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I PATRIMONI ARQUEOLÒGIC

ARCHAEOLOGY OF MOBILITY: CIRCULATION OF GOODS AND PEOPLE IN LATE ANTIQUITY AND THE MIDDLE AGES

ARQUEOLOGIA DE LA MOBILITAT: CIRCULACIÓ DE BÉNS
I PERSONES EN ÈPOCA TARDOANTIGA I MEDIEVAL

MARC BOUZAS, LLUÍS PALAHÍ (EDS.)

**ARCHAEOLOGY OF MOBILITY: CIRCULATION OF GOODS
AND PEOPLE IN LATE ANTIQUITY AND THE MIDDLE AGES.
MATERIAL, TECHNICAL AND CULTURAL EXCHANGES
FOR THE CONSTRUCTION OF A SOCIETY**

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PER CONSTRUIR UNA SOCIETAT

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AFRICAN RED SLIP WARE *ATLANTE* XA1A LAMPS WITH IMPRESSIONS OF THE SOLIDUS CELEBRATING THEODOSIUS II'S *VOTA VICENNALIA* (422 AD): SARDINIAN AND MEDITERRANEAN EVIDENCE OF A UNIQUE ARTIFACT¹

Marco Muresu²

The practice of decorating lamps by impressing coin types is attested throughout the Mediterranean as early as the first century CE, with evidence widespread in both the Western and Eastern regions, and it persisted at least until the seventh century³. The artefacts discussed in this paper belong to this production: an African Red Slip ware (ARS) oil lamp of the *Atlante* x A1a type⁴, characterized by the impression, along the shoulder, of alternating types from a solidus of Theodosius II (408–450 CE), issued by the mint of Constantinople on the occasion of his *vota vicennalia* (422)⁵.

1 This research acknowledges financial support under the National Recovery and Resilience Plan (NRRP), Mission 4 Component 2 Investment 1.5 – Call for tender No. 3277 published on December 30, 2021 by the Italian Ministry of University and Research (MUR) funded by the European Union – NextGenerationEU. Project Code ECS0000038 – Project Title eINS Ecosystem of Innovation for Next Generation Sardinia – CUP F53C22000430001 – Grant Assignment Decree No. 1056 adopted on June 23, 2022 by the Italian Ministry of University and Research (MUR).

2 University of Cagliari (Italy).

3 Already from the 1st century CE, there is evidence both in Rome and in Jordan, such as the so-called *New Year Lamps* (Walters, 1914, p. 118, no. 780; Horsfield & Horsfield, 1938, p. 196, tav. XLV; Hammond Jr., 1957). Further attestations are recorded throughout Late Antiquity and at least until the 7th century. Among the best-known examples is a Çandarlı Ware bowl base fragment, Hayes variant 1972/1985, form 1X (mid-2nd to mid-3rd century CE, see Hayes, 1972, pp. 318–320, fig. 64), decorated with an impression of a coin struck by the civic authority during the reign of Antoninus Pius, discovered at Pergamon (Domžalski & Jaworski, 2012, pp. 58–59); two lamps decorated with the impression of a coin of Constantine, found among the grave goods within the so-called Tomb of Tin Hinan (southern Algeria), dated to the 4th–5th century (Pentz, 2002, pp. 161–162, with previous studies); and a lamp fragment bearing an impression of a coin of Honorius (without further data) from Tiddis (ancient *Castellum Tidditanorum*, Algeria: Balil, 1983, p. 166, note 35). Finally, to the Early Middle Ages are attributed several lamps decorated through coin impressions, unearthed at *Caesarea Maritima* (Kindler, 1958, p. 106), in the necropolis of Beit She'arim (Kindler, 1958, pp. 106–107, note 4), and within the Byzantine layers of the synagogue at Gush Halav (Rosenthal & Sivan, 1978, pp. 123–124; Magness, 2001, p. 15; cf. also Bijovsky, 1998), all in Israel, within a chronological framework corresponding to the 7th century. For further references and comparisons, see Guzzetta, 2023, pp. 454–455.

4 *Atlante*, I, pp. 198–200. On the distribution of such artefacts across the Mediterranean, see, among the extensive available bibliography, particularly Pavolini, 1983; Bonifay, 2005, pp. 35–37.

