Money, Trade and Trade Routes in Pre-Islamic North Africa

Edited by Amelia Dowler
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Front cover (not reproduced 1:1)
Top: copper alloy coin, minted at Lepcis Magna, AD 14–37
BM C&M G.292
Bottom: silver coin, minted at Iol, 3rd–2nd century BC
BM C&M G.330

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Introduction

Amelia Dowler

The Money in Africa project at the British Museum takes an interdisciplinary approach to the study of the monetary history and cultures of Africa. From ancient trans-Saharan salt routes, to modern-day hyperinflation, the project aims to show how money can be used as a way to explore the continent's rich history: http://www.britishmuseum.org/research/research_projects/money_in_africa.aspx .

Part of the project has been to encourage the formation of networks of specialists, particularly through thematic meetings at the British Museum and to facilitate wider discussion on these topics. A meeting on ancient North Africa, the *Money, Trade and Trade routes in Pre-Islamic North Africa* conference was held at the Department of Coins and Medals, the British Museum, in autumn 2008. This followed the *Money in Africa* conference at the Museum in 2007, which covered topics from the last 1,000 years of Africa's monetary history. The decision to hold a second conference specifically on pre-Islamic North Africa came from the recognition that North Africa is often included in the circuit of Middle Eastern scholarship rather than as part of the continent of Africa. Further, the early economic history of what the Romans would recognize as 'Africa', i.e. distinct from Egypt, has not received as much attention as other areas of the Mediterranean and wider Classical world. This picture is one which is changing, as demonstrated by the contributors to this volume and the outline of the economic history of this region is gradually being fleshed out by them through work in archaeology and numismatics.

The history of the Department of Coins and Medals shows a persistent and continued interest in North Africa, and its collection of coins from Greek, Punic, Roman and Byzantine sites and periods is a valuable resource for the study of trade and economics. The digitization of part of this collection, as part of the Money in Africa Project, provided a spur for the encouragement of wider use of this resource and the hosting of interdisciplinary discussions on North Africa, and its connection both to the Mediterranean world, the Sahara and Sub-Saharan regions. This introduction will first survey previous work in the study of North African numismatics in the Department of Coins and Medals and then present the themes of the *Money, Trade and Trade routes in Pre-Islamic North Africa* conference illustrated by the papers published in this volume.

The British Museum, North Africa and E.S.G. Robinson

The British Museum's collection of coins from North Africa consists of collections which date from the early 19th century. These include parts of Richard Payne Knight's collection (1826) and coins listed in Taylor Combe's catalogue and Edward Hawkin's catalogue (coins in the Department of Antiquities before 1814 and 1837, respectively). This core collection was heavily supplemented during the 20th century, predominantly through the work of Sir Edward Stanley Gotch Robinson, member of the Department of Coins and Medals 1912–52 (Deputy Keeper from 1935 and Keeper from 1949). Coins acquired during the first half of the 20th century now form the bulk of coins in the North African collections and most of this can be attributed to Robinson's influence.

In the 1930s in particular, Robinson gathered information about hoards from pre-Roman North Africa and Sardinia, and acquired examples from these hoards for the Museum's collection. These are recorded in the *Inventory of Greek Coin Hoards* (Thompson *et al.* 1973) and full details of the coins from these hoards currently in the Museum's collection are provided below. Of these eight hoards the earliest was found in 1913 and the latest in 1952, but five of the hoards are from the 1920s and 30s, Robinson's main period of activity in this area.

IGCH hoards held or part held at the British Museum in discovery date order

IGCH 2260 Malta (found before 1913) *c.* 5th century BC
IGCH 2301 Cani Islands, Tunisia 23km NE of Bizerta (found 1916) *c.* 150 BC
IGCH 2264 Orrestano (found 1925?) *c.* 310 BC
IGCH 2281 Tunisia (found 1928) 238 BC
IGCH 2291 Sardinia (found 1933) *c.* 216 BC
IGCH 2300 El Djem (Thysdrus) (found 1936) early 2nd century BC
IGCH 2279 Sardinia (found 1937) *c.* 250 BC
IGCH 2282 Tunisia near Tunis (found 1952) 238 BC

The El Djem hoard of 1936 (IGCH 2300) stands out especially because of the sheer number of coins discovered. Of the 3,000 plus coins found by Chavaure in February 1936, 45 came to the British Museum under the instructions of Robinson. The most significant find before Robinson joined the Department however came to the British Museum in 1908: part of the 1907 Banasa hoard (IGCH 2307). Ninety coins from this hoard of about 4,000 coins does not seem a substantial number but when it is considered that, as with the over 3,000 coins of the El Djem hoard, most of these coins disappeared into the trade, its significance in the Museum's collection becomes more clear. Other major holdings from this hoard can be found in Paris, Winterthur, Athens, Berlin and New York, but even taking all these together it represents only a few hundred of the believed total for the original hoard. Marguerite Spoerri will be publishing this hoard shortly.

Robinson's main interest appears to have been in the coins of Carthage or from Carthaginian controlled areas: hoards from Sardinia (IGCH 2279 and 2291 from 1937 and 1933 respectively) and Tunisia itself (IGCH 2281, 2282, 2300 and 2301). A number of these hoards were discovered in this period, and Robinson kept notes and continued correspondence with various contacts on the subject. For the Museum's collection, Robinson's activity in the area represents a significant number of the coins acquired for the North African collection. The

hoards alone contributed over 200 coins to the collection, filling important gaps in examples from mints in Carthage and in Punic Sardinia in particular.

Robinson also kept track of other developments in hoards from Tunisia: the hoard from La Goulette (Tunis) discovered in 1920, for example (recorded as IGCH 2302), is the subject of a note in Robinson's diary nearly 30 years later. He notes that the hoard contained 'about twelve serrated silver tetradrachms of Carthage latest issue' and records that this information came in a letter dated 8 December 1949 from Paul Bédé of Sfax, Tunisia. Likewise Robinson recorded information on the 7 July 1938 of six Carthaginian electrum staters 'all of first electrum type' from a possible hoard which he saw in London.

These hoards, in which Robinson was so interested, are listed in the Appendix below with details of those coins from the hoards held in the British Museum collection. All of these are now accessible to the public through the British Museum online database, and so through the support of the Money in Africa project it is now possible to see the results of Robinson's persistence.

Money, trade and trade routes in Ancient North Africa

All the papers in this volume, except one, were presented at the *Money, Trade and Trade routes in Pre-Islamic North Africa* Conference at the Department of Coins and Medals, the British Museum, in autumn 2008. This conference was organized from a desire to facilitate the debate on current themes and developments in research on the numismatics, economic history and trade connections through North Africa. The call for papers was open within the remit of pre-Islamic North Africa (excluding Egypt) and two main themes emerged from the papers presented: the far west of Numidia, Mauretania and Spain and the Libyan hinterland of the Garamantes. The result of these discussions made it clear that two distinct areas of North Africa were prominent in current work. As conversation progressed it also became clear that while these areas might be considered geographically distinct the topics brought out in their study had certain thematic similarities.

The conference brought together historians, archaeologists and numismatists to look closely at the material evidence for trade and the movement of goods and ideas across trade-routes. It was hoped that this mixture of sources of information would bring forth fruitful discussions of current trends and provide some direction for future work on this area. The themes of the conference and the papers published below display current work in the determination and understanding of trade-routes.

The additional paper was presented by MacDonald at a workshop in 2009 held at the Institute of Archaeology, University College of London. This was a meeting to open the 'Trans-Saharan Network', which sprang from the ideas of the 2008 conference. As the convenor of this workshop MacDonald's paper gives an essential extra component to these discussions of trans Saharan trade – his 'View from the South' provides evidence of the settlement and civilizations at the other end of the long Saharan routes, and complements the northern focus of the other papers in the volume.

The chronological spread of the papers presented below were only limited by the specification 'pre-Islamic'. The reason for this stipulation was that, as is clear from the papers below, trade, particularly trans-Saharan trade, changed dramatically from the 8th century onwards following the Arab conquest. The intention was to focus on what traces of the types and frequencies of trade and trade-routes could be established for the period before the Arab conquest. The result is a wide range of dates covered by each paper – some examine a limited time span to draw out specific features of the period, while others encompass much wider chronological frameworks. The earliest concentration is on the time of Herodotus – the 5th century BC, while the main focus of the volume as a whole is on the Hellenistic to Roman periods in North Africa. MacDonald's paper however covers the widest range of dates running from the early 1st millennium BC right up to the period of the Arab conquests of AD 695. This is extremely useful since his southern view provides a significant counterbalance to the topics covered by the other papers.

This volume of papers concentrates on those two major regions of the conference: the far west and Libyan hinterland. Both of these areas traditionally were not well known or documented by Greek or Roman writers to whom the Mediterranean was the centre of the world and these peripheral areas represented unfamiliar and perhaps mysterious regions, places of story and legend. These two areas of North Africa and their links to the Mediterranean world share a number of thematic connections – the papers all concern the exploration of links, particularly trading links with the Mediterranean world. This is seen in archaeological remains, images used on coins, and reflections in literature.

These two areas have a number of themes in common, especially: fluctuations of connectivity over time; local or civic identities which complement wider regional identities; material evidence furnishing more information to the sparse frameworks of literary evidence; the transformation of often stereotypical views of the far west and the Libyan hinterland into productive discussions of the people dwelling in these areas and their lifestyles. Drawing out these threads of similarity demonstrates the thematic correspondences between disparate areas of North Africa.

Connectivity – here seen as the frequency and velocity of connections between cities or regions – is key to the understanding of the transfer of ideas as well as of the stability of trade-routes. This is explored by both the examination of trade products (and the frequency of their occurrence in the archaeological record) and the transfer of ideas through political influence. The fluid nature of these connections, it is clear, were heavily affected by shifts in political and environmental factors, leading to cities or areas 'facing' east or west, or the hinterland or the littoral. These factors feed into the growth and display of local identities, shown most strikingly through the numismatic evidence in the west, and the waxing and waning of political influence from regional powers nurture a wider sense of regional or supra-local identities. The examination of these topics enhances the understanding of regions whose histories were traditionally written by outsiders. The material evidence of their cultures speaks to these literary records, emphasizing and at times challenging aspects of the contemporary written evidence. This in turn helps to build up a fuller picture of the civilizations outside the circuit of the Graeco-Roman Mediterranean.

Fluctuating connectivity

Quinn's paper demonstrates two important principles: the shift of connections through time and the elucidation of the, at times, murky literary evidence through the material record. Examining connections across the Syrtes gulf is a microcosm of the fluctuating connections across the wider North African seaboard and hinterland. The Syrtes case study is a useful demonstration of connections between a Greek east and a Punic west. These political and cultural divisions have traditionally been emphasized not just by modern scholarship but also by the geographical realities of the area. Quinn points out the traditional regions of North Africa – the Jabal al-Akhdar (Cyrenaica), the Maghrib (Tripolitania to western Algeria) and the Maghrib al-Aqsa (modern Morocco). These, in addition to their distinction from each other, are separated from the rest of the African continent by the Sahara, that vast 'inland sea' which hinders communication to the south. These geographical divisions are perhaps not as distinct as previously considered and while there are undeniable difficulties of connection, both geographical and political, as detailed by Quinn, equally there are ways of overcoming these difficulties of terrain and diplomacy.

Challenging the notion of geographical and political fragmentation across the North African seaboard, Quinn uses examples of both the material evidence of trade goods (particularly in coarseware, fineware and amphorae) and cultural transfers (particularly the similarities of use in funerary architecture) to demonstrate 'transgressions in the economic sphere' which overcome those complexities of the sea route between the Maghrib and the Jabal al-Akhdar. Of particular note is a comparison between economic activity between the cities of Euhesperides (later Berenike) and Sabratha (amongst the cities of Tripolitania) seen through the record of imported amphorae, fineware and coarseware. Quinn's paper looks at a number of cities whose economic orientation shifts over time to become part of different regional nexuses – Sabratha and Jerba to the west and Berenike to the east.

While it is clear that there is an intensification of trade in the late 4th century BC in the area of the Syrtes, it is the comparison between the activity of this period and that of the 2nd–1st centuries BC which forms the heart of the argument. These different phases of economic development can be seen from the shifts in the source of trade goods. It is important to note that the rise of the Ptolemaic dynasty in the east and of Carthage in the west altered the economic landscape with greater impact than the geographical concerns of the 'reversing movements' and 'inhospitable shores' illustrated with such vigour by ancient authors.

