
Edoardo Radaelli

Southampton, Rome

GALLIC AMPHORAE IN ROME
(AND OSTIA) DURING THE MIDDLE
IMPERIAL AGE
DATA REVISION AND REFLECTIONS
FROM THE FINDS AT THE 'TERME
DI ELAGABALO' IN ROME

Abstract: Starting from the unpublished amphorae discovered in the Middle Imperial contexts (dating 2nd-early 3rd centuries AD) found in the building known as the 'Terme di Elagabalo' in Rome, this paper analyses the presence of Gallic containers in Rome and Ostia. The finds from that site will be combined with the ones deriving from several published contexts in Rome with similar dating and compared with those discovered in Ostia (the traditional comparison for the Capital) in order to update the data about their presence in both cities during the chosen chronological period. This paper will also analyse ancient sources that mention Gallic products in order to reflect not only upon their quality, but also their purchasers and consumers, with brief considerations derived from theories in social sciences.

Keywords: amphorae; Gaul; Rome; trade; consumption; Middle Imperial Age

The fundamental paper about the presence of Gallic amphorae in Rome (Panella 1992) was published about thirty years ago. This raises doubts whether or not its data are still valid, given that several new excavations and studies about specific contexts or productions were published afterwards. Indeed, discoveries in the building known as the 'Terme di Elagabalo' in Rome (2007-2013) offer precious information that updates the knowledge about the presence of amphorae in the Capital. On top of the identification

of an extraordinary series of buildings and monuments which follow the entire settlement history of one of the most central sectors of Rome, thousands of ceramic fragments have also been found. In fact, the study of the Middle Imperial contexts (2nd-early 3rd centuries AD) in this building involved the analysis of 40,882 fragments of amphorae, corresponding to 777 vessels.¹ However, as this site was surely not isolated from the rest of the City and given the low presence of Gallic containers found there (35 vessels), in order to update the mentioned article, many other published sites in the Capital with phases of similar dating have also been analysed. Furthermore, as the studies about Roman commerce have usually used Ostia as a comparative site and a source of information to be transferred to the Capital, several contexts dated to the same period in this port-city have also been considered. The entire period was divided into four phases, labelled for convenience after the emperors, in order to better understand commercial flows and fluctuations in products from various origins.

As for many other tangible objects that have survived from a more or less distant past to which they are strictly linked (Thomas 2007, 16-17), pottery and especially amphorae, which usually feature most prominently among the finds in the majority of Roman urban excavations, can offer precious information about ancient societies (Caple 2006, 1 and 8-11; Sánchez Climent 2013, 32-33). However, since ‘artefacts tell us nothing about the past in themselves’ (Johnson 2010, 12), the analysis of these deposits started from a deep appreciation of the fact that objects cannot speak like living people and tell stories (Johnson 2010, 116-117). Handling and analysing pottery with the most accurate possible methods can lead to an interpretation of the information they can provide, linked to specific historic questions (Caple 2006, XV; Insoll 2007, 9-10; Sánchez Climent 2013, 33 and 43) and strictly connected to human behaviour. In fact, the significance of an amphora was determined not only by its general purpose (transporting goods), but especially by its content which could have had multiple levels of importance. These levels were the final result of a complex set of behaviours of those who produced, distributed, purchased, and consumed those products, therefore potentially revealing a series of mechanisms connected with people’s intentions, decisions, and more or less conscious choices. For this reason, this study also considers information provided by ancient authors who mention Gallic products and their quality

¹ All amphorae remains were analysed for the author’s PhD thesis at The University of Southampton. His many thanks go to Prof. J. Keay (†), Prof. C. Panella, and Prof. L. Sagui as well as to R. Lister and D. Rossowski, who proof-read this entire paper.

in order to formulate some hypotheses related to their consumption by citizens in both cities considered. They derive from the theories proposed by several social scientists that also seemed to be applicable to Roman times and to the Middle Imperial age. Clearly, the data offered here are not going to be final not only because they will be broadened by new finds and new publications, but also because they amount to just a part of the entire import, while it is almost impossible to obtain a complete and exhaustive view of all the goods imported and their real quantities in both cities.

Specific Problems and Methodologies Used

Even beyond the intrinsic problems of studying amphorae, well summarised recently by Komar (2018, 97-99; see also Radaelli 2018a, 128 and Radaelli 2019, 247), the collection of data from excavations in Rome (but even in Ostia) presents other problems. Despite the continuous need of new spaces for buildings, infrastructure, or public services related to the living city, the ceramic material coming from the resulting emergency archaeological excavations remains in many cases unpublished. On the one hand, this is due to the chronic lack of funds which do not cover the costs of studying and publishing the finds. On the other hand, this is caused by the fact that studies often seem to be biased to publishing the remains that are considered significant while moving to an indefinite date the publication of everything else which is stored in various (already very full) warehouses.

Unfortunately, problems arise even when these materials are luckily published, also because of the lack of consistent criteria or fixed rules in publishing them (see Horejs *et al.* 2010, 9). The first problem comes from the sampling size of excavated sites: they resulted in varying amounts (from one fragment to a few thousands), not only compared to one another, but also across different periods in the same site, which makes their statistical significance unequal. The second problem comes from the selection of fragments and the methodology used in analysing them, which are both rarely clarified: most of the times, the NMI method is probably used, but sometimes this is very difficult (if not impossible) to be ascertained. The third problem derives from the lack of homogeneity in the offered data, sometimes even within the same publication (as also argued by Horejs *et al.* 2010, 11-12): some offer just the number of fragments without the corresponding vessels; others only mention percentages of an unspecified total; in some other cases, the number of fragments and percentages are provided randomly and without consistency within the same article; and

at times only groups of macro-origins are mentioned instead of offering data about specific forms. The fourth problem is caused by publications that only provide a generic dating of the periods identified (sometimes pointing out to an entire century); this precludes an understanding of continuities or changes related to historic phases, which can be very different to one another.

In spite of all these problems that prevented the inclusion of some publications about excavations in both cities, this study analysed the following contexts in Rome: *Meta Sudans*; Palatine's Northern Slopes; *Crypta Balbi*; Trajan Markets; *Transitorium Forum*; *Domus Tiberiana*; Santo Stefano Rotondo; Via Sacchi; Nuovo Mercato Testaccio; *Aqua Marcia*; and Via Blaserna. It also considered the following sites in Ostia: Terme del Nuotatore; Casa delle Pareti Gialle; Taberna dell'Invidioso; Piazzale delle Corporazioni, Western Portico; and Domus dei Pesci (for the references about all these sites in both cities, see Radaelli 2017, 1043).