5 RIC, X, p. 256, nos. 218–221. On the value of the image see Hellmann, 1987, p. 27, with further studies.

The obverse of the coin depicts a frontal bust of the emperor in military attire, holding a spear resting on his right shoulder, accompanied by the legend DN THEODOSIVS PF AVG. The reverse shows a *Victoria* standing to the left, holding a long cross, with the legend VOT XX MVLT XXXI (*vota vicennalia, multa tricennalia*) (fig. 1). This type, introduced by Theodosius II, became predominant in the solidi of the Eastern Empire throughout the fifth century. The presence of the cross on the reverse evokes the Christian religious sphere⁶, and the choice of this iconographic motif becomes particularly meaningful when considered in relation to the gemmed monogrammatic cross decorating the disk of the lamp⁷, with the *rho* turned to the right, a motif frequently attested in the decorative repertoire of ARS lamps of the *Atlante x* type and its variants⁸.



Fig. 1. Example of solidus issue by the mint of Constantinople to celebrate the *vota vicennalia* (422 CE) of Theodosius II (408-450 CE) (diameter 28mm; weight 4.38g; SC Ancient, SKU 428; from scancients.com).

In Sardinia, at the time, only two examples of this production are known. The first specimen, preserved in excellent condition (D. Salvi in Salvi, 2005, p. 170, no. T5/R4; Salvi, 2013, pp. 169-170), was discovered in a tomb (no. 5, of 'pit' typology) of the necropolis of Pill'e Matta, located in the immediate hinterland of Cagliari (present-day municipality of Quartucciu)⁹ (fig. 2). Within the burial, numerous ceramic, glass, and metal artifacts were recovered in primary deposition (D. Salvi in Salvi, 2005, pp. 168-173). In addition to the above-mentioned lamp (fig. 3), the set included intact specimens of ARS forms Hayes 99 and 91C, along with two further *Atlante x* A1a lamps, respectively decorated with a palm tree and a fish (D. Salvi in Salvi, 2005, pp. 170-172, nos. T5/R2, R6, R8, R12). The tomb funerary set also

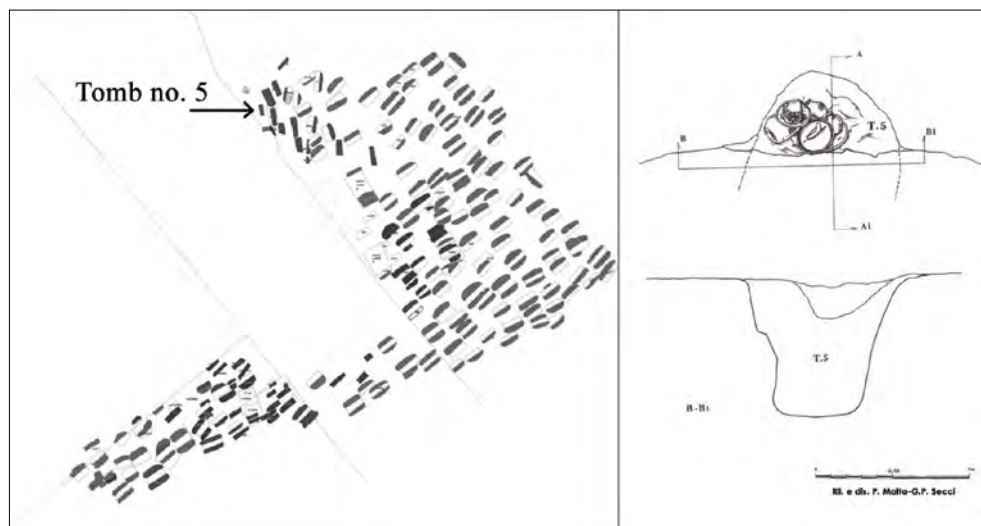


Fig. 2. Quartucciu (Cagliari, Italy), necropolis of Pill'e Matta, planimetry and location of tomb no. 5 (adapted by the Author from Salvi, 2008, p. 1732, fig. 1).

