LRCW 6

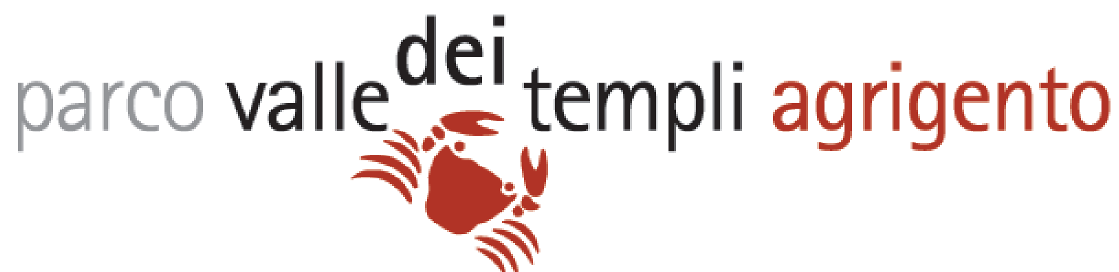
Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry

Land and sea: pottery routes

Volume 1

Edited by

Valentina Caminneci, Enrico Giannitrapani, Maria Concetta Parello, Maria Serena Rizzo



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Abbreviations

BAR: British Archaeological Reports.

LRCW 1: LRCW 1, Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry, edited by J.M Gurt i Esparraguera, J. Buxeda i Garrigos, M.A. Cau Ontiveros (British Archaeological Reports International Series 1340) 2005. Oxford: Archaeopress.

LRCW 2: LRCW 2, Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry, edited by M. Bonifay, J.-C. Tréglia (British Archaeological Reports International Series 1662, Vols I and II) 2007. Oxford: Archaeopress.

LRCW 3: LRCW 3, Late Roman Coarse Wares Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry. Comparison between Western and Eastern Mediterranean, edited by S. Menchelli, S. Santoro, M. Pasquinucci, G. Guiducci (British Archaeological Reports International Series 2185, Vols I and II) 2010. Oxford: Archaeopress.

LRCW 4: LRCW 4, Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry. The Mediterranean: a market without frontiers, edited by N. Poulou-Papadimitriou, E. Nodarou, V. Kilikoglou (British Archaeological Reports International Series 2616, Vols I and II) 2014. Oxford: Archaeopress.

LRCW 5: LRCW 5, Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry = LRCW 5 : la céramique commune, la céramique culinaire et les amphores de l'Antiquité tardive en Méditerranée : archéologie et archéométrie, edited by D. Dixneuf (Études alexandrines, 42-43) 2017. Alexandria: Centre d'Études Alexandrines.

Prefazione

Alla fine, dopo cinque anni di intenso lavoro, rallentato dalla pandemia, presentiamo gli atti della 6° edizione della Conferenza LRCW, lieti che questa pubblicazione possa rappresentare anche un messaggio di speranza e di augurio per un ritorno alla quotidianità. La storia di questo convegno evidenzia il crescente interesse scientifico per le produzioni ceramiche della tarda antichità, con particolare riguardo alle potenzialità informative degli aspetti archeometrici.

La 6° Conferenza LRCW si è svolta presso il Parco Archeologico e Paesaggistico della Valle dei Templi di Agrigento dal 24 al 28 maggio 2017 con il titolo *6th International Conference on Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry. Land and sea: pottery routes*. La scelta di Agrigento come sede del convegno, dopo altre importanti città mediterranee, come Barcellona (2002), Aix-en-Provence (2005), Parma-Pisa (2008), Salonicco (2011), e Alessandria (2014), conferma il ruolo di primo piano del Parco negli studi archeologici sul Mediterraneo antico.

Dobbiamo ringraziare quanti ci hanno aiutato a organizzare la conferenza. In primo luogo, vogliamo ricordare i membri del Comitato Scientifico permanente, Michel Bonifay, Claudio Capelli, Miguel A. Cau Ontiveros, Piotr Dyczek, Simonetta Menchelli, Natalia Poulou, Paul Reynolds e Agnès Vokaer. Un ringraziamento speciale va a Miguel Cau Ontiveros, che ci ha sostenuto amichevolmente durante tutta la lunga preparazione della conferenza.

La partecipazione è stata travolgente, con oltre 200 partecipanti che con i loro contributi hanno coperto tutte le aree del bacino del Mediterraneo. I lavori del convegno, svolti in giornate soleggiate e intense, si sono tenuti in un clima fraterno e gioioso negli angoli più belli del Parco, tra i templi dorici della Valle. Il laboratorio sulle ceramiche nasce dalla collaborazione con il Museo Archeologico "Pietro Griffo" di Agrigento e la Soprintendenza di Agrigento. Per questo si ringraziano Gioconda Lamagna, Gabriella Costantino, Carla Guzzone, Domenica Gullì e Donatella Mangione.

Si ringrazia lo staff - Margherita Orlando, Francesca Dainotto, Alessandra Macchiarella, Giorgia Moscato, Angharad Ozols, Maria Francesca Terranova - che ha assicurato un premuroso ed efficiente svolgimento del convegno, Milena Siracusa, Dirigente Scolastico dell'Istituto Enogastronomico Ambrosini di Favara, per il delizioso servizio di ristorazione, e †Teresa Buscemi, Dirigente Scolastico del Liceo Scientifico e Musicale Majorana di Agrigento, per lo strepitoso concerto di fine lavori.

Dopo un'accurata e lunga raccolta, selezione e revisione di tutti i contributi presentati, siamo quindi lieti di presentare gli atti della 6° Conferenza sulla *Late Roman Coarse Wares*. Tutti i contributi sono stati sottoposti a *peer review*: questo lungo processo è stato facilitato grazie alla innovativa piattaforma online messa a disposizione da Archaeopress. Ringraziamo David Davison e tutto lo staff di Archaeopress per la pazienza, anche nell'attuale drammatico contesto di pandemia. Vogliamo esprimere la nostra profonda gratitudine a Michel Bonifay, Miguel A. Cau Ontiveros, Simonetta Menchelli e in particolare Paul Reynolds per aver contribuito a questo fondamentale processo con grande professionalità. Grazie anche a Elisa Chiara Portale per aver curato le conclusioni del dibattito scientifico.

