

1 | The Context of Roman Mediterranean Port Societies

An Introduction to the *Portuslimen* Project

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1 Commercial Significance of Ports

This is the first book to arise from an interdisciplinary initiative, the Roman Mediterranean Ports project, which seeks a holistic understanding of early Imperial ports by addressing a range of key questions relating to their character, organization and roles.¹ The geographical centrality of the Mediterranean to the Roman Empire, which was without precedent and has not been matched subsequently, helped enable its political integrity for well over 400 years. By the early first century AD, Rome had come to dominate all of the shores surrounding the Mediterranean, transforming its constituent seas into a unique maritime space. Interconnected commercial networks criss-crossed its many islands and micro-regions, enabling provincial communities to maintain intense commercial relationships with Rome at the centre of the *mare nostrum*, although debates continue to rage over their scale and the nature of their organization.²

Ports were the nodes through which pan-Mediterranean flows of ships were channelled, and at which customs dues were collected, goods stored and transhipped, and commercial transactions negotiated (Figure 1.1). A good sense of their sheer density comes from considering the distribution of sites in the *Barrington Atlas of the Greek and Roman World*.³ It is salutary to note, however, that the fullest analysis of the roles of ports in the context of Roman maritime commerce remains that by the historian Jean Rougé⁴

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² See for example the debate between Wilson, Silver, Bang, Erdkamp and Morley in Scheidel 2012: 287–320.

³ Talbert 2000.

⁴ Rougé 1966. Although much of his study is now outdated, it still provides a very useful overview of (i) the role of ports and ships in the context of the infrastructure of maritime commerce, as well as (ii) the different kinds of people associated with them and in commerce more generally, and (iii) juridical and economic issues related to the structure of maritime commerce.

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published over fifty years ago. Notwithstanding some notable exceptions,⁵ their significance has been assumed rather than explored in more recent scholarship. In the seminal *Cambridge Economic History of the Greco-Roman World*, for example, the key roles played by ports in mediating the flows of maritime commerce and generating revenues through the payment of customs dues across the Mediterranean are rarely mentioned within broader discussions relating to distribution,⁶ or to the state and the economy in the early Roman Empire.⁷ One of the great challenges in the study of Roman Mediterranean ports is to integrate them into mainstream discussions about the commerce, economy and society of the Roman Empire.

2 Earlier Work

Part of the problem lies in the fact that the study of ports has only recently come of age. The first general archaeological study of ports was undertaken by Lehmann-Hartleben,⁸ who compiled a catalogue of available archaeological, literary and iconographic evidence for a selection of 303 ports and harbours.⁹ Aside from publications relating to key sites such as Aquileia,¹⁰ Lepcis Magna¹¹ (Figure 1.2), Ostia¹² (Figure 1.3) and Kenchreai¹³ during the 1930s, 1950s, 1960s and 1970s, and a useful historical summary of evidence by Rougé,¹⁴ there was a long gap until a thematic survey of aspects of the archaeological evidence for selected ports by Blackman¹⁵ began to raise key questions relating to the siting of harbours, their siltation and their topographical relationships to broader port settlements. Since then there has been an upsurge in the study of ports that has been driven by the research interests of land-based and underwater archaeologists, and by the imperatives of modern urban development, particularly from the 1990s onwards. This work has been most intense in the western Mediterranean, in the residential areas of Ostia, as well as at Cherchel,¹⁶ Pozzuoli¹⁷ and the harbour zones of Portus,¹⁸

⁵ See for example Rickman 1985; 1988; 1991; Tchernia and Viviers 2000. ⁶ Morley 2007.

⁷ Lo Cascio 2007. The broader significance of tax levied by cities on maritime trade discussed by Bresson (2016: 286–305) in his study of the ports of the Classical Greek and Hellenistic Mediterranean surely has relevance to the Roman Mediterranean; see also Purcell 2006.

⁸ Lehmann-Hartleben 1923.

⁹ Touching upon the history of study, and early Greek and Roman harbour works.

¹⁰ Brusin 1934. ¹¹ Bartoccini 1958.

¹² Meiggs (1970) is the fundamental study. Descoeudres (2001) provides a full introduction to archaeological aspects of the site with further bibliography. Most recently, see Pavolini 2016.

¹³ Scranton, Shaw and Ibrahim 1978. ¹⁴ Rougé 1966: 121–46. ¹⁵ Blackman 1982a; 1982b.

¹⁶ Leveau 1987. ¹⁷ See the different chapters in Zevi 1993. ¹⁸ Testaguzza 1970.