⁶ It is well known that the symbolic value of the cross as a *signum victoriae* was introduced following the institution of the Feast of the *Inventio Crucis* in 335 CE, after the discovery of the relics of the True Cross by Helen, mother of Constantine I, in 325-326 CE (Casartelli Novelli, 1987, p. 121). For a discussion of the iconography in connection with coinage see Morrisson, 2014, p. 413. See also Morrisson, 1997.

⁷ As already noted by Michel Bonifay (2004, p. 380, no. 75), the cross belongs to the Barbera-Petriaggi type 210B/1, which can be dated no earlier than the late 5th century (a point further emphasized by Bussi re & Lindros Wohl, 2017, p. 357).

⁸ The bibliography on the subject is vast; for the sake of brevity, reference is made to Bonifay, 2004, pp. 387-388, nos. 6, 10-11 (*Atlante x* C5); 394-395, no. 15 (*Atlante x* D1); 399-400, nos. 47, 49 (*Atlante x* D2); 403-404, 407-408, nos. 24-25, 53 (*Atlante x* D3). See also Bonifay, 2004, pp. 412-414, nos. 6, 11 (latest *Atlante x* oil lamps).

⁹ For a recent overview of the extensive literature on the topic, see Salvi, 2015.

included three fragmentary jugs, one of which can be traced back to the type known as «globular jugs» or *petites cruches cannelées*, characterised by a cylindrical neck and flat ribs along the surface (D. Salvi in Salvi, 2005, p. 172, no. T5/R9; Fornelli, 2017).

The second find, consisting of a shoulder fragment, was identified within the urban stratigraphy of Nora (Pula, Cagliari), inside Room T, itself part of «Block AB» (Tronchetti, 2008, pp. 1725-1726) (fig. 4). The latter, located in Area C of the northern district of the city, lies near the harbor, between the eastern perimeter wall of *Insula A* and the E-F street, oriented along a North-South axis (Giannattasio, 2010) (fig. 5).

The current state of the evidence about the *Atlante* x A1a oil lamps decorated with the impression of the celebrative solidus of the *vota vicennalia* still raises important questions and problematics, starting with the limited diffusion of the iconographic motif within the *instrumentum domesticum*. In fact, the known attestations with a definite provenance refer exclusively to single specimens. In addition to the intact oil lamp and the portion of the shoulder known in Sardinia, finds have been made in Algeria¹⁰, Tunisia —at El Djem¹¹ and Carthage¹² (fig. 6, a-b)— and in Lybia (during archaeological excavations in Sidi Khrebish, near Benghazi, ancient *Berenice*: Bailey, 1985, p. 584, fig. 16). Outside of North Africa, further cases have been identified in France, in Saint-Louis (on the border with Switzerland: Delattre, 1897) (fig. 6, c) and at the fortified settlement of Saint-Blaise (Bouches-du-Rhône, west of the Berre lagoon, Marseille)¹³; on the Iberian Peninsula, at Cerro de Montroy (Cuevas de Almanzora)¹⁴; in Sicily, at Campanaio (Agrigento: Wilson, 1996, p. 97, no. 95, fig. 29; 2000, p. 350, fig. 11; 2002, p. 28, fig. 13) and, more recently, at Cava d'Ispica (Modica, Ragusa), from a survey conducted during restoration works on the church of San Pancrati (Guzzetta, 2023, p. 448) (fig. 6, d-e).

There are also several specimens and fragments of unknown provenance, preserved at the National Archaeological Museum of Aquileia¹⁵ (fig. 7, a), the *Crypta Balbi* Museum of Rome (fig. 7, b), the Diocesan of Milan¹⁶ and the Arqueològic of Girona (Catalunya, Spain)¹⁷. An oil lamp from North Africa, intact and in good condition, is now kept at the Getty Museum in Los



Fig. 3. Quartucciu (Cagliari, Italy), necropolis of Pill'e Matta, tomb no. 5, ARS oil lamp *Atlante* type X A1a, graphic reproduction (from Salvi, 2013, p. 189, fig. 6).



Fig. 4. Pula (Cagliari, Italy), Nora, Area C, Block AB, Room T, fragment of a lamp of *Atlante* type X A1a, photographic reproduction (from Tronchetti, 2008, p. 1726, fig. 3).