Il volume è composto da quasi 100 contributi, suddivisi secondo le sessioni del convegno e organizzati in un'ottica tematica, non solo geografica, con un focus particolare sulle testimonianze archeologiche delle isole del Mediterraneo: *Sea and land routes*, *Workshops and production centres in the Mediterranean*, *Regional contexts: western Mediterranean*, *Regional contexts: eastern Mediterranean*, *Regional contexts: Sicily and Mediterranean islands*.

Rivolgiamo infine un commosso ricordo a Sara Santoro, insigne studiosa la cui scomparsa ha lasciato un grande vuoto nelle ricerche sulla ceramica tardo romana. Durante LRCW 3, magistralmente da lei organizzato insieme a Simonetta Menchelli, Marinella Pasquinucci e Gabriella Guiducci, ha espresso il desiderio che il convegno potesse un giorno svolgersi ad Agrigento. Per questo, profondamente grati, le dedichiamo la pubblicazione degli atti di LRCW 6.

Preface

At last, after five years of intense work, slowed down by the pandemic, we present the proceedings of the 6th edition of the LRCW Conference, pleased that this publication can also represent a message of hope and good wishes for a return to everyday life. The history of this conference evidences the growing scientific interest in the ceramic products of Late Antiquity, with particular regard to the informative potential of archaeometric aspects.

The 6th LRCW Conference was held at the *Parco Archeologico e Paesaggistico della Valle dei Templi* of Agrigento between 24-28 May 2017 with the title *6th International Conference on Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry. Land and sea: pottery routes*. The choice of Agrigento as the hosting venue of the conference, after other important Mediterranean cities, such as Barcelona (2002), Aix-en-Provence (2005), Parma-Pisa (2008), Thessaloniki (2011), and Alexandria (2014), confirms the leading role of the Parco in archaeological studies on the ancient Mediterranean.

We must thank many people who helped us to organize the conference. Firstly, we must mention the members of the standing Scientific Committee, Michel Bonifay, Claudio Capelli, Miguel A. Cau Ontiveros, Piotr Dyczek, Simonetta Menchelli, Natalia Poulou, Paul Reynolds, and Agnès Vokaer. A special thanks goes to Miguel Cau Ontiveros, who supported us in a friendly way during the long preparation of the conference.

The participation was overwhelming, with 200 participants that, with their contributions, equally covered all the areas of the Mediterranean basin. The works of the conference, sunny and labour-intensive days, were held in a fraternal and joyful atmosphere in the most beautiful corners of the Parco, between the Doric temples of the Valley. The pottery exhibition resulted from the collaboration with the "Museo Archeologico Pietro Griffo" of Agrigento and the Soprintendenza of Agrigento. For this, we would like to thank Gioconda Lamagna, Gabriella Costantino, Carla Guzzone, Domenica Gullì, and Donatella Mangione.

We would like to thank the staff - Margherita Orlando, Francesca Dainotto, Alessandra Macchiarella, Giorgia Moscato, Angharad Ozols, Maria Francesca Terranova - who ensured a warmly and efficient development of the conference, Milena Siracusa, School Manager of the 'Istituto Enogastronomico Ambrosini' of Favara, for the delicious catering service, and †Teresa Buscemi, School Manager of the 'Liceo Scientifico e Musicale Majorana' of Agrigento, for the amazing concert at the end of our labours.

After an accurate and time-consuming collection, selection, and review of all the presented contributions, we are delighted to present the Sixth Late Roman Coarse Wares conference proceedings. All the papers have been peer-reviewed: this long process has been highly facilitated by the innovative online platform made available by Archaeopress. For this and their constant support, we would like to thank David Davison and the whole Archaeopress staff for their patience and willingness to publish this volume, even within the present dramatic pandemic context. We want to express our deep gratitude to Michel Bonifay, Miguel A. Cau Ontiveros, Simonetta Menchelli, and especially Paul Reynolds for contributing to this crucial process with great professionality. Thanks also to Elisa Chiara Portale for taking care of the conclusions of the scientific debate.

The volume comprises almost 100 papers, subdivided according to the sessions of the conference, organized in a thematic perspective, not only geographic, with a particular focus on the archaeological evidence from Mediterranean islands: *Sea and land routes*, *Workshops and production centres in the Mediterranean*, *Regional contexts: western Mediterranean*, *Regional contexts: eastern Mediterranean*, *Regional contexts: Sicily and Mediterranean islands*.

Finally, we address a moving memory to Sara Santoro, a distinguished scholar who also left a great void in research on Late Roman ceramics. During LRCW 3, masterfully organized together with Simonetta Menchelli, Marinella Pasquinucci and Gabriella Guiducci, she expressed the wish that the conference could take place in Agrigento. For this, deeply grateful, we dedicate to her the publication of the proceedings of LRCW 6.

We are looking forward very much to the LRCW 8 Conference!

Agrigento, 10th December 2021

The Editors

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Goods on the move across the Late Antique Mediterranean: some remarks on shipping, the management of ports and trading places

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Abstract: The purpose of the present article focuses on three basic questions: (1) what were the required procedures for a vessel to sail from one harbour to another? (2) What was the legal framework within which merchandise could be marketed? (3) To which authority was entrusted the management of a port? Our evidence suggests that a captain needed to have legal documents in order to navigate from one port to another, documents where the merchandise loaded on board also had to be listed. Even though sources contain no clear information about the status of ownership of ports, it can be argued that the management of them was among the rights pertaining to the municipal authority. During Late Antiquity imperial authority tends to replace local councils (the *boulai* or *curiae civitatis*) in the administration of the main harbours of the Mediterranean. This implies that the study of ports from the 4th to the 7th century has to be framed within the broader context of socio-economic transformations that occurred in Late Antique urbanism. The destination and commercialization of amphorae produced in the so-called 'dark centuries' remains a matter to be discussed, although archaeological research in the last decade has considerably enriched our knowledge. Not always such containers are to be connected with the distribution channels operated by the state. Imperial government managed a wide sphere of economic activity aimed at supporting the army and its administration; but however extensive this network may have been, it certainly did not absorb all commercial activities. The component fuelled by private trade must have been more important than it usually thought. Beginning with the 7th century its economic behaviour tends to operate on short segments of landed or maritime spaces, with a multi-spotted presence of selling places. This system did not have anything of 'anarchic' or 'primitive' in its functioning; simply, large-scale consumer goods, such as agricultural products or tableware, were traded within micro-regional or regional contexts, since this modus operandi allowed greater gains compared to the intrinsic value of the marketed goods.