Figure 1.2 The harbour basin at Lepcis Magna.



Figure 1.3 Aerial view of Ostia.

Carthage,¹⁹ Cosa²⁰ and Marseille,²¹ amongst others.²² Work had tended to be less intense in the eastern Mediterranean, aside from key excavations at

¹⁹ Hurst 2010. ²⁰ McCann 1987. ²¹ Hesnard, Bernardi and Maurel 2001.

²² See amongst others papers in Raban 1985; Pascal Berlanga and Pérez Ballester 2003; Gallina Zevi and Turchetti 2004; Uggeri 2005; 2006; Hohlfelder 2008; Keay and Boetto 2010.

Apollonia,²³ Piraeus,²⁴ Alexandria,²⁵ Beirut²⁶ and, of course, Caesarea Maritima,²⁷ which is one of the best-known ports in the Mediterranean. More recently, however, there has been an upsurge in research at ports and harbours in Asia Minor, most notably at Kelenderis, Andriake, Patara,²⁸ Alexandria Troas²⁹ and Elaiussa Sebaste.³⁰

3 More Recent Advances

Since the turn of the century there have been increasingly refined interdisciplinary approaches to the study of ports and commerce.³¹ On the one hand, the advent of geo-archaeological approaches has revolutionized our understanding of ancient harbours.³² Coring campaigns have revealed the sedimentary sequences of harbour basins at such ports as Cumae, Forum Iulii and Ephesos and Tyre,³³ amongst others, raising key questions about their capacities and development, and the broader geographical constraints within which ports functioned. On the other, the results of large-scale geophysical surveys of silted-up ports, such as at Portus³⁴ and Ephesos,³⁵ have made it possible for us to better understand overall port landscapes that include harbours as well as their associated settlements. The results have been even better when geo-archaeological studies have been combined with geophysical surveys, as at Portus,³⁶ Elaia³⁷ and Miletos,³⁸ or with excavations, as at Naples³⁹ and the outer lagoon of Narbo.⁴⁰

In the course of the first two centuries AD, the cities of the Roman Empire needed large-scale port infrastructure, such as artificial harbours, lighthouses, canals and warehouses, at key ports in order to handle growing volumes of commerce. While the emperors themselves did occasionally undertake to develop this directly, as in the case of Portus and Centumcellae,⁴¹ epigraphic evidence, although rare, suggests that the harbours were administered by the

²³ For example, Goodchild, Pedley and White 1976: esp. 29–40.

²⁴ Judeich 1931; Von Eickstedt 1991. ²⁵ Goddio *et al.* 1998. ²⁶ Butcher and Thorpe 1997.

²⁷ See Raban and Holum 1996; Patrich 2011. ²⁸ Ladstätter, Pirson and Schmidts 2014.

²⁹ Feuser 2011. ³⁰ Most recently Equini Schneider 2010.

³¹ McCormick 2001; Hohlfelder 2008; Harris and Iara 2011; Robinson and Wilson 2011; Keay 2012a.

³² Goiran and Morhange 2001; Marriner and Morhange 2007.

³³ Marriner *et al.* 2005; Stefaniuk *et al.* 2005; Gebara and Morhange 2010; Stock *et al.* 2013.

³⁴ Keay *et al.* 2005; Keay and Paroli 2011. ³⁵ Groh 2006. ³⁶ Goiran *et al.* 2010; 2011.

³⁷ Pirson 2009. ³⁸ Brückner *et al.* 2014 ³⁹ Giampaola *et al.* 2005.

⁴⁰ The discussion of several of the port sites and their context in Sanchez and Jézégou 2011 is a good introduction.

⁴¹ Keay 2012b: 52–4.

ports themselves.⁴² On the other hand, the customs dues payable on entering and leaving provincial ports were an important source of revenue for the Roman state.⁴³ The broader context of many of these and other issues is benefiting from studies of the broader legal framework of commercial activity in the Roman Mediterranean.⁴⁴

In terms of the maritime commerce that was played out at and between ports, it was Rougé⁴⁵ who first showed how Rome changed the pre-existing structures in the course of the late Republic and early Empire. While many Hellenistic or even older ports and anchorages in the East remained in use during the later Republican and Imperial periods and functioned as important elements within emerging groups of ports, Rome redrew the broader geography of port installations across the Mediterranean by establishing artificial ports at key strategic points with no natural port,⁴⁶ as well as overseeing an increase in port infrastructure, particularly in the West. Perhaps the single most influential change, however, was the establishment of Portus under Claudius as part of a broader strategy to feed the population of Rome.⁴⁷ This had significant implications for major ports such as Alexandria, Carthage and Ephesos, as well as for regional ports like Hispalis and Lepcis Magna,⁴⁸ one should however be wary of over-emphasizing its dominance of the Mediterranean. The establishment of military fleet bases under Augustus and his successors was another aspect of this.⁴⁹