10 Guéry, 1970, p. 273, fig. 10; Bussière, 2007, nos. 914, 921, fig. 60. See also Hellmann, 1987, p. 26 for additional parallels from Tunisia and Algeria.

11 Bonifay, 2004, p. 380, note 244, with earlier references. An additional lamp from El Djem is preserved in the *British Museum* (London, UK) and was acquired by B.A. Seaby Ltd. in 1983 (inv. no. 1983, 1001, 9).

12 Ennabli, 1976, pp. 192, 207, nos. 952, 1045 (found in La Goulette, near Tunis); Balil, 1983, p. 166, note 35; Barbera & Petriaggi, 1993, pp. 201, 377, no. 219; Béjaoui, 1997, p. 147, no. 82.

13 Rolland, 1951, pp. 174-175; Morrisson, 1987, p. 333; Hellmann, 1987, p. 26. For the site of Saint-Blaise and its *castrum* in the 6th century CE, see Demians d'Archimbaud, 1994; Brogiolo & Chavarria Arnau, 2005, p. 141.

14 Vizcaino Sánchez, 2009, p. 194, note 328 (dated to the first quarter of the 6th century).

15 Graziani Abbiani, 1969, tav. I, fig. 4; Hellmann, 1987, p. 27 (it should be noted that the reverse legend of the specimen presents the variant VOT xx VICTORIA); L. Bertacchi in *Milano Capitale* 1990, pp. 224-225, no. 3f.5l.

16 Barbera, Petriaggi, 1993, p. 201, no. 161; M. Barbera in Arena et al., 2001, p. 186, no. I.4.35; Bonifay, 2004, pp. 380-381, no. 74.

17 Modrzejewska-Pianetti, 2006-2008, p. 17, with further studies.

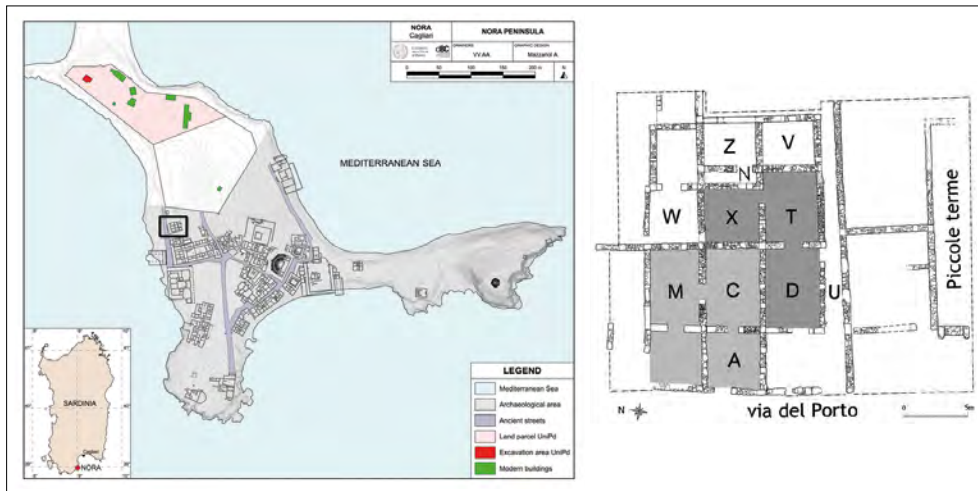


Fig. 5. Pula (CA), Nora, Area C, Block AB, Room T, location (adapted by the Author from Deiana et al., 2018) and planimetry during the 5th-6th c. CE (from Fabiani & Cerato, 2015, p. 147, fig. 9).