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Before sailing to any destination, a ship had to load its cargo; and before loading, it had to find a suitable place to do this. We dispose of a good deal of important studies concerning the typologies of amphorae, their distribution across the Mediterranean and the economic forces which acted behind them. If I am not wrong, less available studies exist about the management of ports, as well as on shipping procedures, and this is the reason why I chose to address the topic on 'moving goods' - in itself quite well studied - following this perspective. I shall not deal with harbours and ports as 'adaptive systems' (Preiser-Kapeller 2015), nor their integration and multiple connections with their hinterland, namely the focus of the on-going project on 'Harbours from the Roman Period to the Middle Ages' promoted by the German Research Foundation (www.spp-haefen.de/en/home). Nor even I am going to speak about Late Antique harbours in a sociological approach (Reger 2015) or under the viewpoint of their archaeological records and their possible reconstructions (Augenti 2010; Bartoccini 1958; Berger 1999, 2015; Dark 2005; Gallina Zevi and Turchetti 2004; Ginalis 2004; Heher, Preiser-Kapeller and Simenov 2015; Hodges, Saraçi and Bowden 1997; Hohlfelder 1997, 2008; Hurst 1994; Karagianni 2015; Keay 2011, 2012; Keay *et al.* 2005; Kingsley 2001; Kislinger and Külzer 2015; Müller-Wiener 1994; Oleson *et al.* 1994; Raban 1985; Raban and Holum 1996; Scranton *et al.* 1978; Veikou 2015).

My purpose is limited, in the essence, to three basic questions: first, what were (if any) the required procedures for a vessel to set sail from a harbour to another; second, what was the legal framework in which merchandises could be marketed; and third - perhaps the most important one - to whom was the management of a port entrusted. In my analysis, I will take for granted the difference among 'anchorage' (ἐπίνειον, κατάβολος), 'harbour' (ὅρμος, ἐμπόρειον, λιμήν) and 'port' (λιμήν) (Veikou 2015: 39) as three different categories of landing places without venturing myself in excessive categorization.

Rather, it is essential to bear in mind that for the Roman administrative culture, the term *portus* implied a double meaning. On the one hand, it was a physical space in which ships could anchor safely for a long time, as in the definition given by Servius, the famous Late Antique grammarian and commentator of Virgil, according to whom 'a station is the place in which vessels stay for a time, a port that in which they winter' (*statio est ubi ad tempus stant naves, portus ubi hiemant*) (*Aeneidos commentarius* II, 23; X, 297 Thilo). On the other hand, *portus* had also an economic and juridical meaning, well explained by Ulpianus, who observes that 'we call a port an enclosing place in which merchandise is imported and exported' (*portus appellatus est conclusus locus quo importantur merces et inde exportantur*) (D. 50 16, 59). In other words, if there existed several kinds of anchorages, moorings and inlets, not all of them would have been defined by the Romans as *portus* or *emporion*, because the latter implied the notion of a place in which commerce was practised with a legal dimension.

The legal framework of trade is relatively easy to be determined in the exchanges with foreign peoples which,

in order to be legally recognized by the Roman power, had to be done only in certain places and under certain conditions (De Laet 1948: 455-460; Delmaire 1989: 283-286; Moatti 2011:165-175). It is much more complicated to frame the picture in which commerce was legally practiced inside the empire. Such an activity involved, first of all, several supervisory authorities that were different from one place to another. Then, it entailed a multitude of places in which trade could be carried out, as well as a large number of items that could be traded. Lastly, there were several kinds of merchandise, or category of persons, which or who were exempted from paying indirect taxes on circulation and selling (De Laet 1949: 461-482; Delmaire 1989: 287-309).

The existence of a huge variety of landing places along the coasts and islands of the Mediterranean, is manifest in the nautical texts handed down to us from Antiquity, such as the *Stadiasmos* and the *Itinerarium maritimum* (Cosentino 2013: 68-69). Major cities of the Roman empire were all situated along the shores of the *Mare Nostrum*. We cannot determine the percentage of maritime travel made by using open-sea routes in comparison with cabotage itineraries. Some scholars are inclined to think that the former were used with a certain frequency (Horden and Purcell 2001: 140); but given the technical limits of ancient seafaring, in which orientation was greatly facilitated by the possibility for mariners of observing visible points on the mainland, or on islets and islands (Arnaud 2005: 29-33; Horden and Purcell 2001: 126), one should prudently assume that at least two-thirds of commercial maritime movements were carried out through coastal navigation (Rougé 1977: 177-178).

Speaking about maritime travel, a simple question arises: could a merchant vessel in Late Antiquity set sail freely from one port to another, or were there formal procedures that one had to fulfil before being authorized to navigate? As simple as the question may be, its answer is difficult. We may tentatively suppose that navigation was not possible without permission. An indication of this is given by a law issued by Theodosius II on 18 September 420, that it is worth reading in full:

We decree with this very useful law that, for avoiding prohibited goods be brought to the barbarous nations and for allowing ships to depart from any port or station without suffering extortion or damage, it is necessary to draw up a documentation at the presence of the *defensor* along with a *protector,* or a representative of the *dux*, by taking care to specify in it in which places (the owners of the ships) intend to navigate and that they have not undergone extortion. The original of this document will be retained by the ship's captain or by the merchant, while a copy of it will remain at the *defensor*.

> Saluberrima sanctione decrevimus, ne merces inlicitae ad nationes barbaras deferantur, et quaecumque naves ex quolibet portu seu litore dimittuntur, nullam concussionem vel damna sustineant, gestis apud defensorem locorum praesente protectore seu duciano, qui dispositus est, sub hac observatione confectis, ut, et ad quas partes navigaturi sunt et quod nullam concussionem pertulerunt, apud acta deponant: quorum authenticum nauclerus sive mercator habebit scheda apud defensorem manente (CTh VII 16, 3).

As has been observed by Claudia Moatti (2011: 176-177), this law seems to refer to all maritime movement within the empire, not only to contacts with foreign nations. Its issue aimed at reaching a twofold result: on the one hand, it tried to avoid that some merchandise (such as weapons, precious metals, iron, or purple cloth) be dispatched to foreign peoples; on the other hand, it tried to prevent the shipmasters from suffering illicit extortions on the part of public officers during their commercial activities. Other legal measures preserved in the Theodosian Code permit us to ascertain who these officers were (CTh VI 29, 1-12; Delmaire 1989: 287-290; Di Paola 1999: 85-000, 2009; Jones 1964: 578-580; Vogler 1979: 201-209). They must be undoubtedly identified with the *curiosi*, who are mentioned in the legislation since 355 AD (CTh VI 29, 1).

