

Coastal Life and Economies in Roman times

OXREP is pleased to announce the following workshop:

Coastal Life and Economies in Roman Times

CNRS-Oxford Collaboration scheme 2012

15th November 2012

In recent years, economic historians and archaeologists have increasingly turned their attention to the role of maritime trade and the economic prosperity of the coastal regions during Roman times. The boom in the coastal economy across the Mediterranean is apparent in the numbers of recorded shipwrecks, over 1500 in the northern Mediterranean alone. Pan-Mediterranean commerce in the Roman period led to substantial growth of port cities and their associated foodstuff and amphora production infrastructures. Nevertheless, while much research has focused on large-scale ports such as Portus (Italy) and Caesarea Maritima (Israel), far less work has been undertaken on medium and small urban ports, and on the production of their hinterlands.

Yet the apparently simple picture of an overall increase in trade infrastructure during the Roman period may well overshadow important localised patterns of coastal development. Detailed analyses of the patterns in shipwrecks have revealed that regional and local dynamics, such as the increasing export-orientated wine and olive oil production of Gaul, Spain, the Adriatic and Africa, the decline in Italian wine exports to these regions and the adoption of different forms of container technology in the western Mediterranean, are clearly observable when the data are analysed at smaller scales. In addition, recent studies on demographics around the Mediterranean in Roman times suggest that a high percentage of the population was living on the coast. Regional studies of coastal economic life in the Mediterranean need to be further integrated in maritime research in order to produce a more fluid and comprehensible picture of the Roman coastal economies.

The workshop will bring together two groups of researchers from Oxford and the Centre Camille Jullian in Aix-en-Provence, across two fields of expertise, economists and historians dealing with the wider concept of Mediterranean economy, and archaeologists who engage in greater depth with landscape and regional studies, mainly in the coastal regions. The workshop will address questions such as: What are the determinants of the economic success of port cities both in the Roman period and in Late Antiquity? How did cities invest in their maritime export or import potential? How integrated were smaller coastal settlements, coastal villas, or more inland productive centres in the wider Mediterranean economy? Were these ports only connected with their own territory or also with the territory of more inland cities? Can we identify connectivity along coastal façades, and interaction of both larger and smaller ports with their coastal hinterlands?



The Oxford Roman Economy Project

CNRS - Oxford Collaboration Scheme 2012

Coastal life and economies in Roman times

15 November 2012

Coastal Life and Economies in Roman Times Conference*
Ioannou Centre for Classical and Byzantine Studies, 66 St Giles', Oxford

9.30–9.45 Welcome

9.45–10.30 Katia Schörlé: *The coastal life of Lepcis Magna: recent archaeological discoveries*

10.30–11.15 Alkiviadis Ginalis: *New light on the economy and coastal life of Skiathos, Greece*

11.15 – 11.45 Coffee Break

11.45–12.30 Héléne Rougier: *Structures and networks of port activities in Aquileia: 1st century BC – early 3rd century AD*

12.30–13.15 Alessia Contino: *African amphorae from a storehouse in Testaccio, the commercial and harbour area of ancient Rome*

13.15–14.00 Lunch

14.00–14.30 Raja Amri: *Fishing and related activities in Roman North Africa*

14.30–15.15 Gaëlle Delpy: *Seasonality of coastal food-producing activities: a case study using zooarchaeological methodologies*

15.15–15.30 Tea Break

15.30–16.15 Souen Fontaine: *Roman glass trade in the Mediterranean and inland provinces: some considerations on the archaeological data from the harbours of the east coast of Gallia Narbonensis*

16.15–17.00 Carmela Franco: *Sicilian amphorae (1st–6th centuries AD): an economic analysis of production and distribution*

17.00–17.45 Maxine Anastasi: *Carving a niche: the economy of the Maltese islands*

17.45–18.30 **Round Table discussion** chaired by Marie-Brigitte Carre (Director of the Centre Camille Jullian-CNRS UMR 7299), Michel Bonifay (Centre Camille Jullian-CNRS UMR 7299), Andrew Wilson (University of Oxford), and Nicholas Purcell (University of Oxford)

18.30 Wine reception

* all presentations include a 15-minute question period.