Rougé was also one of the first scholars to draw together the different ancient texts referring to the nature of Greek and Roman ports, picking out and analysing such terms as *limen*, *hormos*, *salos*, *emporion*, *portus* and *statio* that were used to characterize harbours and differences in the commercial functions of ports.⁵⁰ These terms are key to our understanding of port hierarchies in the Roman Mediterranean, even though there has been a tendency to assume that their meanings were absolute and unchanging, which is not the case. Greek and Roman writers also sometimes recorded valuable information relating to the capacity of ports, such as the number and kind of ships that their harbours could accommodate, associated buildings, the presence of fresh water and local landmarks; some

⁴² See Houston (1980), who discusses the administration of Italian seaports, while Arnaud (2014) analyses available epigraphic evidence more broadly for the development and administration of ports.

⁴³ Generally, see De Laet 1949; Purcell 2006; more specifically see France 2001 and Cottier *et al.* 2008.

⁴⁴ Following on from Rougé 1966: 325–488; see now Gaurier 2004. ⁴⁵ Rougé 1966: 489–94.

⁴⁶ Discussed in Brandon *et al.* 2014: 122–40. ⁴⁷ Keay 2012b: 45–8.

⁴⁸ See for example the argument in Keay 2016. ⁴⁹ Reddé 1986: 145–322.

⁵⁰ Rougé 1966: 107–20.

of this has come down to us in accounts by geographers such as Strabo⁵¹ and works like the *Stadiasmus Maris Magni*.⁵² Arnaud reminds us, however, that we also need to take into account the juridical status of port communities, the presence of *stationes* for the collection of customs dues and navigational access.⁵³ In other words, much more attention needs to be directed towards understanding the activities that took place at ports, and how these influenced their layout and the range and volume of goods that passed through them.

There have been a variety of archaeological contributions to this particular debate. A traditional approach to assessing the commercial vitality of specific ports has been based upon gauging the monumentality of their harbour structures and public buildings, the extent of their built-up areas, the range of imported amphorae and other ceramics, and face-value assessments of ancient historical and geographical texts. The definition of ports in terms of their roles as hubs of regional redistribution or as local stopping points for cabotage by Nieto in 1997,⁵⁴ however, represented an important conceptual advance on this. Since then there have been attempts at calculating the size of ports or the capacity of basins on the basis of published plans,⁵⁵ although frequent inaccuracies in the latter and the exclusion of neighbouring anchorages and other sites can mean that such estimates are misleading. An alternative approach has been to focus upon lesser ports and anchorages and their relationships to the entrepôts and regional ports. The recent study of the maritime façade of ancient Parentium on the Istrian coast is an excellent example of this, and also highlights the important roles played by *villae maritimae* and minor anchorages in regional trade.⁵⁶ In general, however, this kind of study is still comparatively rare.⁵⁷

Alternative approaches that are beginning to bear fruit involve gauging the storage capacities of ports, with a recent focus upon estimating the number and size of warehouses at Ostia and at ports across the Mediterranean.⁵⁸ Industrial activity is another measure that can help us distinguish the larger hubs from the lesser ports. The production of fish sauce,⁵⁹ ceramics, notably amphorae,⁶⁰

⁵¹ Strabo 4.6.3. ⁵² Medas 2008; see also Arnaud 2009. ⁵³ Arnaud 2010; 2011.

⁵⁴ Nieto 1997; see also recent work by Keay (2016) in drawing comparisons between the contemporary developments of Portus and the major entrepôts of Hispalis and Lepcis Magna.

⁵⁵ Schörle 2011.

⁵⁶ Carre, Kovacic and Tassaux 2011: esp. 56–60, 125–57, 161–86, 195–217, 223–67.

⁵⁷ See however Sanna *et al.* 2014.

⁵⁸ Ostia: Bukowiecki, Monteix and Rouse 2008; Portus: Bukowiecki, Zugmeyer and Panzieri 2012; Patara: Cavalier 2007; more generally Virlovet 2011.

⁵⁹ See for example Arévalo and Bernal 2007; Botte 2009.