They served in the *schola* of the *agentes in rebus*, under the orders of the *magister officiorum* (ND Or. XI, 50-51; Oc. IX, 44-45). Their main duty was to inspect the public postal service, but they performed also functions of control on maritime trade. In such a task, they did not perceive any tax on circulation, being not customs officers. Rather, they controlled that cargo shipments were in conformity with the quantity and quality of the products declared by captains, and that the latter did not commercialize forbidden goods, especially with foreign nations. *Curiosi* were accustomed to ask for *sportulae* or συνήθειαι, service charges or gratuities, which were calculated as a small percentage of the maximum capability of the cargo ship. During the reign of emperor Anastasius (491-518 AD) such gratuities ranged from a minimum of 1,5/24 and a maximum of 5/24 of *nomisma* per ship, according to different reconstructions made by scholars (Guillou and Durliat 1984: 595-596). With reference to the early reign of emperor Justinian (527-565 AD) they have been calculated from a minimum of 1/24 to a maximum of 1/12 per *nomisma* of the naval cargoes that entered Seleucia Pieria, the harbour of Antioch (Dagron 1985: 449).

In the 6th century, the activity of the *curiosi* is known not only from the inscription from Seleucia, but also from a passage in the *Secret History* of Procopius, although their office is not explicitly mentioned. Procopius tells that toward 530 AD Justinian modified the organisation of the station of Abydos. Until then control on merchandises was entrusted to an *archōn*, who did not perceive a salary (μισθός) from the central administration but earned himself living by asking *sportulae* to captains sailing to Constantinople:

> [Before the measures taken by Justinian] in the Hellespont straits one could hardly say that there was a public customs station; rather, an official was sent out by the emperor and stationed in Abydos who inquired whether any ships were bringing weapons to Byzantion without imperial authorization, and also whether anyone was sailing out from Byzantion without the proper documents bearing the seals of the men charged with the function (for it was not permitted for anyone to depart from Byzantion without the permission of those men, who worked for the office of the magister, as he was called) (trans. by Kaldellis 2010: 109).
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> Ἐν μὲν οὖν τῷ῾ Ελλησπόντου πορθμῷ τελώνιον μὲν ἐν δημοσίῳ ὡς ἥκιστα ἦν, ἄρχων δέ τις ἐκ βασιλέως στελλόμενος ἐν᾽ Αβύδῳ καθῆστο, διερευνώμενος μέν, ἢν ναῦς ὅπλα φέρουσα ἐς Βυζάντιον οὐ βασιλέως ἴοι γνώμῃ, καὶ ἤν τις ἐκ Βυζαντίου ἀνάγοιτο οὐ φερόμενος γράμματα τῶν ἀνδρῶν καὶ σημεῖα οἷς ἐπίκειται ἡ τιμὴ αὕτη (ου γὰρ θέμις τινὰ ἐκ Βυζαντίου ἀνάγεσθαι οὐκ ἀφειμένον πρὸς τῶν ἀνδρῶν, οἳ τῇ τοῦ μαγίστρου καλουμένου ἀρχῇ ὑπουργοῦσι) (Proc. *Hist. arc.* 25, 3 Haury – Wirth).

The men employed in the office of the *magistros* are obviously the *curiosi*, who served in the department of the *magister officiorum*, as we already said. This procedure, although different to that described in *CTh* VII 16, 3 (see above), reinforces the assumption that each commercial vessel, before sailing, had to be endowed with a set of documents sealed by different authorities, in which both the kind of transported goods and the places in which the ship was directed were declared. In Constantinople, and possibly in other important cities, this task was fulfilled by the *curiosi*; in minor coastal towns by the *defensor civitatis* assisted by representatives of the provincial or central administration. The greatest concern on the part of the authorities was not only to avoid the supply of forbidden items to foreign peoples, but also that freight, especially if composed of foodstuffs, such as grain, wine, oil, *garum*, legumes, conformed to the standard units of weight and volume established by the state. Moreover, the central government was also concerned about the abuses perpetrated by the *curiosi* in doing their inspections, and throughout the 4th and the 5th century it issued measures that attempted to limit illicit actions.

In the legal documents permitting navigation there was specified not only the merchandise to be traded. They must have contained also, doubtless, the maritime itineraries that captains wanted to follow and the ports in which they wanted unload their cargo or market their goods. We know that in the early empire, there existed a widespread network of customs stations in which the *portorium* - namely a tax on circulation of merchandise - was exacted.

The *Lex portus Asiae*, a long text inscribed on an Ephesian inscription discovered in 1976 and preserving various layers of informative material stretching from 75 BC to 62 AD, is one of the best piece of evidence that informs us about the functioning of this system (text: Engelmann and Knibbe 1989; Merola 2001: 199-231, with former bibliography). It concerns the duties of 2,5% (*quadragesima*) that had to be paid for all items imported or exported, via land or sea, in the Roman province of Asia. As far as naval stations are concerned, more than 28 places are mentioned, including Cyzicus, Parios, Lampsacos, Adramyttion, Myrina, Teos, Ephesus, Priene, Miletos, Iasos, Bargylia, Keramos and Side. Of course, taxes had to be paid by merchants not in all places in which they disembarked, but only in those in which they intended to sell their merchandises (Merola 2009: 63).

Another important document here is the customs law of Andriake, the port of Myra (commentary with former bibliography: Maiuro 2016; partial edition: Takmer 2007), which concerns the payment of the *portorium* to the imperial treasure (about 100.000 *denarii*) and how to divide its revenue between the Lycian league and the *publicani*.

We have scattered evidence that still in Late Antiquity a system of taxes affecting the movements of goods continued to be in existence (De Laet 1949: 455-482; Delmaire 1989: 276-282; Merola 2001: 134-139). This seems to be proved by some rare texts, such as the edict of Mylasa (Blümel 1987: n. 611) dated to about 427/429 AD, as well as a law issued in 445 AD by Valentinian III concerning the coastal towns of Chullu and Rusicadae, in Numidia (*Nov. Valent*. 13), and a Latin inscription coming from Caralis dating to the age of emperor Maurice (Durliat 1982; Cosentino 2020). Particularly interesting for the present paper are the two former texts, from which it emerges that the revenues of the taxes were shared between the municipal councils and the office of the *sacrae largitiones*, albeit in a different percentage. As far as Mylasa, we do not know any percentage; with regards to Chullu and Rusicadae, the towns retained 2/5, while the *largitiones* 3/5 of the tax.