By the 1st century BC Berenike (formerly Euhesperides) has clearly turned to the Ptolemaic world. This complete shift breaks the city from the use of Carthage as an important stop on a wider trade-route through the Mediterranean. The archaeological record of Euhesperides in the 4th century BC suggests Carthage as a stop off from Italy/Sicily to the eastern Mediterranean via ports in the Syrtes. Greek imports in return could potentially have come via Sicily and therefore Carthage to the cities of the Syrtes as well. While the sherd identification in Berenike needs to be confirmed – the unidentified sherds are assumed to have been of eastern Mediterranean manufacture – it is likely from the extreme decline in western Mediterranean products in the city that Berenike firmly belonged in the Ptolemaic sphere at a time when Sabratha and the cities of Tripolitania clearly turn to the west. The economic boom in Sabratha combines with this shift to provide a remarkable record of almost exclusive import from the Maghrib or at least the western Mediterranean.

Quinn also makes the important point that a reduction in goods being traded from one area to another makes it much more likely that trade goods going in the other direction would also decline producing a clear decline in the archaeological record. In the case of the Syrtes, and the city of Berenike in particular, another factor – that of coinage – further complicates the understanding of the economic situation. It is highly likely that the Ptolemaic closed currency system affects coin finds in Cyrenaica: it would not make sense for merchants to carry many coins from an economic system on a lighter weight standard away from the port of trade and indeed any coins received into the system are likely to have been melted down for re-minting. However Quinn quotes a comment of Andrew Wilson that merchants in all areas would typically use the coins they might receive in a port to purchase the return cargo. This point is underlined by Xenophon's note in the mid-4th century BC that:

> In most cities [foreign] merchants must seek a return cargo, since they use coinage which is not acceptable elsewhere. But at Athens, while it is possible to export a great amount of material which is needed elsewhere, if they do not wish to take on a return cargo they can still make a good profit by taking away silver; for wherever they sell it, they always get more than the original (*Poroi* 3.2).

The implication is that in the 4th century BC at least, taking on a return cargo was considered normal and circumstances at Athens meant that merchants strayed from their usual habits. In an area under the reduced weight currency controls of the Ptolemaic kingdom, it would be even more likely that merchants would wish to take on a return cargo rather than receive coins in payment. As Quinn points out: this means that coins cannot be used here as a 'quantitative proxy for trade'.

MacDonald also addresses this point in examining the coin using traders of the north and the non-coin using trade posts to the south where relatively few coin finds have been made. He posits that the coins may well have either remained in the hands of traders or those which remained in the south were melted down for their metal content. Coins in this context therefore are not a true window into the economic activity of the trans-Saharan region. Individual coin finds in Sub-Saharan Africa, while suggestive, must be taken with caution unless or until wider evidence of coins in the region transferred from the north can be found.

There are, of course, other methods of examining the economic links across the Sahara. These links are much more sophisticated than previously thought; this comes through in particular in Mattingly's research but MacDonald's view from the south and Fentress' examination of slavery in a Saharan context give closer investigations of the routes through the desert and the people using them in particular circumstances. All three papers show the connections in trade from the Sahara right into the Mediterranean and *vice-versa*. The prominence of the cities, settlements, and people involved in this trade fluctuate, as demonstrated above in Quinn's example. Both

MacDonald and Mattingly give striking examples of the early links between the Mediterranean coast and Saharan and Sub-Saharan Africa and Fentress uses a particular 'product' – the slave – as a method of examining the wider use of trade-routes. It is especially important to note both the products of trade and the processes and methods of technology which are shared across these routes.

The traces of trade before what MacDonald describes as the *post* AD 700 'Islamic trans-Saharan commercial boom' demonstrate that though there were considerable difficulties in trans-Saharan trade, the benefits from this outweighed the risks involved. The indications of an earlier, smaller scale trade are becoming clearer through the work of MacDonald and his colleagues examining the archaeological remains in Sub-Saharan settlements particularly in the Niger Bend region. The long history of stone exchange through the Sahara establishes these links. The site of Kissi in Burkina Faso is noteworthy for the sheer numbers of beads of varying types recovered, particularly from the necropolis area. MacDonald points out however that this site is atypical: in comparisons of beads recovered from other Sub-Saharan sites, Kissi 'outperforms' its comperes substantially. The material evidence from Kissi points rather to the significance of its position close to the Niger Bend and, most importantly, to the gold fields of Sirba. These circumstances potentially mark Kissi out as part of the putative early gold trade between Sub-Saharan Africa and the northern African coast.

The main trading activity between the Mediterranean coast and Sub-Saharan Africa appears to be *post*-3rd century AD – though evidence especially through beads suggests earlier interactions. It is not just trade in bead-work which reveal the links: through traces of livestock and other materials traded, wool for example, a wider picture of this trade can be surmised. The discovery of wool in early Sub-Saharan contexts is of marked interest. As a prestige item, this appreciation of cloth possibly feeds into West African concepts of cloth currencies and ideas of prestige goods in the region. The introduction of the donkey, horse, camel and chicken into Sub-Saharan Africa is particularly informative of the interaction of the north and south. MacDonald records early remains of these animals in the south: this demonstrates the early, pre-Islamic, contact through trade, but also through concepts of animal husbandry. This is emphasized by Mattingly's examination of Sub-Saharan agricultural methods in the Fazzan, particularly in the use of pearl millet, sorghum and cotton.

The picture of the civilization of the Garamantes is being transformed by Mattingly's work in the region. This builds on early archaeological and survey work in the Fazzan and its synthesis by Mattingly is providing a clearer picture of the scale of trade between the Roman world and the Sahara. His in-depth study of the region through the Fazzan Project and ongoing work in the Desert Migrations Project is bringing to light more evidence of the extent of the links between the Garamantes and trade partners in the north and south. While much is still unclear, without this kind of examination of the material evidence and regard for topography and environmental change, our picture of Garamantian civilization and trans-Saharan trade would remain as shadowy as Herodotus' description of the region discussed below in Sommer's paper.

The growth in the study of the Fazzan and its settlement has made it increasingly clear that the extent of the trade with the Roman north and the contribution this made to the settlements of Tripolitania has been underestimated in previous studies. The idea that significant trade in the pre-Islamic period did not occur in the Saharan and Sub-Saharan regions has been a popular view, but as Mattingly points out, this is now being challenged and the suggestion that trade, while perhaps not of the grand scale of Islamic North Africa, had a substance of considerable merit and extent. Mattingly points to Roman trade goods discovered in Garamantian tombs as a marker of this trade although the corresponding goods transported northwards are harder to determine. The position of the Garamantes in the centre of these routes from north to south becomes more explicit when trade goods to the south are considered. The existence of hippo ivory, ebony beads and cowrie shells amongst the objects recovered from the Fazzan offer a glimpse of the southern portion of this long-distance trade. MacDonald's suggestion however that the fall of Tichitt came as a result of threats from Berber raiding forces and Mattingly's suggestion that the Garamantes' desire for luxury goods blocked their progress to north or south suggest that these interactions were not always peaceful.

In the case of both the trade in the Syrtes and the trade centred on the Fazzan it is especially noteworthy that these systems demonstrate that trade in these regions was likely to have been part of a network of shorter distances. While goods might indeed travel all the way from north to south or south to north, the merchants involved in their transportation need not have traversed the entire route personally. This sense of the local *versus* the wider regional use of the trade-routes is reflected in the consideration of local and regional identities shown by the choice of coin types, most clearly, but also by how smaller settlements or areas were linked into the wider region through the movement of goods or people.

Local and regional identities

In all the examples offered by the papers in this volume, there is a sense of looking at local production or concepts and the consideration of their wider transport or dissemination within the region. An increasing understanding of the connections of North Africa to Spain and *vice versa* show the area as part of the western Mediterranean world operating as a region with close cultural and political ties. It displays the interchange of ideas and trade and also interdependence for both trade and military strategies. The use of numismatic evidence is starting to revolutionize how we regard the western Mediterranean and its people; the structures under which they operated and how they were considered by the rest of the Mediterranean as evidenced through the ancient authors, particularly of coasting itineraries or *periploi*. The Punic presence in this part of the Mediterranean has obscured many of these connections, which were not recorded or were misunderstood by Greek and Roman authors. The lack of literary evidence from those people resident in the region has previously made the understanding of local connections difficult to grasp. By using numismatic evidence a new depth of understanding is brought to the scholarship of the area and this is a field of study which has gathered pace. This study began in the 19th-century with comparisons between coins from Spanish and Moroccan mints

to develop the interpretation of Spanish coins in particular.

Mora discusses the history of the idea of the 'Circle of the Straits' in this context. This area covering the Straits of Gibraltar and the regions of southern Spain and northern Morocco bordering it formed an important and coherent region. The typographical links particularly between coin types in Hispania Baetica and Mauretania Tingitana which he demonstrates in his paper generates a visual representation of cultural connections between these areas. The most important thread to draw from Mora's work is the sense of civic values, where coins are an invaluable aid to show civic and *supra*-civic, or regional, identities. The parallels in other parts of the contemporary Mediterranean world between the group of cities in the Circle of the Straits and similar groups of cities subject to intervention from more powerful states are striking. The sense of a regional identity comes through in the imagery chosen for civic coin production and Mora draws out a fascinating balance between the choices made by the cities concerned about how to represent themselves, and the way in which the outside world regarded the far west, their homeland.

This idea of close connections is taken by Ferrer and Pliego to determine in the context of military settlement the extent of the links between the regions of Spain and North Africa. Their specific case considers the much earlier presence of Carthaginian forces garrisoning sites in Turdetania; a new assessment of the forces in the area at that period. This approach starts to foster an appreciation of the wider powers in the region and the effect of their presence on the sense of local identity. The interaction of Carthage, other Phoenician communities and non-Phoenician communities is key to understanding the region, and work on chronology and local/regional representation is important to the elucidation of this area before the Roman conquest. This also underlines the need to understand the chronology of coin production in the region, and to examine coin hoards to give a clearer picture of events and the people involved in them. With both Mora's and Ferrer and Pliego's papers it is clear that these senses of local identity and action were affected by the intervention of wider regional powers, however benign. None of the places described in these two papers operated entirely independently but formed part of a regional pattern of exchange. These themes are picked out in detail by Callegarin demonstrating the progress in and process for establishing chronologies and locations from numismatic evidence.

The movement of people through the slave-trade illustrated by Fentress is the clearest example of human migration within this volume. Mattingly also notes from the analysis of skeletal remains in the Fazzan that the population was ethnically mixed between those of Berber heritage, Sub-Saharan heritage and mixtures of the two. This suggests a merging of identities and the movement of people from their home areas to centres of population concerned with the organization of trade. Across all the papers however, the use of trade goods and the exchange of ideas implies the movement of people, transferring ideas as well as goods along the routes.

Long-distance trade-routes and local trade are therefore part of the same story: the short 'hops' of local trade translate into the longer distances of major trade-routes. These major trade-routes were by necessity broken into shorter stages. Herodotus marks out these stages as 10-day journeys and Mattingly notes that the much later Islamic itineraries made similar journey breaks – about the length of time one can go across desert without coming across fresh water supplies. This then demonstrates in trade the practice of local habits within an over-arching sense of regional identity seen in the context of Mora's Far West civic and regional identities and in Mattingly's assessment of the place of the Garamantes within the trans-Saharan trade-routes.

Material and literary evidence

Elements of Mora's 'imaginary far west' have close thematic connections with Graeco-Roman views of the deep Sahara and its inhabitants. Sommer's examination of evidence from Herodotus and Mora's collection of quotations from various geographical writers show that the remoteness of these places from the Greek and Roman world have prompted a particular treatment of them in literature both ancient and modern. This is, however, being overcome by the archaeological and numismatic research being conducted into the connectivity of these places across vast distances and the similarities between local needs, culture and imagery displayed there. The textual evidence should, nevertheless, still be appreciated and not dismissed as the fantastical imaginings of authors misled by ideas of these remote places as the home of odd creatures or undreamed of luxuries. As both Sommer and Mattingly point out: notions of the Garamantes as barbaric, warlike and devious continued to flavour much later depictions of the people of the region – the Tuareg – even into recent times.