Moreover, during the analysis of all fragments and publications, the following methods have been used. In order to determine the numbers of vessels at the 'Terme di Elabagalo', the widespread methodologies pertaining to the NMI, its adjustment NTI, and EVE (see Protocole Beuvray 1998, XIII-XIV; Symonds and Haynes 2007, 69 with references) have been joined together. Although still resulting in estimations, this combined method seemed the most suitable in order to reach the highest level of approximation that could represent the real number of vessels. Then, despite certain objections being raised (see references in Komar 2018, 99-100), percentages of presence for all origins identified was estimated based on volumes in litres, because different forms had rather diverse volumes and therefore they contained various amounts of foodstuffs. Mass-produced as they were (Caple 2006, 18), amphorae also exhibited a strong variability of the same form, which was due to their being manufactured in various workshops (see Laubenheimer and Gisbert Santonja 2001 about Gauloise 4). For this reason, when possible, their average content in litres has been used, taking this information from the latest available publications or calculating it geometrically from the images of entire vessels (see Radaelli 2018a, 128, note 1). Then, total volumes for each category of the product has been calculated from the numbers of vessels (residual and intrusive ones excluded).

In regard of publications, the data provided in them has been refined in order to be comparable, starting from an update of all nomenclatures of forms. Then, an understanding of the number of vessels from figures of diagnostic parts have been attempted. Although these works rarely

provide diameters of rims or the preserved percentage of their circumference (as for the EVE method), the NMI from rims for each form has been assessed and the resulting figures have been compared with those for other diagnostic parts (NTI calibration). Finally, the total volumes have been calculated as well from the amounts of vessels.

Gallic Amphorae in Rome and Ostia during the Middle Imperial Age

Despite resulting in not negligible quantities (Pl. 1; for their descriptions see Laubenheimer 1985 and Rizzo 2014a, 167-182), Gallic amphorae are less frequent than other origins. The forms of many vessels cannot be precisely identified because they are represented only by bases with the so-called ring-feet which are typical of the majority of Gallic amphorae. A general decrease can be noticed, even though this might be caused by the nature of the contexts considered. During the Trajanic age, Gauloise 4 is prevalent, with all other forms in lower quantities. Among the latter, noticeable are the four residual vessels in Rome pertaining to the form Bertucchi 1992, Fig. 76 manufactured in Marseille (that can be dated 25-100 AD: Bats 1993, 68, A-M-I Piri), the intrusive Gauloise 13 from *Belgica* (Baudoux *et al.* 1998, 35; Marlière 1998, 59; it mainly had only a local distribution and possibly contained nut oil: Laubenheimer 2000), and five vessels of Gauloise 5 found in Ostia which are cited as not produced in *Narbonensis*.

During the Hadrianic age, a difference can be noticed: Gauloise 4 remains the most present form in Rome, with remarkable quantities of Dressel 16 mainly produced in Fréjus, but also in eastern Provence and Lyon (Laubenheimer *et al.* 1992, 19; Picon 1992; Desbat 2003, 47 and Fig. 2.6), whereas the majority of finds in Ostia pertain to Gauloise 5. Moreover, two vessels of Gauloise 3 (one in Rome and the other at the 'Terme di Elagabalo', for which see Pl. 4: 3) can still be considered as in-phase, although at the end of the circulation (University of Southampton 2005, 'Gauloise 3').

Data in the two cities align again during the Antonine age, with the predominance of Gauloise 4. However, while in Rome there are also eight vessels of the form Ferrandes 2008, Fig. 7.57 identified for the first time at Via Sacchi and a residual vessel of an unidentified form from Marseille, in Ostia noticeable is the presence of five local imitations of Dressel 2-4 and nine residual vessels (Gauloise 2/3, Gauloise 3, Gauloise 7 and even Dressel 16 which were not manufactured any more). Of a great significance is also a single vessel from *Aquitania*, identified for the first time at the Terme

del Nuotatore (*Ostia VI*, 168), which bears a *titulus pictus* that mentions an ‘excellent’ product deriving from the *mena ovata* fish (Botte 2009, 58 and Rizzo 2014a, 181-182 both with references).

During the Severan age, Gauloise 4 amphorae still predominate, but a significant decrease in the amounts and variety of forms is visible, partly compensated by the finds at the ‘Terme di Elagabalo’ (see Pl. 4: 4-18), which offer even a single vessel each for the local Dressel 2-4 (also found in Ostia during this phase) and the wine amphora Dressel 28 (produced at least in Lyon: atelier of Vealux, Bouches-du-Rhône, see Tchernia and Villa 1977, 232 and 234-235; atelier of La Mouette, see Desbat 1987, 159-160 and 164 and Dangréaux *et al.* 1992, 38 and 44, type 3B, Fig. 5.1-2).

Galic Products in Rome and Ostia during the Middle Imperial Age

The amphorae found were mainly meant for the transportation of Gallic wine, generally called by ancient sources *picatum*, *passum* or *mulsum* (Rizzo 2003, 212; Cerchiai 2013, 273). Ancient Gaul was in fact well known for the consumption of wine, so as to become proverbial (Polyb. *Hist.* 2.19.4 and 11.3.1; Liv. *Ab Urbe Cond.* 5.33.3 and 5.44.6; Diod. Sic. *Bibl. Hist.* 5.26.3; Dion. Hal. *Ant. Rom.* 14.8.12; Plut. *Vit. Cam.* 15.2; App. *Celt.* 7; Polyaeus *Strat.* 8.25.1; Amm. Marc. *Hist.* 15.12.4; Tchernia 1986, 87-90; Brun 2003, 88; Olmer and Maza 2004, 141; see also the context published in Barberan *et al.* 2012). The first case of wine production can be ascribed to the Greek colony of Marseille whose wines were, at first, totally dedicated to self-consumption (Brun 2004, 215-216; Brun 2005, 7). Afterwards, *Massalitanum* wine went on to be exported by amphorae and it arrived in Rome, as recorded by ancient authors (Ath. *Deipn.* 1.27c; Plin. *NH* 14.68; Colum. *Rust.* 1.6.20; Mart. *Epig.* 10.36 and 13.123; also Galen was familiar with some wine from Marseille: see Brun 2005, 7 and 12-13 with references). Therefore, the presence of a few residual fragments of containers from Marseille in the contexts considered is significant. From the end of the 1st century BC and throughout the Augustan age, *Gallia Narbonensis* saw a continuous growth of local production, which followed the foundation of colonies and the placement of veterans. At least 56 production sites have been identified in that area (Rizzo 2014a, 165 with references), thanks, among others, to the important petrographic analyses made recently on materials found both in workshops and consumption sites (Laubenheimer and Schmitt 2009). From the second half of the 1st century AD, other parts of Gaul also started producing wine, mainly transported by the typical flat-

base amphorae which had been manufactured and imitated in various Gallic provinces (and beyond). One of them is *Aquitania* (an origin that mainly had a local distribution) cited by Columella (*Rust.* 3.2.19-24) and Pliny the Elder (*NH* 14.7-31), but wine was also produced in *Gallia Belgica* (see Laubenheimer and Marlière 2010) and Pliny the Elder (*NH* 14.68) recalls the wine from Béziers in Occitania, appreciated only in Gaul and mentioned as *Baetarrense* by some *tituli picti* borne by a few Dressel 2-4 amphorae manufactured at Corneilhan (Panella 1992, 186; Laubenheimer 2004, 159-163).

