials found make it possible to identify the chronological period of life between the end of the 4th century BC and the Antonine period.[26] The construction of the sanctuary, on the other hand, seems to refer to the 3rd century BC, but it is not clear if the different units of the complex were built before or after the period of the establishment of the province.[27] What is evident, however, is the presence of several construction phases: in fact, if the building technique is Punic, the roof of the last building phase of the sanctuary together with the altar and the votive deposit date back to Roman times (fig. 5).[28]

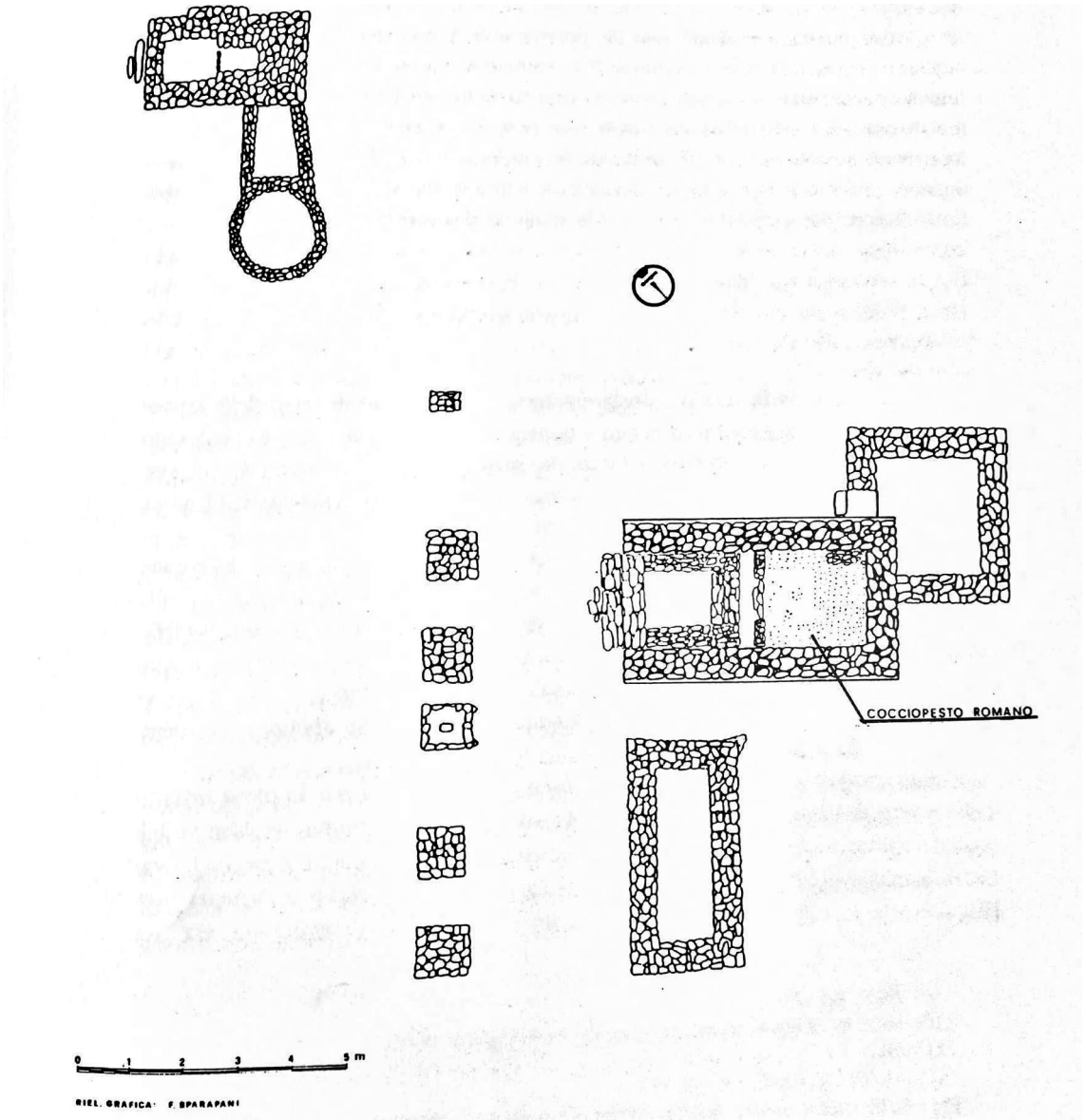


Fig. 5: Terreseu temple: plan.

Unlike the temple of Antas, the sanctuary in Narcao is not strategically located in relation to the mineral resources of the area, but is associated with a rural context. The deity venerated in this sanctuary is, in fact, an earth goddess and evidence of her cult dates back to the Punic period up to late Roman times. The link between the cult deity and the agricultural world is evidenced by the presence in the sacred area of terracotta figurines, mainly represented by female body *thymiateria* so-called kernophoros (fig. 6a), by the cruciform female figurine with outstretched arms (fig. 6b) and female busts with a torch and a piglet; as well as by phytomorphic ex-votos and a dove, the

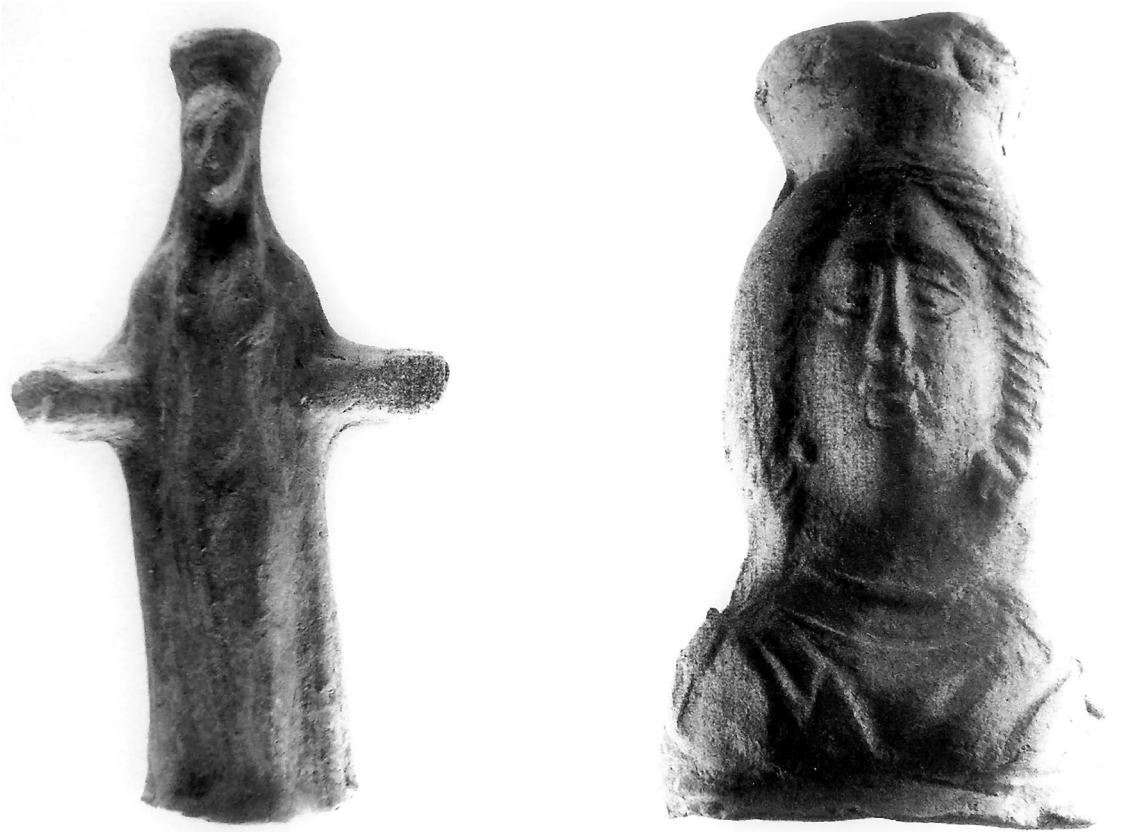


Fig. 6 a–b: a) Terreseu temple: female body *thymiateria* and b) cruciform female figurine.

symbol of Astarte-Tanit.[29] If the offers found in the area of the sanctuary clearly show the cult of a female deity, linked to the agricultural and chthonic spheres, the concealed votive deposit – placed under a small altar and kept inside a quadrangular lithic box,[30] the remains of sacrificed pigs and the presence of water also refer to the same context. Therefore, all the elements mentioned seem to be attributable to Demeter, the goddess of agriculture. This interpretation is also confirmed by the affinities existing between the sanctuary of Terreseu and other sanctuaries dedicated to Demeter with agricultural connotations and linked to the thesmophoria. An example in this regard is provided by the thesmophoria in the area of the Siceliotes and by the sacred buildings in the area of Magna Grecia,[31] which shares with the Sardinian sanctuary the placement of the materials of the votive deposit and the simple nature of the buildings, and both have nothing to do with the majestic temples of the motherland consisting of open spaces with shrines and sacella. These considerations do not exclude that in the sanctuary of Terreseu the goddess was venerated in a syncretic form, with overlapping of the cult and images of different deities with similar features.[32] If in fact the busts of the goddess with a torch and a piglet are a clear reference to Demeter, the female cruciform statuettes and, although in smaller quantities, the kernophoroi refer both to Demeter

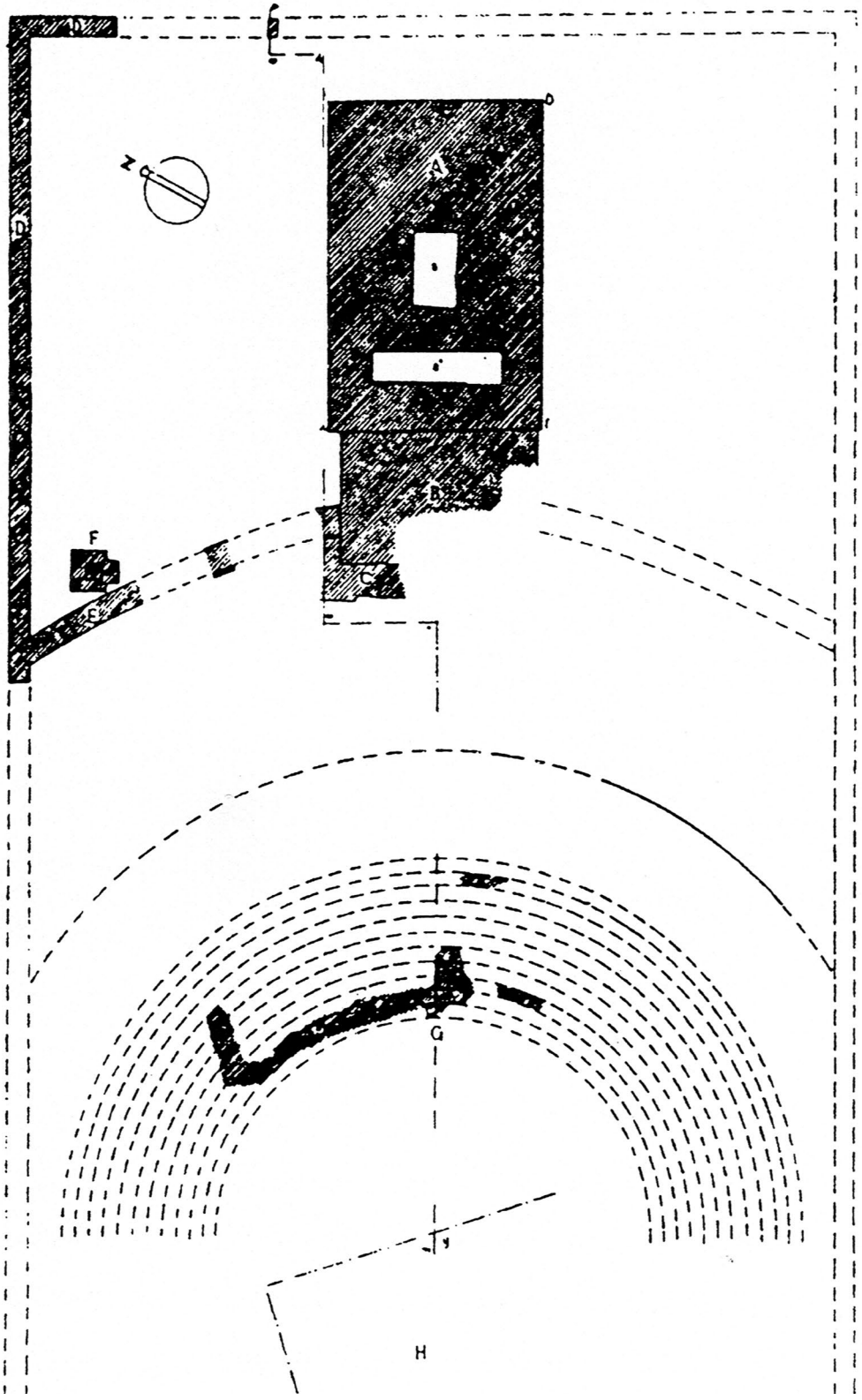


Fig. 7 a: Theatre-temple of Via Malta in Cagliari: plan.

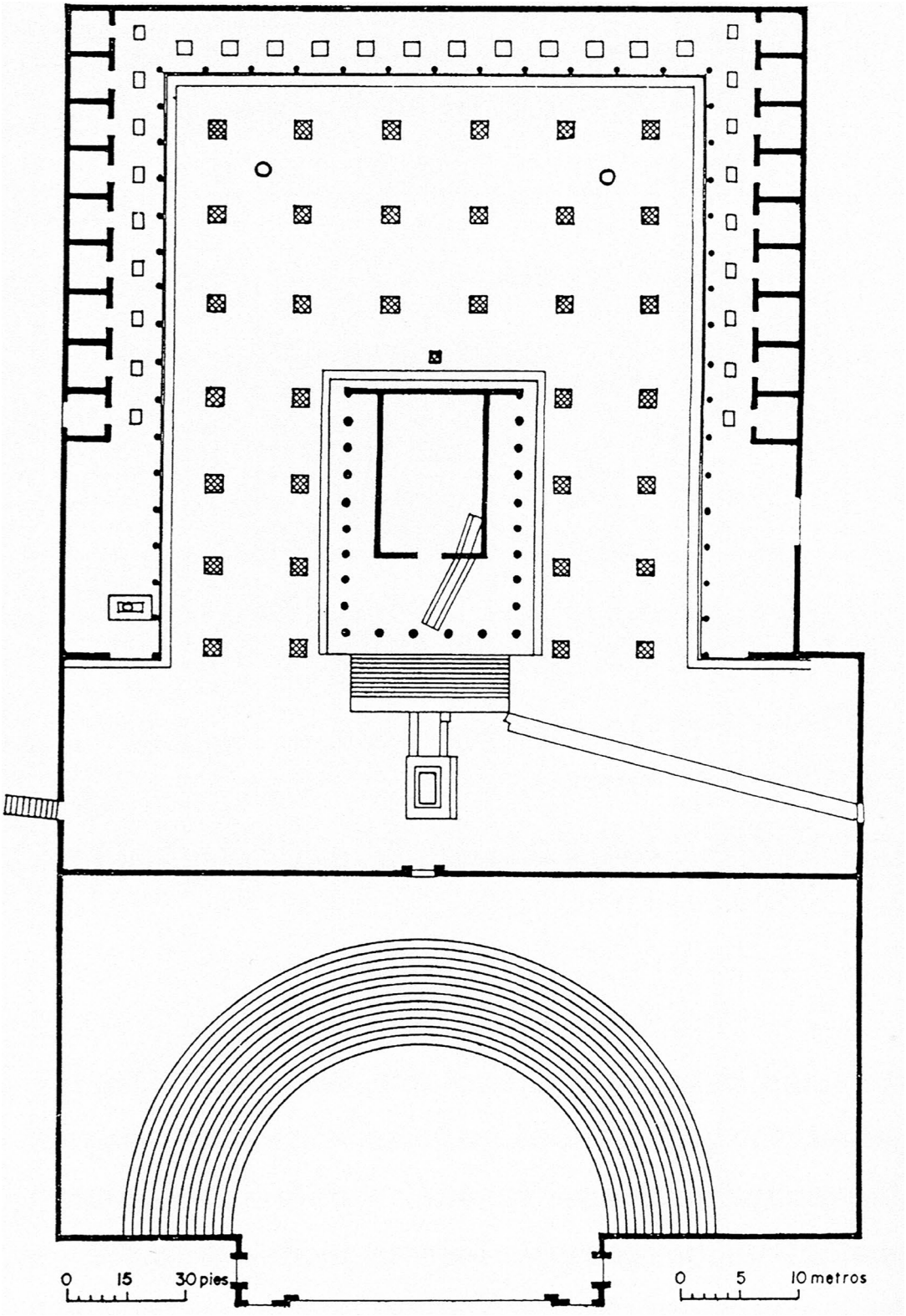


Fig. 7 b: sanctuary of Juno at Gabii: plan.

and to Astarte and Tanit. This is not surprising if we consider that the goddess venerated in this sanctuary and identified with Demeter is not the Greek deity, but a Punic version of the same. This seems to be confirmed by the north orientation of the sacella and of the sacred deposit[33] – contrary to what happens in the case of Greek temples – and the syncretism with the cult of a "Punic" female deity, first of all Astarte, to whom the symbol of the dove refers.