To the north, Quinn uses literary and material evidence to establish that even where the literary evidence suggests difficulties, or indeed impossibilities, it is possible for merchants and travellers to find solutions to some of these problems. Both Mora and Ferrer and Pliego's papers further demonstrate that written sources, while valuable on their own, when used alongside the archaeological and numismatic evidence provide a much fuller picture of circumstances. At times the material evidence, as demonstrated by Mora, can be used as a response to the written evidence, showing the local perspective on questions of identity in response to a wider view on the habits and practices of a particular region. Where written sources do not exist, or give only limited information about places and their inhabitants then this is especially where material evidence is important. The question of the location and identity of 'BB'L/BB'T' which Callegarin reasons out is illustrative of this. Similarly the work of Mattingly and MacDonald at either side of the Sahara also approach the people living in these regions from their material remains. The focus of scholarship in the past has depended heavily on written evidence to explore these subjects, but both archaeology and numismatics offer a way to build up facts which can be used to form a picture of the structure of the societies in question and their interactions with their neighbours.

Transformation of views

The sophistication of the Garamantian irrigation and agriculture systems in a harsh and arid landscape belies the rather crude depiction of them as utterly barbaric – a view which has its origins in the work of Herodotus. That evidence alone would be almost enough to demonstrate the complexity

of the civilization of the Fazzan, but it is reinforced by the evidence of the use of luxury and decorative goods, elaborate and refined building and funerary architecture, and the use of written language. The demand for luxury goods from north and south combined with the incorporation of animal husbandry and agriculture techniques show expressly the extent and continued presence of these influences on Garamantian civilization. The detailed picture of the original views espoused by Herodotus is built up by Sommer and Mattingly, and is developed through the thorough analysis of Mattingly, Fentress and MacDonald to demonstrate the intricate nature of the connections between societies of the Sahara, and the delicacy of their dependence on that trade to maintain societal structures.

This is reflected in the conceptual sophistication of the inhabitants of the Circle of the Straits in their choice of representation in coin types. The settlement structures here are better understood than the settlements of the Fazzan and the Niger Bend, but an understanding of how they interacted or cooperated on a wider, regional scale is only beginning to be examined. Between the meticulous work of Callegarin on examining the nature of economic structures and that of Mora, Ferrer and Pliego on wider, regional issues of identity and interdependence, a more detailed framework is being constructed. This study of the different kinds of relationship between the states, cities and peoples of the Far West is enriched by consideration of the multiple sources of evidence and new investigations into numismatic collections and hoard groups.

There is also here a transformation of what might be considered exotic. To the Greeks and Romans, particularly in mainland Greece and Italy, the import of Sub-Saharan slaves was considered an exotic luxury portrayed in their depiction in art and decorative work illustrated by Fentress. There was also real interest in luxury items in these 'remote' regions of the Sahara and Sub-Sahara. This curiosity is reflected in Herodotus' discussion of the exotic and peculiar people living in the Sahara and more materially MacDonald and Mattingly both repeatedly note the widespread transport of items for decorative use. The trade was therefore not just one way and neither were the concepts. To the people living in the deep Sahara the import of Roman goods was part of a demonstration of prestige and luxury, which would no doubt mirror the sense of prestige and luxury in owning a slave or decorative items from these regions in the Roman world.

Conclusions

It is clear that connectivity varied over time. The importance of the Islamic North African trade networks have overshadowed to a large extent the existence of complex patterns of contact and trade within North Africa. As Quinn points out, even with the geographical hardships involved in this contact the trade was clearly profitable enough to continue in a sustained fashion. Contact across the Sahara during the late Roman period appears to have been the highpoint of the longest distance trade-routes but local links often remained steady, even showing more regional contacts and identities but these were subject to periods of relative isolation due to geographical, environmental or political factors. The exchange of imagery and ideas in Mauretania and Spain show this clearly even in a period when the Punic world drew away from the rest of the Mediterranean to a certain extent: it is clear that fluctuations of regional control have an impact on the economic orientation of cities in the area. The intensity of trading activity waxes and wanes – activities which were particularly intense in the Hellenistic and early Roman periods were clearly affected by environmental factors as well as political ones. The movement of Berenike away from the western orbit of trade to the east and the eventual decline of Garamantian civilization, so dependent on the maintenance of the *foggara* system are clear examples of this fluidity of commercial activity and population density.

Material culture can be used to interrogate written sources to provide a much fuller picture of trade within the region. This is true of many different regions across the globe, but especially in the cases outlined in this volume. The reliance on literary evidence from the Graeco-Roman world alone risks ignoring the wealth of information that can be garnered from an examination of the movement of goods and people, and the dissemination of new technologies across wide distances. These themes of local and regional connection give new light to the examination of political and commercial spheres of influence in regional contexts, for example, direct control over an area is not necessary for trade or cultural influence.

While there are clear difficulties to finding evidence of perishable goods making their way across the desert – foodstuffs, livestock, and even slaves – the work done by the authors in this volume both examines the evidence which does remain and combines sources of information to give a deeper understanding of the material record. A few authors have, however, successfully found the traces of this trade: MacDonald, Mattingly, and Fentress give clear studies of these records and this work will be built on for future study of the trade and migrations of the region.

Challenging stereotypes, especially those concerning the Garamantes, gives a new focus for the work of the region. Reliance on the written evidence of the Graeco-Roman world only gives part of the picture and without the examination of the actual goods transported across these regions we would lack a great many pieces of the puzzle. While in the Fazzan the stereotypes have been challenged with the uncovering of the sophistication of Garamantian civilization, in the west the representation of local and regional identities reinterpret what might be termed the stereotypical views of the far west. This interplay of ideas and self-representation provides a fascinating backdrop to the wider story of trade within North Africa. It demonstrates the fluidity of boundaries – physical or imaginary – and the persistence of the links between disparate regions. To paraphrase Quinn: the stories told in the following papers both mark the boundaries in North Africa and suggest ways through them.

Appendix
Coins from North African hoards held by the British Museum recorded in the *Inventory of Greek Coin Hoards*

The British Museum's *Collections Online* service has meant that researchers can now get online access to a database of the Museum's collections. There are a number of search and filter functions but each record of the coins described below can be accessed by typing the registration number directly (and exactly) into the main free text search box found here: http://www.britishmuseum.org/research/search_the_collection_database.aspx

In the section below, initial data is taken from the *Inventory of Greek Coin Hoards* (IGCH) and expanded to give details of those coins held by the British Museum. The registration numbers below refer to the British Museum acquisition registers, in the following format:

Year of Registration,Collection Number.Object Number

The Collection Number (a four digit number) was traditionally the month and day on which the object was acquired. This is not however always the case and recent changes in collection numbers issued mean that this number now refers rather to the Department within which the object is held. The Object Number is a sequential number indicating that the object is one of a group of coins under a particular Collection Number.

E.g. 1912,0714.8
Where:
Year of Registration = 1912
Collection Number = 0714
Object Number (within that group of material acquired together) = 8

IGCH 2260
Findspot: Malta
Date of discovery: before 1913
Date of burial: *c.* 5th century BC
Coins discovered: unknown number of silver coins

The Museum purchased one coin probably from this hoard in 1912 from Spink & Son Ltd: noted in the register as 'said to come from Malta'. It does not appear in the Numismatic Circular for 1912 (or indeed 1910 or 1911) but was acquired with a mixed group of coins from various sales from Spink & Son Ltd, primarily sales during 1912. The coin was registered in 1912 by Robinson and published the following year by Hill (1913) where he reflects the opinion that the coin was 'said to be from Malta'. In the introduction to this article Hill also notes that Robinson was working towards a catalogue of the coins of the Cyrenaica, which marks Robinson's early interest in North Africa.

Selinus *c.* 520–500 BC
Obverse: Leaf of wild celery.
Reverse: Incuse square divided into eight triangles.

1912,0714.8	AR	8.78g	-	23mm	Hill (1913) 260

IGCH 2264
Findspot: Orrestano (Sardinia)
Date of discovery: 1925(?)
Date of burial: *c.* 310 BC
Coins discovered: 110+ Electrum and Gold coins

The Orrestano hoard is described by Jenkins and Lewis (1963: 56 hoard iii). All the coins from the Orrestano hoard in the British Museum were acquired from Spink & Son Ltd in 1928 and one additional coin in 1931. Of the 17 coins originally acquired from Spink & Son Ltd, one was exchanged in November 1985 and so is no longer within the collection. The original registration number of this coin was 1928,0404.6 (=Jenkins and Lewis (1963) 187) and therefore there are only 16 coins listed below from this original group. It appears that of the approximately 110 electrum and gold coins found at Orrestano, 17 (originally) came to the British Museum, 3 to New York and 3 to RB Lewis' collection. Of the three in Lewis' collection, two finally came to the Museum in 1986 following the bequest of Lewis' widow via the National Art Collections Fund (now known as The Art Fund). These were registered in 1987.

Carthage 350–320 BC
Obverse: Head of Tanit, left. (Alexandropoulos (2007) 4)
Reverse: Horse standing right.

1928,0404.2	EL	9.27g	6	19mm	Jenkins and Lewis (1963) 26
1928,0404.3	EL	9.38g	5	19mm	Jenkins and Lewis (1963) 25
1928,0404.4	EL	9.33g	1	19mm	Jenkins and Lewis (1963) 18
1928,0404.5	EL	9.25g	7	20mm	Jenkins and Lewis (1963) 8.3
1928,0404.29	EL	9.40g	9	18mm	Jenkins and Lewis (1963) 98
1931,0303.6	EL	9.42g	7	19mm	Jenkins and Lewis (1963) 106
1987,0649.200	EL	9.48g	1	18mm	Jenkins and Lewis (1963) 44

Carthage 320–310 BC
Obverse: Head of Tanit, left. (Alexandropoulos (2007) 9)
Reverse: Horse standing right.

*1928,0404.6	EL	7.52g	12	-	Jenkins and Lewis (1963) 187
1928,0404.7	EL	7.64g	12	19mm	Jenkins and Lewis (1963) 197
1928,0404.8	EL	7.63g	12	19mm	Jenkins and Lewis (1963) 188
1928,0404.9	EL	7.59g	12	18.5mm	Jenkins and Lewis (1963) 192
1928,0404.10	EL	7.61g	12	19.5mm	Jenkins and Lewis (1963) 190
1928,0404.11	EL	7.49g	12	18.5mm	Jenkins and Lewis (1963) 206
1928,0404.12	EL	7.59g	12	19mm	Jenkins and Lewis (1963) 220
1928,0404.13	EL	7.54g	12	18mm	Jenkins and Lewis (1963) 216.1
1928,0404.14	EL	7.54g	12	19mm	Jenkins and Lewis (1963) 217
1928,0404.15	EL	7.56g	12	19mm	Jenkins and Lewis (1963) 209
1928,0404.16	EL	7.60g	12	18mm	Jenkins and Lewis (1963) 226
1987,0649.217	EL	7.59g	12	19mm	Jenkins and Lewis (1963) 191

*This coin is no longer in the collection of the British Museum. It was exchanged in November 1985.

IGCH 2279
Findspot: Sardinia
Date of discovery: 1937
Date of burial: *c.* 250 BC
Coins discovered: 11+ bronze coins

In 1938 Robinson presented two coins to the collection, which he had purchased from Ashmole. These are marked in the register as from 'Ratto of Milan, from Sardinia'. This was presumably Rudolpho Ratto, the founder of the Ratto dealership and auction house based in Milan and Lugano later taken over by his son, Mario. Ashmole was Bernard Ashmole, who joined the Museum in 1939 as a curator in the Greek and Roman department, left to serve in the armed forces, and rejoined the Museum in 1948.

The two coins appear to have come from a find in Sardinia in 1937, which consisted of over 11 bronze coins, including a coin of Hiero II. The examples purchased by Robinson came from a mint of Carthaginian Sardinia, which mint formed the greater part of the hoard.

Carthaginian Sardinia *c.* 300–264 BC
Obverse: Head of Tanit, left. (Alexandropoulos (2007) 57)
Reverse: Horse's head, right.
(reverse: to right, palm tree)

1938,1007.11	AE	5.02g	1	21mm	SNG Cop. 173

(reverse: to right, letter ayin)

1938,1007.12	AE	6.19g	12	19.5mm	cf. SNG Cop. 165

IGCH 2281
Findspot: Tunisia
Date of discovery: 1928
Date of burial: 238 BC
Coins discovered: 39 bronze coins

The hoard was originally said to be from Tripoli, but was really discovered at Tunis according to Robinson. It contained 39 bronze coins: 21 from an uncertain Carthaginian mint, 17 from a Libyan mint,

and 1 from a Sardinian mint. Fifteen of these coins came to London in the late 1920s and early 1930s and were registered by Robinson. They came in three groups, the first two (1929,1206.1-5 and 1930,0203.2-6) were acquired from Couturier, a dealer based in Marseilles. The first group was presented to the Museum by Couturier and the second was purchased. The note in the register for the 1929 purchase states that the coins were 'from [a] find of which [the] remainder [is] in [the] possession of Dr Houdait of Tunis. The find [was] made in Africa, near Tunis.' Later in 1930 a third group of coins from this hoard were purchased from J. Baxter (registered as 1930,0427.87-91) marked in the register by Rombinson as 'from Tunis find'. It is noted in the registers that Baxter had previously bought coins from Couturier though this is not specified for these three coins from the hoard. It is possible therefore that all 15 of the coins in the Museum's collection were in Couturier's possession at one point.