⁶⁰ Amongst the many known examples from all periods, Bonifay 2004 provides a good introduction to those dating to the Imperial period in North Africa.

and probably glass⁶¹ at many different sites, or in their hinterlands, is the best example of this. While there is also a wide range of archaeological evidence for other manufacturing activities at Roman towns in general, that derived from Mediterranean ports tends to come from the more fully excavated sites like Ostia and Pompeii;⁶² the presence of lead pollution and other industrial metals in deep cores drilled at ports⁶³ can also provide an index of the degree of industrial activity. Study of the ships and boats that frequented the harbours has been yet another avenue of research,⁶⁴ although finds in their harbour contexts are still limited to a handful of examples,⁶⁵ and most usually come from shallow waters at a distance from the ports. Welcome recent developments include attempts at focusing upon them in terms of their size and range,⁶⁶ possible technological innovation⁶⁷ and the overall volume of shipping in the later Roman Mediterranean.⁶⁸ Others have used comparative analyses of the proportions of ceramics from ports of consumption, shipwrecks and production sites to distinguish entrepôts from secondary ports.⁶⁹

Notwithstanding the importance of all these approaches, it is only by combining them with a consideration of the social dimension of ports, and the roles of the many different actors who made up their populations, that we can gain a more holistic understanding of port functions. Greek and Latin inscriptions are a primary source of evidence for this, despite some of the challenges inherent in understanding the motivations behind setting them up. For example, attention has focused upon tracing the presence of foreign communities at different ports, such as the Italian merchants at second-century BC Delos,⁷⁰ a station of Tyrian traders at late second-century AD Puteoli that was an offshoot of the mother colony at Tyre,⁷¹ African⁷² and Egyptian trading communities at Ostia and Portus,⁷³ a *conventus* of Roman citizens at first-century AD Ephesos,⁷⁴ a Jewish community at Tarraco and a population speaking Greek, Hebrew and Latin at Caesarea Maritima.⁷⁵ Inscriptions have also highlighted the

⁶¹ Wilson, Schörle and Rice 2012; also De Gryse 2014: 97–112.

⁶² See for example Bakker 1999 for Ostia; and Monteix 2016 and Brun 2016 for Pompeii.

⁶³ Le Roux, Véron and Morhange 2005; Véron *et al.* 2006. ⁶⁴ Parker 1992; Strauss 2013.

⁶⁵ Pisa: Bruni 2000; Olbia: D’Oriano 2002; Naples: Giampaola *et al.* 2005; Portus: Boetto 2010; Istanbul: Koçabas 2012.

⁶⁶ Arnaud (2015a) uses papyrological evidence to argue for a much greater range of ships and boats than is immediately evident from the archaeological evidence.

⁶⁷ Some of the papers in Harris and Iara 2011 are good examples of this; see also Wilson 2011.

⁶⁸ McCormick 2001: 83–114. ⁶⁹ For example, Bonifay 2009.

⁷⁰ Ferrary, Hasenohr and Le Dinahet 2002.

⁷¹ Terpstra 2013: 70–92; see also De Romanis 1993 and Camodeca 2006.

⁷² Cébeillac-Gervasoni 1996; Salomies 2002; Baroni and Rougier 2016. ⁷³ Sacco 1984.

⁷⁴ Terpstra 2013: 194–7. ⁷⁵ Lehmann and Holum 1999: 20–4.

persistence of the use of original languages in political and cult activities at ports like Neapolis (Naples), Massalia (Marseille) and Lepcis Magna that had been earlier Greek and Carthaginian colonies in the West.⁷⁶ Other studies have focused upon such issues as the financial and commercial transactions,⁷⁷ the origins, status and social context of shippers⁷⁸ and the fortunes that they gained through commerce.⁷⁹ Similarly, analyses of inscriptions from the anchor stocks found at shipwrecks,⁸⁰ as well as those on amphorae and their stoppers⁸¹ and lead ingots,⁸² have shed further light upon the extent of state and private involvement in commerce and how it was organized. The particularly large repertoire of inscriptions from Ostia and Portus,⁸³ best explained by their close administrative and commercial connections with Rome, has inevitably led many scholars to focus their attention upon the state-organized supply of corn and olive oil (*annona*) to Rome from sources across the Mediterranean.⁸⁴ It has also provided us with a rich record left by members of popular associations contracted to the state for specific activities related to the commercial life of the two ports, and who also played key roles in their social, religious and political life.⁸⁵ Notwithstanding the rich epigraphic evidence from other eastern ports, particularly Ephesos,⁸⁶ studies relating to the involvement of shippers⁸⁷ and merchants in the East have been less well served.

However, we have to recognize that there are limits to the inferences that can be made about the character of port societies from epigraphic evidence

⁷⁶ Respectively Miranda 1985: 386–95; Decourt, Gascou and Guyon 2005; Reynolds and Ward-Perkins 2009.