Late Antique evidence suggests that not all trade movements took happen within ports. There existed other types of landing places that served this purpose. Some witnesses, such as that of Fulgentius of Ruspe (*PL* 65, 901 B-902) for Vandal Africa or that of Procopius for Anaplous (see below) suggest that maritime commerce could have taken place directly on beaches, where merchants exhibited their merchandise. Beginning with 356 AD there are mentioned officials with the task of inspecting ‘ports and different landing places where ships used to land more easily’, as the law reads (*portus enim litoraque diversa, quo facilior esse navibus consuevit accessus, et itineris tramites statuimus custodiri per idoneos officiales*: *CTh* IX 23, 1). They must be identified with the *curiosi*, as another constitution issued in 412 AD by

emperors Honorius and Theodosius II expressly clarifies (*antiqua consuetudo servetur, ut curiosi idonei per diversas regiones atque provincias, litores insuper portusque et loca alia transmittantur*: *CTh* VI 29, 10).

Even if we lack direct attestations, we can assume that doing commerce in places less inspected by the authorities had to be relatively frequent for shipmasters and merchants in order to avoid indirect taxation on movement of goods and their sale. This phenomenon arguably affected much more trade of goods on short-range distance than those on medium and long-distance. As is proved by the so-called *Nomos nautikos,* very often captains embarked on board merchants and other passengers (*Nom. Naut*. II, 7-13 Ashburner; Khalilieh 2006: 74-77; Letsios 1996: 129-130); for long maritime journeys and with precious cargoes it was more convenient to moor in ports endowed with travel facilities such as baths, *xenodocheia*, or taverns than to trade in inhospitable places devoid of any infrastructures. It is not a coincidence that hostels are quoted in several harbours not only in big cities but also in minor coastal or insular towns, like, for instance, Agrigento (Cosentino 2018: 27) or Kos (Cosentino 2015a: 109).

The stations for the payment of the *portorium* had to be undoubtedly sited in harbours or very close to them. This raises a couple of important questions: firstly, to whom was the management of ports and harbour infrastructures entrusted? And secondly: did ports have a public ownership? Neither our evidence nor the available literature on the argument seems to give a clear answer to such questions. The silence about the juridical status of ports in the two big legal collections of Antiquity, the *Theodosianus* and *Justinianus* codes, implies that the question had to be taken for granted to the men of Late Antiquity.

In principle, we can assume that the management of ports was among the jurisdictions pertained to municipal authorities. The complexity of performing such a task depended on the political, economic and demographic importance of a given town. It depended also on the physical shape of landing places and on the presence in them of artificial infrastructures (such as breakwaters, docks, jetties, lighthouses, canals, periodical dredging of seabed) needed to make the port functioned. It is no coincidence, then, that the better-known ports of Antiquity, both from the written and archaeological sources, are those in which, due to their importance, the imperial authority had replaced the municipality in their management. This is true for *Portus Romae*, which supplanted Ostia for the supplying of the *Urbs* during the 3rd century, or for Constantinople and Antioch. The financing of the Seleucia harbour (the port of Antioch) was assumed by the emperor Constantius (*Expositio totius mundi*, XXVIII, 4-7 Rougé; Lib. *Orat*. XI, 261 Förster); in Constantinople, Justinian was responsible for the laying of new breakwaters in the Golden Horn (Proc. *Hist. arc*. VIII, 7-8 Haury-Wirth) and the construction of a stone quay at the shrine of St. Michael at Anaplous, by transforming in such a way the beach into a market (Proc. *Aed*. I 11, 18-22 Haury-Wirth).

Within ports, the warehouses in which goods were stored must have been both public and private. Our image of the socio-economic life of Late Antique harbours is strongly influenced by the movements of commodities carried by the *navicularii* (De Salvo 1992; Jones 1964: 827-830; McCormick 2001: 87-92), of whom we are told in the thirteenth book of the Theodosian code. Without denying that part of shipping and exchanges in Late Antiquity was linked to a subsidiary economy promoted by the state, the co-presence in ports of operators and storehouses acting within a fully private trading network must have been not negligible (Carrié 2012; Vera 2010).

In Classe we may infer the existence of a group of Antiochene merchants who traded in cooperation with bankers during the Justinianic period (Cosentino 2015b). In the harbour of Naples in 599 AD a certain Maurus received goods for a monetary value of 400 *solidi* in order to market them in unspecified places (Cosentino 2009); the value of the merchandise received on loan lets us think that his financier had a warehouse in the Neapolitan port. An Egyptian papyrus inform us that a Constantinopolitan banker named Flavios Anastasios had a warehouse in Alexandria (Mickwitz 1936: 63-64); Alexandrian merchants had a commercial station in Tomi, on the Black Sea (De Salvo 1992: 480).

It is hard to think that the consistent percentage of eastern amphorae found in the deposits of Marseille, Arles and Narbonne in the 5th century, averaging 30 to 45 percent out of the total according to Pieri, can have been carried there only for supplying the army; on the contrary (Pieri 2012: 30), this eventuality seems highly unlikely. It is equally unlikely that the general growth of eastern imports in eastern Spain, and even on sites on the Atlantic, documented since late 5th century was due to state demand (Reynolds 2010, 100-112). Moreover, the phenomenon of imitation of certain types of containers, such as LRA 1B, in workshops being far from their original places of production, can be understood only within a pure commercial logic (Pieri 2012: 47).

If the management of harbours was in principle entrusted to municipal authorities, this implies that their development from the 4th to the 7th century is to be framed within the transformation of Late Antique urbanism. The decline of self-government of towns matches with the progressive difficulties in maintaining harbours and their infrastructures. It is not by chance that the only port modernization works documented in the sources were funded by the imperial power and not by the local councils. Even the *Portus Romae*, the seaport of the most populous city in the post-Roman West, experienced a progressive decline beginning in the 6th

century due to the lack of adequate maintenance (Keay *et al.* 2008). The huge territorial losses suffered by the Eastern Roman empire in the second third of the 7th century had among their consequences a consistent reduction of the big harbour cities of the empire. Among them, only Constantinople and Thessaloniki can be defined as a such after the Heraclian dynasty.