There are also two more coins, which appear to belong to this hoard held in the Museum's collection. In 1938 a large group of coins was registered as acquired from G.R. Hughes, with a note attached stating that these coins were 'accumulated and paid for in [the] first place by ESGR during 1935-7'. Against two entries in the list of 216 coins is the note 'Tunis Find' (1938,0510.110-111). The rest of the coins in this group were all from North Africa (see particularly below for information on coins from the El Djem hoard) and many of these were purchased from Couturier. It seems likely therefore that these two coins are part of the original hoard group.

Carthaginian 'Uncertain' Mint *c.* 241 BC
Obverse: Head of Isis, left.
Reverse: Three corn ears.
(Alexandropoulos (2007) 70-70b)

*1929,1206.1	AE	12.18g	8	28.5mm	SNG Cop. 226-231
1929,1206.2	AE	12.30g	2	27mm	SNG Cop. 226-231
*1929,1206.3	AE	12.63g	7	28mm	SNG Cop. 226-231
*1930,0203.2	AE	12.80g	5	30mm	SNG Cop. 226-231
*1930,0203.3	AE	16.54g	2	30mm	SNG Cop. 226-231
*1930,0427.87	AE	12.01g	7	27mm	SNG Cop. 226-231
*1930,0427.88	AE	13.16g	5	27.5mm	SNG Cop. 226-231
*1930,0427.89	AE	15.37g	4	28mm	SNG Cop. 226-231
1930,0427.90	AE	5.42g	10	22mm	SNG Cop. 232
1938,0510.111	AE	15.58g	7	31mm	SNG Cop. 226-231

Carthaginian 'Uncertain' Mint *c.* 241 BC
Obverse: Head of Tanit, left.
Reverse: Plough.
(Alexandropoulos (2007) 55)

1930,0427.91	AE	8.13g	12	22mm	SNG Cop. 233

Carthage (Libyan Revolt) *c.* 241–238 BC
Obverse: Head of Heracles, left.
Reverse: Butting bull, right; in exergue, ΛIBYΩN.

***1929,1206.4	AE	13.01g	11	30mm	SNG Cop. 244
***1929,1206.5	AE	16.01g	11	29mm	SNG Cop. 244
**1930,0203.5	AE	15.69g	5	30mm	SNG Cop. 244
1938,0510.110	AE	13.04g	12	29mm	SNG Cop. 244
(reverse: Butting bull, right; in exergue, [ΛIBYΩN])					
**1930,0203.4	AE	13.26g	11	31mm	SNG Cop. 244
****1930,0203.6	AE	11.43g	1	30mm	SNG Cop. 244

Most of these coins are overstruck on other Carthaginian coins, leaving fairly clear traces of the undertype. The details of these overstrikes are as follows:

* Overstruck on Carthage *Head of Tanit, left/Horse's head, right* cf. SNG Cop. 192
** Possibly overstruck on Carthage *Head of Tanit, left/Horse's head, right* cf. SNG Cop. 192
*** Overstruck on Carthage *Head of Isis, left/Three corn ears* cf. SNG Cop. 226-231
**** Overstruck on Carthage *Head of Tanit, left/Standing horse, right*

IGCH 2282
Findspot: Near Tunis, Tunisia
Date of discovery: 1952
Date of burial: 238 BC
Coins discovered: 5 electrum and 112 base silver coins in a pot

Robinson's (1953) article on the Tunis hoard stresses his connection with R.B. Lewis, who had seen the hoard and passed information to Robinson. At the time one of these coins (1953,1012.1) was acquired by the Museum from Lewis and it is clear that Lewis kept many more for his own collection. While Robinson states that 27 coins were retained for Lewis' own collection, it has only been possible so far to identify 15 of these, which were bequeathed to the Museum by Lewis' widow. This is, however, more than the five coins listed as part of Lewis' collection by IGCH. In addition, in 1970 three coins (1970,0204.1-3) were acquired from A.H. Baldwin & Sons Ltd, which were part of this hoard. One is illustrated in Robinson's article (no. 14 = 1970,0204.1).

1987,0649.384 may be another of the coins acquired by Lewis from the hoard. The weight of the coin is almost the same as that recorded by Robinson (1953: 12) but unfortunately this coin is not illustrated in his article and so this supposition cannot be verified.

Carthage (Libyan Revolt) *c.* 270–264 BC
Obverse: Head of Tanit, left.
Reverse: Horse standing, right, head reverted.
(Alexandropoulos (2007) 28)

1986,0113.3	EL	9.25g	12	24mm	Jenkins and Lewis (1963) 402 Robinson (1953) 2
1986,0113.4	EL	8.95g	12	24mm	Jenkins and Lewis (1963) 403 Robinson (1953) 1

Carthage (Libyan Revolt) *c.* 264–241 BC
Obverse: Head of Tanit, left.
Reverse: Horse standing, right; above, sun-disk with 12 rays flanked by uraei.
(Alexandropoulos (2007) 32)

1987,0649.254	EL	10.59g	12	22mm	Jenkins and Lewis (1963) 431 Robinson (1953) 3

Obverse: Head of Tanit, left.
Reverse: Horse standing, right; above, seven-pointed star.
(Alexandropoulos (2007) 39)

1987,0649.373	AR	12.34g	12	27mm	Robinson (1953) 7

Obverse: Head of Tanit, left.
Reverse: Horse standing, right; behind horse, palm tree.
(Alexandropoulos (2007) 43)

1987,0649.371	AR	19.00g	12	31mm	Robinson (1953) 6

Carthage (Libyan Revolt) before 256 BC
Obverse: Head of Tanit, left.
Reverse: Horse standing, right.
(Alexandropoulos (2007) 35)

1987,0649.260	EL	3.74g	12	18mm	Jenkins and Lewis (1963) 451 Robinson (1953) 5
1987,0649.261	EL	3.40g	12	17mm	Jenkins and Lewis (1963) 452 Robinson (1953) 4

Carthage (Libyan Revolt) before 241 BC
Obverse: Head of Zeus; behind, letter *mem*; in front, ΛIBYΩN.
Reverse: Butting bull, right; above, letter *mem*; in exergue, ΛIBYΩN.
(obverse: head right)
(Alexandropoulos (2007) 52)

1987,0649.379	AR	12.57g	12	28mm	Robinson (1953) 19
*1953,1012.1	AR	12.42g	1	28mm	Robinson (1953) 21
(obverse: head left)					
1987,0649.380	AR	12.26g	12	29mm	Robinson (1953) 18
1987,0649.381	AR	12.47g	12	28mm	Robinson (1953) 17
*Overstruck on *head of Tanit, left/ standing horse, right; above, star*					(Alexandropoulos (2007) 39)

Obverse: Head of Heracles, left.
Reverse: Lion walking right; above, letter *mem*; in exergue, ΛIBYΩN.
(Alexandropoulos (2007) 53)

1987,0649.395	AR	7.81g	11	21mm	Robinson (1953) 23
1987,0649.398	AR	7.50g	11	22mm	Robinson (1953) 24
1987,0649.400	AR	7.46g	11	22mm	Robinson (1953) 28
(reverse: without ΛIBYΩN)					
1987,0649.393	AR	7.43g	12	23mm	Robinson (1953) 22

Obverse: Head of Tanit, left.
Reverse: Horse standing, right; below, letter *mem*.
(Alexandropoulos (2007) 50)

(reverse: between hindlegs, A)
1987,0649.383 AR 7.50g 1 22mm Robinson (1953) 16
1970,0204.1 AR 7.38g 12 25mm Robinson (1953) 14
1970,0204.3 AR 7.20g 11 23.5mm Robinson (1953) 15
(reverse: between hindlegs, three pellets)
1987,0649.384 AR 7.20g 11 22mm Robinson (1953) 12
1970,0204.2 AR 7.27g 12 21mm Robinson (1953) 13

IGCH 2291
Findspot: Sardinia
Date of discovery: 1933
Date of burial: *c.* 216 BC
Coins discovered: 74 plus bronze coins

In 1933 a hoard of over 70 Carthaginian Sardinian bronze coins were discovered on Sardinia. Twenty-nine of these came to the Museum in three groups, all registered in 1933. While each group is marked as 'anonymous', Robinson noted in the register that these coins came from a Sardinian find and had come originally from Mario Rolla of Turin. The first two groups (1933,0105.1-15 and 1933,0109.1-5) were all presented to the Museum by an anonymous donor, while the latest group (1933,0306.1-9) were purchased from from an anonymous vendor. In the last case the note in the register reads: 'Anon (from Hamburger 3/- each. ? from Mario Rolla's Sardinian coin hoard; in any case from a hoard).

Carthaginian Sardinia
***c.* late 4th–early 3rd century BC**
Obverse: Head of Tanit, left. (Alexandropoulos (2007) 15)
Reverse: Horse rearing, right.
1933,0109.5 AE 6.96g 1 20.5mm SNG Cop. 96

***c.*300–264 BC**
Obverse: Head of Tanit, left. (Alexandropoulos (2007) 57)
Reverse: Horse's head, right.
(reverse: to right, pellet in crescent)
1933,0109.1 AE 3.82g 4 21mm SNG Cop. 148
(reverse: to right, letter *ayin*)
1933,0105.12 AE 5.18g 9 19.5mm SNG Cop. 151
1933,0109.2 AE 5.96g 5 19.5mm SNG Cop. 151
(reverse: to right, three pellets)
1933,0306.9 AE 6.29g 11 20.5mm SNG Cop. 154-155
(reverse: to right, globule)
1933,0105.9 AE 4.72g 11 19mm SNG Cop. 164
(reverse: to right, palm tree)
1933,0306.1 AE 5.55g 7 20mm SNG Cop. 173
1933,0105.11 AE 4.89g 8 20mm SNG Cop. 174
(reverse: to right, unclear letter)
1933,0105.10 AE 5.19g 9 20mm cf. SNG Cop. 157-161

***c.*264–241 BC**
Obverse: Head of Tanit, left. (Alexandropoulos (2007) 59)
Reverse: Horse standing right.
(reverse: beneath, letter *aleph*)
1933,0105.4 AE 6.95g 7 22.5mm SNG Cop. 203-204
(reverse: beneath, letter *beth*)
1933,0105.1 AE 7.71g 12 25mm SNG Cop. 206-207
(reverse: beneath, letter *heth*)
1933,0109.3 AE 6.55g 3 24mm SNG Cop. 215
(reverse: beneath, letter *mem*)
1933,0105.2 AE 7.84g 2 23mm
(reverse: beneath, letter *gimel*)
1933,0105.3 AE 7.43g 7 25mm cf. SNG Cop. 213-214

***c.*241–238 BC**
Obverse: Head of Tanit, left. (Alexandropoulos (2007) 70)
Reverse: Three corn ears.

(reverse: above, pellet in crescent)
1933,0105.13 AE 2.49g 4 19mm cf. SNG Cop. 251-252
1933,0105.14 AE 2.24g 7 19mm cf. SNG Cop. 251-252
1933,0105.15 AE 2.96g 9 15mm cf. SNG Cop. 251-252
1933,0306.6 AE 3.90g 11 22mm cf. SNG Cop. 251-252
1933,0306.7 AE 2.64g 7 20.5mm cf. SNG Cop. 251-252
1933,0306.8 AE 1.85g 4 19mm cf. SNG Cop. 251-252
(obverse: before, caduceus)
(reverse: above, pellet in crescent)
1933, 0306.2 AE 4.48g 5 24mm cf. SNG Cop. 251-252
(obverse: before, letter *beth*)
(reverse: above, pellet in crescent)
1933,0306.3 AE 2.73g 6 22mm cf. SNG Cop. 251-252
1933,0306.5 AE 2.06g 11 20mm cf. SNG Cop. 251-252
(obverse: before, letter *nun*)
(reverse: above, pellet in crescent)
1933,0306.4 AE 3.90g 11 22mm cf. SNG Cop. 251-252

***c.*216 BC**
Obverse: Head of Tanit, left. (Alexandropoulos(2007) --)
Reverse: Bull standing, right; above, star.
(reverse: to right, letters *ayin* and *taw*)
1933,0105.5 AE 4.19g 11 20mm SNG Cop. 387-388
(obverse: before, letter?)
(reverse: to right, letters *ayin* and *taw*)
1933,0105.6 AE 4.83g 1 19mm SNG Cop. 387-388
(obverse: before, letter *nun*)
(reverse: to right, letter *mem*)
1933,0105.7 AE 4.41g 6 19mm cf. SNG Cop. 387-388
(obverse: before, letter *ayin*?)
(reverse: to right, letter *mem*)
1933,0105.8 AE 3.95g 7 20mm cf. SNG Cop. 387-388
(obverse: before, letter?)
(reverse: to right, letter *mem*)
1933,0109.4 AE 4.94g 8 20mm cf. SNG Cop. 387-388

IGCH 2300
Findspot: El Djem, Tunisia (ancient Thysdrus)
Date of discovery: 1936
Date of burial: early 2nd century BC
Coins discovered: 3,000 plus base silver coins

Robinson (1956) mentions that the hoard was now in the Museum's collection. This is rather an exaggeration as only 46 coins of the estimated 3,000 originally came to the Museum in the late 1930s. One coin was donated to the collection in 1937 by P. Best (1937,1205.1) but the main group of coins from the El Djem hoard came to the collection in one group amongst coins acquired through G.R. Hughes. A note in the register states that these coins (the El Djem coins, 1938,0510.22-66, amongst the other coins purchased in that group) were purchased from Hughes, but had been accumulated and paid for by Robinson during 1935-7.