⁷⁷ Respectively Andreau 2015: 61–256; Camodeca 1992; Andreau 1999: 71–9.

⁷⁸ Rougé 1966: 239–55; De Salvo 1992: 225–94; Brokaert 2013a: 216–50.

⁷⁹ See for example Tchernia 2011; in particular, Bernard (2016) argues for the need to focus upon the people involved in exchange, their languages of communication and the legal frameworks within which they worked.

⁸⁰ Gianfrotta 1980; 1992; Brokaert 2013a: 452–8. ⁸¹ Brokaert 2013a: 437–51.

⁸² See for example Domergue 1998; Trincerini *et al.* 2009.

⁸³ Meiggs 1970: 1–10; Cébeillac-Gervasoni, Caldelli and Zevi (2010) provide the most up-to-date introduction to the published texts from Ostia; and Thylander 1952 is basic for those from Portus.

⁸⁴ Pavis d'Escurac 1976 is a basic study; see also Rickman 1980: 261–75; Christol 2008; 2013; as well as papers in Marin and Virouvet 2003: 37–152, 557–739 and Sirks 1991: 24–251, amongst many others.

⁸⁵ For example, Meiggs 1970: 214–34, 337–403; Van Nijf 1997; Steuernagel 2004; Tran 2006; Rohde 2012.

⁸⁶ Inscriptions from Ephesos are to be found in the series *Inschriften Griechischer Städte Kleinasiens*, together with the *Jahreshefte des Österreichischen Archäologischen Institutes in Wien* and ongoing volumes of the *Forschungen in Ephesos*; Spanu (2001) also discusses inscriptions relating to the port area.

⁸⁷ Vélissaropoulos 1980.

on its own, and that archaeological evidence has much to contribute as well. Aspects of their social organization can be deduced from the articulation of public and private space,⁸⁸ the internal layout of houses,⁸⁹ the layout and decoration of buildings for popular associations⁹⁰ and meeting places for foreign traders,⁹¹ the provision of such social amenities as baths, theatres and amphitheatres, and the presence of temples and sanctuaries to Roman and non-Roman deities. Cemeteries are another rich source of evidence, both for social differentiation⁹² and also for the geographical origins of the populations of ports.⁹³ While epigraphic evidence is often taken as a guide to the latter, interpretation of this where possible needs to be tempered by physical analysis of the skeletons,⁹⁴ even though the geographical resolution that it can provide is not very fine.

Fundamental to an understanding of the broader context of ports and their inter-relationships has been Hordern and Purcell's *The Corrupting Sea*,⁹⁵ the first major challenge to Braudel's⁹⁶ understanding of the Mediterranean. The authors focused *inter alia* upon the issue of 'unity in diversity' within the Mediterranean basin, and developed the key concept of 'connectivity' for defining how the diverse regions of the Mediterranean are integrated in a fluid manner. They seek to explain how the micro-regions of the Mediterranean coalesced at different scales, ranging from local to regional, supra-regional and the Mediterranean at large. Their thinking has been supported by studies of the many navigational routes that are known to us from the Greek and Latin sources and maritime itineraries.⁹⁷ Although their approach has not won universal acceptance, it does of course have major implications for our understanding of the Mediterranean-wide milieu in which Roman ports functioned. For example, it cautions us against thinking of a Roman Mediterranean that was dominated by the direct movement of ships along major commercial axes between provincial entrepôts and Rome, in favour of a situation where coastal cabotage between minor and major played a significant role. Connectivity across the Mediterranean, therefore, has become a subject of study, focusing

⁸⁸ See for example Laurence 2007 for Pompeii and Stöger 2011 for Ostia.

⁸⁹ The analysis by Wallace-Hadrill (1994) of how the organization of domestic space and its decoration structured encounters between different levels of society in various parts of this port has potential for other sites where there has been extensive research on urban layout.

⁹⁰ Hermansen 1982: 55–89; Zevi 2008; Rosso 2013. ⁹¹ Terpstra 2013: 100–12.

⁹² For example, Baldassare *et al.* 1985; Heinzelmann 2000: 102–22.

⁹³ For example, Helttula 1995: 238–41.

⁹⁴ Prowse 2007; but see also Bruun 2010 and Kilgrove 2010. ⁹⁵ Hordern and Purcell 2000.

⁹⁶ Braudel 1972–3.

⁹⁷ Arnaud (2005) gives by far the most comprehensive account of this to date. See also Arnaud 2011.