The reduction of transmarine exchange between the second half of the 7th and the 8th century all across the Mediterranean basin corresponds also to a reduction in port reception, without it being easy to say which of the two phenomena has conditioned the other. The idea of a decrease in large-scale seaborne trade in the early Middle Ages, supported by many studies (McCormick 2001; Wickham 2005), is perhaps conditioned – in part, at least – by the difficulty of identifying archaeologically the places of exchange in the 7th and 8th centuries that appear to be different from those of Late Antiquity.

Two different phenomena seem to be at work in this period: on the one hand, a diminution in the number of towns being able to offer port facilities for market activities; on the other, an increase of coastal settlements in which forms of maritime trade took place, if even in a very reduced scale owing to their limited port receptivity. This is the broader context which may explain the existence of ceramic assemblage dating to the 7th, 8th or even early 9th century in very small places, like Comacchio in the Adriatic (Gelichi 2012; Gelichi 2018), Kardamaina on Kos (Diamanti 2010; Kokkourou-Alevras *et al.* 2016; Poulou-Papadimitriou and Didioumi 2010), Leipsi (Papavassiliou *et al.* 2014), or the islet of Pseira off Crete (Poulou-Papadimitriou and Nodarou 2007).

The destination and commercialization of amphorae produced in the so-called 'dark centuries' remains a matter to be discussed, although intense archaeological research in the last decade has considerably enriched the distribution maps of Mediterranean amphorae and exports in this period (overviews in Decker 2016: 43-79; Poulou-Papadimitriou 2001; Vroom 2005: 30-66, 2017). Not always such containers are necessarily to be connected to the distribution channels operated by the state apparatus, as it is taken for granted in several studies. Archaeological literature has been strongly influenced by a model of the economic life in the early Byzantine Middle ages in which the state plays a remarkable role (Brubaker and Haldon 2011; Haldon 1993; Hendy 1985; McCormick 2001; Wickham 2005) in moving a mass of staple items, such as cereals, wine, olive oil, and pottery to the detriment of private components of maritime trade. Juridical sources of Late Antiquity have strongly conditioned such an interpretation.

The role of the state is evident in certain 'trading routes' such as the Alexandrian *embolē* or that linking the eastern Aegean to the Danube frontier thanks to the functioning of the *Quaestura Iustiniani exercitus* (Deligiannakis 2008: 214-217; Karagiorgiou 2001: 149-156), but it would be exaggerated to claim that long trade commerce on such routes existed only by virtue of the *annona* movements. Imperial government managed a sphere of economic activity aimed at supporting the army and its administration; however extensive this network may have been, it certainly did not absorb in itself all commercial activities. The 'state' model is so rooted among archaeologists that sometimes it conditions interpretations of phenomena that, by reading the reality as such, could patently be very different.

Take the case, for instance, of the amphorae with inscribed stamps bearing mark of public authority. In several places of the Eastern Mediterranean, such as Constantinople, Athens, Myndos (Turkey), Rhodes, Kardamaina (Kos), the islet of Yeronissos (Cyprus), Palestine (Rishon LeZion), Alexandria, Kellia (Egypt) and even at Tocra (Libya), LRA 1 and LRA 2C amphora types with inscribed stamps on their neck or handle have been recovered from excavations (Bouchenino 2010; Diamanti 2010, 2012, 2014; Gülsefa 2016; Kara 2015; Opaiț and Diamanti 2014; Papanikolaou 2014). Papanikolau argued, in my opinion convincingly, that the busts portrayed on these stamps are not to be referred to emperors, but to eparchs of Constantinople. So far in all the survived inscriptions the portraits seems to concern only two eparchs, Ptolemaios and Innokentios, who were active according to Papanikolaou during the second quarter of the 7th century and in the 660s, respectively (Papanikolaou 2014: 185-186) The legend inscribed in the stamps (ἐπὶ τοῦ Πτολεμαίου ἐπάρχου or ἐπὶ τοῦ Ἰννοκεντίου ἐπάρχου) implies that the content of the amphora was produced and transported when they were prefects of Constantinople.

In his analysis of the iconography with which the figure of the eparch is depicted – a particular hairstyle, with the *mappa* in the right hand and the sceptre in the left hand – Papanikolaou noted also the existence of two signs that appear in the portrait of the prefect Ptolemaios: the first, above his left shoulder, which he convincingly interprets as a monogram of emperor Heraclius; and the second, more difficult to be deciphered, between the edge of the image and the right shoulder of the prefect, that he argues is the monogram of Heraclius Constantinos – the firstborn of Heraclius. The presence of the monogram of Heraclius as well as the same palaeography of the letters composing the legend, seems to imitate numismatic models.

If so, I wonder whether the second type of sign, that above the right shoulder of the eparch and appearing only in two stamps (a specimen in Rhodes and another one in Athens), cannot be interpreted as a reference to the regnal years of Heraclius or, as an alternative, to the indictional cycle. Thus, in the picture of the Rhodian stamp of the eparch Ptolemaios a possible reading is that of IÁ (= 11 = 621 as regnal year or = 623/624 as indiction)

or IH´ (= 18 = 628 in this case is possible only the regnal year, of course).

This interpretation is supported by the stamp on the amphora found in Kellia (near Wadi el Natrum, Egypt). It bears no inscription, but depicts the bust of an eparch, with above his left shoulder (on the right seeing the image) the monogram of an emperor, possibly K(ωνσταντῖνος), with the numeral IΓ´ (= 13 = 654 as regnal year or = 654/655 as indiction). Similar to the Kellia type is the example coming from Ras Abu Dahud (modern Israel), where in a large refuse pit a certain quantity of pottery, glass artefacts and coins has been recovered ranging from the 5th to the 8th century. One of the fragments bearing a circular stamp has the Greek letter B and K, while the other shows a frontal draped bust of an officer (description by P. Gendelmen, in Bouchenino 2010: 6, fig. 4.16, unfortunately with no images). Irrespective if these numbers refer to regnal years or indictions, the dating of the eparch Ptolemaios to the second quarter of the 7th century proposed by Papanikolaou, be it 621, 623 or 628 AD, is confirmed.

The presence of these signs (imperial monogram and regnal years or indictions) is preserved in at least one of the inscribed stamps concerning eparch Innokentios found in the ancient *agora* at Athens (Papanikolau 2014: 175, fig. 3β). Under the bust of this officer is clearly visible the upper part of the letter K (kappa), while on the left of it the termination of another letter stands, which can tentatively be read as E´ or IE´. Especially in copper coins issued under emperor Constans II (641 - 668 or 669 AD), it is habitual that his monogram is formed by a K in ligature with a T and an Ω.