The hoard had been discovered by Chavaure at El Djem and Robinson notes that Chavaure wrote to him on 27 February 1936 describing this find. In Robinson's notebook he numbers 18 coins purchased for the Museum, but it is clear that this had number increased by 1937 at least.

Carthage late 3rd–early 2nd century BC
Obverse: Head of Tanit, left. (Alexandropoulos (2007) 81)
Reverse: Horse standing right,
head reverted; right foreleg raised.
1937,1205.1 AR 9.08g 12 26mm cf. SNG Cop. 390-393
1938,0510.36 AR 8.78g 12 25mm cf. SNG Cop. 390-393
1938,0510.37 AR 8.88g 12 25mm cf. SNG Cop. 390-393
1938,0510.38 AR 9.38g 12 25mm cf. SNG Cop. 390-393
1938,0510.39 AR 7.86g 12 25mm cf. SNG Cop. 390-393
1938,0510.40 AR 8.33g 11 25.5mm cf. SNG Cop. 390-393
1938,0510.41 AR 8.22g 12 25mm cf. SNG Cop. 390-393
1938,0510.42 AR 7.83g 12 24mm cf. SNG Cop. 390-393
1938,0510.43 AR 9.26g 11 25mm cf. SNG Cop. 390-393
1938,0510.44 AR 9.02g 12 25mm cf. SNG Cop. 390-393
1938,0510.45 AR 8.98g 12 27mm cf. SNG Cop. 390-393
1938,0510.46 AR 7.82g 12 26mm cf. SNG Cop. 390-393
1938,0510.47 AR 8.22g 12 25.5mm cf. SNG Cop. 390-393
1938,0510.50 AR 9.97g 12 28mm cf. SNG Cop. 390-393
1938,0510.51 AR 9.54g 12 27mm cf. SNG Cop. 390-393
1938,0510.52 AR 8.50g 12 25mm cf. SNG Cop. 390-393
1938,0510.53 AR 8.21g 11 24mm cf. SNG Cop. 390-393
1938,0510.54 AR 7.93g 12 26mm cf. SNG Cop. 390-393
1938,0510.55 AR 8.28g 12 25.5mm cf. SNG Cop. 390-393

1938,0510.56	AR	8.62g	11	26mm	cf. SNG Cop. 390-393
1938,0510.57	AR	8.71g	12	26mm	cf. SNG Cop. 390-393
*1938,0510.58	AR	9.08g	-	-	cf. SNG Cop. 390-393
1938,0510.59	AR	8.46g	12	26mm	cf. SNG Cop. 390-393
1938,0510.60	AR	9.23g	11	26mm	cf. SNG Cop. 390-393
1938,0510.61	AR	9.39g	12	26mm	cf. SNG Cop. 390-393
1938,0510.62	AR	8.12g	11	26mm	cf. SNG Cop. 390-393
1938,0510.63	AR	9.04g	12	26mm	cf. SNG Cop. 390-393
1938,0510.64	AR	9.67g	11	25mm	cf. SNG Cop. 390-393
1938,0510.65	AR	9.18g	11	25mm	cf. SNG Cop. 390-393
1938,0510.66	AR	8.97g	11	25.5mm	cf. SNG Cop. 390-393
(reverse: below leg, pellet)					
1938,0510.22	AR	9.56g	11	25mm	cf. SNG Cop. 394
1938,0510.23	AR	8.88g	12	25mm	cf. SNG Cop. 394
1938,0510.24	AR	8.87g	11	25mm	cf. SNG Cop. 394
1938,0510.25	AR	9.35g	12	25mm	cf. SNG Cop. 394
1938,0510.26	AR	8.66g	11	25.5mm	cf. SNG Cop. 394
(reverse: above leg, pellet)					
1938,0510.27	AR	9.17g	11	27mm	cf. SNG Cop. 395
1938,0510.28	AR	9.02g	11	24mm	cf. SNG Cop. 395
1938,0510.29	AR	10.00g	12	25mm	cf. SNG Cop. 395
1938,0510.30	AR	9.23g	11	25mm	cf. SNG Cop. 395
1938,0510.31	AR	8.10g	1	25mm	cf. SNG Cop. 395
1938,0510.32	AR	8.94g	12	25mm	cf. SNG Cop. 395
1938,0510.33	AR	8.82g	12	26mm	cf. SNG Cop. 395
1938,0510.34	AR	7.87g	12	24mm	cf. SNG Cop. 395
1938,0510.35	AR	9.18g	12	26mm	cf. SNG Cop. 395
(reverse: right field, pellet)					
1938,0510.48	AR	8.94g	12	25.5mm	cf. SNG Cop. 390-396
1938,0510.49	AR	8.05g	12	26mm	cf. SNG Cop. 390-396

*1938,0510.58 was exchanged in July 1966 and is no longer in the Museum's collection.

IGCH 2301

Findspot: 23km north-east of Bizerta, Cani Islands, Tunisia
Date of discovery: 1916
Date of burial: *c*. 150 BC

This hoard consisted of 150 silver coins found in a grotto with silver bracelets and ingots. Of these, 18 were Cathaginian and 132 were Roman Republican (Crawford 1969: 132). Robinson acquired four of the serrated silver Carthaginian coins from the hoard for the collection – three by direct purchase and one by donation. In 1936, Sir G.F. Hill donated a coin from this hoard (1936,0215.9) and this was followed by the purchase of three further coins from Bernard Ashmole (1936,0706.9-11). These four coins are marked in the register as coming originally from Chavaure of Tunis from the Cani Find. Robinson corresponded with Chavaure over the El Djem find in 1936 (IGCH 2300) (see above) and perhaps sourced these coins at the same time. The remainder of the coins apparently were held in Tunis.

Carthage before 215–200BC

Obverse: Head of Tanit, left. (Alexandropoulos (2007) 91)
Reverse: Horse standing right; left foreleg raised.
(reverse: below, letters *gimel* and *ayin*)

1936,0215.9	AR	11.87g	12	25mm	cf. SNG Cop. 403-406
(reverse: right field, pellet)					
1936,0706.9	AR	13.06g	11	26mm	cf. SNG Cop. 403-406
(reverse: above, pellet)					
1936,0706.10	AR	13.16g	12	26mm	cf. SNG Cop. 403-406
(reverse: above, caduceus)					
1936,0706.11	AR	10.08g	12	25mm	cf. SNG Cop. 403-406

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The Syrtes between East and West[1]

Josephine Crawley Quinn

There is a long tradition of understanding North Africa in terms of islands. For Brent Shaw, for instance, North Africa as a whole is

> characterised by a peculiar insularity... the northern fringe of the African continent...is isolated, locked between the world's largest inland sea, on the one side, and the world's largest desert, on the other (Shaw, 2003: 95).[2]

Within this North African island, he distinguishes three distinct micro-regions, created by plate tectonics and cut off from each other, named by the Arab geographers as the Jabal Al-Akhdar (Cyrenaica), the Maghrib, stretching from Tripolitania to western Algeria, and beyond that the Magrib Al-Aqsa, modern Morocco (**Pl. 1**). Shaw's case for these micro-islands builds in part on a classic article by Michael Fulford that compared the Roman pottery found at Berenike in western Cyrenaica with that from Sabratha in Tripolitania to demonstrate the lack of trade across the Syrtes, the enormous double gulf bitten out of the continental landmass of Africa between Cyrenaica and the Tunisian Sahel. For Fulford, the gulf acted 'as a barrier between Greek and Punic communities' looking in different directions (Fulford, 1989: 189);[3] Shaw added that these Greek and 'Punic' (i.e. western Phoenician) communities were separated by language and culture as well as economics (Shaw, 2003: 99). This division fits in neatly with modern disciplinary boundaries.

However, neither Shaw nor Fulford saw these divisions as absolute or transhistorical. Shaw took the view that relative levels of connectivity and isolation varied over time (Shaw, 2003: 99), calling attention in particular to significant inter-regional connections and exchange between the Maghrib and the Maghrib al-Aqsa during the Islamic/medieval period and suggesting in passing that the 1st millennium BC might similarly be a period of relative connectivity (Shaw, 2006: 29, 7). Fulford, for his part, was less sure about separation across the Syrtes during what he called the late republican/early imperial period than in later times, noting in particular the evidence for Italian imports at Berenike (Fulford, 1989: 186). What I want to do here is pursue these hints, and in particular to investigate in greater detail the nature and extent of exchange across the Syrtes in the 4th–1st centuries BC – the Hellenistic period, broadly speaking. I'll look first at the practical obstacles to such contact before examining the evidence that connections did nonetheless exist, and that they changed significantly over the period concerned.

The notion of fragmentation between Cyrenaica and the Maghrib is in part inspired by the undeniable environmental and ecological constraints of the Greater Syrtis (the modern Gulf of Sidra) which runs from Euesperides in western Cyrenaica to Misrata in eastern Tripolitania, and the Lesser Syrtis (the Gulf of Gabès) which extends from the island of Jerba off western Tripolitania to the Kerkenna islands off the Sahel. Much of the double gulf is surrounded – unusually for the North African maritime facade – by a wide and dessicated coastal plain running up to distant mountains, offering few opportunities for agriculture or pasture and creating substantial difficulties for land-based travel and communication.[4] At sea, the Syrtes' winds and currents are more problematic than is the norm along the southern coast of the Mediterranean: as well as relatively strong northerly winds, there are frequent calms, and the Syrtes are unusually tidal, creating a strong clockwise current (of 3 knots and above) with the rising tide, which then reverses direction when

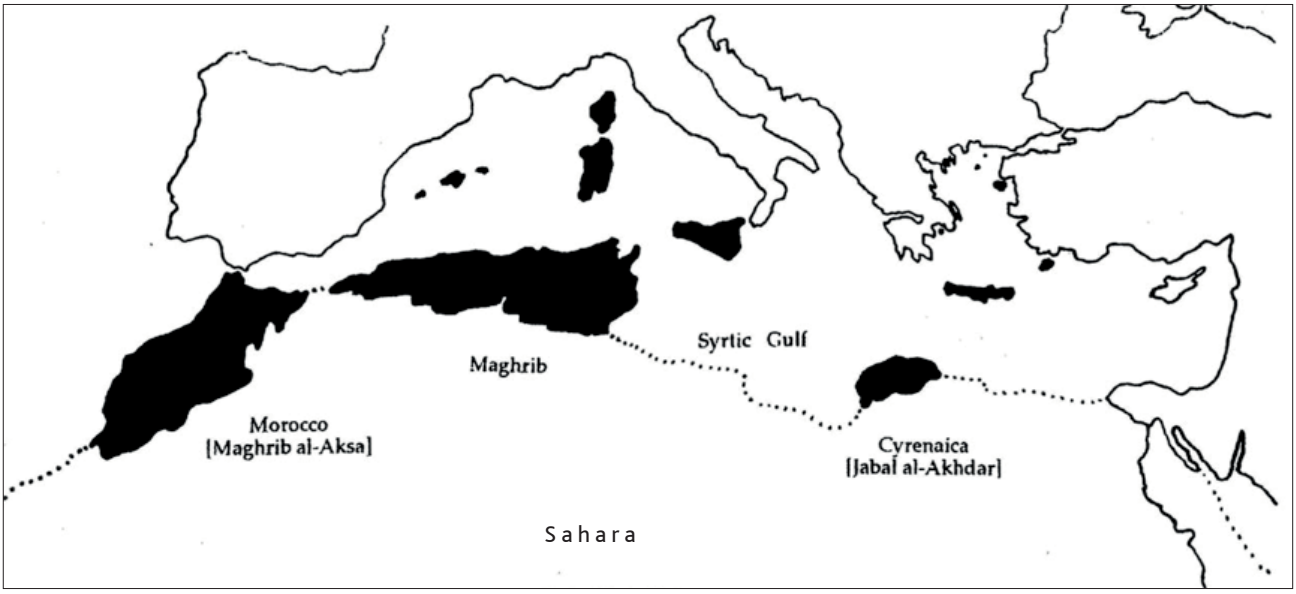


Plate 1 Map of the Mediterranean showing North Africa as a series of islands. From Shaw 2003: 98

it falls (Arnaud, 2005: 174).[5] The shallow coastal shelf also presents serious hazards for shipping: sailing along the coast would only have been an option for small vessels accustomed to the constantly shifting environment.