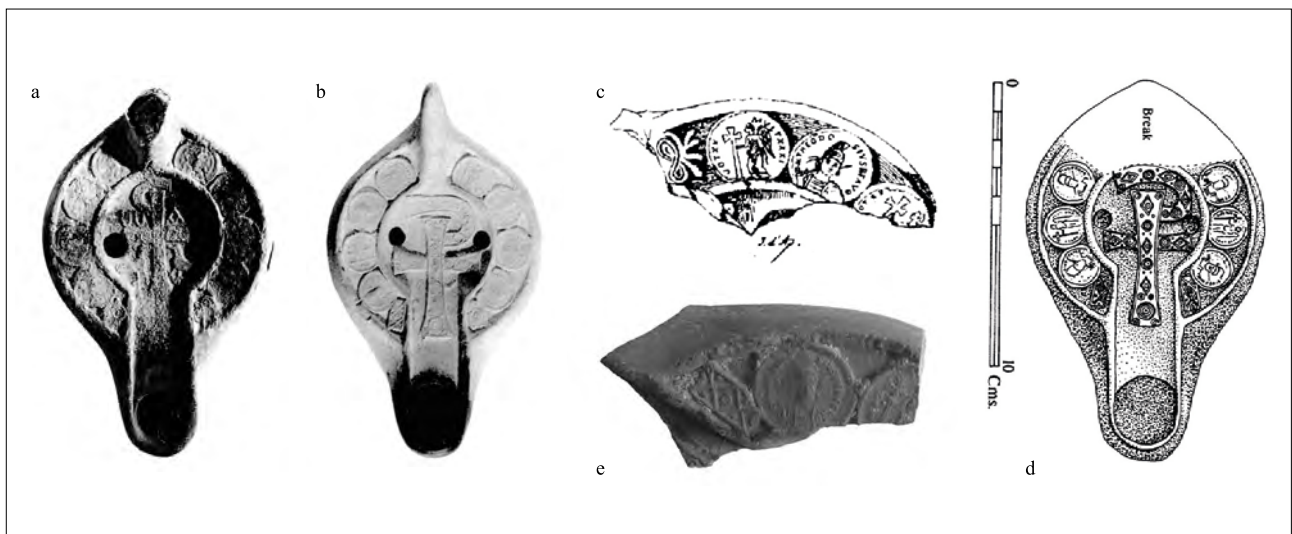


Fig. 6. ARS oil lamps *Atlante* type x A1a from La Goulette (Tunisia, from Ennabli, 1976, p. 207, pl. LVI, no. 1045; a); Carthage (Tunisia, from Ennabli, 1976, p. 192, pl. LII, no. 952; b); Saint-Louis (France, from Delattre, 1897, p. 287; c); Campanaio (Agrigento, Italy, from Wilson, 2000, p. 350, fig. 11; d); Cava d'Ispica (Ragusa, Italy, from Guzzetta, 2023, p. 449, fig. 1; e).

Fig. 7. Lamps of *Atlante* type x A1a from Aquileia (Udine, Italy, National Archaeological Museum, CC BY-SA 4.0; a); Rome (Italy, National Roman Museum *Crypta Balbi*, from Arena et al., 2001, p. 186, no. 1.4.35; b); Los Angeles (California, USA, J. Paul Getty Museum, from www.getty.edu; c-d).



Fig. 8. Carpaneto Piacentino (Piacenza, Italy), Private Collection «A. Naturani», ARS oil lamp *Atlante* type X A1a, photographic reproductions (photo by A. Naturani).

Angeles (California, USA)¹⁸ (fig. 7, c-d). Another lamp and four fragments, also unpublished and of North African origin, belong to the private collection of Andrea Naturani (Carpaneto Piacentino, Italy)¹⁹ (fig. 8). Of particular interest is also a plaster mould, likewise attributable to North Africa and currently unique, related to these lamps: measuring 20 cm in length, it corresponds to the stamp used to shape the upper surface of the ceramic body and confirms the existence of an organized production system²⁰ (fig. 9).

The decorative variations observed among the known specimens allow the identification of at least two moulds. These differ in the rendering of the gemmed monogrammatic cross—more elaborate and enriched with the apocalyptic letters and two facing birds in the first type²¹—and in the decorative motifs adorning the ends of the shoulder: a pair of trefoils (mould no. 1: *Atlante* I, tav. LVIII (a), nos. 47–48) or a series of inscribed squares (m. no. 2: Hayes, 1972, p. 355, no. 24; Bussière, 2007, no. Y 14, fig. 141). The Sardinian specimens appear to belong to this latter group, showing close affinities with the lamps of the Naturani Collection and with the finds from Campanaio-Agrigento (Wilson, 1996, p. 97, no. 95, fig. 29; 2000, p. 350, fig. 11; 2002, p. 28, fig. 13), Cava d'Ispica-Ragusa (Guzzetta, 2023, p. 448), and the lamp from the Getty Museum at Los Angeles (Morrisson, 1987, pp. 332–333; Hellmann, 1987, p. 27).

