

Production and Trade in Roman Sardinia. An Introduction

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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 Turrus 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 Turrutani* 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 Turrus 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*,

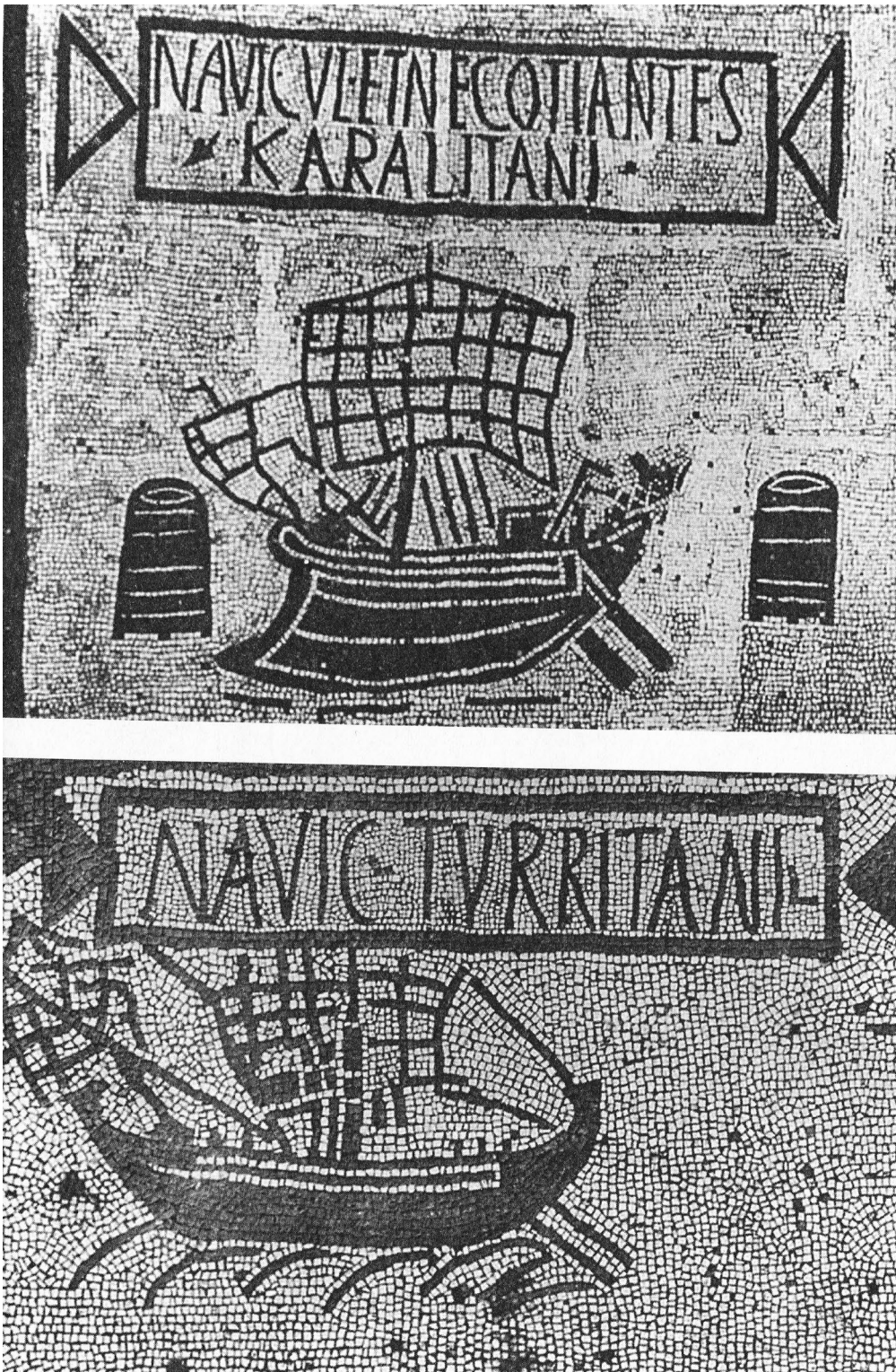


Fig. 1: Piazzale delle Corporazioni in Ostia. Mosaic naming the Sardinian *navicularii*.

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 Eutyichians (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), Turrus 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(ument) 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.

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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.

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