It is no surprise, then, that the Syrtes are described by ancient authors as unusually difficult to traverse by land or sea. In the former case, Sallust tells us of the danger of sandstorms (*Jugurthine War* 79.6; cf. 78.3), and Diodorus (20.42.2) and Pliny (*Natural History* 5.26) of serpents. Other descriptions of the journey by land centre on Cato the Younger's forced march along the Syrtes in 47 BC: Strabo has a march of 30 days in 'deep sand and scorching heat' (17.3.20; see also Lucan 9.301–18, with 1.367–8 on the Syrtes' 'inhospitable shores'). Strabo also gives the fullest account of the dangers involved for shipping, saying that

> the difficulty with both the Greater and the Lesser Syrtis is that in many places the water is shallow, and at the rise and fall of the tides boats sometimes fall into the shallows and settle there, and it is rare for them to be saved (17.3.20).

Pomponius Mela gives the most melodramatic description:

> Syrtis [Minor]... has no ports and is alarming because of its frequent shallows and even more dangerous because of the reversing movements of the sea as it flows in and out...then [there is] a second Syrtis, equal in name and nature to the first, but about twice the size (1.35–7).

These 'reversing movements' may be what the Tabula Peutinger intends to represent by its curious depiction of the greater Syrtis with a kind of curled tail (**Pl. 2**).[6]

These sources should not however be taken at face value: Mela goes on to say that there were no ports in the Greater Syrtis either, but his reliability on this point – and therefore presumably others – is highly questionable: Pseudo-Scylax, writing in the early 4th century BC, records a port in the larger gulf (109), and Strabo places a 'very large emporium' in the smaller one before Mela's time (17.3.17). Furthermore, the ancient textual evidence is not unambiguous in its condemnation of the Syrtes. Plutarch gives a much less melodramatic account of Cato's march than Strabo's, saying (admittedly implausibly) that it took only seven days, and that locals were engaged to protect his troops from serpents (*Cato Minor* 56; see also the uneventful late 5th-century journey along the coast from Euesperides to Neapolis reported at Thucydides 7.50.2). And while Strabo pointed out the dangers of the sandbanks, he continued: 'On this account sailors travel along the coast at a distance, taking care lest they are caught off their guard and driven into these gulfs by winds.' Like Cato, they do not avoid the area, but merely take precautions against its relative dangers. Similarly, Pliny's warning that the gulf was 'formidable because of the shallow and tidal water of the two Syrtes' at *Natural History* 5.26 should be seen in the context of his broader claim in that work that all the coastlines of the Mediterranean were welcoming (2.118). Navigators could always vary routes to avoid specific problems, and environmental constraints were only one of several factors taken into account by ancient travellers, by no means always the most important (Arnaud, 2005: 14–15). Horden and Purcell have noted that 'the supposedly natural route is often no more of a physical determinant of human behaviour than is the natural geographic frontier' (Horden and Purcell, 2000: 128), or as Juvenal put it, 'fleets will come wherever the hope of profit calls' (*Satires* 14.275–8).[7]

Plate 2 The Syrtes depicted on the Tabula Peutinger

Plate 3 Map of the Mediterranean showing the shipping routes mentioned by ancient authors. From Arnaud 2005: 172 (the numbers refer to particular routes discussed by Arnaud)

Pascal Arnaud's map of the central Mediterranean shows the routes around and across the Syrtes that are discussed in literary sources (**Pl. 3**); both the safer, direct route from Euesperides to Lepcis and the coastal journey are described as early as Pseudo-Scylax (109). Arnaud's catalogue of distances and sailing times recorded by the ancient geographers shows that, far from reflecting difficulties for shipping in the Syrtes, as a general rule they give journey times between Cap Bon and Cyrenaica *faster* than the Mediterranean average (Arnaud, 2005: 191). It is also worth noting that the descriptions of Syrtic ports in these accounts seem to get fuller over the Hellenistic period: the *Stadiasmus Maris Magni*, probably written in the early empire (Uggeri, 1996), lists rather more ports than Ps.-Scylax, which may reflect an increase in commercial activity in the intervening period (Pagano, 1976: 309).

There is much else as well to suggest cultural, economic and political connections between the worlds of Cyrenaica and the Maghrib in the Hellenistic period. These include similarities in form and decoration of funerary architecture, such as those demonstrated by the square-based tower tombs found at Ptolemais in Cyrenaica and at Dougga and El Khroub in inland Numidia (Stucchi, 1987 (with caution); Rakob, 1979 and 1983; Quinn, forthcoming a); the likelihood of Phoenician etymologies for certain Cyrenaican place names (Bisi Ingrassia, 1977), and the adoption at Euesperides of Punic *opus signinum* mosaic techniques (Wilson, forthcoming).[8] There are also several indications that things were perceived this way by ancient authors: Strabo describes the clandestine exchange of Cyrenaican silphium for Carthaginian wine at Charax within the Greater Gulf (17.3.20), Diodorus reports allied military action between Carthage and Cyrene in 322 (18.21.4), and, somewhat less convincingly, Silius Italicus claims that Berenike, Barce and Cyrene allied with Carthage in the Hannibalic War along with Sabratha, Leptis and Oea (*Punica* 3.241–324).

Perhaps most strikingly, there is the story of the Carthaginian Philaeni brothers, recorded first by Sallust (*Jugurthine War* 79). After a long series of disputes, Carthage and Cyrene had agreed to establish their mutual boundary where runners sent from each city met, but when the Carthaginian Philaeni met the Cyrenaican runners at modern Ras el Aáli at the foot of the greater Syrtis, much closer to Cyrene than Carthage, the Cyrenaicans would only agree to establish the boundary at that point when the Carthaginians agreed to be buried alive there. Whether Sallust has the story from Greek sources (Malkin, 1990; Ribichini, 1991), or from the 'Punic' ones he claims elsewhere in the *Jugurthine War* to use for the history and geography of Africa (17.7), and which his rather more generous account of the Carthaginian envoys' behaviour might suggest (Quinn, forthcoming b), his version of the story suggests that the people of Cyrene and Carthage shared certain values, practices and experiences even as it details their political dispute. After undergoing similar military travails with apparently similar lack of decisive success, and under joint threat from the indigenous inhabitants, these two colonial powers and their representatives can agree – twice – on fair terms for an agreement, even if one side breaks those terms the first time round. They also share the same notion of

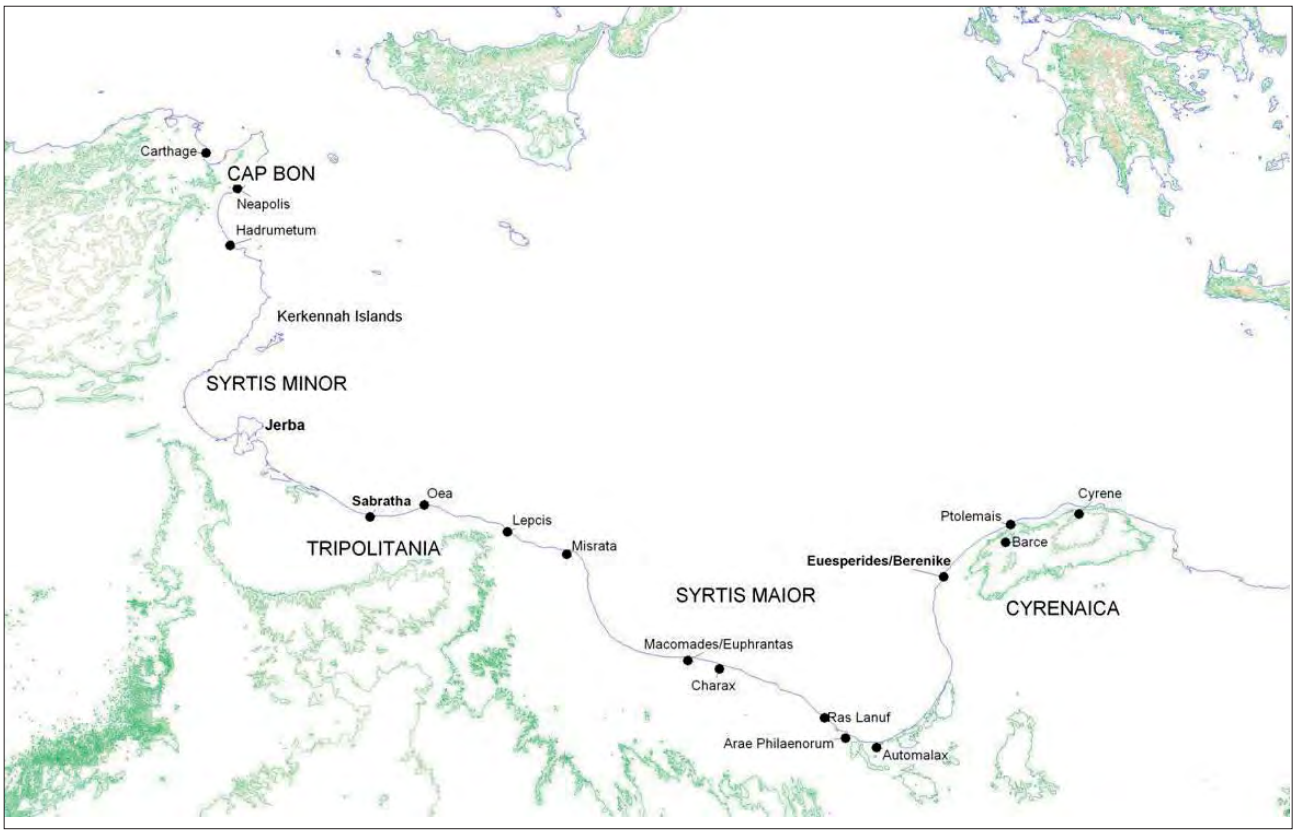


Plate 4 Map of sites discussed in the text, created with MapInfo in the Bodleian Map Room, Oxford

what would constitute a limit to their own political and commercial spheres of influence, and even the difference in speed it seems can be explained by differences in the local topography rather in differences between the envoys (79.5–6). In this sense the story both marks a boundary in the Syrtes and suggests ways through it.