Therefore, I suggest to refer this inscribed stamp bearing the name of Innokentios to the 5th or 15th regnal year of Constans II (whose name, as is well known, was Constantine), namely to 646-656 AD. In another stamp without inscription bearing the portrait of an eparch, found always in the ancient *agora* (Papanikolaou 2014: 175, fig. 3α), the letter K(ωνσταντῖνος) is clearly readable, as in the already mentioned stamp coming from Kellia, with the signs IΓ´ and K. Of course, we cannot be sure that the monogram with the letter K denotes Constans II and not his son, Constantine IV, but other evidence suggests that the first is the most plausible choice.

Zacos and Veglery published a seal of an Innokentios ἔπαρχος (τῆς πόλεως), who is undoubtedly the same person witnessed in our stamps, considering the rarity of the name. They dated the *boulla* to the second half of the 7th century, without arguing solid reasons, and they suggested that the δεκάτη πέμπτη indiction written on the seal should be identified with the years 671-672 (Zacos and Veglery 197: 1380A; PMBZ, 2685). From the XIV session of the 6th Ecumenical Council held a Constantinople (on 5 April 681 AD) we are told about an Innokentios styled as *patrikios* (PMBZ, 2686 = PBE, Innokentios 1), whose wife, after his death, sold to a certain abbot Stephen and Makarios, patriarch of Antiochia, a Latin translation of the acts of the 5th Ecumenical Council of Constantinople for the sum of 6 *nomismata*. The rank of eparch of Constantinople is certainly compatible with the dignity of *patrikios*, so that is likely that the two individuals are the same person.

If so, however, it is extremely difficult that the XV indiction mentioned in the seal of Innokentios *eparchos* corresponds to 671/672 AD, because we are informed by the acts of the 6th Ecumenical Council that when his wife took contacts with abbot Stephen and patriarch Makarios his husband was already dead. Makarios became patriarch before Nov./Dec. 669 AD (PMBZ, 4670), letting us to believe that Innokentios died before this date. If the number incised on the stamped amphora of the Athenian ancient *agora* is really [I]E´, it is tempting to compare it with the indictional year marked on the seal of Innokentios ἔπαρχος and to conclude that both the amphora and seal refer to 656/657 AD.

But even if the numeral on the amphora was the regnal year of Constans II, namely July 655 - June 656 AD, the idea that the office of ἔπαρχος τῆς πόλεως had been held by Innokentios in the 650s and not in the 670s would be reinforced. Both the fact that he possessed a Latin translation of the acts of the Constantinopolitan council of 553 AD and his Latin name make it possible to suggest that he began his career at the Constantinopolitan court by acting as interpreter in the celebrated trial against Pope Martin in 653 AD (PMBZ, 2683). At that time, he bore the dignity of *hypatos* and had moved from Africa to the Byzantine capital along with his father, Thomas. Considering his Latin name, Innokentios, he must have been a relative – possible the grandson – of the homonymous *praefectus praetorio* Africae quoted in two letters of the epistolary of Gregory the Great (PLRE III, Innocentius 3) dated to 600 AD.

Taken as a whole, the stamped amphorae with the image of the eparch of Constantinople put to light three aspects: (1) they concern very few officers – only two surely attested to date; (2) their diffusion seems to be concentrated during the reigns of Heraclius and Constans II; (3) they represent a negligible amount out of the total of amphorae rescued from excavations and dated from the 7th to the 8th century. Ptolemaios' activity is framed in the period from 619 to 629 AD, when the Persians permanently occupied Egypt.

It has been argued that the Constantinopolitan government tried to compensate for the loss of the Egyptian grain by increasing its demand of foodstuffs from other regions of the Mediterranean, especially from Sicily (Prigent 2006). On this island, just in this crucial lapse of time, there is an increase in the circulation of old copper coins counter-marked by Heraclius, an increase which Prigent has motivated with the need to better

exploit Sicilian grain for the supply of Constantinople after the cessation of the *embolē*. Stamped amphorae did not contain grain or other kind of cereals, but probably wine and oil; nevertheless, with only one exception, they have been found in regions not subject to the Persians, who had occupied also Syria and Palestine, two important wine and olive oil producing regions. The activity of Innokentios too seems to be framed in a very precise historical context, just after the first maritime attack by the Muslims against Constantinople (654-655 AD) (Cosentino 2018), when the capital needed to be supplied of foodstuffs owing to its blockade by the enemy.

In more general terms, we can ask whether the stamps of Ptolemaios and Innokentios bear evidence of exceptional procedures or, on the contrary, are just the tip of an iceberg of a broader and more articulated activity of state intervention in the economy. As far as stamped amphorae are concerned, we do not have enough evidence to answer this question and future studies will be hopefully contribute to precise the picture. Basing on what we have, to assume that stamped amphorae are proof of systematic state control over agrarian production in the provinces, or elements of fiscal procedures requested in kind, seems to me problematic. They are indicative that the eparch of Constantinople in certain periods took charge of supplying the capital in regions far distant from its immediate neighbouring areas.

If the increase in circulation of old copper coins counter-marked by Heraclius in Sicily and Cyprus in the period 619-629 AD truly mirrors an attempt by the central government to better exploit the rural economy of these regions to the advantage of Constantinople, we must not to forget an essential aspect of this procedure. It was realized not by requesting Sicilian taxpayers to provide their taxes in products, but by making massive purchases of grain on the free market; otherwise, there would be no correlation between the increase of old copper coins with counter-marks and the wish to import more grain from Sicily.

Based on the existing evidence, even the quantity of items transported under the order of the eparch is problematic. Due to the fact that the amphorae with a mark of public authority are a small minority among all ceramic finds, it has been supposed (Opaiț and Diamanti 2012: 59, 2014: 127; Papanikolau 2014: 186) that one single example would have guaranteed conformity of weight and public destination for a certain number of accompanying unstamped examples. But even this conjecture, however plausible it may be, lacks solid archaeological evidence. It is not self-evident how a single marked amphora could act as a guarantee for many other unstamped artefacts having no distinctive sign of commission or destination, unless we imagine that the assemblage was transported in closed 'batches' of items. But how?