External influences and the related cultural relations are clearly evident also in the urban sacred buildings, as in the case of the theater-temple on Via Malta in Cagliari (fig. 7a), which refers to an architectural type known in the Italic area. The building, investigated in the 30s[34] and then replaced by the modern settlement, stands on an artificial terracing with a flat area and a slope. Initially, based on the discovery inside the well of a high number of clay matrices and materials,[35] it was thought that it was built between the beginning of the 3rd and the mid-1st century BC.[36] Subsequent studies allowed to state with greater precision that it dates back to the 2nd–1st century BC, based on archaeological and historical considerations.[37] S. Angiolillo was the first to point out the Italic nature of the building through an almost unanimously accepted interpretation that highlights the evident similarities between this and, in particular, the sanctuary of Juno at Gabii (fig. 7b).[38] The latter, dating back to the mid-2nd century BC, in fact, has some features that can also be identified in Cagliari: the fact that the area is divided into two sectors by means of a partition wall, a side access to the boundary wall, the presence of a triportico[39] and the wood that refers to those of the tradition of the luci in Lazio.[40]

The tradition of the theatre-temple, with a temple built in summa cavea and in line with it, refers to Hellenistic and eastern Greek origins,[41] but the formula then became popular particularly in the Italic area,[42] where the cult is usually connected to agricultural, healthy, pastoral and oracular practices. It is not clear, which deity or deities were venerated in the temple of Cagliari.[43] Among the different interpretative hypotheses, there is one that links the cult of the temple to Venus – understood as the Roman interpretatio of Astarte-Aphrodite –, or to Venus and Adonis, on the basis of epigraphic, sculptural finds and finally of the discovery of three kilos of coral during the excavation.[44] Regardless of the identification of the revered deity, theater-temples refer to the sanctuaries that in the late Republic are the expression of the ideology of an Italic community which uses that architectural type to identify itself and show its opposition to Rome.[45] In the case of the theater-temple on Via Malta we are not sure of a direct relationship with the Italic negotiatores, who, in the late Republic, had commercial and cultural relations with Sardinia; there is no reason not to consider this building as a monumental result "*dell'adozione di modelli architettonici esportati in Sardegna*".[46] This architectural model is found in Sardinia only in later, with the late Republic, with respect to the models of the Italian area. If, in fact, the sanctuary is part of the urban plan of the Roman terraced city with a probably central role, as an expression of the ideology of a new Roman-Italic ruling class, the fact that it spread slowly and not everywhere could

be due to the strong and persistent influence of a Punic substrate.[47] This combination and contamination between different traditions and cultures, which leads, sometimes, to original results, could in fact be related both to some architectural elements, such as the low podium, which does not belong to Italic constructions, and cult elements, such as the supposed cult of Venus, to be understood as a reinterpretation of the Punic goddess Astarte.

This combination of figurative languages that belong partly to the local substratum, of both the Nuragic and Levantine tradition, and partly to the Greek and Italic one, emerges on the island also in relation to the cultural contexts, in particular through the typologies of votive terracotta figurines.[48]

These figurative languages in Punic and Roman Sardinia met the most urgent needs of those who frequented places of worship.[49] Needs that were linked, on the one hand, to the protection of individuals and the community, and therefore restoration needs, and, on the other, to the agricultural vocation of the settlements, and therefore belonging to the agricultural sphere. This already emerges in the Punic age contexts, such as that of Neapolis, currently Santa Maria di Nabui in the Oristano area, from which mainly hand-made figurines of the so-called suffering devotees[50] come, and that of Bithia, a site located at the southernmost point of Sardinia, in the province of Cagliari, from which statuettes with the same subject produced mainly on a lathe come.[51]

The same applies also to votive contexts belonging to the transition from the Punic to the Roman period, such as that of Santa Gilla lagoon in Cagliari.[52] The complex is of great interest both for the originality of the findings that made it up, and for its connection with the votive productions of Italic sanctuaries. Among terracotta figurines, we should mention the many male and female protomes, hands and anatomical votive figurines, and, finally, the few female full heads and animal specimens, such as bulls, Molossian dogs, griffins, greyhounds and crocodiles (fig. 8).[53] The technical level is, on the whole, quite high and, according to S. Moscati, it was probably built by a single workshop where skilled, perhaps African artisans worked, specialised in the production of certain types of materials, who produced good quality specimens that "da un lato si rifanno alla tradizione dei santuari italici, dall'altro innovano in funzione del culto locale".[54]

Remarkable affinities with the complex of S. Gilla can be seen in another high-level context, that of Padria, the ancient Gurulis Vetus, in the province of Sassari.[55] The deposit seems to belong to the late Punic period and the late Roman empire (4th century BC – 3rd century AD) and is related to an open-air sanctuary.[56] It consists mainly of anatomical ex-votos – especially hands, feet, fingers, eyes, ears, but also internal organs –, depictions of animals or parts of them – snakes, lions, bovines, horses, doves, cockerels, raptors –, fruits – apple, pomegranates, figs – and vegetables, as well as statuettes, heads, protomes, masks and architectural elements, such as capitals and small columns (fig. 9).[57] There are also some evident affinities with the complex of S. Gilla, perhaps due to the presence of coroplasts or the transfer of matrices; a connection with votive complexes in the Etruscan-Latium-Campanian area, from which the one under

Fig. 8: Santa Gilla lagoon in Cagliari. Terracotta figurines.

examination differs for the absence of depictions of babies and genital organs, with the exception of a uterus, is also evident.[58] If the materials – in particular anatomical ex-votos, the rooster and the snake – seem to belong to a cult related to health, the presence of terracotta figurines depicting Heracles wearing the leontè, and with a club and snakes clave lead us to identify the deity to which the cult is addressed with the legendary founder of the Ogryle colony.[59]

Another town of great importance where interesting finds confirming once again the main lines that influenced the culture and religion on the island in the period taken into consideration were discovered, is Nora, in the municipality of Pula (Cagliari).

A first important discovery consists of a batch of 22 terracotta figurines found between the last years of the 70s and the beginning of the 80s in the waters of Nora, southeast of the island of Coltellazzo, during underwater surveys conducted by M. Cassien.[60] These terracotta figurines are generally connected to a wreck "of the Punic-Hellenistic period" that sank near Nora[61] and seem to date back to the 2nd century BC.[62] Among the most interesting specimens we should mention five clay heads, including the famous Dama

Fig. 9: Padria. Terracotta figurines.

di Nora (fig. 10), a large head that probably belongs to a worship statue.[63] If it is quite difficult to establish the place of origin of these terracotta figurines,[64] the Italic influence is evident, identifiable in the similarities with the terracottas of Santa Gilla. The two complexes share the good workmanship and eclectic taste, typical of the productions of the 2nd and 1st century BC.[65] The composition of the complex - statues, heads, statuettes, anatomical votive offerings – recalls the votive deposit of Padria and therefore the materials of the Etruscan-Latium-Campanian area.[66]

The same cultural matrix can also be seen in the cult findings coming from the ancient Punic-Roman town of Nora, concerning both the temples[67] and ex votos.[68] The production level of the artifacts is usually simple, probably due to a local manufacture. Among the unearthed specimens we find anthropomorphic statuettes, protomes, votive

Fig. 10: So-called Dama di Nora.

plaques and anatomical ex-votos, as well as some female capite velato statuettes, which refer to mid-Italic matrix models that became popular on the island, both in Nora and in several other sites in Sardinia, during the last centuries of the Republic, especially during the late Hellenistic period.[69] A special type of votive statuettes with the same reiterated iconography.[70] coming from the so-called former Military Area in Nora refers (fig. 11, a. b), on the other hand, to the eastern context. It is a series of about 30 specimens – whose height ranges from 14 to 20 cm – made as a matrix with embossed subjects. The iconography is that of a female figure with bare breasts, naked up to the pubic area, with the legs covered with a robe and the upper part of the body wrapped in a veil arranged in a shell, with both arms over her head (fig. 12). On the right of the

Fig. 11: Former Military Area in Nora. Plan and aerial view of eastern context.

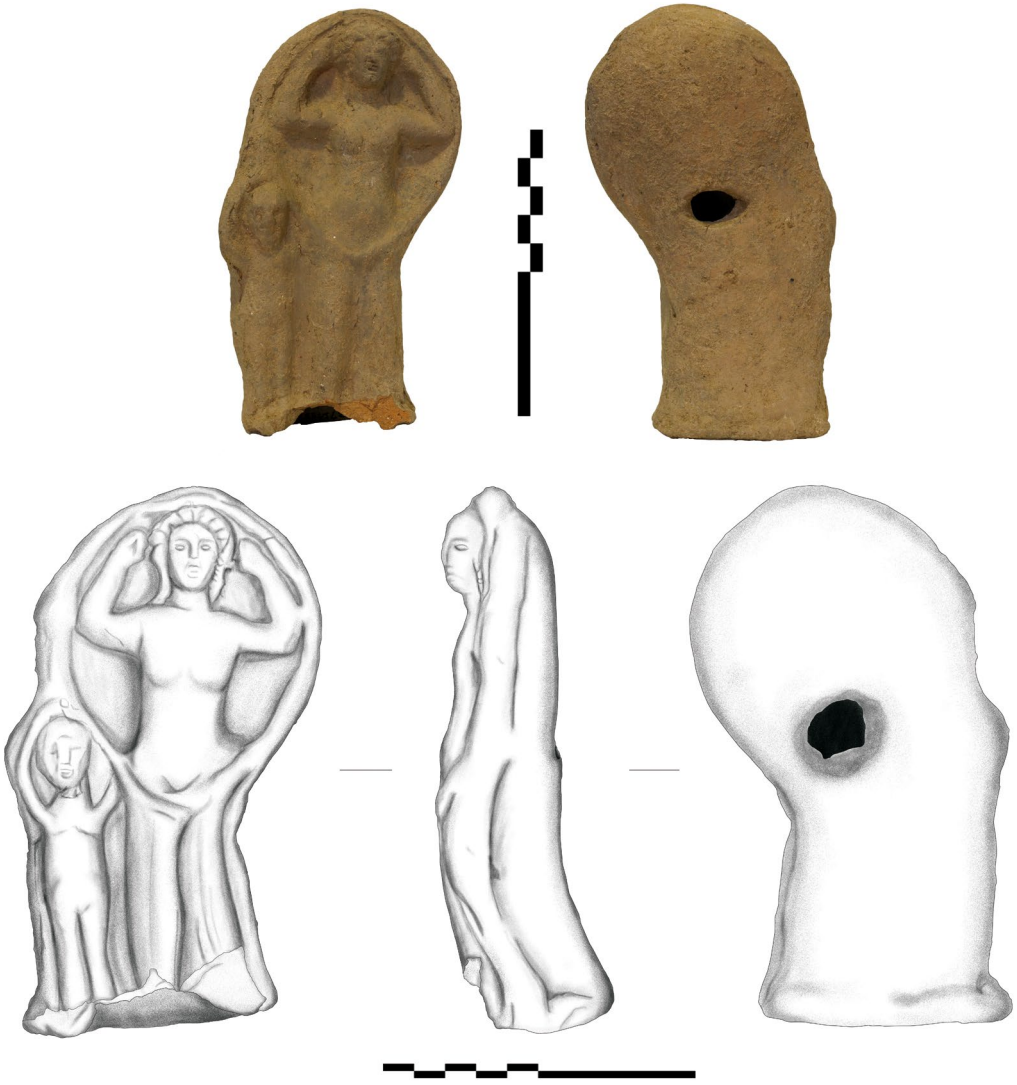


Fig. 12: Former Military Area in Nora. Terracotta figurine.

female figure there is a second smaller figure related to a bearded male character, who is grotesque, naked and also with his arms raised, apparently imitating the main figure: the right arm is over the head, while the left one seems to disappear behind the female figure. The link with the iconography of Aphrodite / Anadyomene Isis, as well as with some more specific representations of Isis, is evident.[71] The iconographic motifs on the Hellenistic braziers coming from the site, depicting crocodiles, dogs, jackals and hippos also seem to belong to the Nilotic context.[72]

The statuettes in question seem to refer to a cultural substratum with a strong eastern influence, perhaps linked to the sphere of Isis with an agricultural connotation of the cult, in a form combined with other deities with the same role, such as Demeter and Aphrodite/Venus.

The importance of the agricultural connotation is not surprising as it appears to be linked to economic choices based on the exploitation of the resources in Sardinia, in particular those of cereals, both by the Carthaginians and by the Romans.[73]

What emerges from the set of data collected so far is a scenario in which Punic influences appear evident and fundamental in Sardinia, just like Roman-Italic and eastern influences, which resulted, in most cases, in the creation of an interesting model of integration, rather than of contrast. The situation of the island, at the time of its annexation as a Roman province, was characterized, in fact, by the coexistence of Sardinian-Punic human groups – who descended from the Phoenicians and joined exponents of the Nuragic world.[74] At first, the Roman strategy consisted mainly of interventions addressed to those aspects that were in sharp contrast with the system of government of Rome, while leaving the administrative and fiscal organisation of the island intact, so as not to undermine peace and the existing structure; this way, the subjugated populations were free to choose whether to preserve their traditions or adopt the Roman cultural and political ones.[75] It follows that the Levantine and the Punic substrata continued to survive, playing an important role even after the Roman conquest of the island.

During the Republican period, the construction techniques, as well as the religious traditions rooted in the island before the arrival of the Romans remained substantially the same. An example, in this regard, is the case of the already mentioned Nuragic facilities reused for religious purposes until the late Imperial period and the use of Punic-inspired kernophoroi in the early Roman period. A similar situation emerges also from the analysis of the temples, such as that of the temple of Antas where, despite the presence of construction phases of the Roman period, the cult identified after the conquerors' arrival preserves a substantially Punic imprint, although reinterpreted in Roman key, for economic-political purposes. The temple of Antas is also an interesting example of the island's openness to external influences, which, in this case, created a combination of Sardinian, Punic and finally Italic culture. The Italic element, indeed, plays a central role on the island, already starting from the 4th–3rd century BC;[76] this gradually became more evident in the Republican period, when the Italic influence manifested itself both through the monuments, as confirmed by the diffusion of architectural types known in the Italic context – such as, for example, the theater-temple on Via Malta in Cagliari –, and through the material culture, as shown by the ex-votos clearly influenced by the Etruscan-Italic culture, such as those belonging to the votive areas in Santa Gilla, Padria or even Nora.[77] If both the Italic and the Carthaginian mediation were crucial for the introduction of Hellenistic motifs in Sardinia, Italic negotiatores were the driving force of the importation of eastern cults, especially in the Campania area, starting from the late Republican period on the island, where they brought their own forms of devotion, once arrived, including the cult of Isis. An emblematic example in this regard is offered by the iconographic motifs on the aforementioned Hellenistic braziers and the spread of cult practices in honour of Isis.[78]

The result is a new provincial culture with its own characteristics, which reinterprets Italic models and is influenced by the link with Rome.

Notes

[1] See, in this regard, Stiglitz 2005. See Lilliu 1990 e Pala 1990.

[2] See the case of the Su Mulinu nuraghe in Villanovafranca (Ugas – Paderi 1990; Saba 2015, 28–31).

[3] See, for example, the Genna Maria nuraghe in Villanovaforru (Lilliu 1988; Lilliu et al. 1993) or the Lugherras nuraghe in Paulilatino (see below). See also Stiglitz 2005.

[4] First edition of the excavation by A. Taramelli (1910).

[5] Taramelli 1910; Depalmas 2012; Depalmas 2014.

[6] Del Vais – Serreli 2016.

[7] Regoli 1991; Del Vais – Serreli 2016, 26–31. To these we should add another 16 fragmentary specimens of statuettes of different types, including cruciform types, and a depiction of Bes God. More information is provided by Del Vais – Serreli 2016, 15.

[8] The specimens amount to almost 2700, whose main nucleus dates back to the 4th and 1st century BC. See Secci 2012–2013.

[9] Taramelli 1910, 168–170; Del Vais – Serreli 2016, 10–12.

[10] See the considerations in Regoli 1991, 78.

[11] In this regard, see Carboni 2012a, 14–16; Garbati 2016, 93–95.

[12] Garbati 2008, 49; Stiglitz 2012, 144 f.

[13] On the geographical location of the facility, see Zucca 1989, 5–14.

[14] Esposito 2000, 116–118; Bernardini – Ibba 2015, 76 (with previous bibliography).

[15] See Bernardini 2005, 132 (with previous bibliography) and Bernardini – Ibba 2015, 82 f.

[16] For an accurate description of the various phases of life of the sacred building, see Tomei 2008, 19–42. In particular, for the restoration works performed during the age of Caracalla, see Bernardini – Ibba 2015, 104–105. After the deadline for the submission of this paper, the volume „R. Zucca, Il tempio del Sardus Pater ad Antas (Fluminimaggiore, south Sardinia) (Rome 2019)“ was published, to which we refer for an overall analysis of the context.

[17] The new construction seems to date back to the late Republic on the basis of the analysis of the architectural terracotta coming from the sacred building. This hypothesis is supported by G. Manca di Mores (later Manca di Mores 2018) and even earlier by S. Moscati (among others, Moscati 1977), who suggest as the reference time frame the half/ second half of the 2nd century BC. Bernardini – Ibba 2015, 95, note 81 also hypothesize that this period of time could be extended to the last quarter of the 2nd century BC – the beginning of the 1st century. According to others, it was built in the Augustan age. See Mossa 1976, 9 f.; Ghiotto 2004, 43; Bernardini – Ibba 2015, 95 (with previous bibliography).

[18] Although it is possible that the Roman facility substantially reproduces a well-defined plan, which can be compared to facilities in the eastern world and that of the Siceliotes (Tomei 2008, 35ss.), the Roman influence is clearly visible in the typology of architectural terracotta and in the sculptures of the pediment. In this regard, see Manca di Mores 2012, in particular 200 f.

[19] Manca di Mores 2012, 200 f.; Manca di Mores 2018, 296.

[20] The longitudinal layout with bipartite *adyton* is also found in the Roman-Republican phase of the temple of the Monte Sirai fortified tower. See Perra 2004 (in particular 143).

[21] Tomei 2008, 35–37.