For reasons that are still largely debated, from the end of the 2nd and during the 3rd centuries AD, a general abandonment of many production sites and a decrease in the presence of Gallic amphorae in many sites have been noticed. Apart from the fact that late Roman amphorae produced in western provinces are still not enough known or identified, some researchers relate this event to the effects of the so-called ‘Antonine plague’ or its relapse (Brun 2005, 178-179; about the ‘plague’ itself, see various contributions in Lo Cascio 2012); others to a process of centralization of estates (Rizzo 2014a, 166); still others to the fact that the control over the western trade was taken over by eastern merchants (Pieri 2012, 31, 41); and others to the use of barrels, which seem to have slowly replaced amphorae from the 1st century AD (Tchernia 1986, 285-292; Marlière 2002, 190-191; Brun 2003, 104-106) and significantly increased in importance so much as to be cited at the beginning of the 3rd century AD in Ulpian’s Digest as commercial containers along with leather-made ones (see references in Marlière 2002, 21 and notes 68-69; however, as they were made with perishable materials, the amounts and type of products carried by them and their relevance in commerce unfortunately cannot be determined with certainty: Baratta 2001, 153).

In the contexts analysed, a predominance of wine from *Narbonensis* is visible, with scarce quantities produced elsewhere (the unidentified Gallic area for the five above-mentioned vessels of Gauloise 5 found in Ostia). In Rome, Gallic wines got to be the third most popular during the Trajanic age (with 25% of the total: Pl. 3) only to drastically decrease in the Hadrianic age (9.8%; this finding is possibly due to the nature of the contexts), later increase during the Antonine age (18%) and have another slight decrease during the Severan age (11%). In Ostia, the situation is different (Pl. 3): Gallic wines prevail during all phases, with percentages that never drop below 32%.

Both cities also received Gallic fish-related products. Although the knowledge about them is still limited (Wilson 2006, 536), as the identification of the discovered production sites in Gaul (see Grenier 1932; Curtis 1991, 72-79; Botte 2009, 39-42; Driard *et al.* 2018) continues to be partly disputed, some amphorae transported them. They include Dressel 16 (see Panella 2001, 198 and note 117; for the *tituli picti*, see Laubenheimer 2004, 156) and a single vessel of *Ostia VI*, 168 from *Aquitania*. Martial (*Epig.* 4.88 and 13.103) and Pliny the Elder (*NH* 31.94-95) are the only ancient writers that mention fish sauces from the southern part of Gaul: *muria* from *Antipolis* (Antibes) and *allec* from *Forum Iulii* (Fréjus). Scarce quantities are noticeable in Rome during the Trajanic age, with an increase during the Hadrianic age and a subsequent disappearance caused by the end of production and circulation of amphorae they were transported by (Pl. 2, which does not include the amounts contained by *Ostia VI*, 168 as they cannot be stated yet). However, this scarcity is not surprising, since the market was massively dominated by Baetican and Lusitanian products together with growing imports from North Africa and *Pontus*, the latter of which reaches significant levels during the Severan age in Rome (Radaelli 2017, 1044).

Reflections about Consumption and Concluding Remarks

The amount of Gallic amphorae found in the Middle Imperial contexts in both cities is another confirmation of the differences between them (Rizzo 2012; Rizzo 2014b, 393-394; Radaelli 2018b, 249). In fact, even with a general decrease, the port-city seems to have received more Gallic wines than Rome. This might be explained by the different roles of these centers in the supply-chain from various parts of the empire and, after the early 2nd century AD, when the main commercial hub for Rome was moved from *Puteoli* (that gradually decreased its importance) to *Portus/Ostia*, also changing previous arrangements (Pavolini 1996, 229-230, 237), and potentially even by different consumer choices in the respective locations (Radaelli 2019, 259). In any case, the large amounts of wine from all origins in both cities as suggested by amphorae (Pl. 3) are not surprising (although they are lower than all previous estimates: see Radaelli 2019, 257-258, note 18): all Romans – primarily the élite, despite the mandatory *decorum* it strived to show to others (D'Arms 1995, 304) – drank a lot of wine, above all during the Imperial age (Purcell 1985, 14; Bouvier 2001/2002, 246-248). Wine was extremely important: not only was it the preferred beverage

and medicine, but also the most widespread drug (due to its psychoactive effects). Despite its nutritious value, its consumption was especially meant to satisfy cultural needs (Brun 2003, 9; Barnett 2014, 15) as it assumed many religious, military, political, familial, and personal functions (Dietler 2006, 232, 239).

As suggested by various social scientists, the pleasures derived from foodstuffs and people's needs acquired meanings strictly linked to social interests and cultural systems, up to the point of building identities in relation to others (Slater 1997, 132; Musarò 2011, 73). Semiologist Barthes (1957; 1961) theorised, in fact, that taste in food is culturally dependent and controlled by societies (see also Montanari, 2004, 73-74, 85-88) through conventions and a wide array of norms and expectations (White and Beaudry 2009, 212). One of the most important aspects of wine during Roman times was linked to its being a very strong socializing agent (Barnett 2014, 15; Martín i Oliveiras 2015, 24). It could regulate, start and define human relations, as well as join, strengthen or separate social groups (Radaelli 2019, 257). However, in spite of having similar needs or tastes (direct or influenced: Harris 2011, 176) in daily food consumption (Smith 2006, 481), not all Roman people could purchase the same products (Whittaker 1989, 316-317). What citizens bought and consumed might have assumed meanings strictly connected with the buyer/consumer (the so-called 'bygone objects' identified by Beaudrillard 1990, 43; see also Fabris 2000, 300-301). Therefore, the creation of identities, which could have been both self-imposed and imposed by others (White and Beaudry 2009, 210), could have been assigned to sign-valued commodities (nowadays called brands: Desmond 2003, 350-353; Petruzzellis and Chebat 2010, 137-160), consequently making power and money (interwoven to prices: Ritson and Hutchins 1995, 45) as two of the main social demonstrators. In this way, consumer attitudes could have been related to the view that people 'liked what they ate' rather than 'ate what they liked' (Marshall 1995, 5).

Even though prices during Roman times are very little known and could have been fluctuating in response to production size, transportation costs, and demand (Tchernia 2011, 123-124, 130-131), it is plausible to suppose the existence of products that could not be afforded by lower social ranks, who had to limit their choices (see Leather 1992 for modern times) to more basic, inexpensive goods (Holleran 2012, 38). On the other hand, higher social ranks surely had the power to establish high standards of eating and larger incomes allowing for an easier accessibility of various goods. The élite had wider possibilities to consume foods and beverages

and might have looked towards commodities which were more expensive and of a higher quality (Nencini 2009, 231) not only in order to show off their wealth, but also ‘to establish or enhance their location within the social order’ (Radaelli 2018b, 250-251 with references). This was also related to social attitudes they wanted to demonstrate (De’ Siena 2012, 177), possibly leading to the ‘conspicuous consumption’ defined by Veblen (1975; see also Shack 1978, 212-213), that is a consumption of goods motivated by the display of one’s buying power rather than to his subsistence needs (Corrigan 1997, 23-26).