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The Oxford Roman Economy Project

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Raja Amri,

D.Phil. Candidate in Archaeology, Aix Marseille Université/Université de Tunis

Fishing and related activities in Roman North Africa

This survey of ancient fishing will cover the Roman period from the fall of Carthage in 146 BC to the Arab conquest in AD 647-699. The geographic framework will include all the African provinces: *Africa Proconsularis*, *Numidia*, *Mauretania Caesariensis* and *Mauretania Tingitana*, corresponding to the current territories of Tunisia, Algeria, Morocco and Libya.

Different types of fishing will be classified according to the natural conditions, the economic peculiarities of each period, and the different geographic areas. The project will attempt to identify the connection between the expansion of markets and the development of specific fishing practices, and to measure the consequences of changes within these markets on the development of fishing activities. We will try to identify the activities related to fishing: production of *salsamenta* and *garum*, construction of fish ponds, stocking and trade of these foodstuffs, exploitation of sponges and murex purple. We will study the population, in order to determine the personal status of each people involved in the different fishing activities: their social and geographical origin, the hierarchy within this population, the life styles, the working conditions, the working places. The aim of the project is to establish as comprehensive a catalogue as possible of sources, while taking in consideration human, technical, and economic aspects. In order to carry out this survey, I will produce a comprehensive review of the historical and archaeological documentation available on this topic.

This assessment, covering a very broad chronological timespan, will allow us to determine whether the activities related to fishing changed in Africa during the Roman period, and how and why.



Maxine Anastasi,

D.Phil. Candidate in Archaeology, University of Oxford

Carving a Niche: The Economy of the Maltese Islands

The Maltese archipelago lies at the centre of the Mediterranean Sea and since the fifth millennium B.C. was home to a host of successive colonisers who took advantage of the islands' strategic maritime location. Other than their prime position, however, the islands contain no natural resources and by their very nature, small islands like the Maltese archipelago lack the space necessary for yielding high volumes of agricultural products and were probably only able to produce enough food to sustain the islanders at the local level.

In spite of this, enough imported ceramics, marble statuary and other objects were reaching the islands to suggest that the Maltese were able to pay for these goods. The question is what were the islands able to produce in exchange for the items and objects they imported?

For the Roman period, textiles are often mentioned by classical sources as the main export the Maltese islands produced; however, the distribution of Maltese-produced pottery vessels shows that Malta exported commodities other than textiles. This paper explores other possible small-island productions, like wine, salt, olive oil and a variety of agricultural produce, which may have been traded within locally produced containers and which may have been produced alongside textiles, thus supplementing the islands' export market.



Alessia Contino,

D.Phil. Candidate in Archaeology, Aix Marseille Université/Università Catholica di Milano

***African amphorae from a storehouse in Testaccio,
the commercial harbour area of ancient Rome***

This paper is based on my current research on the African amphorae from the early imperial layers of a warehouse in Testaccio, Rome. At the beginning of the second century B.C., the region of Testaccio was redeveloped, with the creation of a new port, the *Emporium*, with buildings for the storage of goods, among which the *Porticus Aemilia*, the *Horrea Galbana*, *Lolliana* and *Seiana* and the *horreum* of Nuovo Mercato Testaccio. In the imperial period the area also featured a vast controlled dumping area for olive oil amphorae (Monte dei Cocci or Monte Testaccio). The excavation of the Nuovo Mercato Testaccio has revealed the uninterrupted stratigraphy from the beginning of the imperial period onwards. The early imperial structures (1st century A.D.–beginning of 2nd century A.D.), located mainly in the eastern part of the site, consist of a series of indoor spaces and courtyards with service pathways. This environment has been identified as a large dumping area for reusable building materials, made up mainly of amphorae and bricks. In the western sector on the contrary the courtyards are interpreted as part of a previous storehouse and not of a dumping area. The mid-imperial period (second half of the 2nd century A.D. –3rd century A.D.) is attested in the western sector by the construction levels of a warehouse (*horreum*). The abandonment phase (end of the 3rd century and the 5th century AD) is attested by the collapsed wall of a corridor. Modern and contemporary buildings consist of remains of a Renaissance farmhouse lying directly over the ancient *horreum*.