[22] His name appears in the inscription ELSard, 583, B13; AE 1971, n°119.
[23] Manca di Mores 2012, 194. 201.
[24] Tomei 2008, 41.
[25] Zucca 1993, 39–41; Esposito 2000, 116–118 (with previous bibliography).
[26] The latest stage of life identified is the Antonine Period, as shown by the discovery of coins by Faustina Minore. See Barreca 1983, 299 and Moscati – Uberti 1990, 86–88.
[27] The complex consists of two sectors: the first includes a well and a small aedicule, the second six square altars aligned in front of the main chapel – leaning against a second oldest room – and a rectangular base whose function is uncertain. Barreca 1986, 304; Tomei 2008, 55–63.
[28] Tomei 2008, 55 f. (with previous bibliography).
[29] Moscati – Uberti 1990, 80–83; Moscati 1993, 77–82.
[30] The deposit comes from a room, partially replaced, at a later stage, by a rectangular sacellum, consisting of a vestibule and a raised platform, on which the worship statue was probably located (Barreca 1986, 299). The deposit was found hidden under a small altar for bloody sacrifices, covered and surrounded by offerings, ashes, teeth and burnt pig bones (Barreca 1983, 299). Here small urns with the remains of a sacrifice, a four-spout lamp, three kernophoroi and a female clay statuette with open arms, interpreted as a depiction of Demeter, were found. The offering of the deposit, which dates back to 15 BC, refers to a re-consecration of the temple, as a previous phase of the 3rd century BF is known, as confirmed by the discovery of a kourotrophos statuette in an underlying layer.
[31] Garbati 2003, 135; Tomei 2008, 59–62.
[32] See Carboni 2012a.
[33] The vestibule equipped with "banchette", which is not found in Sardinian temples – where altar counters found, as in the small temple K and the temple of Capo San Marco in Tharros, refers, on the other hand, to the eastern traditions (Perra 1999, 55 f.).
[34] Mingazzini 1949.
[35] Comella 1992; Ibba 1999; Ibba 2012.
[36] Mingazzini 1949, 219 f. See the considerations in Angiolillo 1985, 102 f.; Angiolillo 1987. P. Mingazzini (1949, 219 f.) points out that the inside of the well shows two different life stages; as highlighted by J. Bonetto (2006, 265), the first one, referring to materials dating back to the 3rd century BC, seems to belong to a period prior to the construction of the place of worship, and the presence of materials of this stage seems to confirm the presence of "dell'esistenza di forme di devozione nella zona già in quest'epoca, continuate e integrate nel quadro monumentale del complesso, sicuramente successivo".
[37] In this regard, see Angiolillo 1987, 59–64; Bonetto 2006, 264–266 (with previous bibliography).
[38] Angiolillo 1987, 60–62.
[39] Bonetto 2006, 263, nota 4.
[40] Coarelli 1993, to whom reference is made for the correct etymology of lucus.
[41] About the contribution of the two traditions, see, among others, Johannowsky 1970 e Nielsen 2002, 275–282.
[42] Coarelli 1997, 562.
[43] Nielsen 2002, 189–196.
[44] Angiolillo 1987. For other interpretative hypotheses, see Tomei 2008, 79–99.
[45] Angiolillo 1985, 107; Coarelli 1996, 333.

[46] Ghiotto 2004, 36. On this topic see Colavitti 1999, 39–41.
[47] See the considerations in Bonetto 2006 (in particular 268), Tomei 2008 (in particular 95. 107). See also Nieddu 1992, 15.
[48] On this topic, see Carboni 2017.
[49] See Carboni 2012a and Carboni 2012b.
[50] Zucca 2005 (with previous bibliography).
[51] Uberti 1973; Moscati 1991, 75–83 (with previous bibliography).
[52] Moscati 1991; Moscati 1992, 33–41.
[53] See Salvi 2003.
[54] Moscati 1992, 40 f. See, in this regard, the considerations in Salvi 2003, 73, who prefers "l'ipotesi di una bottega o di un gruppo di botteghe a quella di una stipe votiva".
[55] Campus 1994; Campus 1996.
[56] Galli 1991, 19.
[57] Campus 1994, 99–101.
[58] Campus 1994, 111 f.
[59] Campus 1994, 118.
[60] Ghiotto 2014.
[61] Barreca 1985.
[62] Ghiotto 2014, 516 (with previous bibliography).
[63] Ghiotto 2014, 516. 521–523 (with previous bibliography). The other specimens refer to draped human figures, animal depictions and anatomical details.
[64] There are not enough elements to clarify whether the terracotta pieces in question were made in Nora, with imported matrices or artisans coming from the outside of the island and cult models of Italic origin, or were imported from an external centre, whether it is Sardinian or outside the island. In this regard, refer to Ghiotto 2014, 541–543; Ghiotto et al. 2016, 223 f.
[65] Ghiotto 2014, 544. See Nieddu 1989, 115–117.
[66] See Comella 1981, 758.
[67] Consider the case of the temple of the forum with Italic features, such as the orientation to the south, mixed with other Punic features, such as the low podium and the bipartition of the pronaos. Angiolillo 2012, 23-24.
[68] Among the most recent Carboni 2016; Magliani 2016; Giuman – Carboni 2018. The paper presented here was submitted to the AIAC congress 2018. In the meantime, the analysis of the archaeological site of Nora and the context analyzed here has undergone some interpretative changes, which have flowed into the recently published book „R. Carboni, Nora. Le terrecotte votive dell'ex area militare (Rome 2020)", for which we refer for further and more precise functional and chronological informations regarding the excavation. area.
[69] Carboni 2016 (with previous bibliography).
[70] Giuman – Carboni 2018.
[71] Giuman – Carboni 2018, 102 f.
[72] Carboni – Cruccas 2019, 289–292.

[73] Colavitti 1996 (with previous bibliography); Mastino 2005; see Roppa 2013, 23 f. The central role of the island as a source of grain supply, although important, has been scaled down, thanks to data from systematic surface surveys and stratigraphic excavations of rural sites (cfr. Van Dommelen et al. 2010).
[74] In this regard, see, among the most recent, Blasetti Fantauzzi 2015.
[75] Van Dommelen 1998, 172–177; "The principal characteristic of Sardinia under Roman rule, in particular in Republican times, has been identified as the continuity of Punic culture" (Van Dommelen 1998, 174). See Ibba 2015, 14–16.
[76] Colavitti 1999, 16; Bonetto 2006, 259.
[77] In this regard, the votive trilingual inscription (CIL X 7856 = IG XIV 608 = CIS I 143) coming from San Nicolò Gerrei, which clearly shows the coexistence of the Sardinian-Punic and Latin-Italic languages during the second century BC, is also quite interesting. See Mastino 2005, 407 f.; Carboni 2012b, 37 f. (with previous bibliography).
[78] In addition to the statues in Nora described above, please refer, for further evidence of the cult of the goddess, to Pilo 2012 and Gavini 2014.

Image Credits

Fig. 1: edited by the author after Depalmas 2012, fig. 1. – Fig. 2: Regoli 1991, pl. 10, 441. – Fig. 3: by the autor. – Fig. 4: Zucca 1989, 40. – Fig. 5: Moscati – Uberti 1990, 85. – Fig. 6 a–b: Moscati 1992, pl. 45, a–b. – Fig. 7 a–b: a) Angiolillo 1987, 60, fig. 1); b) edited by the author after Nielsen 2002, 193, fig. 81. – Fig. 8: Moscati 1992, pl. 11–16. – Fig. 9: Carboni 2017, 110 f. – Fig. 10: Carboni 2017, 115. – Fig. 11: edited by L. Lanteri. – Fig. 12: photo and drawing by A. Mossa.

References

Angiolillo 1985
S. Angiolillo, A proposito di un monumento con fregio dorico rinvenuto a Cagliari. La Sardegna e i suoi rapporti con il mondo italico in epoca tardo-repubblicana, in: G. Sotgiu (ed.), Studi in onore di Giovanni Lilliu per il suo settantesimo compleanno (Cagliari 1985) 99–116.

Angiolillo 1987
S. Angiolillo, Il teatro-tempio di via Malta a Cagliari. Una proposta di lettura, AnnCaglMag 24, 1987, 55–81.

Angiolillo 2012
S. Angiolillo, Falesce quei in Sardinia sunt, in: A. M. Corda – P. Floris (eds.), Ruri mea vixi colendo: studi in onore di Franco Porrà (Ortacesus 2012) 21–40.

Barreca 1983
F. Barreca, L'archeologia fenicio-punica in Sardegna. Un decennio di attività, in: Atti del I Convegno Internazionale di studi fenici e punici, Roma 5–10 novembre 1979 (Rome 1983) 291–310.

Barreca 1985
F. Barreca, Le ricerche subacquee, in: Nora. Recenti studi e scoperte (Pula 1985) 89.

Barreca 1986
F. Barreca, La civiltà fenicio-punica in Sardegna, Sardegna Archeologica 3 (Sassari 1986).

Bernardini – Ibba 2015
P. Bernardini – A. Ibba, Il santuario di Antas tra Cartagine e Roma, in: J. Cabrero Piquero – L. Montecchio (eds.), Sacrum Nexum. Alianzas entre el poder politico y la religión en el mundo romano (Madrid 2015) 75–138.

Bernardini 2005
P. Bernardini, I Melqart di Sardò, in: P. Bernardini – R. Zucca (eds.), Il Mediterraneo di Herakles: studi e ricerche, Atti del convegno di studi, Sassari 26 marzo – Oristano 27–28 marzo 2004 (Rome 2005) 125–143.

Blasetti Fantauzzi 2015
C. Blasetti Fantauzzi, Origine e sviluppo dei centri urbani punici della Sardegna fino all'età della romanizzazione (Rahden 2015).

Bonetto 2006
J. Bonetto, Persistenze e innovazioni nelle architetture della Sardegna ellenistica, in: M. Osanna – M. Torelli (eds.), Sicilia ellenistica, Consuetudo Italica: alle origini dell'architettura ellenistica d'occidente, Atti del Convegno, Spoleto - Complesso monumentale di S. Nicolò 5–7 Novembre 2004 (Pisa 2006) 257–270.

Campus 1994
A. Campus, Padria I (Rome 1994).

Campus 1996
A. Campus, Tra arte colta e arte popolare in Sardegna. L'esempio di Padria, in: Alle soglie della classicità. Il Mediterraneo tra tradizione e innovazione. Studi in onore di Sabatino Moscati (Pisa 1996) 579–590.

Carboni – Cruccas 2019
R. Carboni – E. Cruccas, Manufatti votivi e instrumenta provenienti dalla città punica e romana di Nora (Sardegna). Il caso dell'ex area militare, in: Actes des Rencontres Instrumentum, Le Mans, 3–5 juin 2015 (2019) 285–303.

Carboni 2012a
R. Carboni, "Demetra veneranda, apportatrice di messi, dai magnifici doni". Diffusione e problematiche dei culti agrario-fertilistici in Sardegna durante l'età tardo-punica e romana, in: R. Carboni – C. Pilo – E. Cruccas, Res Sacrae. Note su alcuni aspetti cultuali della Sardegna Romana (Cagliari 2012) 9–29.

Carboni 2012b
R. Carboni, "Il dio ha ascoltato la sua voce e lo ha risanato". Riflessioni sui culti salutari nella Sardegna di età tardo-punica e romana, in: R. Carboni – C. Pilo – E. Cruccas, Res Sacrae. Note su alcuni aspetti cultuali della Sardegna Romana (Cagliari 2012) 31–50.

Carboni 2016
R. Carboni, Nora – ex area militare: le terrecotte votive, in: S. Angiolillo et al. (eds.), Nora Antiqua, Atti del Convegno di Studi, Cagliari – Cittadella dei Musei 3–4 ottobre 2014 (Perugia 2016) 35–38.

Carboni 2017
R. Carboni, La coroplastica votiva della Sardegna romana, in: S. Angiolillo et al. (eds.), La Sardegna romana e altomedievale. Storia e materiali, Corpora delle antichità della Sardegna (Sassari 2017) 108–116.

Coarelli 1993
F. Coarelli, I luci del Lazio. La documentazione archeologica, in: Les bois sacrés. Actes du colloque international du Centre Jean Bérard, Naples 23–25 novembre 1989 (Naples 1993) 45–52.

Coarelli 1997
F. Coarelli, Il Campo Marzio dalle origini alla fine della Repubblica (Rome 1997).

Colavitti 1996
A.M. Colavitti, Per una storia dell'economia della Sardegna romana: grano ed organizzazione del territorio. Spunti per una ricerca, in: L'Africa Romana XI, Atti del Convegno di Studio, Cartagine, Tunisia 15–18 dicembre 1994 (Sassari 1996) 643–652.

Colavitti 1999
A.M. Colavitti, La presenza dei negotiatores italici nella Sardegna di età romana (Oristano 1999).

Comella 1981
A.M. Comella, Tipologia e diffusione dei complessi votivi in Italia in epoca medio- e tardo-repubblicana. Contributo alla storia dell'artigianato antico, MEFRA 93, 1981, 717–803.

Comella 1992
A.M. Comella, Matrici fittili dal santuario di via Malta a Cagliari, in: Sardinia antiqua. Studi in onore di Piero Meloni in occasione del suo settantesimo compleanno (Cagliari 1992) 415–423.

Del Vais – Serreli 2016
C. Del Vais – P.F. Serreli, Nuove ricerche al Nuraghe Lugherras di Paulilatino (campagna 2006–2007): il riutilizzo santuariale di età punico-romana, Byrsa 25/26–27/28 (2014–2015), 2016, 9–37.

Depalmas 2012
A. Depalmas, Nuove ricerche presso il Nuraghe Lugherras di Paulilatino (OR) - Campagna 2006–2007, in: C. Lugliè – R. Cicilloni (eds.), Atti della 44 Riunione scientifica 4, La preistoria e la protostoria della Sardegna, Cagliari – Barumini - Sassari 23–28 novembre 2009 (Florence 2012) 1355–1360.

Depalmas 2014
A. Depalmas, Dati e interpretazioni della stratigrafia nuragica nell'attività di Antonio Taramelli, in: A. Guidi (ed.), 150 anni di Preistoria e Protostoria in Italia, Atti della 46 Riunione Scientifica dell'IIPP, Roma 23–26 novembre 2011 (Florence 2014) 353–359.

Esposito 2000
R. Esposito, Il tempio punico-romano di Antas: qualche considerazione, AFLC 17, 2000, 111–120.

Galli 1991
F. Galli, Padria. Il museo e il territorio, Guide e itinerari 18 (Sassari 1991).

Garbati 2003
G. Garbati, Sul culto di Demetra nella Sardegna punica, in: G. Regalzi (ed.), Mutuare, interpretare, tradurre: storie di culture a confronto, Atti del II Incontro "Orientalisti", Roma 11–13 dicembre 2002 (Rome 2003) 127–143.

Garbati 2008
G. Garbati, Religione votiva: per un'interpretazione storico-religiosa delle terrecotte votive nella Sardegna punica e tardo-punica (Pisa 2008).

Garbati 2016
G. Garbati, La Dea "sfuggente". (Ancora) su Demetra in Sardegna alla luce di alcune ricerche recenti, Byrsa, 25/26–27/28 (2014–2015), 2016, 81–113.

Gavini 2014
A. Gavini, Isiaca Sardiniae. La diffusione dei culti isiaci in Sardinia, Bibliotheca Isiaca 3, 2014, 21–37.

Ghiotto et al. 2016
A.R. Ghiotto – M.A. Ibba – G. Manca di Mores, Le terrecotte figurate di Nora, Cagliari e Antas: un contributo per lo studio archeologico e archeometrico sulla coroplastica sarda, in: S. Angiolillo et al. (eds.), Nora Antiqua, Atti del Convegno di Studi, Cagliari – Cittadella dei Musei 3–4 ottobre 2014 (Perugia 2016) 223–230.

Ghiotto 2004
A.R. Ghiotto, L'Architettura romana nelle città della Sardegna (Rome 2004).

Ghiotto 2014
A.R. Ghiotto, La "Dama di Nora" e le altre terrecotte figurate, in: J. Bonetto (ed.), Nora e il mare. I. Le ricerche di Michel Cassien (1978–1984), Scavi di Nora 1 (Padua 2014) 515–550.

Giuman – Carboni 2018
M. Giuman – R. Carboni, Immagini di argilla. Su una tipologia di statuette provenienti dall'ex area militare di Nora, in: M. Albertocchi – N. Cucuzza – B.M. Giannattasio (eds.), Simbolo e gesto, La determinazione di genere nelle statuette fittili del mondo greco, Quaderni di Archeologia 2 (Genoa 2018) 99–112.

Ibba 1999
M.A. Ibba, Il teatro-tempio di via Malta a Cagliari. I bracieri di età ellenistica, Annali della Facoltà di lettere e filosofia dell'Università di Cagliari 17, 1999, 139–170.

Ibba 2012
M.A. Ibba, Il santuario di via Malta a Cagliari. Alcune riflessioni, in: S. Angiolillo – M. Giuman – C. Pilo, Meixis, Dinamiche di stratificazione culturale nella periferia greca e romana (Rome 2012) 205–215.

Ibba 2015
A. Ibba, Processi di "romanizzazione" nella Sardegna repubblicana e alto-imperiale (III A.C. – II D.C.), in: L. Mihailescu-Bîrliba (ed.), Colonization and Romanization in Moesia Inferior. Premises of a Contrastive Approach (Kaiserslautern 2015) 11–76.

Johannowsky 1970
W. Johannowsky, Osservazioni sul teatro di Iasos e su altri teatri di Caria, ASAtene 31–32 (1969–1970), 1970, 451–459.

Lilliu 1988
C. Lilliu, Un culto di età punico-romana al nuraghe Genna Maria di Villanovaforru, QuadACagl 5, 1988, 109–127.

Lilliu 1990
C. Lilliu, Sopravvivenze nuragiche in età romana, in: L'Africa Romana 7, Atti del Convegno di Studio, Sassari 15–17 dicembre 1989 (Sassari 1990) 415–446.

Lilliu et al. 1993
C Lilliu – L. Campus – F. Guido, Genna Maria. II,1. Il deposito votivo del mastio e del cortile (Cagliari 1993).

Magliani 2016
S. Magliani, Coroplastica dal quartiere nord-occidentale di Nora, in: S. Angiolillo et al. (eds.), Nora Antiqua, Atti del Convegno di Studi, Cagliari – Cittadella dei Musei 3–4 ottobre 2014 (Perugia 2016) 129–132.

Manca di Mores 2012
G. Manca di Mores, Il Sardus Pater e la decorazione architettonica fittile, in: S. Angiolillo – M. Giuman – C. Pilo (eds.), Meixis. Dinamiche di stratificazione culturale nella periferia greca e romana, Atti del convegno internazionale di studi „Il sacro e il profano", Cagliari – Cittadella dei musei 5–7 maggio 2011 (Rome 2012) 189–203.