Despite all this, it is always difficult to determine the final consumers of all products, because various different wines were present on the market (and even contained in the same forms of amphorae) and qualitative changes could have occurred in the course of time (Radaelli 2018b, 252). However, looking at ancient sources, a couple of hypotheses can be attempted. Some Gallic wines might have been of higher quality (like the locally consumed ones from *Aquitania*), therefore they might have been meant for higher social ranks (as the wines from the ancient province of *Palaestina* or Lebanon: see Radaelli 2018a, 130, 134, 136). Apart from Pliny the Elder (*NH* 14.68) who recalls some wine-adulteration systems used in *Narbonensis*, there is a general lack of qualitative opinions in ancient authors as regards this area. Nevertheless, given the large amounts produced and exported, these wines might have been directed towards consumers belonging to lower ranks (as the ones from the Tiber Valley: Radaelli 2016, 85).

On the other hand, unfortunately, it is difficult to determine whether or not specific consumers existed for fish sauces, as these condiments were discredited by ancient authors: they were possibly directed to various social ranks that used them in different ways or occasions (Radaelli 2017, 1045-1046).

In any case, thanks to all archaeological excavations throughout the years and data derived from their publications, this brief study has highlighted a few differences and similarities with the paper mentioned at the beginning. Apart from confirming the significant importance of Gallic wines in Ostia (see also Rizzo 2014b, 402), it is also possible to notice that during the Trajanic ages the percentages in Rome are similar: 25% against 23.5% of the article. On the other hand, during the Antonine age their presence reaches a higher percentage in the Capital than the one offered in that paper: 18% against 11% (see Panella 1992, 197-199). Apart from this, data offered here allow an updating of the findings of the previous article not only for the Hadrianic and Severan ages, which it lacked (9.8% for the former,

11% for the latter), but even for the Antonine age, which also shows larger presences of Italian and Eastern Mediterranean wines than the ones derived from the data available thirty years ago.

Finally, the data offered here, which will be surely modified in the future by new discoveries and (hopefully) new publications, prove once more that ceramic materials have one of the biggest potential for an understanding of Roman society, not only in terms of economy or commerce, but also diet and human behaviour. Even though the resulting interpretations might only confirm or merely slightly modify the already published and accepted picture, they could still allow a better comprehension of ancient lives and behaviours based on tangible materials (Vidale 2007, 123). After all, ‘behind amphorae there is [a] society’ (Gras 2006, 438) to be reconstructed.

References

- Baratta G. 2001.** Un’alternativa all’anfora: la botte. In J. Maldonado Rosso (ed.), *Actas del I simposio de la Asociación Internacional de Historia y Civilización de la vid y el vino* 1/2, 149-155. El Puerto de Santa María.
- Barberan S., Bardot-Cambot A., Gafà R., Lemaire B., Malignas A., Raux S., Renaud A. and Silvéreano S. 2012.** Boire et manger sur le *forum* du *Castellas* (Murviel-lès-Montpellier, Hérault): un dépotoir atypique de la première moitié du IIe s. ap. J.-C. *RANarb* 45, 293-360. <https://doi.org/10.3406/ran.2012.1840>.
- Barnett C. 2014.** Alcoholic Beverages and Resistance to Roman Imperialism in Dalmatia. *Croatian Studies Review* 10, 13-34.
- Barthes R. 1957.** *Mythologies*. Paris.
- Barthes R. 1961.** Pour une psycho-sociologie de l’alimentation contemporaine. *Annales E-S-C* 16/5, 977-986. <https://doi.org/10.3406/ahess.1961.420772>.
- Bats M. 1993.** Amphores massaliètes impériales. In M. Py, A.M. Adroher Auroux and C. Raynaud (eds), *Lattara 6, Dicocer: dictionnaire des céramiques antiques (VII^{ème} s. av. n. è. – VII^{ème} s. de n. è.) en Méditerranée nord-occidentale (Provence, Languedoc, Ampurdan)*, 67-68. Lattes. Retrieved from <http://syslat.on-rev.com/ArcheOnLine/PUB1/PUB000011.pdf> (status as of July 1st 2021).

- Baudoux J., Bocquet A., Brulet R., Laubenheimer F., Marlière E. and Vilvorder F. 1998.** La production des amphores dans l'Est et le Nord des Gaules. In F. Laubenheimer (ed.) 1998, 11-48.
- Beaudrillard J. 1990.** Subjective Discourse in the Non-functional System of Objects. In J. Beaudrillard (ed.), *Revenge of the Crystal: Selected Writings on the Modern Object and Its Theory 1968-1983*, trans. P. Foss and J. Petanis, 35-61. London.
- Bertucchi G. 1992.** *Les amphores et le vin de Marseille. VIe siècle avant J.-C. – IIe siècle après J.-C. (RANarb Supplément 25)*. Paris.
- Botte E. 2009.** *Salaisons et sauces de poissons en Italie du sud et en Sicile durant l'Antiquité. (Collection du Centre Jean Bérard 31)*. Naples. <https://doi.org/10.4000/books.pcbj.4345>.
- Bouvier M. 2001/2002.** Le vin, boisson privilégié des villes. *Cesarodunum. Bulletin de l'institut d'études latines et du Centre de recherches A. Piganiol* 35, 241-253.
- Brun J.-P. 2003.** *Le vin et l'huile dans la Méditerranée antique. Viticulture, oléiculture et procédés de transformation*. Paris.
- Brun J.-P. 2004.** *Archéologie du vin et de l'huile. De la Préhistoire à l'époque hellénistique*. Paris.
- Brun J.-P. 2005.** *Archéologie du vin et de l'huile en Gaule romaine*. Paris.
- Caple C. 2006.** *Objects: Reluctant Witnesses to the Past*. London, New York. <https://doi.org/10.4324/9780203409060>.
- Cerchiai C. 2013.** *Nettare di Dioniso. La vite e il vino attraverso le parole degli autori antichi*. Rome.
- Corrigan P. 1997.** *The Sociology of Consumption: An Introduction*. London. <https://doi.org/10.4135/9781446216903>.
- Curtis R.I. 1991.** *Garum and Salsamenta: Production and Commerce in Materia Medica. (Studies in Ancient Medicine 3)*. Leiden. <https://doi.org/10.1163/9789004377264>.
- Dangréaux B., Desbat A., Picon M. and Schmitt A. 1992.** La production d'amphores à Lyon. In Laubenheimer F. (ed.) 1992, 37-50.
- D'Arms J.H. 1995.** Heavy Drinking and Drunkenness in the Roman World: Four Questions for Historians. In O. Murray and M. Tecuşan (eds), *In vino veritas*, 304-317. London.
- De' Siena S. 2012.** *Il vino nel mondo antico. Archeologia e cultura di una bevanda speciale*. Modena.
- Desmond J. 2003.** *Consuming Behaviour*. Basingstoke. <https://doi.org/10.1007/978-0-230-62939-4>.