My research focuses on the ancient African amphorae from the excavation, currently poorly known in terms of typology, production and distribution. Beside the Punic and Tripolitanian types such as the so-called Dressel 18, Schoene-Mau 40, Schoene-Mau 35 and Tripolitanian amphora I-II, I also examine the Dressel 26, Ancient Tripolitanian amphora and Ostia 59 and 23. The large quantities of those amphorae in the excavation of the Nuovo Mercato Testaccio has been the “start” of this research. The aims are to: define the typological evolution and origin of the early African amphorae; reconstruct the commercial flows of African goods to Rome in the 1st century A.D.; analyse the contents of amphorae with gas chromatography (we have already analysed nine samples); and contribute to the study of building activity in the dump. I have already defined the typology and chronology of amphorae, commissioned petrographic analyses (on 46 samples by Claudio Capelli-Dipteris-Università di Genova) to find comparisons all over the Mediterranean area, to illuminate the presence of those amphorae in Rome in the 1st century A.D., since until now they were found only in very small quantities. Finally, the research contributes to the study of building activity in the dump of Nuovo Mercato Testaccio. I found that in fact almost three alignments of “amphorae walls” were built with neo-Punic amphorae. The potential of the research is: to implement the typological study of early African amphorae; contribute to the creation of a database



of fabrics useful for identifying the origin of amphorae and to recognize and associate new workshops with the recognized types of amphorae; identify the contents of the amphorae; and contribute to understanding the trade of African goods, particularly African oil, in Rome throughout a storage site in the 1st century A.D.



Gaëlle Delpy,

D.Phil. Candidate in Archaeology Aix Marseille Université

***Seasonality of coastal food-producing activities:
a case study using zooarchaeological methodologies***

During Protohistory and Antiquity, food supply came from diverse sources resulting from varied types of supplies. This was particularly the case for food of animal origin, obtained among other means, through hunting and breeding, but also fishing in coastal contexts.

The complementarities of these resources and their regular or rather punctual aspect are some questions which the study of the seasonality of the bone remains of fishes, mammals and birds can begin to answer.

As an introduction, a synthesis of the methods used to determine the season of death of animals from their bone remains was presented. The various types of studies based on osteological observations, such as skeletochronology or dental wear, were summarised, and the possibilities offered by the analyses of isotopes $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$ were illustrated.

The application of some of these methods was then developed through the example of a vertebra of *Sparus aurata* L., 1758 (gilthead seabream) and that of a first phalanx of Ovicaprid, both from the site of Saint-Pierre-lès-Martigues in Bouches-du-Rhône (France).



Dr Souen Fontaine,

D.Phil. in Archaeology, Aix Marseille Université

Roman glass trade in the Mediterranean and inland provinces: some considerations on the archaeological data from the harbours of the east coast of Gallia Narbonensis

The work presented is one of the constituents of a Ph.D. which aimed to observe and define the evolution steps of a key period in the glass economy. The earliest witness of a real and significant trade in glassware in the north-western Mediterranean area appears in the late Augustan period. Fifty years later, glassware is produced in different places in the inland region western, and during the following decades, glass vessels become as common as ceramics for tableware and domestic storage, in the whole western part of the Empire. In this context, the coast of Narbonensis, the interface between Mediterranean and inland provinces, precociously influenced by Hellenistic and early Roman culture, provide a propitious ground for the studies of these essential changes in the economy of glass.