Manca di Mores 2018
G. Manca di Mores, Iconografie tra mondo punico e romano nell'altorilievo fittile del tempio del Sardus Pater ad Anta, Folia Phoenicia 2, 2018, 293–297.

Mastino 2005
A. Mastino, V. Economia e società 6-7, in: A. Mastino (ed.), Storia della Sardegna antica (Nuoro 2005) 175–180.

Mingazzini 1949
P. Mingazzini, Cagliari. Resti di santuario punico e di altri ruderi a monte di Piazza del Carmine, NSc 3, 1949, 213–274.

Moscati – Uberti 1990
S. Moscati – M.L. Uberti, Terrecotte da Narcao, in: S. Moscati, Teche. Studi sull'artigianato fenicio, Studia Punica 6 (Rome 1990) 79–90.

Moscati 1977
S. Moscati, I Cartaginesi in Italia (Milan 1977).

Moscati 1991
S. Moscati, Le terrecotte figurate di S. Gilla (Cagliari) (Rome 1991).

Moscati 1992
S. Moscati, Tra Cartaginesi e Romani. Artigianato in Sardegna dal IV secolo a.C. al II d.C. (Rome 1992).

Moscati 1993
S. Moscati, Il tramonto di Cartagine. Scoperte archeologiche in Sardegna e nell'area mediterranea (Turin 1993).

Mossa 1976
V. Mossa, La cosiddetta "moneta di Metalla" e il tempio di Antas, Quaderni di Numismatica 4, 1976, 9–14.

Nieddu 1989
G. Nieddu, Su alcuni tipi di terrecotte figurate da "Su Moguru" – S. Gilla, in QuadACagl 6, 1989, 113–124.

Nieddu 1992
G. Nieddu, La decorazione architettonica della Sardegna romana (Oristano 1992).
Nielsen 2002
I. Nielsen, Cultic Theatres and Ritual Drama: a Study in Regional Development and Religious Interchange between East and West in Antiquity (Aarhus 2002).
Pala 1990
P. Pala, Osservazioni preliminari per uno studio della riutilizzazione dei nuraghi in epoca romana, in: L'Africa Romana 7, Atti del Convegno di Studio, Sassari 15–17 dicembre 1989 (Sassari 1990) 549–555.
Perra 1999
C. Perra, Sulle origini dell'architettura templare fenicia e punica di Sardegna, RStFen 27, 1999, 43–77.
Perra 2004
C. Perra, Note sul tempio di Ashtart a Monte Sirai e sull'architettura templare fenicia e punica in Sardegna, in: R. Zucca (ed.), ΛΟΓΟΣ ΠΕΡΙ ΤΗΣ ΣΑΡΔΟΥΣ, Le fonti classiche e la Sardegna, Atti del Convegno di Studi, Lanusei 29 dicembre 1998 (Roma 2004) 139–160.
Pilo 2012
C. Pilo. "Gli dei 'stranieri'. Le attestazioni dei culti orientali nella Sardegna romana", in: Carboni, in: R. Carboni – C. Pilo – E. Cruccas, Res Sacrae. Note su alcuni aspetti cultuali della Sardegna Romana (Cagliari 2012) 51–75.
Regoli 1991
P. Regoli, I bruciaprofumi a testa femminile dal Nuraghe Lugherras (Paulilatino), Studia Punica 8 (Rome 1991).
Roppa 2013
A. Roppa, Comunità urbane e rurali nella Sardegna punica di età ellenistica (Valencia 1993).
Saba 2015
A. Saba, Catalogo del Civico Museo Archeologico Su Mulinu di Villanovafranca. La collezione in esposizione dal 2002 al 2014 (Ortacesus 2015).
Salvi 2003
D. Salvi, Attraccare sul passato: il giacimento archeologico del porto di Cagliari, in: A. Benini – M. Giacobelli (eds.), Atti del II Convegno nazionale di Archeologia subacquea, Castiglioncello 7–9 settembre 2001 (Bari 2003) 61–73.
Secci 2012–2013
R. Secci, Le lucerne votive di età punica e punico-romana dal Nuraghe Lugherras di Paulilatino (OR). Primo inquadramento, in L'archeologia punica e gli dèi degli altri, Byrsa 21–24, 2012–2013, 61–78.
Stiglitz 2005
A. Stiglitz, Il riutilizzo votivo delle strutture megalitiche nuragiche in età tardopunica e romana, in: A.M. Comella – S. Mele, Depositi votivi e culti dell'Italia antica dall'età arcaica a quella tardo-repubblicana, Atti del Convegno di Studi, Perugia 1–4 giugno 2000 (Bari 2005) 725–737.
Stiglitz 2012
A. Stiglitz, Bes in Sardegna. Nuove attestazioni da San Vero Milis (Sardegna centro-occidentale), in: S. Angiolillo – M. Giuman – C. Pilo (eds.), Meixis. Dinamiche di stratificazione culturale nella

periferia greca e romana, Atti del convegno internazionale di studi „Il sacro e il profano", Cagliari – Cittadella dei musei 5–7 maggio 2011 (Rome 2012) 133–151.

Taramelli 1910

A. Taramelli, Il nuraghe Lugherras presso Paulilatino, MAL 20, 1910, 154–234.

Tomei 2008

D. Tomei, Gli edifici sacri della Sardegna romana: problemi di lettura e di interpretazione (Ortacesus 2008).

Uberti 1973

M.L. Uberti, Le figurine fittili di Bitia (Rome 1973).

Ugas – Paderi 1990

G. Ugas – M.C. Paderi, Persistenze rituali e cultuali in età punica e romana nel sacello nuragico del vano e della fortezza di Su Mulinu - Villanovafranca (Cagliari), in: L'Africa romana 7, Atti del Convegno di Studio, Sassari 15–17 dicembre 1989 (Sassari 1990) 475–486.

Van Dommelen et al. 2010

P. van Dommelen – C. Gómez Bellard – G. Pérez Jordà, Produzione agraria nella Sardegna punica fra cereali e vino, in: L'Africa Romana 18, Atti del Convegno di Studio, Olbia 11–14 Dicembre 2008 (Roma 2010) 1187–1202.

Van Dommelen 1998

P. Van Dommelen, On Colonial Grounds: a Comparative Study of Colonialism and Rural Settlement in First Millenium BC West Central Sardinia (Leiden 1998).

Zucca 1989

R. Zucca, Il tempio di Antas (Sassari 1989).

Zucca 1993

R. Zucca, Miniere e metallurgia in Sardegna dai Fenici ai Greci di Bisanzio, in: T.K. Kirova, L'uomo e le miniere in Sardegna (Cagliari 1993) 39–44.

Zucca 2005

R. Zucca, Le terrecotte figurate del deposito votivo di Neapolis, in: R. Zucca, Splendidissima civitas Neapolitanorum (Rome 2005) 158–166.

Ceramiche di importazione nelle aree interne della Sardegna meridionale in età romana

Chiara Pilo

Il tema della produzione e circolazione delle ceramiche nella Sardegna romana è stato oggetto negli ultimi decenni di un crescente interesse in ambito scientifico, con un sensibile incremento delle pubblicazioni dedicate all'argomento e con l'edizione di importanti contesti.[1] Ciò nonostante la percentuale di materiali da scavi, ricognizioni o rinvenimenti fortuiti non pubblicati o solo parzialmente editi è ancora consistente, in particolar modo se consideriamo le aree interne della Sardegna, dove l'attenzione degli archeologici si è orientata in maniera prevalente verso le fasi di età preistorica e protostorica. La sessione del convegno dedicata ai commerci nella Sardegna antica è sembrata l'occasione più adatta per riprendere la questione delle importazioni ceramiche durante il periodo romano nella Sardegna centro-meridionale, alla luce di nuovi dati emersi nel corso di recenti indagini e dalla ripresa dello studio di contesti già noti. L'ambito territoriale preso in esame in questa sede è quello corrispondente alle regioni storiche della Trexenta, della bassa Marmilla e del Sarcidano (fig. 1).

Il territorio della Marmilla e della Trexenta è caratterizzato da dolci colline e fertili vallate che, durante il periodo punico e romano, hanno rivestito un ruolo importante nell'ambito della produzione agraria e dell'approvvigionamento di risorse cerealicole. I rinvenimenti archeologici documentano una modalità insediativa organizzata in villaggi rurali (*pagi*) di modesta estensione,[2] dove risiedevano comunità contadine dedite alla lavorazione dei campi nell'ambito verosimilmente di grandi proprietà terriere di tipo latifondistico. Oltre ad aree di dispersione di materiale e poveri resti di strutture murarie, spesso in corrispondenza o in prossimità di monumenti nuragici interessati da fasi di riutilizzo in età storica, uno degli indicatori archeologicamente più rilevante dell'occupazione del territorio in età romana è rappresentato dal rinvenimento di aree funerarie.

È questo il caso, ad esempio, della necropoli di Mitza de Siddi, nel comparto meridionale del territorio comunale di Ortacesus in Trexenta. Individuata nel 1994 durante i lavori per la realizzazione di un sistema di irrigazione, fu oggetto di scavi sistematici condotti dalla Soprintendenza per i beni archeologici per le province di Cagliari e Oristano.[3] Sono state individuate circa duecento tombe, che costituivano solo una parte di una più estesa necropoli in uso dall'età punica al periodo romano imperiale, tra il IV sec. a.C. e il II–III sec. d.C. Sebbene siano attestate anche alcune incinerazioni, sia primarie (*busta*) sia secondarie, il rito funerario maggiormente documentato è l'inumazione entro fossa semplice, talvolta coperta da lastre litiche. In età imperiale compaiono, come di consueto, tombe alla cappuccina. La maggior parte delle sepolture ha restituito un corredo costituito prevalentemente da vasellame ceramico. Lo studio dei materiali è stato ripreso di recente ed è tuttora in corso,[4] ma in questa sede possono comunque

Published in: Salvatore De Vincenzo (Ed.), Trade in Ancient Sardinia, Panel 5.4, Archaeology and Economy in the Ancient World 29 (Heidelberg, Propylaeum 2022) 55–69.
DOI: *https://doi.org/10.11588/propylaeum.759.c10714*

Fig. 1: Carta della Sardegna riportante le località menzionate nel testo.

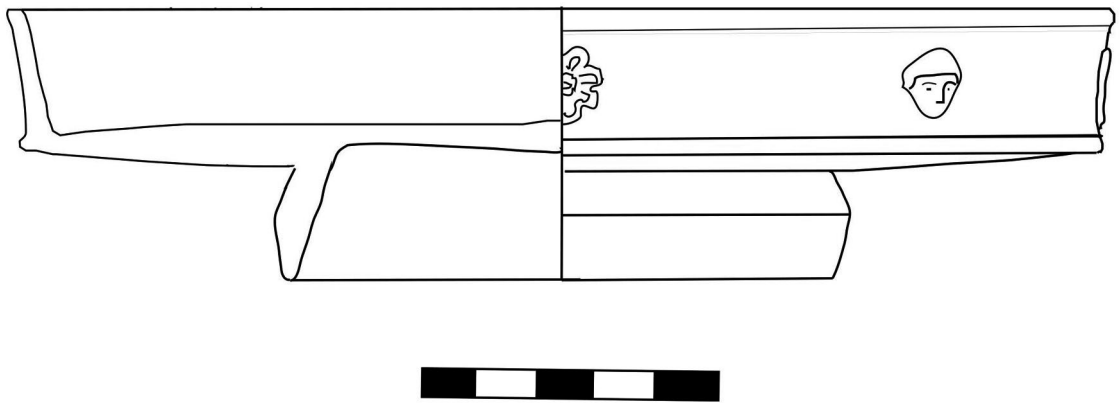


Fig. 2: Piatto in sigillata italica dalla necropoli di Funtana ʻe Iri, Selegas.

essere anticipati alcuni dati e considerazioni preliminari in merito alla presenza di vasellame di importazione.

Per tutto l'arco di utilizzo dell'area sepolcrale nei corredi funerari risulta prevalente la presenza di ceramiche prodotte localmente. Il quantitativo maggiore di vasellame di importazione si registra nel corso dell'età repubblicana, tra II e I sec. a.C. (circa un 20% rispetto al totale), rappresentato quasi esclusivamente da ceramica a vernice nera Campana A. Le forme maggiormente attestate sono i piatti da pesce (Morel F1122), le coppe carenate (Morel F2646, F 2648), le patere (Morel F2233, F1322) e alcuni gutti. A partire dalla prima età imperiale il trend subisce una consistente battuta di arresto: è evidente una significativa diminuzione del materiale importato, sostituito da prodotti locali che spesso imitano il vasellame di importazione, verosimilmente più economici delle versioni originali. Tra il I sec. a.C. e il II sec. d.C. sono molto diffusi i recipienti in vernice nera a pasta grigia, che riproducono nel caratteristico impasto di colore grigio alcune forme tipiche delle produzioni a vernice nera importate.[5] Nel II e III sec. d.C., accanto ad alcuni recipienti in sigillata africana, di produzione A e D, si riscontra la presenza di vasellame che replica più o meno fedelmente in ceramica comune forme proprie del repertorio vascolare della sigillata africana.

Carlo Tronchetti, uno dei principali studiosi ed esperti di ceramica romana in Sardegna, con particolare riferimento alla Sardegna meridionale, ha sottolineato la scarsa presenza durante il periodo romano di ceramiche di importazioni tra il vasellame rinvenuto nei corredi funerari delle zone interne dell'isola. Il dato è stato messo giustamente in relazione con la composizione sociale piuttosto modesta delle comunità rurali che popolano questi territori, più inclini a prediligere prodotti locali di bassa qualità.[6]

Le informazioni desumibili da nuovi contesti sembrano confermare questo quadro interpretativo. Un esempio significativo è restituito dalla necropoli individuata nel territorio di Selegas, in località Funtana ʻe Iri, durante i lavori per la realizzazione della variante Senorbì-Mandas della S.S. 128. Tra il 2014 e il 2015 è stato scavato un settore dell'area funeraria, che ha restituito tombe inquadrabili cronologicamente tra il I sec.

Fig. 3: Bollo in *planta pedis* del ceramista *Camurius*.

a.C. e il I sec. d.C.[7] Il rito funerario maggiormente attestato è anche in questo caso l'inumazione entro fossa scavata nel banco roccioso. I defunti erano accompagnati da corredi composti per lo più da vasellame di produzione locale, di fattura piuttosto modesta, talvolta riproducente forme vascolari di importazione. Un'eccezione è costituita dalla tomba n. 14. Vicino ai piedi del defunto era stato deposto un piatto in sigillata italica, all'interno del quale sono state rinvenute ossa animali. Il piatto, con orlo verticale decorato con appliques in forma di rosette e maschere teatrali, corrisponde alla forma Conspectus 20.4 (fig. 2).[8] Sul fondo interno è presente il bollo in planta pedis CAMVRI (fig. 3),[9] attribuito all'officina del ceramista Camurius attiva ad Arezzo tra il 30 e il 70 d.C. e attastato in Sardegna da almeno altri cinque recipienti rinvenuti a Cornus e nel territorio di Oristano.[10] Per quanto riguarda la forma Conspectus 20.4, ascrivibile cronologicamente al periodo tra il regno di Tiberio e la seconda metà del I sec. d.C., è ben attestata in contesti insulari di I sec. d.C.[11] In Trexenta due piatti di questo tipo, ma privi di bollo, sono stati trovati nella necropoli di S. Lucia a Gesico, all'interno di una stessa tomba.[12] La presenza di sigillata italica in queste aree interne rimane però molto scarsa, se non eccezionale, a conferma di una committenza piuttosto modesta, che predilige vasellame di produzione locale, di basso livello qualitativo, come corredo di accompagno per l'ultimo viaggio.[13]

Contesti potenzialmente di grande interesse per lo studio della circolazione di prodotti di importazione sono i complessi nuragici di Su Mulinu a Villanovafranca e di Genna Maria a Villanovaforru. Entrambi i monumenti sono infatti interessati in età storica da un riutilizzo degli ambienti nuragici chiaramente connotato in chiave cultuale. Il complesso di Su Mulinu, situato al confine tra le regioni della Trexenta e della Marmilla, risale al Bronzo Medio e presenta una complessa stratificazione di fasi costruttive e di utilizzo fino ad età alto medievale. A partire dal Bronzo Finale alcuni spazi dell'edificio sono utilizzati per la celebrazione di riti che prevedono l'uso e l'offerta di lucerne, rinvenute in grandissima quantità soprattutto nella torre F e nel vano E, dove elemento centrale del culto è un altare scolpito in forma di modello di nuraghe.[14] La

Fig. 4: Lucerna con marchio FRONIMI dal nuraghe Su Mulinu di Villanovafranca (inv. 188759).

frequentazione a scopo cultuale del nuraghe perdura fino al periodo punico e romano, con caratteristiche che denotano aspetti di continuità con l'età protostorica. Tra il materiale votivo continua infatti ad essere presente un numero elevato di lucerne.[15] Sebbene i materiali di età romana siano sostanzialmente ancora inediti, i dati noti sembrano prospettare un quadro abbastanza diverso da quello che emerge dai contesti funerari della zona, con una presenza più rilevante di prodotti di importazione. Alcuni esempi sono indicativi in tal senso.