- Desbat A. 1987.** Note sur la production d'amphores à Lyon au début de l'empire. In L. Rivet (ed.), *Société Française d'Étude de la Céramique Antique en Gaule, Actes du Congrès de Caen (28-31 mai 1987)*, 159-165. Marseille. Retrieved from http://sfecag.free.fr/ACTES/1987_159-166_Desbat.pdf (status as of July 1st 2021).
- Desbat A. 2003.** Amphorae from Lyon and the Question of Gaulish Imitations of Amphorae. *Journal of Roman Pottery Studies* 10, 45-49. Retrieved from https://sgrp-wordpress-offload.s3.eu-west-2.amazonaws.com/wp-content/uploads/2021/08/09155520/Journal-of-Roman-Pottery-Studies-Vol-10_final.pdf (status as of July 1st 2021).
- Dietler M. 2006.** Alcohol: Anthropological/Archaeological Perspectives. *Annual Review of Anthropology* 35, 229-249. <https://doi.org/10.1146/annurev.anthro.35.081705.123120/>.
- Driard C., Dréano Y., Garnier N. 2018.** Les sauces de poisson produites sur la côte atlantique des Gaules: sources archéologiques et productions diversifiées des ateliers de salaison. *Gallia* 74/2, 183-205. <https://doi.org/10.4000/gallia.2182>.
- Fabris G. 2000.** *Consumatore & Mercato*. Milan.
- Ferrandes A.F. 2008.** I contenitori da trasporto. In F. Filippi (ed.), *Horti et Sordes, Uno scavo alle falde del Gianicolo*, 247-283. Rome.
- Gras M. 2006.** Commercio o traffici: elementi per un dibattito. In M.G. Della Fina (ed.), *Gli Etruschi e il Mediterraneo. Commerci e politica, Atti del XIII Convegno Internazionale di Studi sulla Storia e l'Archeologia dell'Etruria*, 433-438. Rome.
- Grenier A. 1932.** Le *garum* de Fréjus. *REÁ* 34, 291-292.
- Harris W.V. 2011.** *Rome's Imperial Economy: Twelve Essays*. Oxford. <https://doi.org/10.1093/acprof:osobl/9780199595167.001.0001>.
- Holleran C. 2012.** *Shopping in Ancient Rome: The Retail Trade in the Late Republic and Early Principate*. Oxford. <https://doi.org/10.1093/acprof:oso/9780199698219.001.0001>.
- Horejs B., Jung R. and Pavúk P. 2010.** Introductory Remarks, or What Should Be Done with a Pile of Sherds. In B. Horejs, R. Jung and P. Pavúk (eds), *Analysing Pottery, Processing – Classification – Publication*, 9-12. (*Studia Archaeologica et Medievalia* 10). Bratislava. Retrieved from <https://www.yumpu.com/s/J07GJDZoFaDPPne5> (status as of July 1st 2021).
- Insoll T. 2007.** *Archaeology: The Conceptual Challenge*. London.
- Johnson M. 2010.** *Archaeological Theory: An Introduction*, 2nd ed. Chichester.

- Komar P. 2018.** Aegean Wine Imports to the City of Rome (1st century BC – 3rd century AD). *SAAC* 22, 95-116. <https://doi.org/10.12797/SAAC.22.2018.22.05>.
- Laubenheimer F. 1985.** *La production des amphores en Gaule Narbonnaise sous le Haut-Empire*. Paris. <https://doi.org/10.3406/ista.1985.1790>.
- Laubenheimer F. (ed.) 1992.** *Les amphores en Gaule. Production et circulation. Table ronde internationale. Metz 4-6 octobre 1990. (Centre de Recherches d'Histoire Ancienne 116)*. Bressançon, Paris. Retrieved from https://www.persee.fr/issue/ista_0000-0000_1992_act_474_1 (status as of July 1st 2021).
- Laubenheimer F. (ed.) 1998.** *Les Amphores en Gaule. II. Production et circulation. (Collection Institut des Sciences et Techniques de l'Antiquité 705)*. Bressançon, Paris. Retrieved from https://www.persee.fr/issue/ista_0000-0000_1998_ant_705_1 (status as of July 1st 2021).
- Laubenheimer F. 2000.** Imitations d'amphores à huile de Bétique dans l'est et le nord des Gaules et en Germanie Supérieure. In E. García Vargas (ed.), *Congreso internacional 'Ex Baetica amphorae'. Conservas, aceite y vino de la Bética en el Imperio Romano, (Ecija y Sevilla, 17-20 de Diciembre de 1998)*, 1121-1142. Ecija.
- Laubenheimer F. 2004.** Inscriptions peintes sur les amphores gauloises. *Gallia* 61, 153-171. <https://doi.org/10.3406/galia.2004.3192>.
- Laubenheimer F. and Gisbert Santonja J.A. 2001.** La standardisation des amphores Gauloise 4, des ateliers de Narbonnaise à la production de Denia (Espagne). In F. Laubenheimer (ed.), *20 ans de recherches à Sallèles d'Aude, Colloque des 27-28 septembre 1996 (Sallèles d'Aude)*, 33-50. (Collection Institut des Sciences et Techniques de l'Antiquité 760). Besançon. Retrieved from https://www.persee.fr/issue/ista_0000-0000_2001_act_760_1 (status as of July 1st 2021).
- Laubenheimer F. and Marlière É. 2010.** *Échanges et vie économique dans le nord-ouest des Gaules: (Nord/Pas-de-Calais, Picardie, Haute-Normandie): le témoignage des amphores du IIe s. av. J.-C. au IVe s. ap. J.-C.* Besançon. <https://doi.org/10.3406/ista.2010.2784>.
- Laubenheimer F. and Schmitt A. 2009.** *Amphores vinaires de Narbonnaise, Production et grand commerce. Création d'une base de donnée géochimiques des ateliers*. Lyon. Retrieved from https://www.persee.fr/doc/mom_1955-4982_2009_mon_51_1 (status as of July 1st 2021).
- Laubenheimer F., Gebara C. and Beraud I. 1992.** Production d'amphores à Fréjus. In F. Laubenheimer (ed.) 1992, 15-24.
- Leather S. 1992.** Less Money, Less Choice: Poverty and Diet in the UK Today. In National Consumer Council (ed.), *Your Food: Whose Choice?*, 72-94. London.