This presentation focused on glass vessel assemblages yielded by the rich and homogeneous port dumps of Marseille, Fos and Arles, three harbours less than a few dozen miles apart in the area of the Rhône Valley delta. For different reasons, the best-documented period of activity in the three harbour runs from AD 50/60 to the first decades of the second century. The three assemblages of glassware are very similar in their composition and present the peculiar characteristics of port dump levels: the objects are particularly abundant and homogeneous and are well preserved if not complete. Comparison of these three assemblages highlights some characteristic features of the glass trade in the second half of the first century AD. Vessels are essentially of open forms, and are tableware vessels. The containers, travelling for the product they contained, are very few and therefore, we can see that the majority of the glassware was traded in its own right, not for its contents. The second characteristic is the predominance of common forms. The majority of the finds consists of very common—and probably cheap—products, blown in a blue-greenish glass, and could come from many different workshops. Our knowledge of glass production centres is uncertain, and it is therefore difficult to pretend to have a clear idea of the different commercial flows of the glass trade of this period. Nevertheless, some of the most commonly found glassware in these port dumps is now known to have been produced in the contemporaneous workshop of Lyon. Recent studies on the ceramic assemblages from the port dumps of Arles and Fos show that at least 25% of the coarse pottery found in both sites are produced in the Rhône Valley, somewhere between Lyon and Arles. Even if the harbours of the south Gallic coast, specially Fos and Arles, are considered as transshipment points on the main trade road supplying the northwest territories with Mediterranean products, we can wonder if, for some kind of products as ceramics or glassware, a downstream flow, from north to south, can be highlighted. We could also suppose that a part of the glassware comes from nearby but still unknown workshops located somewhere in the hinterland or in the coastal cities. Although it is difficult to argue seriously for this short-distance trade without any evidence of



contemporary glass workshops in the immediate hinterland, it seems appropriate to raise the question. The raw glass cargoes of which we have small remains in each port dump came ultimately from the eastern Mediterranean, and they could have supplied some coastal workshops as easily as they have supplied the inland workshops further north.



Carmela Franco,

D.Phil. Candidate in Archaeology, University of Oxford

***Sicilian Amphorae (AD I-VI): an economic analysis of production and distribution.
A first overview***

The talk presented at the Coastal life Workshop was based on the initial findings and data gathered from my ongoing D.Phil. research entitled “*Sicilian Amphorae (AD I-VI): an economic analysis of production and distribution*” (Oxford University, supervisor: Andrew Wilson). The research in general aims at identifying and analyzing the economic trends evident from the production and diffusion of various types of flat-bottomed transport amphorae produced in Sicily from the Early Imperial Roman Period to the Early Byzantine Period.

In the paper a proposal of the typological evolution of Sicilian wine amphorae was presented. Furthermore, the location of the excavated kiln sites in Sicily was examined in a broader geographical context which raises questions on the scale of production and the mechanisms of amphorae distribution. In the second part, some important results gained from the petrographic analyses carried out on amphorae samples provided by various Institutions and Museums in Sicily and abroad were illustrated. The archaeometrical analyses (thin-section analyses) aim to improve the characterization of fabrics, amphorae types and areas of production and at investigating technological aspects of manufacture of each amphora type.

An overview of the long-distance exports of Sicilian amphorae the Western and Eastern Mediterranean area—as known from published and unpublished data—was provided in order to give evidence on their pattern of distribution and preferential markets. The different levels of commercialization of Sicilian amphorae were highlighted, looking at the different relative quantities of each amphora type and subsequently the level of occurrence in regions inside and outside Sicily, whilst also taking into account the presence and absence of amphorae within the more general and homogeneous context of the Mediterranean basin.

In the final section, Sicily strong involvement in maritime trade was demonstrated as evident from a variety of sources, such as the ceramic evidence and the evidence of underwater finds. The approach consisted in plotting the overseas amphorae distribution versus the local amphorae circulation in 6 selected Sicilian coastal cities.

Alkiviadis Ginalis,

D.Phil. Candidate in Archaeology, University of Oxford

New Light on the Economy and Coastal Life of Skiathos, Greece

As part of the general study of Byzantine coastal installations, the paper presents the results of the coastal and underwater archaeological survey project conducted at the central Greek island of Skiathos in May 2012, illuminating its role as Hinterland and Coastland for the economy and social life of late antique and medieval Thessaly. The non-intrusive field season detected and documented the ancient and medieval harbour installations as well as other important coastal infrastructures on the island mainly of the Roman and Byzantine periods. Furthermore, in total 7 wreck sites of the Late Roman to Ottoman periods were revealed. In the course of the investigation very rich archaeological material such as ceramic assemblages, infrastructural elements and other finds of various periods were brought to light, including unique and rare pottery.