Il primo oggetto è una lucerna a becco tondo (Bailey, type P/Loeschcke VIII) con il disco decorato a rilievo con una testa femminile di profilo, forse una maschera teatrale (fig. 4). Sul fondo è impresso, in scrittura retrograda, il marchio FRONIMI,[16] attribuito al produttore Aufidius Fronimus, attivo nel Nord Africa, verosimilmente vicino a Capo Bonn, nella prima metà del II sec. d.C. e poco dopo. Lucerne di Fronimus – anche con bolli nella versione AVFFRON – sono ben attestate in Sardegna, a Olbia, Cagliari, Tharros, Oristano, Mores.[17] Un esemplare con bollo FRONIM e identica decorazione del disco con maschera teatrale femminile è stato rinvenuto a Cagliari, nello scavo di Vico III Lanusei.[18] Due lucerne, entrambe decorate con una ghirlanda floreale, presentano rispettivamente il bollo di Caius Clodius Successus[19] e di Lucius Munatius Successus,[20] due produttori attivi probabilmente nel centro Italia tra il I e l'inizio del II sec. d.C.. Quella con marchio di Caius Clodius Successus è una lucerna a

Fig. 5: Lucerna con bollo di *Caius Clodius Successus* dal nuraghe Su Mulinu di Villanovafranca (inv. 188755).

volute di tipo Bailey C (fig. 5);[21] l'altra, di Lucius Munatius Successus, è un esemplare a becco tondo riconducibile al tipo Bailey P.[22] Oltre alle lucerne di importazione si segnalano alcuni recipienti in ceramica sigillata africana A, tra cui due brocche con corpo piriforme decorato a rotella del tipo Pallares 30C (Hayes 157), datate tra la fine del I e gli inizi del II sec. d.C.[23]

Anche il nuraghe Genna Maria di Villanovaforru, in Marmilla, in età punica e romana ospita un luogo di culto.[24] All'interno del cortile e del corridoio è stato infatti trovato un deposito votivo che, analogamente a quanto attestato al nuraghe Su Mulinu di Villanovafranca, comprendeva tra i materiali anche un numero consistente di lucerne. Accanto a esemplari prodotti da officine operanti all'interno dell'isola, sono state rinvenute diverse lucerne importate dalla Campania, dal Lazio e, più in generale, dall'Italia centrale e, a partire dalla seconda metà del II sec. d.C., anche dal Nord Africa.[25]

Le potenzialità di uno studio sistematico dei materiali ceramici per la definizione delle dinamiche di occupazione territoriale in età romana e per la ricostruzione della circolazione di prodotti e merci emerge in modo altrettanto palese quando ci addentriamo verso le aree montuose interne, nella regione storica del Sarcidano. Attraversato da una delle principali arterie viarie interne, la *a Karalibus Olbiam* che metteva in collegamento le città portuali di Cagliari e Olbia, questo comparto territoriale risulta nel periodo romano intensamente popolato, con centri abitati di

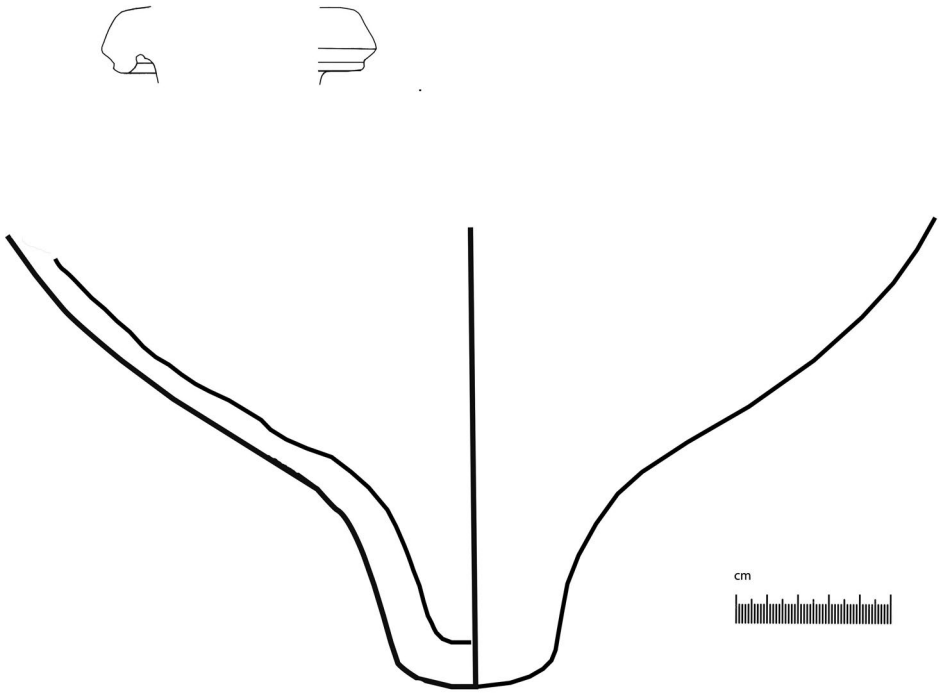


Fig. 6: Puntale e frammento di orlo di anfora Hammamet 1 da loc. Aravoras, Nurallao.

rilievo quali Valentia e Biora, quest'ultimo menzionato nell'Itinerarium *Antonini*.[26] Un caso studio, ripreso di recente, ci offre lo spunto per evidenziare l'importanza di ampliare il quadro conoscitivo relativo alla cultura materiale di età romana, documentando tra l'altro l'arrivo in queste zone di prodotti di importazione di un certo livello.

Nel 2000, nel corso di lavori agricoli condotti in località Aravoras nel territorio di Nurallao, sono state portate alla luce e recuperate in emergenza tre tombe di età imperiale: una sepoltura ad *enchytrismos* all'interno di un'anfora e due tombe a cista litica, contenenti ciascuna uno scheletro in connessione e resti di altri individui.[27] I materiali recuperati consentono di inquadrare le sepolture tra i decenni finali del II sec. d.C. e l'inizio del III.[28] Di particolare interesse in relazione alla circolazione di anfore e di prodotti di importazione nelle zone interne della Sardegna è senza dubbio il contenitore riutilizzato come *enchytrismos*. Si tratta di un'anfora di tipo Hammamet 1, variante C, prodotta in Zeugitania nel golfo di Pupput, attuale Hammamet, tra il II secolo d.C. e gli inizi del III secolo (fig. 6).[29] La circolazione di questi recipienti, forse destinati al trasporto di vino, è sostanzialmente circoscritta all'ambito regionale nord africano. Le attestazioni nel territorio italiano sono molto scarse (Ostia, Rome, Luni) e, per quanto riguarda la Sardegna, si conosce al momento solo un frammento, per altro di identificazione non certa, recuperato nel corso della ricognizione topografica nel territorio di Nora.[30] Il rinvenimento di Nurallao è quindi particolarmente significativo. Tra i materiali associati alle tre sepolture di Aravoras si riscontrano

Fig. 7: Lucerna con bollo di *Caius Caecilius Saecularis* da loc. Aravoras, Nurallao.

anche alcuni frammenti di un'anfora Africana 1, forse pertinenti ad una seconda sepoltura ad *enchytrismos* sconvolta in occasione dei lavori agricoli. Al contrario dell'altro esemplare, le anfore del tipo Africana 1, prodotte nell'attuale Tunisia nella seconda metà del II secolo d.C.,[31] sono ampiamente esportate in tutto il Mediterraneo occidentale e ben attestate anche in Sardegna.

Tra il materiale di importazione africana si annovera anche una coppa in sigillata africana A, con orlo pendulo non decorato, riconducibile alla forma Hayes 2 (fine II – inizi III sec. d.C.),[32] rinvenuta tra il materiale di corredo della tomba a cista n. 2. Anche nel contesto di Aravoras si riscontrano fenomeni di imitazione, soprattutto delle produzioni africane. Sempre nella tomba n. 2 sono infatti presenti due piccole bottiglie in ceramica comune, caratterizzate dal doppio rigonfiamento del corpo e, in un caso da nervature sul collo, che richiamano le forme Hayes 159 e Hayes 160, prodotte tra la seconda metà del II sec. d.C. e l'inizio del III in sigillata africana A.[33] Si aggiungono a queste tre frammenti di orli, recuperati fuori contesto, di coppe carenate Hayes 8 in sigillata africana A, prodotte tra la seconda metà del II sec. d.C. e l'inizio del III.[34] Le caratteristiche tecniche – impasto polveroso, poco compatto, e vernice praticamente assente – sembrano anche in questo caso ricondurre a produzioni locali che imitano nella forma il vasellame delle officine africane.

Tra i materiali di importazione si annoverano anche due lucerne. La prima – dalla tomba n. 2 – è un esemplare a becco tondo (Bailey tipo P, gruppo i), che presenta sul disco la raffigurazione delle tre Grazie (fig. 7).[35] Sul fondo è impresso, tra due cerchielli, il bollo CCAESAE, da ricondurre all'officina di Caius Caecilius Saecularis attiva a Roma o nei dintorni tra la tarda età antonina e la prima età severiana.[36] Bolli di

Fig. 8: Fondo di lucerna con bollo EROTIS da loc. Aravoras, Nurallao.

questa officina, soprattutto nella variante LCAECSAE, sono attestati in varie località della Sardegna,[37] tra cui Olbia,[38] a Porto Torres (Turris Libisonis)[39] e a Sant'Antioco (Sulci)[40].

Il secondo esemplare, dalla tomba a cista n. 3, è una lucerna frammentaria sul cui fondo è presente il marchio EROTIS (fig. 8), attributo a un piccolo atelier africano attivo nel corso del II sec. a.C., i cui prodotti sono attestati in Africa e in Italia meridionale.[41] L'esemplare di Nurallao si va ad aggiungere ad altre due lucerne di questa officina note in Sardegna, una rinvenuta nel territorio della vicina Nuragus[42] e una nel corso degli scavi archeologici del Teatro Massimo a Cagliari.[43]

La breve casistica presentata – che non ambisce certo a carattere di esaustività – mette in evidenza il grande potenziale informativo di uno studio approfondito e esaustivo dei tanti contesti che hanno restituito reperti ceramici in queste zone interne della Sardegna centro-meridionale. I tasselli che man mano vengono aggiunti al quadro conoscitivo contribuiscono infatti a ricostruire una realtà locale vivace durante il periodo romano, in contatto con le principali città portuali – Cagliari e Olbia – da cui giungono prodotti di importazione dalla penisola (in particolare dalla Campania e dal Lazio) e dalla costa Nord-Africana, che inducono a loro volta fenomeni di imitazione da parte di officine locali.

Note

[1] Al tema è dedicata una parte consistente della produzione scientifica di Carlo Tronchetti, i cui lavori sono variamente richiamati di seguito. In particolare, per studi di carattere generale si rimanda a Tronchetti 1996, Tronchetti 1998 e, da ultimo, Tronchetti 2017. Tra le pubblicazioni di contesti di materiali ceramici, con particolare riferimento alla Sardegna meridionale e senza pretesa di completezza: Giannattasio 2003; Salvi 2005; Bonetto et al. 2009; Nervi 2016; Angiolillo et al. 2016.

[2] Un'importante attestazione dell'organizzazione in *pagi* di queste zone è fornita dall'iscrizione rinvenuta a Las Plassas in Marmilla, che commemora la costruzione e la dedica di un tempio a Giove Ottimo Massimo da parte dei Pagani Uneritani: Mastino 2001; Serreli 2002.

[3] Lo scavo è stato eseguito sotto la direzione scientifica della dott.ssa Donatella Cocco e condotto sul campo dall'archeologa dott.ssa Maria Grazia Arru. Una pubblicazione a carattere divulgativo, con una selezione di alcune tombe, è fornita in Cocco 2009.

[4] La Soprintendenza sta portando avanti lo studio della necropoli nell'ambito di un protocollo di intesa con il Dipartimento di Storia, Beni Culturali e Territorio dell'Università degli Studi di Cagliari e il Comune di Ortacesus.

[5] Sulla ceramica a vernice nera a pasta grigia in Sardegna: Tronchetti 1988; Tronchetti 1996, 32-34; Tronchetti 2015, 1808–1810.

[6] Tronchetti 2006, 245 s.

[7] Lo scavo è stato condotto con la direzione scientifica dalla Soprintendenza per i beni archeologici di Cagliari e Oristano, nella persona di chi scrive. Sul campo i lavori sono stati seguiti dagli archeologi dott.ssa Ottaviana Soddu e dott. Paolo Marcialis, che ha curato la documentazione grafica della seconda campagna, e dall'antropologo dott. Emanuele Pilloni.

[8] Conspectus 1990, 86.

[9] CVArr2 n. 514.

[10] Tronchetti 2006, tav. II.1, nn. 73–77.

[11] Defrassu 2006, 102, tav. C10.36 con bibliografia precedente.

[12] Tronchetti 1999, 109, nn. 1/147636 e 2/147637.

[13] Per la cd. sigillata sarda, che si ispira al repertorio formale della sigillata italica, con impasti e vernici sui toni dell'arancione, si veda Tronchetti 2014; Tronchetti 2015, 1810–1812.

[14] Saba 2012, 334–336.

[15] Ugas – Paderi 1990.

[16] Saba 2015, 103, scheda 32. Il bollo era stato letto in maniera errata.

[17] Sotgiu 1968, 34–36, n. 401. Per Olbia, vedi anche Tamponi 1893, 393; Mastino 1996, 86, n. 73; Pietra 2013, 137. Anche il bollo FRONI, presente su una lucerna della collezione Gouin del Museo Archeologico Nazionale di Cagliari, è da ricondursi alla stessa officina (Sotgiu 1968, 60-61, n. 421).

[18] Sangiorgi 2006, 143, figg. 95. 96.

[19] Cfr. Bailey 1980, 93 s. Per altri bolli di Caius Clodius Successus in Sardegna: Sotgiu 1968, 46–50, n. 411.

[20] Cfr. Bailey 1980, 98. Per le attestazioni in Sardegna vedi Sotgiu 1968, 103 s., n. 454; Sanciu 2011, 184, 206, fig. 10, n. 2, 15.

[21] Saba 2015, 102, scheda n. 30.
[22] Ugas – Paderi 1990, 481, n. 21, tav. III, b; Saba 2015, 104, scheda 36.
[23] Ugas – Paderi 1990, 1990, 481, nota 23; Saba 2015, 100 s., schede 24 e 26. Cfr. Atlante I 1981, 41, tav. XX, 2.
[24] Lilliu et al. 1993. Come per Villanovafranca, non è facile individuare la divinità a cui era dedicato il sacello. In entrambi i casi, la massiccia presenza di lucerne e il rinvenimento di alcune *kernophoroi* di età punica ha indotto a ricondurre il culto alla sfera femminile agraria, avvicinabile per vari aspetti all'ambito demetriaco (Carboni 2012, 17 s.).
[25] Lilliu et al. 1993, 43–66. Una revisione complessiva del materiale votivo è attualmente in corso nell'ambito di una ricerca dottorale condotta da Lena Vitt del Deutsches Archäologisches Institut di Roma.
[26] Boninu 2012. Da ultimo si veda Canu 2016, 280–286 con bibliografia precedente.
[27] Sanges 2006, 87.
[28] I materiali sono stati presentati da chi scrive e dalla dott.ssa Stefania Dore in occasione della giornata di studio "Nurallao e il suo patrimonio archeologico" (Nurallao, 12 novembre 2016), organizzata dalla dott.ssa N. Canu, i cui atti saranno oggetto di una prossima pubblicazione. Sfortunatamente non è stato possibile al momento recuperare la documentazione di scavo, ad eccezione di due foto delle tombe a cista pubblicate in Sanges 2006. Si ringrazia la dott.ssa Dore, con cui sto conducendo lo studio del contesto, per avermi anticipato alcuni dati del suo lavoro.
[29] Bonifay 2004, 198–204; Bertoldi 2012, 171; Bonifay 2015, 93 s. fig. 49.
[30] Nervi 2016, 110, n. 73.5, fig. 89.335 (loc. Terra Mainas).
[31] Panella 1973, 575–579; Keay 1984, 100–109; Bertoldi 2012, 179; Bonifay 2015, 106 s. fig. 56.
[32] Atlante I 1981, 24 s. (in particolare cfr. tipo Lamboglia 4/36 B, tav. XIII, 14).
[33] Atlante I 1981, 46 s. Cfr. anche Boninu 1973, 337–344, nn. 33–36.
[34] Atlante I 1981, 27 s.
[35] Cfr. Joly 1974, 138, n. 512 (da Sabratha).
[36] Bailey 1980, 91 s., 344–345.
[37] Sotgiu 1968, 41–43, n. 406.
[38] Tamponi 1893, 393; Mastino 1996, 60. 86, n. 74; Sanciu 2002, 1283, L77, tav. III, figg. 1,2. 7,7; Sanciu 2011, 184 s. 192; Pietra 2013, 137.
[39] Satta 1987, 76.
[40] Sotgiu 1995, 286, n. 16.
[41] Pavolini 1976–1977, 115. 117; Pavolini 1981, 176.
[42] Fiorelli 1876, 96.
[43] Salvi et al. 2015, 352 s., tav. VII,2.

Indice delle figure

Fig. 1–7: dell'autrice. – Fig. 8: © Soprintendenza ABAP di Cagliari – Ministero della Cultura (autore L. Corpino).

Bibliografia

Angiolillo et al. 2016
S. Angiolillo – M. Giuman – R. Carboni – E. Cruccas (eds.), Nora Antiqua. Atti del Convegno di Studi, Cagliari, 3–4 ottobre 2014 (Perugia 2016).

Atlante I 1981
AA.VV., Atlante delle forme ceramiche I (Roma 1981).

Bailey 1980
D.M. Bailey, A Catalogue of the Lamps in the British Museum 2. Roman Lamps Made in Italy (London 1980).

Bertoldi 2012
T. Bertoldi, Guida alle anfore romane di età imperiale. Forme, impasti e distribuzione (Roma 2012).

Bonetto et al. 2009
J. Bonetto – G. Falezza – A.R. Ghiotto (eds.), Nora. Il Foro romano. Storia di un'area urbana dall'età fenicia alla tarda antichità 1997–2006, vol. II, 2. I materiali romani e gli altri reperti (Padova 2009).

Bonifay 2004
M. Bonifay, Amphores de tradition punique du Golfe d'Hammamet, in : A. Ben Abed – M. Griesheimer (ed.), La nécropole romaine de Pupput (Rome 2004) 197–229.

Bonifay 2015
M. Bonifay, Etudes sur la céramique romaine tardive d'Afrique (Oxford 2015).

Boninu 1973
A. Boninu, Catalogo della ceramica "sigillata chiara africana" del Museo di Cagliari, StSard 1971–1972 [1973], 293–258.

Boninu 2012
A. Boninu, Il territorio del Sarcidano e della Barbagia di Seulo in età Romana, in: M. Sanges (ed.), L'eredità del Sarcidano e della Barbagia di Seulo. Patrimonio di conoscenza e di vita (Muros 2006) 26–32.