The analysis of the distribution of the finds suggests a predominant, though limited, concentration in the western Mediterranean area. From a numismatic perspective, the placement of the commemorative solidi of Theodosius II's *vicennalia* provides a precise *terminus post quem* for their reuse for decorative purposes, although an employment several decades after their issue cannot be excluded. Their presence

18 For the collection of lamps housed in the Museum see Bussière & Lindros Wohl, 2017. The Author is grateful to Dario D'Orlando for pointing this out.

19 Andrea Naturani has indicated that he purchased the fragments from a French collector, who in turn confirmed their provenance as Tunisia, during a regular auction. He also kindly supplied photographic reproductions of the artifacts, for which the Author is grateful.

20 Garbsch & Overbeck, 1989, p. 147, fig. 113; Mackensen, 1980, p. 3, fig. 19.

21 See above, footnote 6.

is noteworthy given the rarity of this type within the North African gold currency in circulation (Guzzetta, 2023, pp. 453–454). Nevertheless, as Cécile Morrisson and Pierre Salama have shown, as early as the first decades of the fifth century, Constantinopolitan solidi of Theodosius II had progressively replaced those of Honorius, struck in Ravenna, in the composition of the local currency²². According to Morrisson, the lamps were produced in Tunisian workshops (Morrisson, 1987, pp. 332–333). Along the same line, Giuseppe Guzzetta —drawing also on the observations of Michel Bonifay— has suggested that production may be located at Sidi Marzouk. In this extensive complex of ceramic workshops, the manufacture of pottery decorated with gemmed monogrammatic crosses has been attested, following the discovery of numerous materials bearing this Christian symbol, characterized by flared or feathered arms and by the inverted alpha and omega beneath the crossbar. The hypothesis is indeed compelling, although not yet substantiated, since —as Guzzetta himself noted— no lamps with coin impressions have so far been found on site (Guzzetta, 2023, p. 453).

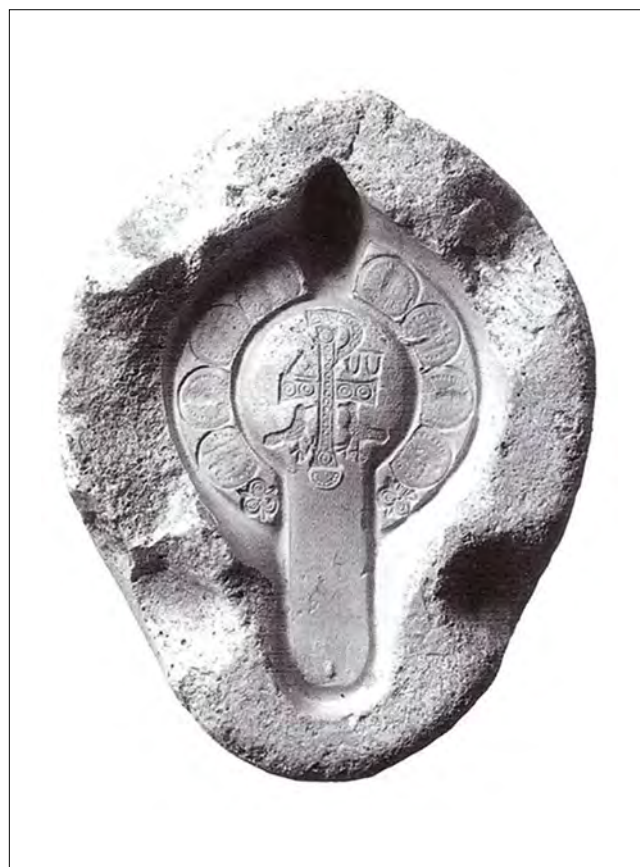


Fig. 9. North Africa (unknown provenance), plaster mold for ARS oil lamps *Atlante* type X A1a (from Garbsch & Overbeck, 1989, p. 147, fig. 113).