The results of the survey campaign and in particular the ceramic material attests new information on the connectivity of Mediterranean trade activities and the importance of the island as a crucial regional and supra-regional trading station during the Roman Imperial and Byzantine periods, controlling the passing trading routes and shipping lanes in the Aegean.



Hélène Rougier,

D.Phil. Candidate in Archaeology Aix Marseille Université

***Structures and networks of port activities in Aquileia
(1st century B.C. - early 3rd century A.D.) : an epigraphic approach***

After a year of work on Ostia and Portus, and the collection of some documentation on Arles, Narbonne and Hispalis, the interest of the epigraphic evidence for the knowledge of port structures and networks has been confirmed. However, the case of Aquileia seems more complex. Three port activities are attested, maritime trade, customs and shipbuilding, but the latter has only one certain representative, and the case of maritime trade is problematic. Many *negotiatores* and *mercatores* are known at Aquileia, but almost all of them are connected to the land routes or waterways which lead to Northern Italian provinces and to Alpine and Transalpine territories. Except for two merchants linked to Rome, the actors in maritime trade do not appear in the epigraphic documentation. This does not mean that they are absent, or that they are less numerous, but it shows that they are much less visible than the land route merchants, with whom they were certainly in contact. Another surprising observation is the absence of port *collegia*. Some hypotheses have been made about the existence of merchant corporations but no document allows us to assure it. These assessments are even more surprising as we know that in the other ports studied there were rich and powerful individuals who were proud to show that they were tradesmen, shipowners, boatbuilders, boatmen etc.... Other methods can help us to find port actors: names inscribed on various materials, objects or instruments of trade (bricks, amphorae...), and research on outsiders in Aquileia or Aquileians outside their city. Some individuals can be found in this way but it does not solve the question of their limited visibility inside the city space, in comparison to the other ports.

This peculiarity of the port documentation of Aquileia may be due to the chance of discoveries, which is unquestionably an important factor. But it is necessary to envisage the possibility that the state of these inscriptions may traduce the activity of the Aquileian port in one way or another, at specific moments. The strong connection between Aquileia and the Roman army, the possibility that a great part of the maritime trade could have been in the hands of Eastern people who were not really settled in Aquileia, and a better knowledge of the port developments, the volume of trading flows and their chronology are among the ideas for further research.

Katia Schörle,

DPhil Candidate in Archaeology University of Oxford

The coastal life of Lepcis Magna (Libya): recent archaeological discoveries

This paper presented the preliminary results of a survey of the coastal landscape to the west of Lepcis Magna, (modern Homs, east of Tripoli), once one of North Africa's most prosperous cities, and a jewel of Libya's cultural heritage on UNESCO's world heritage sites list. The survey covered 27 km of coastline to the west of Villa Silin, and revealed a high density of maritime residences interspersed with productive sites, showing evidence for olive and wine production in a pattern very similar to that identified in Latium and Campania. The villas were strategically located on promontories overlooking the sea and nearby wadis (dry riverbeds) to optimize their use of natural bays and the beauty of the physical landscape. Owned by the wealthy Tripolitanian elite, they show a considerable element of emulation of the maritime villas on the coasts of Latium and Campania, areas to which the elite had prominent trading ties.

These villas, which display imported marble, monumental porticoed facades, and imported fine ware, were involved in a range of activities, whether agricultural or concerning the exploitation of marine resources. This is evidenced by wine and/or oil presses and, in one instance, a fish-salting facility located next to a villa. In addition, several amphora kiln sites were located in association with the villas. This has considerable implications for Tripolitania's role in pan-Mediterranean trade and its importance as a productive centre, in terms of its trade with Rome, and with, more surprisingly, Gaul and the Sahara. This allows us to suggest and map new routes and increase our understanding of the importance, evolution, and connectivity of certain areas in the Libyan interior, as well as corroborating the pattern identified on a much larger scale in the Tarhuna Plateau. A detailed study of the ceramics is currently underway investigating such questions through dating, provenancing and linking types with similar finds in other Mediterranean and African sites. Such questions are the focus of future research and are already adding substantially to the typological and petrographical information on ceramics from this area, which is currently almost non-existent.