Canu 2016
N. Canu, Tra Sarcidano e Barbagia. Spunti sulla romanizzazione in una zona di transizione, in: S. De Vincenzo – C. Blasetti Fantauzzi (eds.), Il processo di romanizzazione della provincia Sardinia et Corsica, Atti del Convegno Internazionale di Studi, Cuglieri (OR), 26–28 marzo 2015 (Roma 2016) 275–291.

Carboni 2012
R. Carboni, "Demetra veneranda, apportatrice di messi, dai magnifici doni". Diffusione e problematiche dei culti agrario-fertilistici in Sardegna durante l'età tardo-punica e romana, in: R. Carboni – C. Pilo – E. Crucca, Res Sacrae. Note su alcuni aspetti cultuali della Sardegna Romana (Cagliari 2012) 9–24.

Cocco 2009
D. Cocco (ed.), La necropoli di Mitza de Siddi, Ortacesus (CA) (Ortacesus 2009).

Conspectus 1990

AA.VV., Conspectus Formarum Terrae Sigillatae italico modo confecta (Materialien zur Römisch-germanischen Keramik 10) (Bonn 1990).

CVArr2

A. Oxé – H. Comfort, Corpus Vasorum Arretinorum. A Catalogue of the Signatures, Shapes and Chronology of Italian Sigillata, Antiquitas 3, 4 (Bonn 1968).

Defrassu 2006

P. Defrassu, Ceramica da mensa (III a.C. – VII d.C.), in: R. Martorelli – D. Mureddu (eds.), Archeologia urbana a Cagliari. Scavi in Vico III Lanusei (1996–1997) (Cagliari 2006) 91–111.

Fiorelli 1876

G. Fiorelli, XIV. Nuragus, NSc, 1876, 95 f.

Giannattasio 2003

B.M. Giannattasio (ed.), Nora, area C. Scavi 1996–1999 (Genova 2003).

Joly 1974

E. Joly, Lucerne del Museo di Sabratha (Roma 1974).

Keay 1984

S.J. Keay, Late Roman Amphorae in the Western Mediterranean. A Typology and Economic Study: the Catalan Evidence, BARIntSer 196 (Oxford 1984).

Lilliu et al. 1993

C. Lilliu – L. Campus – F. Guido – O. Fonzo – J.D. Vigne, Genna Maria 2, 1. Il deposito votivo del mastio e del cortile (Cagliari 1993).

Mastino 1996

A. Mastino, Olbia in età antica, in: A. Mastino – P. Ruggeri (eds.), Da Olbìa a Olbia. 2500 anni di storia di una città mediterranea, Atti del convegno internazionale di studi, Olbia, 12–14 maggio 1994 (Sassari 1996) 49–87.

Mastino 2001

A. Mastino, Rustica plebs id est pagi in Provincia Sardinia: il santuario rurale dei "Pagani Uneritani" della Marmilla, in: S. Bianchetti (ed.), Poikilma. Studi in onore di Michele Cataudella in occasione del 60° compleanno (La Spezia 2001) 781–793.

Nervi 2016

C. Nervi, l paesaggio di Nora (Cagliari – Sud Sardegna). Studio dei materiali romani e tardoantichi, BARIntSer 283 (Oxford 2016).

Panella 1973

C. Panella, Le anfore, in Ostia III, Le Terme del Nuotatore. Scavo degli ambienti III, VI, VII, Studi Miscellanei 21 (Roma 1973) 463–633.

Pavolini 1976

C. Pavolini, Una produzione italica di lucerne: le Vogelkopflampen ad ansa trasversale, BullCom 85, 1976, 45–145.

Pavolini 1981

C. Pavolini, Le lucerne nell'Italia romana, in: A. Giardina – A. Schiavone (eds.), Società romana e produzione schiavistica II. Merci, mercati e scambi nel Mediterraneo (Roma 1981) 140–184.

Pietra 2013
G. Pietra, Olbia romana (Sassari 2013).
Saba 2012
A. Saba, Il nuraghe Su Mulinu, in: F. Campus – V. Leonelli (edd.), Simbolo di un simbolo. I modelli di nuraghe, Catalogo della mostra, Ittireddu 2012 (Roma 2012) 330–336.
Saba 2015
A. Saba, Catalogo del Civico Museo Archeologico Su Mulinu di Villanovafranca. La collezione in esposizione dal 2002 al 2014 (Ortacesus 2015).
Salvi 2005
D. Salvi (ed.), Luce sul tempo. La necropoli di Pill'e Matta, Quartucciu (Cagliari 2005).
Salvi et al. 2015
D. Salvi – S. Dore – I. Garbi – M. Sarigu – M. Mattana – R. Sanna, Cagliari, Teatro Massimo: indagini di scavo, Quaderni della Soprintendenza Archeologia della Sardegna 26, 2015, 345–383.
Sanciu 2002
A. Sanciu, Lucerne con bolli di fabbrica dal porto di Olbia, in: M. Khanoussi – P. Ruggeri – C. Vismara (eds.), L'Africa Romana 14. Atti del Convegno di studio, Sassari, 7–10 dicembre 2000, vol. 2 (Roma 2002) 1281–1299.
Sanciu 2011
A. Sanciu, Marchi di fabbrica su lucerne a becco tondo e cuoriforme del porto di Olbia, Erentzias 1, 2011, 183–218.
Sanges 2006
M. Sanges, Documenti archeologici del territorio di Nurallao, in: M. Sanges (ed.), L'eredità del Sarcidano e della Barbagia di Seulo. Patrimonio di conoscenza e di vita (Muros 2006) 86 s.
Sangiorgi 2006
S. Sangiorgi, Suppellettile da illuminazione, in: R. Martorelli – D. Mureddu (edd.), Archeologia urbana a Cagliari. Scavi in Vico III Lanusei (1996–1997) (Cagliari 2006) 137–149.
Satta 1987
M.Ch. Satta, Le tombe e l'area circostante, in: A. Boninu et al., Turris Libisons. La necropoli meridionale o di San Gavino, Quaderni della Soprintendenza archeologica prov. Sassari e Nuoro 16, 1987, 73–111.
Serreli 2002
G. Serreli, Il rinvenimento di un'iscrizione dedicatoria dei pagani Uneritani a Las Plassas, in: M. Khanoussi – P. Ruggeri – C. Vismara (eds.), L'Africa romana 14: lo spazio marittimo del Mediterraneo occidentale. Atti del 14 Convegno di studio, Sassari 7–10 dicembre 2000 (Roma 2002) 1787–1793.
Sotgiu 1968
G. Sotgiu, Iscrizioni latine della Sardegna. Supplemento al Corpus Inscriptionum Latinarum 10 e all'Ephemeris Epigraphica 8 (Padova 1968).
Sotgiu 1995
G. Sotgiu, Iscrizioni latine di S. Antioco (Sulci), in: V. Santoni (ed.), Carbonia e il Sulcis. Archeologia e territorio (Oristano 1995) 277–306.

Tamponi 1893

P. Tamponi, Terranova Fausania – Tombe di età romana scoperte nella necropoli dell'antica Olbia, NSc, 1893, 391–393.

Tronchetti 1988

C. Tronchetti, Bithia II. La ceramica a vernice nera a pasta grigia, QuadACagl 5, 1988, 141–152.

Tronchetti 1996

C. Tronchetti, La ceramica della Sardegna romana (Milano 1996).

Tronchetti 1998

C. Tronchetti, Problemi di cronologia ceramica nella Sardegna romana, in: M.S. Balmuth – R.H. Tykot (eds.), Sardinian and Aegean Chronology. Towards the Resolution of Relative and Absolute Dating in the Mediterranean. Proceedings of the International Colloquium, Tufts Universit, Medford, Massachusetts, March 17–19, 1995 (Oxford 1998) 371–381.

Tronchetti 1999

C. Tronchetti, I corredi romani della necropoli di Santa Lucia – Gesico, QuadACagl 16, 1999, 107–127.

Tronchetti 2006

C. Tronchetti, La sigillata italica con bollo della Sardegna, in: A. Mastino – P.G. Spanu – R. Zucca (eds.), Tharros Felix 2 (Roma 2006) 243–267.

Tronchetti 2014

C. Tronchetti, Prima nota sulla sigillata sarda, QuadACagl 25, 2014, 285–295.

Tronchetti 2015

C. Tronchetti, Continuità e trasformazione nella Sardegna romana tra repubblica e primo impero, in: P. Ruggeri (ed.), L'Africa romana 20. Momenti di continuità e rottura: bilancio di trent'anni di convegno L'Africa romana. Atti del 20 Convegno Internazionale di studi, 26–29 settembre 2013 (Roma 2015) 1807–1813.

Tronchetti 2017

C. Tronchetti, La ceramica: importazioni e produzioni locali, in: S. Angiolillo – R. Martorelli – M. Giuman – A.M. Corda – D. Artizzu (eds.), Corpora delle antichità della Sardegna. La Sardegna romana e altomedievale. Storia e materiali (Firenze 2017) 73–86.

Ugas – Paderi 1990

G. Ugas – M.C. Paderi, Persistenze rituali e cultuali in età punica e romana nel sacello nuragico del vano e della fortezza di Su Mulinu – Villanovafranca (Cagliari), in: A. Mastino (ed.), L'Africa romana 7, Atti del Convegno di Studi, Sassari, 15–17 dicembre 1989 (Sassari 1990) 475–486.

The Last Centuries of Nora: a Roman City of Sardinia between the End of the Empire and the Early Middle Ages

Emiliano Cruccas

The Punic-Roman city of Nora is located on the southern coast of Sardinia, not far from Cagliari, the main modern urban centre on the island. The remains of the old centre of Nora are located on a small promontory, which can be accessed through a narrow isthmus (fig. 1). Nora is mentioned in the sources as the oldest town founded by the Phoenicians or Levantines in Sardinia.[1] Important information is provided by a well-known passage from Pausanias,[2] which mentions the foundation of Nora and the eponymous hero, *Norax*, a version confirmed by Solinus,[3] who tells us that the οἰκιστής came from Tartessos. Traces of the oldest settlement can be identified in some post holes of huts and imported ceramics, which date back to the end of the 7th century and the beginning of the 6th century BC, located near the forum of the Roman city,[4] in addition to the Phoenician cremation necropolis,[5] located just near the isthmus. The stone stele displayed at the National Archaeological Museum in Cagliari, a text interpreted as relating to the foundation of a temple or a military conquest of the area, also refers to the stage of the first settlement.[6]

During the rule of Carthage, Nora turned, from a simple coastal settlement and an emporium, into a real urban centre,[7] probably the main one on Sardinia. The evolution of this town is reaffirmed by its importance immediately after the conquest of the island by Rome and the subsequent foundation of the *provincia Sardinia et Corsica* (227 BC). Its *status* is confirmed by an epigraph by Quintus Minucius Pius, *quattuorvir iure dicundo*, an office typical of the *municipia*.[8] The urban centre of Nora, *caput viae* of the southern road network and perhaps the governor's seat, until it was transferred to Carales (Cagliari), was characterised, between the last centuries of the Republic and the first years of the Imperial age, by a remarkable urban expansion. In the mid-Imperial period, the town underwent some major urban changes, which involved the road network and the installation of some monuments and infrastructures.[9]

At the end of the fourth century, while some hubs such as the forum and the theater seemed to lose their original function,[10] some areas in the town underwent major works, as in the case of some baths, the road network and the aqueduct,[11] which was restored in the mid-5th century AD, as confirmed by an epigraphic document.[12] The following centuries were characterised by a progressive decline of the town, which lost its importance and was finally abandoned around the 8th century AD. Already in the 7th century, in fact, Nora is mentioned by the anonymous author of the Ravenna Cosmography as a simple *praesidium*.[13]

Starting from 2013, in the area located to the north/northwest with respect to the hill known as the Colle di Tanit, new stratigraphic surveys were carried out that allowed the acquisition of new data on the life phases of the urban centre.[14] This is an area (fig. 2)

Published in: Salvatore De Vincenzo (Ed.), Trade in Ancient Sardinia, Panel 5.4, Archaeology and Economy in the Ancient World 29 (Heidelberg, Propylaeum 2022) 71–90.
DOI: *https://doi.org/10.11588/propylaeum.759.c10715*

Fig. 1: The promontory of Nora.

previously occupied by a base of the Italian Navy, characterised by a slight slope that has the highest elevation point in the southeastern area. This is where a major building complex, the northern portion of a residential area already identified to the south in the 50s of the twentieth century by G. Pesce, who named it Kasbah, was spotted.[15] The section recently investigated is characterised by the presence of a complex consisting of small rooms, which seems to date back to the late Republican period until the last centuries of the Imperial period (fig. 3).[16] On the west side, this district features a portion of a south-north road made of andesite.[17] Characterised by an irregular pattern that seems to follow the urban layout and pre-existing facilities, Nora road network was built in different phases, which date back to different periods, ranging between the mid- and the late Imperial period.[18]

The road portion identified with the recent investigations continues northwards, towards a new section, which is particularly interesting: it is an open space (fig. 4), characterised by the presence of majestic buildings and infrastructures, and was probably a public open space.[19] This area features a large circular basin and the remains of a semi-circular construction consisting of a concrete core and a wall made of brick *bessales*, connected to a large circular basin through a duct system located under the stone paving. The analysis of the stratigraphic contexts related to this sector is particularly interesting, since it allows, through the study of some classes of ceramic artefacts, to understand the later life stages of the site. In particular, we will focus here on the productions called "common pottery", which are usually not taken into account for defining archaeological contexts from a chronological and functional point of view.[20] The absence of a shared methodology of study and a universal taxonomic classification of these containers, in particular for those specifically designed for cooking, has always been an obstacle

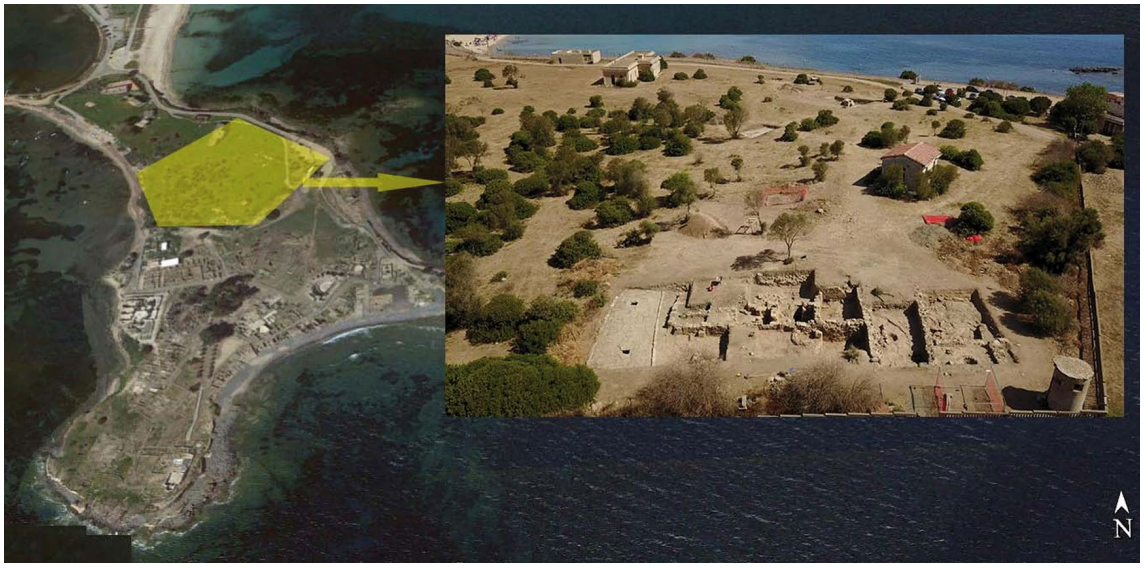


Fig. 2: The former military area of Nora.

to the overall interpretation of stratigraphic contexts. In fact, it is known that in the study of historical sites, the presence of commonly used ceramic materials is generally considered as an obstacle to the functional but above all chronological definition of the different phases of frequentation. This is due to the essentially conservative nature of

Fig. 3: The former military area of Nora, view from south with Roman neighborhood and road.

Fig. 4: Omega Area.

the ceramic shapes and types of some of these productions;[21] we should also add, also in the case of imported productions, a persistence of the macroscopic characteristics of the ceramic bodies, for obvious practical reasons, for which morphological and structural features (thickness, thermal shock resistance, impermeability, etc.) are more important than other secondary aspects, such as aesthetic and decorative aspects. In recent years, with the progress of specific studies on these productions, with both minero-petrographic analyses and an approach based on the reference stratigraphic context, more information has been acquired both on the reference time frame of these artefacts and on their production and dissemination areas. In the case of an urban context such as that of Nora, the issues related to ceramic tools used for cooking food are substantially the same as many other coastal sites in the western Mediterranean Sea basin, with the presence and coexistence of artefacts imported from the Italic area, in particular in the late Republican period and during the early Imperial phases, and from North Africa, with a prevalence of these artefacts from the end of the Republican period to the last years of the empire. Starting from the 4th–5th century AD, there was a gradual reduction in imports of these African cooking pottery and an increase in the so-called raw ceramic cookware, produced locally or imported. This phenomenon seems to intensify in the following centuries, with a significant decrease in the number of products imported from the North African basin.[22] The progress of these studies has allowed, in the last years, to

Fig. 5: The so-called Colle di Tanit of Nora.

acquire important information on these ceramic artefacts that, found in different sectors of the urban area, can be interpreted as a proof of different phases of frequentation.