From a technical standpoint, it is significant to note the discrepancy between the diameter of the coin types reproduced in negative on the mould (approximately 16 mm) and that of the original coins, which can reach up to 28 mm. Excluding the use of secondary moulds not derived directly from the numismatic specimen²³, or of coins of a different module (such as a *semissis* or *tremissis*)²⁴, one may hypothesize that the dimensional reduction was caused by the natural shrinkage of the plaster during the drying process: the coin would have been impressed into the still malleable material, subsequently shrinking together with the mould as it dried²⁵.

Although it is not possible to provide definitive answers to these questions, the available evidence allows for some historical and economic considerations. The geographical distribution of the finds —particularly those discovered in secure contexts— suggests the existence of active trade networks within the western Mediterranean, an area under the influence of the mercantile routes of the Vandal Kingdom, whose economy —strongly characterized by an entrepreneurial spirit—

²² Morrisson, 1987; Salama, 2001. For an update, see Guzzetta, 2023, p. 453–454.

²³ This possibility would be difficult to realize, as it would require either the existence of a specifically made «stamp» (a challenging task given the small dimensions) or the considerable complexity of engraving each type in negative on the matrix with a burin. Furthermore, the serial reproduction of the details of the types presupposes the use of a mold (of any kind), which leads the author to exclude the possibility that the decoration was executed by hand. At most, one could consider the decorative motif, characterized by the succession of coin types, as a reproduction of a goldsmith's object, perhaps a bracelet, following a practice already attested in the Roman period (Perassi, 2004, with earlier bibliography and numerous examples; Daubney, 2009; Crummy, 2016) and systematically reproduced in subsequent phases (Brozzi, 1971; Calomino, 2008; Alberti & Baldassarri, 2017). Beyond this, however, one cannot go beyond the realm of hypothesis.

²⁴ This would be hardly admissible from a numismatic standpoint for several reasons, starting with the lack of differentiation of the types according to weight (a practice usually well documented, including in the coinage of Theodosius II) and the absence in the literature of semisses, tremisses, or other series bearing the same iconography as the solidus of the *vota vicennalia* (Guzzetta, 2023, pp. 453–454).

²⁵ This hypothesis recalls the proposal made by Luisa Bertacchi in her edition of the lamp from Aquileia (L. Bertacchi in *Milano Capitale* 1990, pp. 224–225, no. 3f.51).

derived a primary source of profit from the production and export of ARS²⁶. Recent archaeological research has indeed highlighted the wide distribution of Vandal ceramic products not only in Africa (Bonifay, 2018, p. 328-338; 2022) but also in territories with which they maintained intensive commercial exchanges²⁷, including Sardinia, where a strong circulation of African wares —particularly ARS— has been documented during the period of the island's inclusion in the *Regnum Wandalarum et Alanorum* (Muresu, 2017a; Cisci et al., 2022).

Both of the Sardinian finds —the lamp from Pill'e Matta and the fragment from Nora— were initially dated by their respective discoverers to the first half of the fifth century, based on the year of issue of the coin impressed on them (D. Salvi in Salvi, 2005, p. 170, no. T5/R4; Salvi, 2008, p. 1742, tab. I). For the latter, fragmentary object, which was found in association with C-type ARS ceramics, Carlo Tronchetti proposed a dating around 439 CE, while allowing for a possible shift into the following century, in consideration of similar objects that were «still in use during the late Vandal-Justinianic period» (Tronchetti, 2008, p. 1726). This proposal appears reasonable, since other lamps —such as the specimens from Rome and Carthage— have also been dated, on formal grounds, not to the fifth but to the second quarter of the sixth century²⁸.

A later chronology has also been proposed by Paolo Benito Serra, who drew comparisons with the lamps from Aquileia²⁹ and the *Crypta Balbi* in Rome (M. Barbera in Arena et al., 2001, p. 186, no. I.4.35), so similar as to suggest the use of the same mould (Serra, 2010, p. 537). Serra also interpreted their distribution as evidence of the widespread circulation, during the Vandal period, of ARS products exported alongside other containers and oil and wine amphorae from workshops in *Zeugitana* and *Byzacena* (Serra, 2010, pp. 537-538). This hypothesis appears plausible, also in light of the chronological studies on *Atlante* x lamps conducted by Michel Bonifay³⁰ and, in the Sardinian context, by the evidence provided by the ceramic assemblages from Tomb 5 at Pill'e Matta. The Hayes forms 91C, 99, and the globular jug with *petites cruches cannelées* found in the same context are indeed attested in numerous assemblages datable to the mid-sixth century and even later³¹.