- Lo Cascio E. (ed.) 2012.** *L'impatto della "Peste Antonina". (Pragmateiai 22)*. Bari.
- Marlière E. 1998.** Les amphores de Bavay. In Laubenheimer F. (ed.) 1998, 49-89.
- Marlière E. 2002.** *L'outre et le tonneau dans l'Occident romain. (Monographies Instrumentum 22)*. Montagnac.
- Martín i Oliveiras A. 2015.** Arqueología del vino en época romana: teoría económica, lógica productiva y comercial aplicada al envasado, la expedición, el transporte y la distribución de ánforas vinarias del noreste peninsular (s. I a.C.-I d.C.). In V. Martínez Ferreras (ed.), *La difusión comercial de las ánforas vinarias de Hispania Citerior-Tarraconensis (s. I a.C. – I. d.C.)*, 19-37. (*Archaeopress Roman Archaeology* 4). Oxford. <https://doi.org/10.2307/j.ctvr43jtb.7>.
- Marshall D. 1995.** Introduction: Food Choice, the Food Consumer and Food Provisioning. In D. Marshall (ed.) 1995, 3-17.
- Marshall D. (ed.) 1995.** *Food Choice and the Consumer*. London.
- Montanari M. 2004.** *Il cibo come cultura*. Rome, Bari.
- Musarò P. 2011.** Consumo. In C. Cipolla (ed.), *I concetti fondamentali del sapere sociologico*, 73-86. Milan.
- Nencini P. 2009.** *Ubriachezza e sobrietà nel mondo antico. Alle radici del bere moderno*. Monte San Pietro.
- Olmer F. and Maza G. 2004.** Le marché gaulois. In J.-P. Brun, M. Poux and A. Tchernia (eds), *Le vin: Nectar des dieux, génie des hommes*, 141-157. Gollion.
- Panella C. 1992.** Mercato di Roma e anfore galliche nella prima età imperiale. In F. Laubenheimer (ed.) 1992, 185-206.
- Panella C. 2001.** Le anfore di età imperiale del Mediterraneo occidentale. In P. Lévêque, J.-P. Morel and E. Geny (eds), *Céramiques hellénistiques et Romaines III*, 177-275. (*Collection Institut des Sciences et Techniques de l'Antiquité* 720). Besançon, Paris. Retrieved from https://www.persee.fr/doc/ista_0000-0000_2001_ant_720_1_2709 (status as of July 1st 2021).
- Pavolini C. 1996.** Mercato ostiense e mercato romano: alcuni contesti ceramici a confronto. In A. Gallina Zevi and A. Claridge (eds), *Roman Ostia Revisited: Archaeological and Historical Papers in Memory of Russell Meiggs*, 223-242. London.
- Petruzzellis L. and Chebat J.-C. 2010.** *Comportamento del consumatore. Teoria e casi di studio*. Milan, Turin.
- Picon M. 1992.** Origine fréjusienne de l'amphore Dr. 16 de Londres présentant une inscription peinte avec l'indication *Liquamen Antipolitanum*. In F. Laubenheimer (ed.) 1992, 21-22.

- Pieri D. 2012.** Regional and Interregional Exchanges in the Eastern Mediterranean during the Early Byzantine Period: The Evidence of Amphorae. In C. Morrisson (ed.), *Trade and Markets in Byzantium*, 27-49. (*Dumbarton Oaks Byzantine Symposia and Colloquia* 4). Washington D.C.
- Protocole Beauvray 1998.** Protocole de la quantifications des céramiques. In P. Arcelin and M. Truffeau-Libre (eds), *La quantification des céramiques. Conditions et Protocole, Actes de la table ronde du Centre archéologique européen du Mont Beauvray (Glux-en-Glenne, 7-9 avril 1998)*, I-XVII. Glux-en-Glenne.
- Purcell N. 1985.** Wine and Wealth in Ancient Italy. *JRS* 75, 1-19. <https://doi.org/10.2307/300648>.
- Radaelli E. 2016.** The So-called ‘2nd Century AD Crisis’ of Italian Productions: Reflections from the Remains of Wine-amphorae Discovered in the ‘Terme di Elagabalo’ in Rome. *Emergence. Humanities Graduate School Research Journal* 8, *Construction and Decay*, 79-90.
- Radaelli E. 2017.** Salse di pesce a Roma in età medio imperiale. Considerazioni dai ritrovamenti anforici presso le cd. “Terme di Elagabalo”. In A. Pontrandolfo and M. Scafuro (eds), *Dialoghi sull’Archeologia della Magna Grecia e del Mediterraneo, Atti del I Convegno Internazionale di Studi* 4, 1043-1052. Paestum.
- Radaelli E. 2018a.** Los alimentos (vino y dátiles) de Palestina y Líbano en Roma y en Ostia durante el medio imperio (siglos II-principios del III d. C.): análisis de datos que derivan de las ánforas. In M. Andrés Chaín, A. M. Gutiérrez Hernández, P. Ortega Martínez, and P. Poveda Arias (eds), *La Alimentación en la Historia*, 127-140. Salamanca.
- Radaelli E. 2018b.** The Presence of North-African Wines in Rome and Ostia during the Middle Imperial Age (2nd – Early 3rd Centuries AD). *Antesteria. Debates de Historia Antigua* 7, 245-262.
- Radaelli E. 2019.** Los vinos ibéricos en Roma (y Ostia) durante el medio imperio (siglos II-principios del III d. C.). Análisis y revisiones de datos. In A. Grzelak-Krzymianowska and M.J. Woźniak (eds), *Roma y la Península Ibérica. Variedad de relaciones desde la antigüedad hasta la contemporaneidad*, 245-264. Łódź. <https://doi.org/10.18778/8142-506-3.16>.
- Ritson C. and Hutchins R. 1995.** Food Choice and the Demand for Food. In D. Marshall (ed.) 1995, 43-76.
- Rizzo G. 2003.** *Instrumenta urbis I. Ceramiche fini da mensa, lucerne ed anfore a Roma nei primi due secoli dell’impero. (Collection de l’École française de Rome 307)*. Rome.

- Rizzo G. 2012.** Roma e Ostia, un binomio ancora possibile? Di alcuni generi trasportati in anfora in età tardo-antonina. In S. Keay (ed.), *Rome, Portus and the Mediterranean*, 87-103. (*Monographs of the British School at Rome* 21). London.
- Rizzo G. 2014a.** Le anfore dell'area NE. In *Ostia VI (StMisc 38)*, 73-370.
- Rizzo G. 2014b.** Ostia, le anfore e i commerci. In *Ostia VI (StMisc 38)*, 393-431.
- Sánchez Climent Á. 2013.** El objeto en arqueología: el análisis de los artefactos como productos de la cultura material. *Archaeological Research & Ethnographic Studies* 1, 31-44.
- Shack D.N. 1978.** Taster's Choice: Social and Cultural Determinants of Food Preferences. In J. Yudkin (ed.), *Diet of Man: Needs and Wants*, 209-224. London.
- Slater D. 1997.** *Consumer Choice and Modernity*. Cambridge.
- Smith M.L. 2006.** The Archaeology of Food Preference. *American Anthropologist* 108/3, 480-493. <https://doi.org/10.1525/aa.2006.108.3.480>.
- Symonds R.P. and Haynes I. 2007.** Developing Methodology for Inter-provincial Comparison of Pottery Assemblages. In R. Hingley and S. Willis (eds), *Roman Finds: Context and Theory: Proceedings of a Conference Held at the University of Durham*, 67-76. Oxford.
- Tchernia A. 1986.** *Le Vin de l'Italie romaine: essai d'histoire économique d'après les amphores*. Rome. <https://doi.org/10.3406/befar.1986.1221>.
- Tchernia A. 2011.** *Les Romains et le Commerce*. Naples. <https://doi.org/10.4000/books.pcbj.6418>.
- Tchernia M.A. and Villa J.-P. 1977.** Note sur le matériel recueilli dans la fouille d'un atelier d'amphores à Velaux (Bouches-du-Rhône). In G. Vallet (ed.), *Méthodes classiques et méthodes formelles dans l'étude des amphores*, 231-239. Roma. Retrieved from https://www.persee.fr/doc/efr_0000-0000_1977_act_32_1_4693 (status as of July 1st 2021).
- University of Southampton 2005.** *Roman Amphorae: A Digital Resource* [dataset]. <https://doi.org/10.5284/1028192>.
- Thomas J. 2007.** The Trouble with Material Culture. *Journal of Iberian Archaeology* 9/10, 11-23.
- Veblen T. 1975.** *The Theory of the Leisure Class: An Economic Study of Institutions*. New York.
- Vidale M. 2007.** *Ceramica e archeologia*. Roma.
- White C.L. and Beaudry M.C. 2009.** Artifacts and Personal Identity. In T. Majewski and D. Gaimster (eds), *International Handbook of Historical Archaeology*, 209-225. New York. https://doi.org/10.1007/978-0-387-72071-5_12.