Among the first productions of cooking pots found in contexts located further upstream of the so-called Colle di Tanit (fig. 5), we find pottery from the Campania area, such as the so-called *pompejanisch*-roten Platten and specimens of large pans with "orlo bifido" rim and internal groove in correspondence with the join with the flat bottom, which is characterised by a slightly visible external step. A fragmentary but fully recomposed exemplar (fig. 6), coming from the Alfa area, has the *burnished slip* on the outer wall, as evidenced by some specimens coming from the Vesuvian area.[23] The macroscopic details of the pottery in question, which have indeed a sandy fabric with a bright red central core, with inclusions ranging from quartz to feldspars, also visible on the surface, as well as black volcanic inclusions, seem to refer to this area. The "orlo bifido" rim pan, probably produced by the same workshops as the *pompejanisch*-roten Platten and whose many similar copies are found in the Tyrrhenian area, seems to date back to the late Republican period and the first Imperial period.[24]

The number of imported artefacts designed for cooking, however, increased considerably in the mid- and late Imperial period, as evidenced by the widespread diffusion, throughout the Mediterranean area, of containers coming from the North African basin,[25] whose many exemplars were also found in the excavation areas of the former military complex, and mentioned in several other publications concerning the site of Nora. These productions, which used to accompany the amphorae coming from Africa, are cooking wares made from the 1st century AD and used up to the 3rd century AD, along with other exemplars

Fig. 6: "Orlo bifido" pan from Vesuvian Area found in Alfa Area.

found in contexts dating to the end of the 4th century. The well-known Hayes 23 casserole, found in Nora, where mainly variant B (=Lamboglia 10A)[26] exemplars coming from the north of Tunisia were discovered, seem to date back to this period. The outer surface is characterised by a band of *patina cenerognola* or with burnished slip on one face only, while the inner surface is covered with a semi-gloss paint. In this area, the so-called black top ware dish-lids with orange clay, were also found, both with an unarticulated rim and with hooked rim, such as the Hayes 182 type.[27]

As already mentioned, starting from the 5th century AD, in many urban centres in the Mediterranean basin, there was a progressive abandonment of African cookware in favour of raw ceramics, whose artefacts, considered for a long time as exclusive local productions, have been better identified by recent studies.[28] This happened also in Nora, but not everywhere: based on the survey areas, different phases of frequentation were identified, as evidenced by the presence (or absence) of different productions of cookware. In the areas of the former military complex under investigation, the chronological gap between sectors located at higher altitudes (Colle di Tanit slopes) and those downstream evidences an important difference between the frequentation phases of the urban area. In particular, it was possible to point out that, at higher altitudes of the Colle di Tanit, the phases of abandonment of the analysed contexts have a *terminus post quem non* that does not date back to the end of the 4th century and the beginning

of the 5th century AD. This aspect is confirmed by the presence of materials later found in the fill soil and dating back to this period, consisting of cooking pottery, and, in a small number, of African Terra Sigillata and some amphorae, such as Keay 59 from the south of Byzacena and dating back to the end of the 4th and the beginning of the 5th century AD.[29]

The situation shows a significant chronological difference in the downstream sector, from where cooking pots used up to the final stages of life of Nora (7th to 8th century AD) come. Among the productions identified, near the E–F road, indeed, some artefacts imported from Africa that were pretty common between the 5th and the 7th/8th century AD, were identified. This production includes, for example, the classic Hayes 99 bowl,[30] a typical product of Oudna workshops, which can be found in the C variant also in Mediterranean contexts dating back to the 7th century AD.[31] Another type identified and dating back to the same period is Hayes 88 (= Lamboglia 55b), typical of Sidi Khalifa workshops, characterised by the enlarged and elongated rim and probably dating back to the mid-6th century AD.[32] A context of this sector provides other important data in this regard: it is a cistern, probably reused as a hypogeum for storage in Late Antiquity, made of ceramic materials that seem to date back to the 5th and 6th centuries.[33]

During this period, when imported pottery from North Africa still continued to arrive in Nora and other coastal sites, raw ceramic cookware, referring to both *Pantellerian Ware*[34] and local productions imitating the shapes and structural characteristics of the imported types became quite popular. Among local, or at least regional productions, we should mention the so-called *ceramica stampigliata* (fig. 7), a production that mainly includes large containers and lids.[35] The main feature of these artefacts is the presence, on the surface, of stamped decorations with animals, rosettes, lozenges and toothed circles, in some cases combined with fishbone engravings. In addition to the presence of clear macroscopic details related to their use for cooking, these findings show the classic circles decorations already identified in Cagliari, in particular for what concerns the famous case of the Church of Sant'Eulalia. The time frame, to which these artefacts seem to belong, ranges from the 6th and the 7th–8th century AD.

Ceramic productions referring to the same period can be found in the other sector near the road, the one related to a monumental square with an exedra structure and a large circular basin (Omega area).[36] Here, in fact, specimens of amphorae from North Africa[37] were discovered, together with a large number of fragments of specimens of common ceramics, both locally produced and imported from Africa (Sigillata D)[38] and from Pantelleria. The latter are low pans, considered as typical forms of this production,[39] characterised by a raw mixture rich in volcanic minerals that makes them highly resistant to high temperatures.

The analysis of a commercial site like Nora in the phases of life referring to these centuries (5th–8th century AD) should not be separated from a correct and reasoned general analysis, which takes into account both the urbanistic phases, interpreted through a careful examination of the elements of the material culture, and the involvement of

Fig. 7: Ceramica Stampigliata from the former Military Area of Nora.

the latter in the definition of trades and productions. As recently pointed out by D. Vera in a paper on the economy of the Mediterranean in late antiquity, scholars now agree that "[…] *senza i beni di origine tributaria messi in circolazione per le esigenze statali, il commercio mediterraneo non sarebbe stato quel movimento forte, diffuso e capillare di uomini e merci che le ceramiche rivelano*".[40] These findings should be connected, therefore, to two methodological phases: a first phase, essentially linked to the interpretation of stratigraphic contexts, which allows to give an outline of the site's chronological phases; and a second phase, which is no less important and is linked to a broader vision, which allows to place the excavation context in the more general Mediterranean dimension connected to trade and commerce. In this regard, the presence of materials related to phases that belong to the 5th–7th century AD only in certain areas of the urban centre, can be interpreted as a consequence not of a moment of crisis, but rather of a remodelling of the spaces of the town and a redevelopment of the same. It is clear, in fact, that the presence or absence of imported ceramics should not be seen as the symptom of a commercial and structural decay due, for what concerns, in particular, the 5th century, to a systematic destruction caused by populations coming from outside. In fact, it is known that the events linked to the Vandal raids are usually associated with a hypothetical period of general crisis for what concerns the Mediterranean coastal sites.[41] As for Nora, its situation can help read data relating to this and subsequent periods differently. From the end of the 4th century and during the 5th century, several facilities revolving around the main areas of public life in the town in the Imperial period, such as the forum and the theater (fig. 8), lost their original function and were prematurely abandoned.[42] But it is also a period, in which important infrastructures were renovated, as in the case of the Terme a Mare (fig. 9), which loses its original function, to be transformed, probably, into a fortification that will cease to exist around the mid-8th century.[43] Or as in the case of the aqueduct, restored in the first half of the 5th century AD, as evidenced by an epigraphic document dated between 425 and 450 AD.[44] This is the period in which the Vandals conquered North Africa and the one immediately preceding the conquest of Sardinia, between 459 and 466 AD.[45] But what happens in Nora in these decades between the second quarter and the end of the 5th century AD?

According to the stratigraphic contexts analysed, the eastern side of the Colle di Tanit was abandoned around the first half of the 5th century AD, when the town was undergoing major changes, as evidenced by the abandonment of several public facilities; on the other hand, the sectors connected to the road network and the port continued to be frequented.[46] The epicentre of this sector, which is directly connected, from a topographic point of view, with the near port, seems to be the basilica (fig. 4), whose construction seems to date back to the 5th century AD.[47] It is a building located near the main road (G–H) connected to the port, characterised by a large rectangular layout (32 × 22 m.), with a portico and three naves and closed at the bottom by an apse.[48] Unlike the theater and the forum sectors, located southeast of the Colle di Tanit, the sector overlooking the Cala di Libeccio and more generally the whole western side of the hill

Fig. 8: Roman forum of Nora (copyright UniPD).

seem to be characterised by more lively life stages.[49] As for the residential areas, this is confirmed by the stratigraphic contexts analysed in this article, and by the building events involving the so-called Kasbah.[50] On the western slope of the Colle di Tanit, it was pointed out that the road made of large andesite blocks (E–F) features a layer of soil that closed the roadway dating back to the Imperial age, no longer used and, on which facilities were also built between the 5th and the 6th century AD.[51] These chronological data are also confirmed by recent surveys carried out in the northernmost section of the same road, in the former military area, where the later levels were associated with the last life stages of Nora.[52]

Closely connected to the port sector was also the western district of the so-called *case-bottega,*[53] active since the 5th century BC, but with different phases of life. In the northernmost sector of this building complex, there is a building facing the road (G–H), characterised by layers that confirm that this area was frequented between the 4th and 7th century AD.[54]

The analysis of these contexts seems to highlight a substantial continuity in the life of Nora from the end of the 4th century to the last stages of life of the town. In fact, what has often been defined as a period of crisis, seems to emerge as a contraction of urban spaces towards the new centre of the town, the port in the Cala di Libeccio (fig. 10). The decrease in the number of imported ceramics in the urban area since the mid-fifth century, repeatedly highlighted in the studies,[55] should also be analysed based on the data from the hinterland of Nora: if, for what concerns the centuries that go from the

Fig. 9: Terme a Mare of Nora (copyright UniPD).

Punic domination to the 3rd century AD, in the area around the city a greater quantity of local ceramics was found than imported ceramics, from the 4th century to the Byzantine period there seems to be a turnaround.[56] The surveys carried out in recent years show, in fact, an important presence of ceramic artefacts coming from North Africa,[57] which evidently reached Nora by sea through the port, and then were sorted in the hinterland, in a "*rapporto fecondo tra campagna e città, cioè della forza propulsiva di quest'ultima verso le aree rurali di pertinenza*".[58] There was a change in the production and economic dynamics, a situation also confirmed by the change in the use of residential buildings in the urban area, which, in this period, were into facilities for productive activities.[59] But above all, the changed relationship between the town and the countryside can be seen as a sign of a real increase in population in the countryside, with a partial abandonment of the urban centre, which was no longer the driving force of the economy and production activities.

Moreover, this type of analysis must be included in a broader discussion, which takes into account the specific historical period and the related political events. However, this hypothetical decrease in the number of imports does not seem to be involve only Nora, but can be associated with a general decline in trades in the Mediterranean, as evidenced in several coastal urban sites. In an attempt to understand the commercial dynamics and life phases of Nora from the mid-5th century on, it is indeed appropriate

Fig. 10: Area of "Cala di Libeccio" of Nora from east.

to interpret these data based on what is happening in the rest of the Mediterranean. It is known that the period of the ascent of the Vandals was characterised by major political (and consequently, economic) changes in the Mediterranean. But what was happened in Nora in many stratigraphic contexts seems to correspond to a general downturn due to a sharp decline in population and the decay of political structures. As pointed out, once again, by D. Vera: "*La rottura della unità commerciale del Mediterraneo antico* […] *non è spiegabile solo in termini economici e rimane legata ai processi globali connessi con la fine dell'organismo politico su cui si reggeva l'architettura della produzione e degli scambi. Ma in termini strettamente economici (e anche sociali e demografici, se per questo) si spiega assai meglio con un modello basato sulla caduta della domanda anziché sulla caduta dell'offerta. Come era possibile che l'Oriente continuasse ancora a esportare in un Occidente sempre più impoverito – anche delle tradizionali élites consumatrici – e spopolato? E come era possibile che il commercio potesse sussistere ai livelli antichi in un impero orientale semidistrutto, colpito nel VII secolo da un fortissimo regresso demografico e dalla deurbanizzazione, deprivato di tre quarti delle entrate pubbliche e di tutte le province più ricche?*".[60]

It was, then, a global phenomenon that should not be univocally interpreted, and the analysed context should be included in a broader discussion on the Mediterranean between the 5th and the 7th century AD. There is no doubt that the town of Nora gradually lost its importance, from the 4th century onwards, also considering the fact that did not have a diocese.[61] However, the analysis of the urban phases of Nora, related to the

contemporary situations in the surrounding hinterland, reflect a situation that should not be interpreted simply as a crisis. It is, indeed, a physiological contraction of the spaces of a town that in the Imperial period had a polycentric nature (forum, port, sanctuaries, baths, etc.) and that now seems to incorporate civil, commercial and sacred aspects into a single district that the ships that entered the Cala di Libeccio could see extending to the east, from the western slopes of the so-called Colle di Tanit to the coast line.[62]

Notes

[1] Tronchetti 2018, 12.

[2] Paus. 9, 17, 5.

[3] Solin. 4, 2.

[4] Bonetto 2009 and Bonetto 2018.

[5] Bonetto et al. 2017a.

[6] Tronchetti 2018, 12 f. With regard to the text of the stele and its interpretation see: Pilkington 2012.

[7] About the concept of city, urban centre and urban space in the Punic period see: Morigi 2007.

[8] Tronchetti 2018, 14.

[9] In particular, between the end of the 2nd and the beginning of the 3rd century AD, the town was equipped with an aqueduct (Paoletti 1997, 159–164; Ghiotto 2004, 146–148).

[10] Bonetto – Ghiotto 2013, 271 f.

[11] About these stages of the town see: Bonetto – Ghiotto 2013.

[12] CIL, X, 2, 7542 = ILS, 5790 = CLE, 290.

[13] Ravenn. 5, 26. As pointed out in Spanu 1998, 38, Nora became a simple praesidium not with the arrival of the Vandals, but in the Byzantine period, as part of a larger project that aimed at fortifying the coastal towns on the island. The scholar also points out that the Codex Justinianus, enacted in 534 AD, explicitly uses the term praesidium with reference to military outposts to be established in Sardinia.

[14] ISTHMOS Project, Università degli Studi di Cagliari. Scientific Director: prof. Marco Giuman.

[15] Giannattasio 2018, 81.

[16] Carboni – Giuman 2018.

[17] Carboni et al. 2014, 8.

[18] A summary of these aspects in Bonetto 2003 and Bejor 2018.

[19] Carboni – Cruccas 2018.

[20] The bibliography on the subject is, of course, very broad. Among the most important works for the definition of these methodological aspects related to common ceramics we should mention those by G. Olcese (1993 and 2003 in particular). On this aspect, see also: Bats 1996, 481–484; Panella 1996; Pavolini 2000, 13–17. For a recent summary of the issues concerning common pottery: Esposito – Zurbach 2015.

[21] About the permanence of certain forms and types of ceramics for cooking food in certain contexts see, for example, recent and interesting considerations in Luley 2014.

[22] The hypotheses on this phenomenon are associated, in the studies on the subject, with a change in the commercial dynamics occurred in Sardinia since the 5th century, which reflected a new balance between trades and the related economic and social relations in the western Mediterranean. On the subject, see the recent summary Muresu 2017.

[23] Olcese 2003, 42 (Tipo 3), 86 f. pl. XV.1; Scatozza Höricht 1996, 141.

[24] In particular, the exemplars from Herculaneum show a substantial morphological affinity with those from Nora because of the diameters that can reach 40cm (Menchelli et al. 2012, 99).

[25] Tortorella 1981; Bonifay 2004; Gandolfi 2005, 224 f.

[26] Albanese 2013, 66–71.

[27] Bonifay 2004, 217 fig. 15.

[28] Also in this regard, there is a wide bibliography. For a description of the issues and for possible research ideas on local/regional concepts applied to the analysis of the artifacts, refer to the interesting analysis in Poblome et al. 2014 (with previous bibliography).

[29] Bonifay 2004, 31.

[30] Hayes 1972, 155.

[31] Bonifay 2004, 181.

[32] Bonifay 2004, 174–177.

[33] The context and the materials were studied by M. Napolitano and discussed in a paper entitled "Contributo alla conoscenza di Nora in età tardo-antica: il contesto ceramico dell'ambiente ipogeo o «vano G»" at the 31st RCRF international congress in Cluj-Napoca, Romania (23–30 September 2018).

[34] For a classification of this production: Fulford – Peacock 1984; Santoro 2002; Abelli 2009.

[35] Cara, Sangiorgi 2006 and Mele 2014.

[36] Data concerning this area derive in part from the work carried out by M. Atzeni for his degree thesis discussed in 2017/2018: (Nora, zona ex militare: i materiali ceramici provenienti dall'area Omega (US 10033)). Data on the materials found during the excavation are the result of the work of the staff of the finds laboratory, coordinated by Miriam Napolitano of the University of Cagliari.

[37] Mainly mixtures and typologies refer to the productions of Africa Proconsularis, in particular in the area of Sullechtum-Salakta, between the 5th and the 7th century AD. About these transport containers see Peacock et al. 1989; Capelli et al. 2006; Capelli – Bonifay 2016, 547. Proof of these productions is also provided by underwater findings found near the Nora peninsula (Sanna 2016, 6; Bonetto et al. 2017b, 206 n.20).

[38] Hayes 91, Hayes 61 A/B, Hayes 67, Hayes 181 and Hayes 82b.

[39] 3.1, 3.2, 4.4a, 4.4b Scauri (Baldassarri 2009).

[40] Vera 2010, 2.

[41] On the subject, see the recent analysis in Muresu 2017.

[42] Bonetto, Ghiotto 2013, 271–274.

[43] Tronchetti 1985, 78 f.

[44] CIL, X, 2, 7542 = ILS, 5790 = CLE, 290: "Salvis d(omi)n(is) n(ostris) / [T]heodosio et Placido Valentiniano, s[emper Aug(ustis). / Sub]ductos olim latices patrieque nega[tos / res]tituit populis puro Flaviolus am[ne], / cu[ra]nte / [V]alerio Euhodio principale ac / primore eiusdem urbis".

[45] Spanu 2005, 499-500. About the Vandals in Sardinia see the summaries in Martorelli 2007 (in particular for what concerns religious aspects) Ibba 2010 and Muresu 2017.