Similar transgressions in the economic sphere are the subject of what follows, and in particular the evidence for trade within and across the Syrtic Gulf that is provided by a comparative study of the pottery from major ports in the region, first in the period before around 200 BC, then from *c.* 200 to *c.* 25 (**Pl. 4**). This is a much easier project now than it was in 1989, when Fulford compared the assemblage from the 1970s excavations at Berenike in western Cyrenaica with that from the excavations at Sabratha in Tripolitania carried out between 1948 and 1951. Because Berenike was only established in the mid-3rd century, the evidence for the earlier Hellenistic period in Cyrenaica was necessarily missing from Fulford's picture, but this gap has now been plugged by the excavations conducted at Berenike's predecessor, the Greek colony of Euesperides, founded *c.* 600 BC (Wilson, 2003; interim reports in *Libyan Studies* 29–37 (1998–2006)). At the same time the recent survey of the island of Jerba, just below the Lesser Syrtis, adds considerably to the evidence available for Tripolitania in the later part of the period (Fentress, Drine and Holod, 2009). Furthermore, the contexts in which the pottery was found on these four sites are roughly comparable,[9] and the date-ranges used in the published pottery catalogues are a close if not perfect match.[10]

The 4th and 3rd century evidence

The recent excavations at Euesperides, on the outskirts of modern Benghazi, present a serious challenge to the conventional view of the cultural and in particular commercial separation of Cyrenaica and the Maghrib at this time (Wilson, forthcoming). One of the main bases for the separation model was the lack of evidence for the exchange of finewares and amphorae across the Syrtic Gulf. At Euesperides, however, the coarsewares (cookwares and everyday tablewares) were taken unusually seriously by the excavation team, and have provided a new perspective on the issue.

Petrographic analyses allowed Keith Swift to source the coarsewares according to their fabrics and production technologies, on which basis he established a typology of Cyrenaican fabrics that he was then able to contrast with imported wares. His work has shown not only that Euesperides imported a surprisingly high proportion of its coarsewares – about a third of the assemblage – but also that although initially these imports were exclusively from the Greek world, imports from the Maghrib (certainly Tunisia and perhaps also Tripolitania)[11] began to appear around 400. The quality of these wares was significantly better than the local production,

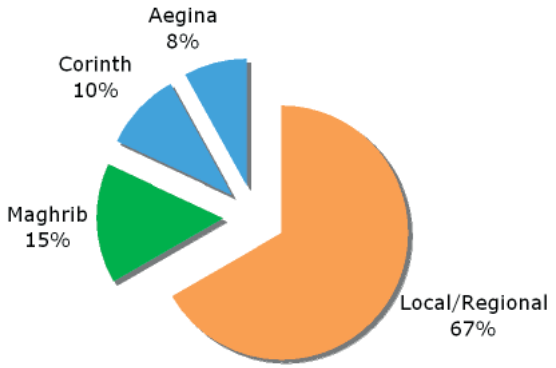


Plate 5 The coarseware from Euesperides

which is characterized by poor fabrics and a restricted technical repertoire,[12] and these imports from the Maghrib became 'abundant' from *c.* 325, making up close to half the imported coarseware in total (15% of the total assemblage, alongside 10% Corinthian and 8% Aeginetan wares; **Pl. 5**) (Swift, 2005b: 164). The study of imports always raises the problem of how directly the goods arrived from their site of production (Fulford, 1989: 179), but in the case of coarseware, relatively heavy, bulky and low-value, this is less of a problem: one would expect this kind of material to arrive by a fairly direct route. It seems that the dangers seen in the Syrtes by some ancient and many modern authors were relative to the profits to be made, even from pots and pans.

The intensification of trade with the Maghrib towards the end of the 4th century coincided with a phase of intense urban growth at Euesperides: excavations in a large domestic complex in the Upper City (Area P) revealed three occupation phases from around 600 to *c.* 325, a period of almost 300 years, but then, after a hiatus, another three phases in 325–250 alone, with frequent resurfacings of the floor (Wilson *et al.*, 2006: 122). This prosperity may have been connected to textile production and dying: vast quantities of crushed murex shells have been found at the site, especially in 3rd-century levels, which given the instability of murex dye implies a local textile production industry, and by extension effective relationships with the local pastoral populations (Wilson, 2003: 1672).

At contemporary Sabratha, by contrast, all the coarseware is identified as local; this is unsurprising given the relatively good quality of the available materials. The amphorae from the two sites however do lend themselves to comparison (**Pl. 6**). At Euesperides (in blue in the figure), isolated finds illustrate the breadth if not depth of Euesperides' Mediterranean connectivity. One amphora of the Ramón 11.2.1.0 type (= Mañá-Pasqual A4, 5th–4th century) is from as far away as the Straits of Gibraltar, a western counterpart to two basket-handled amphorae from Cyprus, the first found west of Egypt, one of which could be dated to the earlier 3rd century (Göransson, 2007: 170–4; 186–7). In terms of regular trade,

Plate 6 Early Hellenistic amphorae

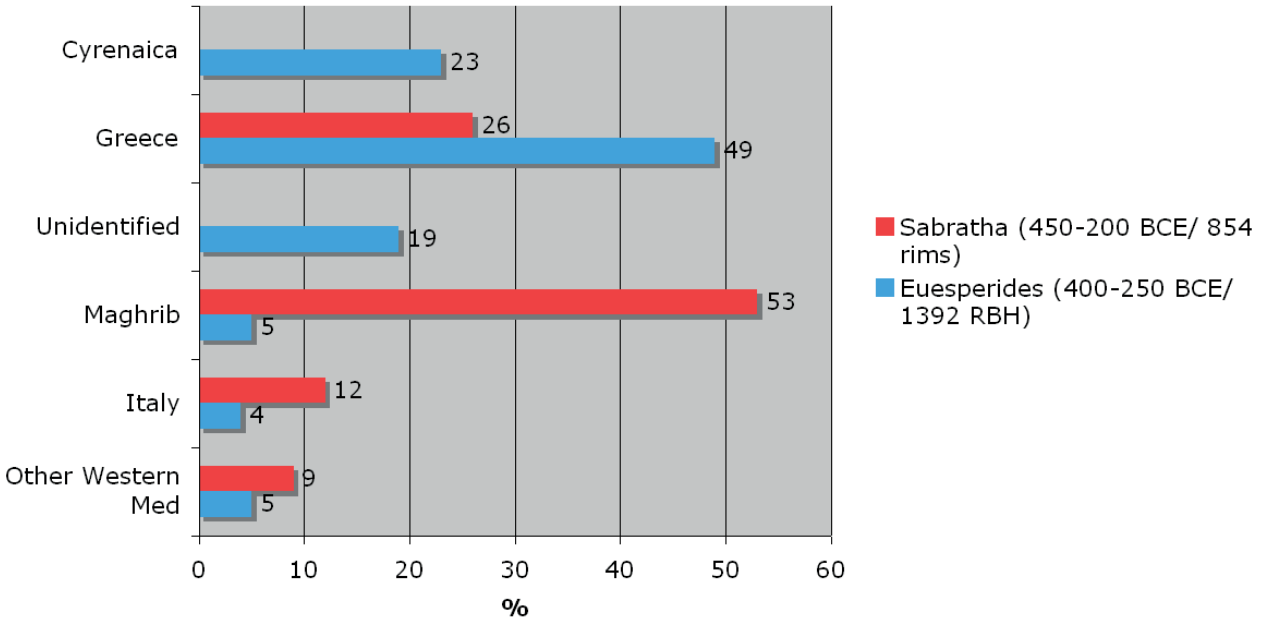
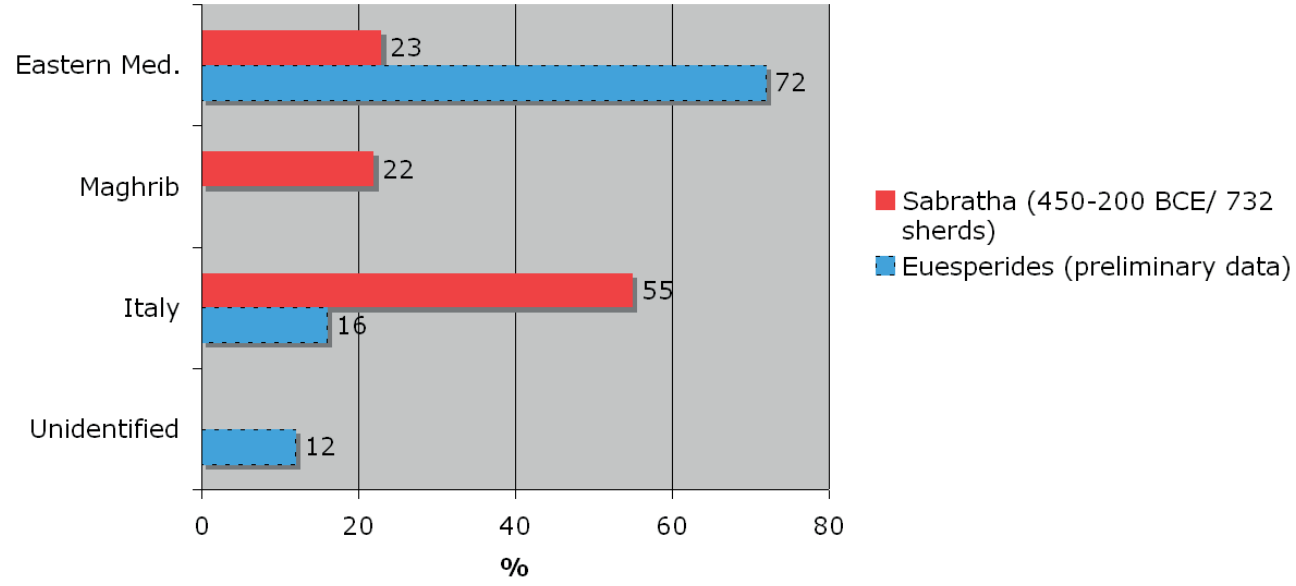


Plate 7 Early Hellenistic fineware. The preliminary results from Euesperides are indicated with a dotted line



however, most of the identified amphorae are from Cyrenaica or Greece, something also likely to be true of most or all of the unidentified ones. Nonetheless, western Mediterranean imports are also found from the 5th century, and altogether 9% of the rims, bases and handles ('RBH') are Greco-Italic, Massiliote and Iberian. From the 4th century, amphorae from the Maghrib are also found (Göransson, 2007: 191 fig. 41), with the types that occur in substantial quantities produced in Tunisia and Tripolitania. These types are all also found at Carthage, and for the most part at Sabratha too (Göransson, 2007: 174–87). As with the coarsewares, these western Phoenician imports increase towards the end of the 4th century, though they still only amount to 5% of the total rims, bases and handles (they make up 6% of rims, bases, handles and sherds ('RBHS') from quantified contexts *c.* 325–250) (Göransson, 2007: 191). Göransson notes that even Greek-produced imports could have come to Euesperides indirectly via Sicily, where there is a great deal of evidence for the B Amphora made on Corcyra. B Amphorae and Greco-Italics are both found at Euesperides, at Sabratha and at the Carthage commercial harbour, which could suggest that they travel with the Greco-Italics from Sicily to North African sites; it may be relevant here that the Greco-Italic type in fact appears to be a development of imitation B Amphorae (Göransson, 2007: 223–6). This is of course part of a bigger picture of west–east trade in this period: western Phoenician amphorae are found not only in the famous 'Punic Amphora' building at Corinth, but also at Olympia, Athens, Halikarnassos, Delos, Paphos, Ephesus, and various sites in Israel (Woolf, 2004).