One hypothesis could be that they were shipped by forming the entire cargo of a single ship; another is that amphorae were stored in each vessel in individual compartments well separated from each other. All this is plausible, but it remains on the level of speculation. The fact remains that we dispose of very few fragments of stamped amphorae by whatsoever public authority and, nonetheless, we tend to imagine that this sparse evidence is telling of a much broader historical reality. This attitude derives from the influence and pervasiveness among scholars of the above-mentioned model according to which in Late Antiquity the vast majority of long-distance exchanges were managed through the channels of the *annona* system. In other words, it is a prejudice that some scholars, such as J.-M. Carrié or D. Vera, have strongly denied with reference to Late Antiquity.

In the 7th and 8th century all across the Mediterranean ceramic production becomes less sophisticated than the former centuries, with no large industrial production centres. Smaller containers appear in terms of capacities but with a similar shape, notably the so-called globular types, often imitating old forms that slightly differ from a province to another (Arthur 2007: 174). The intensity of long-distance exchange seems to decrease in quantity by reconstituting new trade networks compared to Late Antiquity. The overall picture that emerges is that of a fragmentation and simplification of the cycle of production, distribution and demand.

Although it may seem paradoxical, it is precisely the fragmentation of the economic functioning of the whole Mediterranean in the second half of the 7th century that explains, in my opinion, the similarity of the new transport containers of the Byzantine world, the so-called globular amphorae. Archaeologists have emphasized their commercial success by highlighting their efficiency in terms of portability and facility of manufacture (Zanini 2010). It has been also suggested that the wide diffusion of these containers all across the Byzantine territories is a prove that their movement was controlled by state authorities (Arthur 2018). In effect, the fact that their carrying capacity is extraordinarily similar for examples manufactured in different places of production, of about 25-30 litres each, makes it possible to believe in a sort of state orientation aimed at safeguarding, at the same time, the consumers and the officers entrusted to tax trading exchanges.

But behind the homogeneity of shape of the globular amphorae can also be suggested another motivation. If we think that the success of their production went hand in hand with the political fragmentation of the Mediterranean world, it is logical that these containers were used mainly in the regions belonging to the Byzantine Empire. Where several type of containers co-existed being used in different political spaces (Byzantine, Islamic, Lombard and Frankish dominions), those manufactured within a single political entity tended to be more

uniform in order to be more easily marketed. The Roman Mediterranean did not experience such a standardization in transport vessels, but it did not even experience political fragmentation. The Mediterranean economic system is reorganizing beginning with the second half of the 7th century. Doubtless, in Byzantium, one of the important actors of such a reorganization was the state apparatus. However, to think that other economic forces such as episcopates, monastic foundations, elite groups, private tradesmen and local communities played no role in the making of the new system seems unmotivated.

The evidence coming from Constantinople, Athens, Myndos, Rhodes, Yeronissos, Kardamaina, Alexandria, Kellia, and Troca, as it stands, proves that a small percentage of the amphorae found in those sites was traded within a distribution network managed by the *eparchos* of Constantinople, but the majority was not or, at least, we cannot say anything about it. In principle, there are no difficulties in seeing the various types of early medieval amphorae, such as the imitations of the LR1 or the globular amphorae, or glazed pottery, as the markers of real commercial movements, which were performed in small coastal or insular settlements precisely because of the limited receptivity of ports at that time. The content of containers in case of staple items, such as wine or olive oil, did not really demand clients of high social status, except possibly for those traded in places very far from their places of production, as in Comacchio. In this case, however, a commercialisation due to the need of the army can be excluded.

Institutional history bears evidence from the late 7th century of officers named as *archontes* settled in various coastal or insular towns, such as Carales, Durazzo, Malta, Crete or other places (PMBZ 1999-2002, 6: 223-224). Among other duties, the *archontes* had to inspect maritime exchange. Beginning with the 9th century the office of *parathalassitēs* is mentioned - but the office was probably earlier - in charge of controlling maritime trade movements between Constantinople and the Mediterranean, or the Black Sea or both (Ahrweiler 1961: 247-248). The activity exercised by these officers could certainly imply a supervision of the shipping of goods for the need of the army or any other public function, but obviously it concerned also the control of private commercial activities.

In the 7th and 8th century the maritime space in which long distance trade seems to remain more active is along the Byzantine ‘corridor’, namely along the routes linking the big Mediterranean islands from Rhodes to the Balearics via Crete, Malta and Sicily. The exchanges that occurred within this network were characterized as being all operated across a single political entity, albeit much more fragmented and reduced than in the 6th century. At the beginning of the 8th century, carrying wine, oil, legumes, garum, pottery, or other kinds of staple items from the Aegean to Syria or from Syria to Gaul, or from Egypt to Spain, implied embarking oneself on a journey among regions with different political institutions.

This entailed, on the part of captains and merchants, that they had to pay transactional costs significantly higher than in Late Antiquity. It would not have been easy for them to sell their products in places not inspected by the political power because of the high risks involved in doing so in foreign countries. In other words, such a trade, irrespective of the relationship between production, distribution and demand, and irrespective of the vitality of the production areas of commodities, was obviously unprofitable for items that had an intrinsic economic value unmatched with perfumes, spices, fine fabrics and jewels. Perhaps it was worth trading only the most valuable wines.

The decrease in long-distance and large-scale trade does not necessarily mean, however, a decrease in regional or interregional trade, because the two systems at the beginning of the 8th century ware shaped by two distinct spheres of profitability and by two different economic demands. The continuous discovery of new types of amphorae, as well as of new ceramic assemblages and workshops dating from the 7th to the 9th century, make it difficult to believe that the productive structure of the ‘dark centuries’ was less weak than one could have supposed only twenty years ago.

Large and focal points of production, collection and distribution of goods were usually managed by the state or the Church, while those pertaining to big landowners reduced the scale of their action compared to Late Antiquity. The component fuelled by private traders must perhaps have been more important than is usually thought. Its economic behaviour tends to operate on short segments of landed or maritime spaces, with a multi-spotted presence of selling places. This system did not have anything of ‘anarchic’ or ‘primitive’ in its functioning; simply, large-scale consumer goods, such as agricultural products or tableware, were traded within micro-regional or regional contexts, since this *modus operandi* allowed greater gains compared to the intrinsic value of the marketed goods. It is possible that in such a reduced geographical horizon and more familiar to traders, the latter preferred to exploit more than in Late Antiquity smaller emporia or natural anchorages for doing commerce, maybe also for escaping control by public officers. If so, this entails a minor visibility of the archaeological record and, consequently, a distortion in the assessment of the economic models at work in the early medieval Mediterranean.

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