- Wilson A. 2006.** Fishy Business: Roman Exploitation of Marine Resources. *JRA* 19/2, 525-537. <https://doi.org/10.1017/S1047759400006760>.
- Whittaker C.R. 1989.** Il povero. In A. Giardina (ed.), *L'uomo romano*, 299-333. Roma, Bari.

Edoardo Radaelli
Archaeology Department,
The University of Southampton
& Dipartimento di Scienze dell'Antichità,
Sapienza Università di Roma
[Alumnus]
Rome, Italy
edoardoradaelli@hotmail.it

ORIGIN	FORM	LITRES	ROLE	TRAJANIC AGE - VESSELS			HADRIANIC AGE - VESSELS			ANTONINE AGE - VESSELS			SEVERAN AGE - VESSELS				
				ELAGABALO	ROME	OSTIA	ELAGABALO	ROME	OSTIA	ELAGABALO	ROME	OSTIA	ELAGABALO	ROME	OSTIA		
GALLIA NARBONENSIS	GAULOISE 1	30	IN-PHASE	0	0	3	1	0	0	0	0	0	0	2	0	0	0
GALLIA NARBONENSIS	GAULOISE 2	30	RESIDUAL	0	0	0	0	0	1	0	0	0	0	0	0	0	0
GALLIA NARBONENSIS	GAULOISE 2/3	29.75*	RESIDUAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLIA NARBONENSIS	GAULOISE 3	29.5	IN-PHASE / RESIDUAL	0	0	0	0	0	1	0	0	0	0	0	2	1	0
GALLIA NARBONENSIS	GAULOISE 3/4	31.25*	IN-PHASE?	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLIA NARBONENSIS	GAULOISE 4	33*	IN-PHASE	0	377	46	3	688	14	0	94	319	21	19	33	0	0
GALLIA NARBONENSIS	GAULOISE 4/5	31.5*	IN-PHASE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLIA NARBONENSIS	GAULOISE 5	30	IN-PHASE	0	21	14	0	13	55	0	4	73	0	0	8	0	0
GALLIA NARBONENSIS	GAULOISE 5/6	30?	IN-PHASE?	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLIA NARBONENSIS	GAULOISE 7	18	RESIDUAL	0	1	0	0	0	1	0	0	0	0	0	0	0	0
GALLIA NARBONENSIS	DRESSEL 2-4	30	IN-PHASE	0	0	2	0	2	0	0	0	0	0	0	0	0	0
GALLIA NARBONENSIS	FERRANDES 2008, FIG. 7.57	UNID.	IN-PHASE?	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLIA NARBONENSIS	UNIDENTIFIABLE	UNID.	UNID.	0	1	25	2	0	12	0	22	215	4	8	1	0	0
FREJUS	DRESSEL 2-4 / DRESSEL 16	21.5*	IN-PHASE?	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FREJUS	DRESSEL 16	13	IN-PHASE / RESIDUAL	0	6	0	0	26	0	0	0	0	0	0	0	0	0
GAUL UNID.	GAULOISE 5	30	IN-PHASE	0	0	5	0	0	0	0	0	0	0	0	0	0	0
MARSEILLE	BERTUCCHI 1992, FIG. 76	UNID.	RESIDUAL	0	4	0	0	0	0	0	0	0	0	0	0	0	0
MARSEILLE	UNIDENTIFIABLE	UNID.	RESIDUAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLIA AQUITANIA	OSTIA VI, 168	UNID.	IN-PHASE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LYON	DRESSEL 28	13.5	IN-PHASE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLIA BELGICA	GAULOISE 13	UNID.	INTRUSIVE	0	0	1	0	0	0	0	0	0	0	0	0	0	0

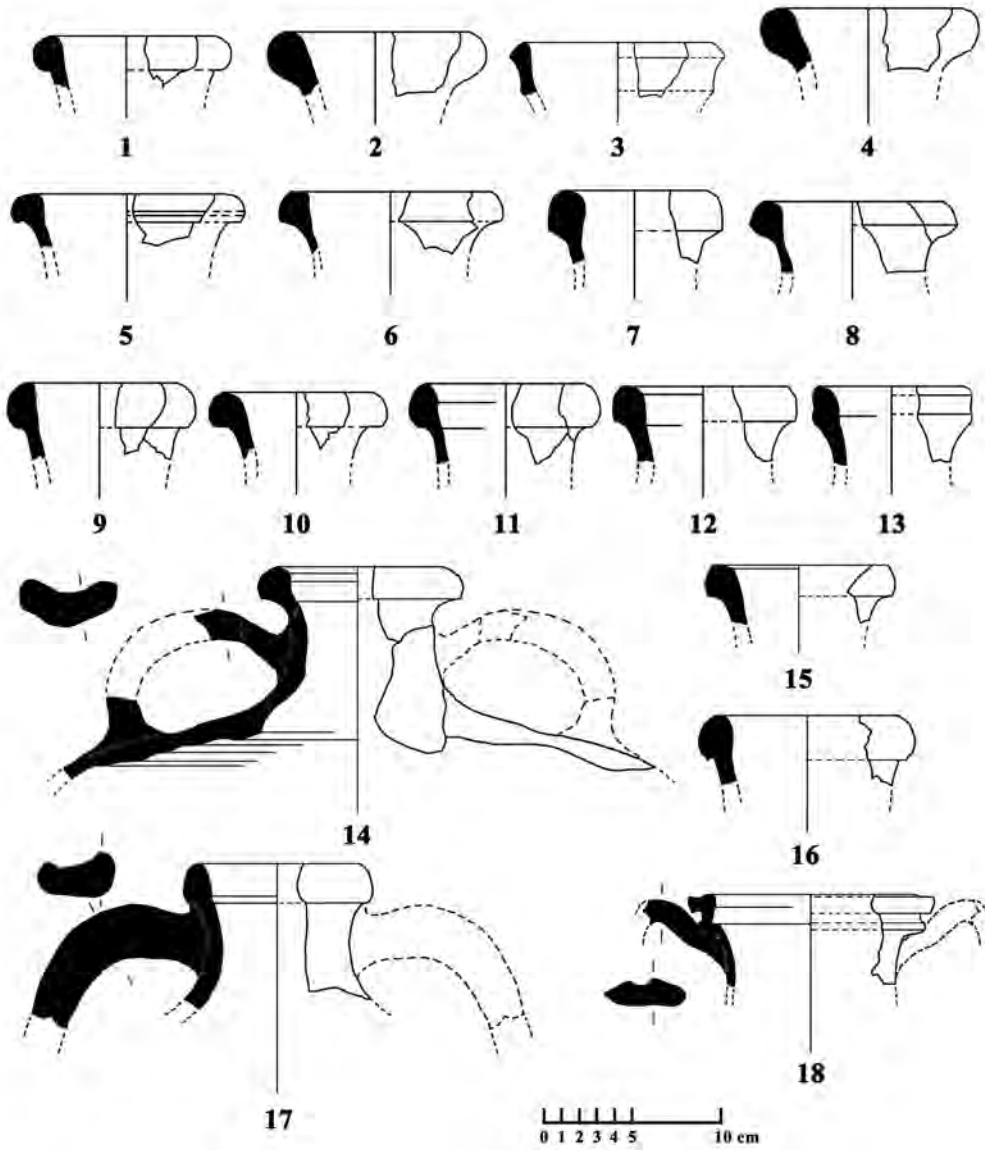
Pl. 1 – Quantifications of Gallic amphorae in all contexts considered. Asterisks refer to average volumes. In-phase forms are in bold. Prepared by the author