[46] Giannattasio 2016. The vitality of Nora in the 5th century has already been highlighted in Martorelli 2007, 1423.
[47] Bonetto, Ghiotto 2013, 273 (with previous bibliographic references),
[48] Bejor 2000; 2008.
[49] Also near the so-called Santuario di Esculapio there are some phases of restoration and frequentation that date back to the 4th and 7th century AD, as also evidenced by the reuse of architectural elements inside later walls (Giannattasio 1994; Bejor 2004, 10 f.).
[50] About these two sectors, see, once again, the summary in Bonetto, Ghiotto 2013, 275 with notes and previous bibliography. In the so-called Ambiente X of the western district, some ceramic materials that can be placed between the 5th century and the 6th century AD were found, but the remains related to the collapse and abandonment of the facility seem to refer to the late 5th century AD, based on a fragment of African Sigillata D Hayes 67 (Tilloca 2000, 242). This sector was later (second half of the 6th century AD) involved in the excavation of some holes filled with ceramic material.
[51] Oggiano 1994, 103.
[52] Carboni et al. 2014, 8.
[53] Colavitti 2018. About this sector and the presence of ceramics imported from Africa and referring to the 5th and 7th century AD see the summary in Bejor 2004.
[54] Colavitti – Tronchetti 2000.
[55] Bonetto –Ghiotto 2013, 276.
[56] Garau – Rendeli 2006, 1254 f.
[57] This shows a closer relationship between the town and the countryside, with a well-distributed and intensive exploitation, according to a system of villae aimed at the intensive exploitation of the countryside (Garau – Rendeli 2006, 1254 f.). About the Vandal period and settlements in the area see Nervi 2016, in particular pages 406–409.
[58] Garau – Rendeli 2006, 1258.
[59] Garau – Rendeli 2006, 1258 f.
[60] Vera 2010, 14.
[61] The representatives of the five episcopal seats of Sardinia, which did not include Nora (Martorelli 2007, 1421), participated in the Council organised by Huneric in 484 in Carthage. See also: Bejor 2008, 107; Martorelli 2017, 269.
[62] For what concerns these centuries, a change in the relationships due to the centrality of Carales, on which perhaps Nora depended in the 5th–8th centuries and on which, in a hierarchical relationship, several productive rural sites depended on, should not be excluded (Garau – Rendeli 2006,1270–1274).

Image Credits

Fig. 1: Google Earth. – Fig. 2: edited by the author from Google Earth. – Fig. 3–7: Isthmos Project Archive. – Fig. 8. 9: Bonetto et al. (ed.), Nora. Pula. Sardegna Archeologica 1 (Sassari 2018). – Fig. 10: by the author.

References

Abelli 2009

L. Abelli, Archeologia delle rotte nel canale di Sicilia: il caso Scauri, in: R. La Rocca – S. Tusa – S. Zangara (eds.), Il relitto tardo-antico di Scauri a Pantelleria (Palermo 2009) 345–351.

Albanese 2013

L. Albanese, Nora. Area C. Vano A32. Un immondezzaio urbano in un contesto abitativo romano (Genua 2013).

Albanese 2018

L. Albanese 2018, Il quartiere occidentale di abitazioni e case-bottega, in: Bonetto et al. (ed.), Nora. Pula. Sardegna Archeologica 1 (Sassari 2018) 96–101.

Baldassarri 2009

R. Baldassarri, Il materiale del carico del relitto: analisi tipologica e quantitativa della ceramica locale da fuoco, in: R. La Rocca – S. Tusa – S. Zangara (eds.), Il relitto tardo-antico di Scauri a Pantelleria (Palermo 2009) 91–106.

Bats 1996

M. Bats (ed.), Les céramiques communes de Campanie et de Narbonnaise (I^{er} s. av. J.-C. – I^{ie} s. ap. J.-C.). La vaiselle de cuisine et de table (Napoli 1996).

Bejor 1993

G. Bejor, Romanizzazione ed evoluzione dello spazio urbano in una città punica: il caso di Nora, in: A. Mastino – P. Ruggeri (eds.) L'Africa romana: atti del X Convegno di studio, Oristano, 11–13 dicembre 1992 (Roma 1993) 843–856.

Bejor 2000

G. Bejor, La basilica presso le Grandi Terme, in: C. Tronchetti (ed.), Ricerche su Nora I (1990–1998) (Cagliari 2000) 173–176.

Bejor 2004

G. Bejor, Riscavo di uno scavo: la riscoperta di Nora tardoantica, in: V. de Angelis (ed.), Sviluppi recenti nell'antichistica. Nuovi contributi, Quaderni di Acme 68 (Milano 2004) 1–21.

Bejor 2008

G. Bejor, Una città di Sardegna tra antichità e Medio Evo: Nora, in: L. Casula – A.M. Corda – A. Piras (eds.), Orientis radiata fulgore. La Sardegna nel contesto storico e culturale bizantino, Atti del Convegno, Cagliari, 30 novembre – 1 dicembre 2007 (Cagliari 2008) 95–113.

Bejor 2018

G. Bejor, La rete stradale, in: Bonetto et al. (ed.), Nora. Pula. Sardegna Archeologica 1 (Sassari 2018) 101–102.

Bonetto 2003

J. Bonetto, I sistemi infrastrutturali di Nora romana: la viabilità e il drenaggio delle acque, in: C. Tronchetti (ed.), Ricerche su Nora II (anni 1990–1998) (Elmas 2003) 21– 38.

Bonetto 2009

J. Bonetto, L'insediamento di età fenicia, punica e romana repubblicana nell'area del foro, in: J. Bonetto – G. Falezza – A.R. Ghiotto – M. Novello (eds.), Nora. Il foro romano: storia di un'area urbana dall'età fenicia alla tarda antichità: 1997–2006. I. Lo scavo (Padua 2009) 39–243.

Bonetto 2018

J. Bonetto, Il quartiere preromano sotto al Foro, in: Bonetto et al. (ed.), Nora. Pula. Sardegna Archeologica 1 (Sassari 2018) 39–44.

Bonetto – Ghiotto 2013

J. Bonetto – A.R. Ghiotto, Nora nei secoli dell'alto Medioevo, in: R. Martorelli (ed.), Settecento-Millecento. Storia, Archeologia e Arte nei "secoli bui" del Mediterraneo. Atti del Convegno di Studi. Cagliari 17–19 ottobre 2012 (Cagliari 2013) 271–299.

Bonetto et al. 2017a

J. Bonetto – C. Andreatta – S. Berto – L. Bison – E. Bridi – M. Covolan – S. Dilaria – A. Mazzariol – M. Ranzato, La necropoli fenicio-punica e le infrastrutture romane nell'area della ex Base della Marina Militare, Quaderni Norensi 6, 2017, 169–188.

Bonetto et al. 2017b

J. Bonetto – I. Sanna – F. Carraro – M.C. Metelli – I. Minella – R. Arcaini – L. Soro – C. Del Vais – S. Fanni – M. Sirigu – C. Congia – C. Lecca, Nora e il mare. Le indagini nelle aree sommerse e subacquee 2014–2015, Quaderni Norensi 6, 2017, 201–211.

Bonifay 2004

M. Bonifay, Études sur la céramique romaine tardive (Oxford 2004).

Capelli – Bonifay 2016

C. Capelli – M. Bonifay, Archeologia e archeometria delle anfore dell'Africa romana. Nuovi dati e problemi aperti, in: A.F.F. Fernandes – G. Pardini (eds.), Le regole del gioco. Tracce, archeologi, racconti. Studi in onore di Clementina Panella (Rome 2016) 535–557.

Capelli et al. 2006

C. Capelli – N.B. Lazreg – M. Bonifay, Nuove prospettive nelle ricerche archeometriche sulle ceramiche nordafricane: l'esempio dell'atelier di Sullechtum-Salakta, Tunisia centrale (I-VI secolo d.C.), in: N. Cucuzza – M. Medri (eds.), Archeologie. Studi in onore di Tiziano Mannoni (Bari 2006) 291–294.

Cara – Sangiorgi 2006

S. Cara – S. Sangiorgi, La ceramica da fuoco proveniente da Sant'Eulalia a Cagliari. Analisi dei coperchi con decorazione, QuadCagl 22, 2006, 19–45.

Carboni – Cruccas 2018

R. Carboni – E. Cruccas, Ex Base della Marina Militare: spazio pubblico e spazio privato a Nora, Quaderni Norensi 7, 2018, 197–208.

Carboni et al. 2014

R. Carboni – E. Cruccas – L. Lanteri, Indagini archeologiche dell'Università degli Studi di Cagliari a Nora (CA) Progetto Isthmos – Ricognizione e campagna di scavo 2013, FOLD&R Italy: 307.

Carboni – Giuman 2018

R. Carboni – M. Giuman, Fasi di frequentazione e utilizzo degli spazi urbani a Nora: il quartiere meridionale nell'ex area militare tra l'età tardo-repubblicana e quella imperiale, FOLD&R Italy: 418.

Colavitti – Tronchetti 2000

A.M. Colavitti – C. Tronchetti, Area M. Lo scavo di un ambiente bizantino: il vano M/A, in: C. Tronchetti (ed.), Ricerche su Nora I (1990-1998) (Cagliari 2000) 33–66.

Esposito – Zurbach 2015
A. Esposito – J. Zurbach (eds.), Les céramiques communes. Techniques et cultures en contact, Travaux de la Maison Archéologie & Ethnologie, René-Ginouvès 21 (Paris 2015).

Fabiani 2000
F. Fabiani, Nora X. Area A-B: lo scavo dell'ambiente X. QuadCagl 17, 2000, 237–252.

Frontori 2014
I. Frontori, Nora (Pula, Cagliari). Indagini archeologiche nel quartiere delle Terme Centrali, Area E (Campagna di scavo 2013), FOLD&R Italy: 303.

Fulford – Peacock 1984
M.G. Fulford – P.S. Peacock, Excavations at Carthage: the British Mission 1,2. The Avenue du President Habib Bourguiba, Salambo. The Pottery and the other Ceramic Objects from the Site (Sheffield 1984).

Gandolfi 2005
D. Gandolfi (ed.), La ceramica e i materiali di età romana. Classi, produzioni, commerci e consumi (Bordighera 2005).

Garau – Rendeli 2006
E. Garau – M. Rendeli, Tra Africa e Sardinia: mobilità di merci e di genti (?) a Nora nella tarda antichità, in: A. Akerraz – P. Ruggeri – A. Siraj – C. Vismara (eds.), L'Africa Romana: Atti del 16 convegno di studi, Mobilità delle persone e dei popoli, dinamiche migratorie, emigrazioni ed immigrazioni nelle province occidentali dell'Impero romano, Rabat, 15–19 dicembre 2004 (Rome 2006) 1247–1278.

Ghiotto 2004
A.R. Ghiotto, L'architettura romana nelle città della Sardegna (Rome 2004).

Giannattasio 1994
B.M. Giannattasio, Nora III. Tre capitelli ionici a quattro facce, reimpiegati, QuadCagl 10, 1994, 141–149.

Giannattasio 2016
B.M. Giannattasio, Il quartiere nord-occidentale di Nora tra età severiana e tardo-antico: recenti scavi, in: S. Angiolillo – M. Giuman – R. Carboni – E. Cruccas (eds.), NORA ANTIQUA, Atti del Convegno di Studi, Cagliari, Cittadella dei Musei 3–4 ottobre 2014 (Perugia 2016) 83–90.

Giannattasio 2018
B.M. Giannattasio, Le pendici meridionali del colle di Tanit, in: Bonetto et al. (ed.), Nora. Pula. Sardegna Archeologica 1 (Sassari 2018) 81–83.

Hayes 1972
J.W. Hayes, Late Roman Pottery (London 1972).

Ibba 2010
A. Ibba, I Vandali in Sardegna, in: A. Piras (ed.), Lingua et ingenium. Studi su Fulgenzio di Ruspe e il suo contesto (Ortacesus 2010) 385–425.

Luley 2014
B.P. Luley, Cooking, Class, and Colonial Transformations in Roman Mediterranean France, AJA 118.1, 2014, 33–60.

Martorelli 2007
R. Martorelli, La diffusione del cristianesimo in Sardegna in epoca vandala, in: R.M. Bonacasa – E. Vitale (eds.), Atti del 9 Congresso Nazionale di Archeologia Cristiana, Agrigento, 20–25 novembre 2004 (Palermo 2007) 1419–1448.

Martorelli 2017
R. Martorelli, Le città in Sardegna fra tardoantico ed altomedioevo, in: S. Angiolillo et al. (eds.), La Sardegna romana e altomedievale. Storia e materiali (Sassari 2017) 265–278.

Mele 2014
M.A. Mele, Ceramica stampigliata altomedievale dal complesso archeologico di Soroeni (Lodine-NU), QuadCagl 25, 2014, 343–372.

Menchelli 2012
S. Menchelli, Vasi comuni nell'Etruria settentrionale costiera, in : C. Batigne-Vallet (ed.), Les céramiques communes dans leur contexte régional: faciès de consommation et mode d'approvisionnement. Actes de la table ronde organisée à Lyon, Lyon – Maison de l'Orient et de la Méditerranée, 2 et 3 février 2009 (Lyon 2012) 87–111.

Morigi 2007
A. Morigi, La città punica: topografia e urbanistica (Lugano 2007).

Muresu 2017
M. Muresu, I Vandali: isolazionismo integralista o logica imprenditoriale? Riflessioni sul Mediterraneo di V-VI secolo, CaSteR 2 (Cagliari 2017).

Nervi 2016
C. Nervi, Il paesaggio di Nora. Studio dei materiali romani e tardoantichi, BARIntSer 2833 (Oxford 2016).

Oggiano 1994
I. Oggiano, Nora II. Lo scavo, QuadCagl 10, 1994, 101–114.

Olcese 1993
G. Olcese, Le ceramiche comuni di Albintimilium (Florence 1993).

Olcese 2003
G. Olcese, Ceramiche comuni a Roma e in area romana. Produzione, circolazione e tecnologia. Tarda età repubblicana – prima età imperiale (Mantua 2003).

Panella 1996
C. Panella, Lo studio delle ceramiche comuni di età romana, in M. Bats (ed.), Les céramiques communes de Campanie et de Narbonnaise (Ier s. av. J.-C. – Iie s. ap. J.-C.). La vaiselle de cuisine et de table (Naples 1996) 9–15.

Paoletti 1997
S. Paoletti, Nora V. Soluzioni e tecniche dell'acquedotto romano di Nora, QuadCa 14, 1997, 159–164.

Pavolini 2000
C. Pavolini, Scavi di Ostia, 13. La ceramica comune. Le forme in argilla depurata dell'Antiquarium (Roma 2000).

Peacock et al. 1989
D.P.S. Peacock – F. Bejaoui – N. Ben Lazreg, Roman amphora production in the Sahel region of Tunisia, in: Amphores romaines et histoire économique. Dix ans de recherche. Sienne 1986, Collection de l'Ecole Française de Rome 114 (Rome 1989) 179–222.

Pilkington 2012
N. Pilkington, A Note on Nora and the Nora Stone, BASOR 365, 45–51.

Poblome et al. 2014
J. Poblome – D. Malfitana – J. Lund, It's complicated… Past cultural identity and plain broken pottery, ReiCretActa, 43, 2014, 11–17.

Sanna 2016
I. Sanna, La marina di Nora in età romana: i reperti subacquei quali indicatori di contatti e scambi economici e commerciali, in: S. Angiolillo – M. Giuman – R. Carboni – E. Cruccas (eds.), NORA ANTIQUA. Atti del Convegno di Studi. Cagliari, Cittadella dei Musei, 3–4 ottobre 2014 (Perugia 2016) 3–14.

Santoro 2002
S. Santoro, Pantellerian Ware: aspetti della diffusione di una ceramica da fuoco nel Mediterraneo occidentale, in: M. Khanoussi – P. Ruggeri – C. Vismara (eds.), L'Africa Romana: Atti del XIV Convegno di studio. Lo spazio marittimo del Mediterraneo occidentale: geografia storica ed economica, Sassari, 7–10 dicembre 2000 (Roma 2002) 991–1004.

Scatozza Höricht 1996
L.A. Scatozza Höricht, Appunti sulla ceramica comune di Ercolano. Vasellame da cucina e recipienti per la preparazione degli alimenti, in: M. Bats (ed.), Les céramiques communes de Campanie et de Narbonnaise (Ier s. av. J.-C. – IIe s. ap. J.-C.). La vaiselle de cuisine et de table (Naples 1996) 129–156.

Spanu 1998
P.G. Spanu, La Sardegna bizantina tra VI e VII secolo (Oristano 1998).

Spanu 2005
P.G. Spanu, L'età vandalica, in: A. Mastino (ed.), Storia della Sardegna antica (Nuoro 2005) 499–509.

Tronchetti 1985
C. Tronchetti, Le Terme a mare, in: Nora. Recenti studi e scoperte (Cagliari 1985) 71–81.

Tronchetti 2018
C. Tronchetti, La storia di Nora, in: J. Bonetto et al. (ed.), Nora. Pula. Sardegna Archeologica 1 (Sassari 2018) 12–16.

Tusa et al. 2009
S. Tusa – S. Zangara – R. La Rocca (eds.), Il relitto tardo-antico di Scauri a Pantelleria (Palermo 2009).

Vera 2010
D. Vera, Fisco, annona, commercio nel Mediterraneo tardoantico: destini incrociati o vite parallele, in: S. Menchelli – S. Santoro – M. Pasquinucci, G. Guiducci (eds.), LRCW 3. Late Roman Coarse Wares, Cooking Wares and Amphoarae in the Mediterranean. Archaeology and archaeometry. Comparison between western and eastern Mediterranean, BARIntSer 2185 (Oxford 2010) 1–18.

This volume focuses on trade relations in ancient Sardinia from the Archaic period to Late Antiquity with special emphasis on the Roman period. Attention is given to trade among the indigenous people, Carthaginians, Greeks and Romans. The chapters emphasize the trade routes ancient Sardinia was part of and center on the Sardinian areas and cities that predominantly participated in this trade. Of particular interest are the products that were exchanged, the influence of the trade goods on local production on the island and the patterns observed in the distribution of imported and imitated foreign goods. Finally, the changes visible in these trade relations over time are carefully examined. The contributions in this volume focus mainly on imported pottery but other trade goods are considered as well. One of those is iron ore found in abundance on Sardinia and which played an important role in Sardinian trade relations from the first millennium BC onwards.

ISBN 978-3-96929-006-4

Associazione Internazionale
di Archeologia Classica
International Association *for* Classical Archaeology