In conclusion, albeit with the caution imposed by the scarcity of evidence, it appears plausible to ascribe the artifacts examined here to a phase in which the Sardinian economy still benefited from the activity of Vandal trade networks³². This picture is corroborated by the association with ceramic productions that were

26 Bonifay, 2004, pp. 480-487, with bibliography; Bonifay, 2010, pp. 44-48; 2011; 2013.

27 See the articles of G. Cacciaguerra, A. Fernández Fernández, G. Koutsouflakis, B. Shkodra-Rrugia, V. Leitch, C. Panella and M. Bonifay in Panella & Bonifay, 2016. See also Bonifay & Pieri, 2020; Bonifay, 2020.

28 Balil, 1983, p. 166, note 35; Barbera & Petriaggi, 1993, pp. 201, 377, no. 219; Béjaoui, 1997, p. 147, no. 82. See also Hellmann, 1987, p. 26 for further comparisons from Tunisia and Algeria. A similar dating has been proposed by Michel Bonifay, based on the formal peculiarities of the *Chrismon* reproduced on the disc, which, according to the scholar, does not precede the late 5th century (Bonifay, 2004, p. 382).

29 Graziani Abbiani, 1969, tav. I, fig. 4; Hellmann, 1987, p. 27; L. Bertacchi in *Milano Capitale*, 1990, pp. 224-225, no. 3f.5l.

30 See Bonifay, 2004, pp. 360-361, figg. 201a-b; 370-415, with earlier references and numerous examples.

31 As it is not possible to provide an exhaustive overview here, see Serra, 2010, p. 537. Specifically on the globular jugs, see Fornelli, 2017.

32 These constituted one of the main —and possibly the most important— maritime route systems active in the Mediterranean between the 4th and 6th centuries, to the extent of contributing to the crisis of the *corporationes naviculariae* (McCormick, 1998, pp. 93-107; Aiello, 2008; McCormick, 2008, pp. 103-105, 405-410). On the significance of the Vandal commercial network see above, footnote no. 26. On specific products, such as olive oil, see Mattingly, 1989; Palmieri, 2008, and, for a focus on Sardinia, Mastino, 1995. On the North-African monetary economy, see Morrisson, 2008, pp. 631-670 (specifically on trade routes); 2010-2011, p. 157-159; 2016.

widely distributed during the period preceding the crisis of the Kingdom³³ and the subsequent transitional phase between the Byzantine conquest of Carthage (534 CE) and the promulgation of the *Lex Portus*, the customs tariff enacted on the island under Maurice Tiberius (582-602), which constituted the first formal regulation of wholesale trade in Sardinia by Byzantium following its conquest³⁴. From this perspective, the presence of lamps decorated with coin impressions on the island can be interpreted as an indicator not only of the circulation of common goods but also of specialized products, the result of a niche production process nonetheless capable of reaching a select Mediterranean audience.

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³³ This is due to the predominance of African goods over Eastern ones, which can be observed throughout the 6th century –among the many available examples– in the contexts of *Carales* (Martorelli, 2006, p. 443, with bibliography and specific references), *Nora* (Tronchetti, 2003, p. 103; E. Garau in Garau & Rendeli, 2006, p. 1259; Falezza, 2008, pp. 2636-2637; G. Falezza in Bonetto et al., 2009, pp. 678-679; A.R. Ghiotto in Bonetto & Ghiotto, 2013, p. 276), *Neapolis* (Garau, 2006, pp. 280-285), *Cornus-Columbaris* (L. Saladino and M.C. Somma in Giuntella, 2000, pp. 193-197), *Turris Libisonis* (E. Petrucci in Boninu et al., 2008, p. 1790, notes 26-27; Boninu & Pandolfi, 2012, pp. 347-365), and *Olbia* (Pietra, 2008, p. 1750, note 4).

³⁴ Muresu, 2017b, with previous bibliography. See also Cosentino, 2020.

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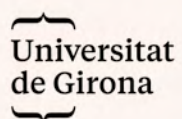


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