FISH-SAUCE QUANTIFICATIONS		ITALY										IBERIAN PENINSULA					
		CAMPANIA		SICILY		BRUTTIUM		TOTAL		BAETICA		LUSITANIA		TOTAL			
		LITRES	%	LITRES	%	LITRES	%	LITRES	%	LITRES	%	LITRES	%	LITRES	%		
TRAJANIC AGE	Rome	131.75	2.1%	18.75	0.3%	0	0%	150.5	3%	5,399.48	85.4%	297.1	4.7%	5,696.58	90%		
	Ostia	0	0%	18.75	1%	0	0%	18.75	1%	553.34	37%	445.45	29%	998.99	66%		
HADRIANIC AGE	Rome	0	0%	75	0.5%	0	0%	75	1%	12,345.74	79.9%	950.72	6.1%	13,296.46	86%		
	Ostia	0	0%	18.75	1%	0	0%	18.75	1%	986.65	55%	742.75	42%	1,729.4	97%		
ANTONINE AGE	Rome	93.75	0.8%	18.75	0.2%	0	0%	112.5	1%	6,960.68	58.7%	2,317.38	19.5%	9,278.06	78%		
	Ostia	37.5	0.2%	375	2.3%	337.5	4.5%	750	5%	9,359.86	56.6%	3,476.07	21.0%	12,835.93	79%		
SEVERAN AGE	Rome	131.75	1%	187.5	2%	0	0%	319.25	3%	3,343.37	34%	356.52	4%	3,699.89	38%		
	Ostia	0	0%	0	0%	0	0%	0	0%	509.25	30%	623.91	36%	1,133.16	66%		
		NORTH-AFRICA										EASTERN MEDITERRANEAN					
		ANCIENT TUNISIA		TRIPOLITANIA		TOTAL				FRÉJUS		BOSPHORUS / PONTUS					
		LITRES	%	LITRES	%	LITRES	%	LITRES	%	LITRES	%	LITRES	%	LITRES	%		
TRAJANIC AGE	Rome	0	0%	400	6.3%	400	6%	400	6%	78	1%	0	0%	0	0%		
	Ostia	190.5	13%	300	20%	490.5	33%	490.5	33%	0	0%	0	0%	0	0%		
HADRIANIC AGE	Rome	0	0%	1,750	11.3%	1,750	11%	1,750	11%	338	2%	0	0%	0	0%		
	Ostia	42	2%	0	0%	42	2%	42	2%	0	0%	0	0%	0	0%		
ANTONINE AGE	Rome	1,331	11.2%	1,150	9.7%	2,481	21%	2,481	21%	0	0%	0	0%	0	0%		
	Ostia	640	3.9%	1,850	11.2%	2,490	15%	2,490	15%	0	0%	52	1%	52	1%		
SEVERAN AGE	Rome	1,785.5	18%	750	8%	2,535.5	26%	2,535.5	26%	0	0%	3,172	33%	3,172	33%		
	Ostia	427.5	25%	150	9%	577.5	34%	577.5	34%	0	0%	0	0%	0	0%		

Pl. 2 – Quantifications of fish-sauces from all origins in all contexts considered. Prepared by the author

WINE QUANTIFICATIONS		ITALY		GAUL		IBERIA (INCLUDING DEFRUTUM)	
		LITRES	%	LITRES	%	LITRES	%
TRAJANIC AGE	Rome	18,248.2	34%	1,3071	25%	2,887	5%
	Ostia	1,854.32	30.1%	2,546	41.3%	534	8.7%
HADRIANIC AGE	Rome	70,270.78	29.6%	2,3342	9.8%	6,374.5	1.9%
	Ostia	1,716.8	29.9%	2,112	36.8%	516.25	9.0%
ANTONINE AGE	Rome	6,081.02	33%	3,222	18%	383.75	2%
	Ostia	12,297.12	31.6%	13,613.75	35.0%	2,571.25	6.6%
SEVERAN AGE	Rome	2,480.26	13%	2,185	11%	457.5	2%
	Ostia	1,161.2	26.0%	1,449	32.5%	135.75	3.0%
		NORTH-AFRICA		EASTERN MEDITERRANEAN		UNIDENTIFIED	
		LITRES	%	LITRES	%	LITRES	%
TRAJANIC AGE	Rome	363	1%	18,282.2	35%	0	0%
	Ostia	253	4.1%	857.26	13.9%	120	1.9%
HADRIANIC AGE	Rome	2,733.62	1.2%	136,404.52	57.5%	0	0%
	Ostia	254.5	4.4%	748.96	13.1%	390	6.8%
ANTONINE AGE	Rome	2,075.62	11%	6,671.31	36%	0	0%
	Ostia	1,909.5	4.9%	8,537.72	21.9%	0	0%
SEVERAN AGE	Rome	9,175.72	48%	4,974.31	26.0%	0	0%
	Ostia	503.86	11.4%	1,142.9	25.6%	66	1.5%

Pl. 3 – Quantifications of wine from all origins in all contexts considered.
Prepared by the author



Pl. 4 – Gallic amphorae at the ‘Terme di Elagabalo’.

Hadrianic age: 1-2 = Gauloise 4; 3 = Gauloise 3.

Severan age: 4-17 = Gauloise 4; 18 = Dressel 28.

Drawings by the author