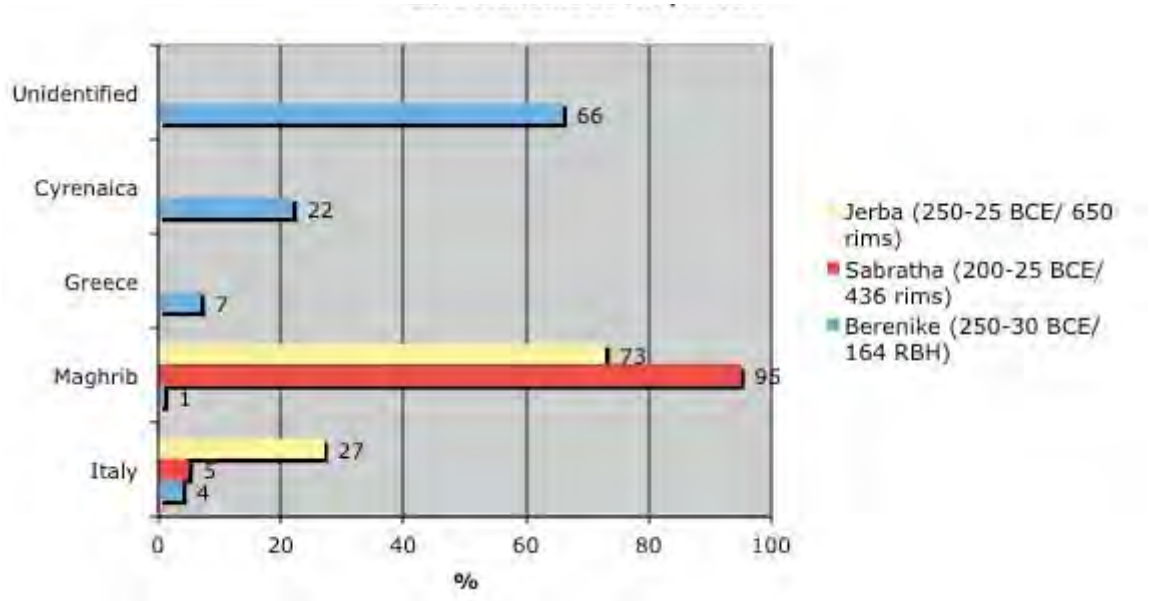
At Sabratha (in red), there is even more evidence for exchange with the east: a little over half the amphorae from the period 450–200 BC are from the Maghrib and a quarter are from elsewhere in the western Mediterranean, but the other quarter are Greek, mostly B Amphorae from Corcyra (Keay, 1989: 67). It is worth noting that at Sabratha this early period 'includes half of all the amphora rims' from the whole assemblage of *c.* 450 BC–*c.* 600 AD (Keay, 1989: 67): it seems that these were years of particularly intense economic activity, and as at Euesperides there is also evidence for substantial urbanization starting in the late 4th century, with the first stone buildings appearing at this time (Kenrick, 1986: 313). The fineware from Euesperides has not yet been published in detail, but it seems from the preliminary results that although 80% of the identified imports were from the eastern Mediterranean, primarily Attica, there was also a substantial proportion (15–20%) from south and central Italy, including Campanian black glaze and 'atelier des petites estampilles' (**Pl. 7**), demonstrating trade between east and west in the broad sense, if not directly across the Syrtes (Wilson, 2003: 1664). At Sabratha a similar pattern is found in that Attic imports in the 5th and 4th centuries make up almost a quarter of the total fineware *c.* 450–200, a similar proportion to the imports of Greek amphorae to the city in the same period. From the 3rd century, however, Italian imports predominate amongst the fineware there, and to a much greater extent than do Italian amphorae.

The 2nd and 1st century evidence

Euesperides' prosperity came to an abrupt end in the 250s, when the population was removed, apparently forcibly, to the new settlement of Berenike a few miles away in the centre of modern Benghazi (Wilson, 2003: 1660–1). The evidence from the excavations there can be compared with that from the later Hellenistic period at Sabratha and the results from the survey of Jerba, where the economy only really took off in the late 3rd or early 2nd century. One thing to note is the evidence for a 2nd-century phase of economic development at all three sites: there is urban expansion in the first half of the 2nd century at Sabratha (Kenrick, 1986: 313), Berenike then fully encompasses the Sidi Khrebish site for the first time (Lloyd, 1977b), and 'a highly articulated landscape of towns, ports, villas, farms and kilns' develops on Jerba in this period (Fentress, 2000: 84–5).

Comparing the amphorae from these sites (**Pl. 8**) reveals a strikingly different picture from the earlier period, and one much closer to that discussed by Fulford in 1989. At Sabratha all the identified amphorae are now from the western Mediterranean, and indeed almost all are from the Maghrib.[13] Jerba too imports almost entirely from the western Mediterranean: a single Rhodian amphora fragment was found

Plate 8 Late Hellenistic Amphorae



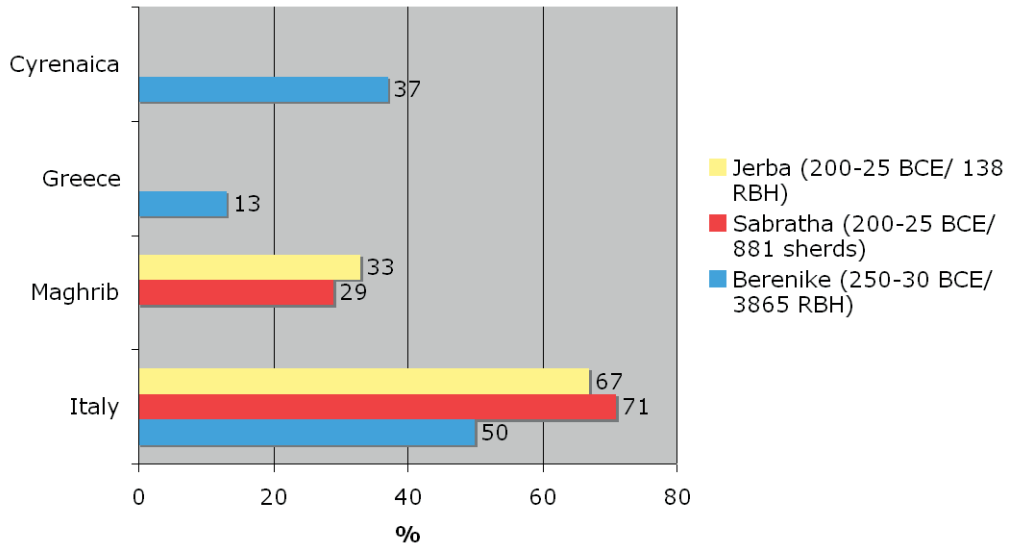
in a 2nd–1st-century context in excavations in the town of Meninx (Fentress, Drine and Holod, 2009: 278). There is little early pottery in the assemblage from the survey – a few fragments of 3rd-century amphorae from the Maghrib and one from a Greco-Italic of the same period – but imports increase enormously in the 2nd century, including western Phoenician amphorae probably from the region of Carthage (ibid.: 271–2). From southern Italy there are Greco-Italics and, from around the middle of the 2nd century, Dressel 1s (ibid.: 278). These Italian imports, over a quarter of the total found at the site, are rather more popular at Jerba than at Sabratha where they reach only 4%. Local production of the Van der Werff 2 and 3 types begins around about the same time on Jerba (ibid.: 271–7), but pottery manufacture wasn't the only thing driving the newly-thriving economy: large quantities of murex shells from the 2nd century suggest that purple dye production was important here too, as at Euesperides, and suggest similar commercial relations with local pastoral communities.[14]

The situation is mirrored on the other side of the gulf: just as the Tripolitanian sites turn decidedly west for their amphorae in this period, Berenike now looks east. The sample from Berenike is much smaller than that from the Tripolitanian sites (only 164 RBH fragments from Hellenistic contexts are recorded in the publication (Riley, 1979: 419),[15] and is under-classified by comparison with the assemblage from Euesperides – more than 2/3 of the amphora fragments from those Hellenistic contexts are 'unidentified imports' – but it is still suggestive. Many of the unidentified amphorae are probably from the eastern Mediterranean (Fulford, 1989: 174), though petrographic analysis of the kind carried out at Euesperides is needed to confirm this, and as it stands only 10 of the sherds are positively identified as Aegean. The proportion of regional imports remains similar to that at Euesperides: 36 sherds represent Cyrenaican production. At the same time, however, imports from the western Mediterranean have declined sharply – only one sherd from a Tripolitanian amphora and four sherds from Greco-Italics are recorded in quantified contexts.[16] There is some evidence for a slight pick-up in trade with the West in the 1st century; some rim fragments of 1st-century amphorae from the Maghrib alongside a few fragments of Dressel 1B type were found outside the quantified Hellenistic contexts at Berenike, and Riley puts the proportion of western amphora RBH in 1st century Berenike at 5–7% of the total (Riley, 1979: 411, with 134–45).

Keith Swift has pointed out that the coarseware from Berenike also suggests that imports from Tunisia and Tripolitania were in decline: the only group of fabrics likely to be 'Punic' occurs rarely and early (Swift, 2005: 165). This goes along with the decline in quality of the local coarseware pottery at Berenike compared with that from Euesperides (Riley, 1979: 403). It is worth noting that Berenike also lacks evidence for the import of Greek coarseware, beyond a few early Aeginetan sherds – this class has become essentially local, which might suggest that the new city was less important in inter-regional networks,[17] but might also result from a decreasing supply of Greek coarsewares, which would fit in with the clear decline in the distribution of Greek black-glazed finewares in the 4th and 3rd centuries and their complete disappearance in the 2nd. This could also provide an indirect explanation for the decline in the import of coarsewares from the Maghrib: Keith Swift suggested to me that if fewer Greek wares were available to trade from Cyrenaica to Tripolitania fewer wares would make the return journey.[18] The coarsewares found at Sabratha and Jerba in this period are apparently still all local; as noted above, the high quality of the materials available in the region means that this is less significant than practices in Cyrenaica.

In terms of the fineware trade (**Pl. 9**), Sabratha and Jerba are now entirely oriented towards the western Mediterranean, though in both cases imports from Italy are considerably higher than regional (Tunisian/Tripolitanian) production, suggesting that there were different distribution circuits for fineware and amphora-borne goods. Campanian A is hugely popular in 2nd century Sabratha, with local fineware falling to 29% of the total (Keay, 1994: 66). Although the very few classical period imports at Jerba are, as at the other sites, Greek and for the most part Attic, and the few fragments from the early

Plate 9 Late Hellenistic Fineware



Hellenistic period include more local and regional production than anything else (Fentress, Drine and Holod, 2009: 246–8),[19] as at Sabratha Italian pottery really took over after the Hannibalic War, at the same time as there was a sharp increase in amphorae imported from Italy (ibid.: 248–54). Of the 138 RBH fragments dating *c.* 200–25 – admittedly a very small sample – there are approximately equal proportions of regional, Campanian A and Campanian B production. The surprise comes at Berenike, where although Attic wares continued to be imported, and wares from the Maghrib continued to be absent, the 2nd century saw the start of the large-scale importation of black-glazed pottery from central Italy. Fully half the fineware at Berenike, comprising 80% of the city's imports from beyond Cyrenaica, comes from Italy: this represents a complete reversal from the earlier period when 80% of known imports to Euesperides were from the Aegean area.

This intense engagement with central Italian fineware markets in all the Syrtic ports did not, however, last much beyond the end of the 2nd century,[20] and the later 1st century (not shown on the graphs) saw a distinct return to the east with the beginning of the large-scale importation at both Sabratha and Berenike of eastern Sigillata A from northern Syria, a type which is 'almost as common in the early Roman levels at Sidi Khrebish as Italian [Terra] Sigillata' (Kenrick, 1985: 223).[21] Sabratha has very little 1st century Campanian pottery (Keay, 1994: 65), and Italian Terra Sigillata only overtakes the Syrian version in the Tiberian period (Hayes, 1994: 119). On Jerba, however, eastern Sigillata never really made inroads: Italy remained the island's main trading partner to the north.

Conclusions

The fundamental finding here is that in both the earlier and, to a lesser extent, the later periods under discussion, major ports were dealing across the traditional ethnic, political and linguistic barrier of the Syrtes. The Syrtic ports were also doing much the same things at the same time, in terms both of the sources of the imports they sought, and of the phases of urban development and economic growth they underwent: all of these sites show significant urban and/or agricultural development in the 4th century and again and more clearly in the 2nd century, alongside the dramatic turn to Italian imports. Production choices are also similar: we see a shared interest at Jerba and Euesperides, for instance, in the exploitation of the murex sea snail for the textile industry.[22]

This overall picture of exchange is supported by the evidence from coinage at Euesperides, where although only nine non-Cyrenaican coins have been found out of 362 catalogued over half a century of work at the site – the Ptolemaic closed currency zone seems to have effectively shut Cyrenaica off in this period – five of these are Carthaginian (mid-4th to early 3rd century), alongside one from Athens, one from Croton and one from Aegina; one remains unidentified (Wilson, forthcoming). At Berenike, by contrast, there is only one Carthaginian coin (of the 3rd or 2nd century) out of around 350 from the Hellenistic period. In itself this is unsurprising given that the Sidi Khrebish site only really takes off in the mid-2nd century, at about the time of the destruction of Carthage, but the only other coins from the western Mediterranean are two illegible halved asses (Reece, 1977: 229–30). There is little evidence for interregional contacts in coinage from either period found on the other side of the Greater Syrtis: Sabratha has 127 pre-Augustan coins, of which 83% are from Punic mints, mostly in Sicily, Sardinia and Carthage. 13% are Numidian, and there is just one late 4th-century coin from Cyrene, alongside one from the Brettian League and one from Leukas (Burnett, Jenkins and Kenrick, 1986). However, as Andrew Wilson points out, 'merchants will typically use the cash they receive for one cargo to buy another in the same port, so the coins themselves need not travel far', and so while coinage can't then be used as a quantitative proxy for trade, even very small numbers of non-local coins that 'slip through the net' are an indication of long-distance interaction (Wilson, forthcoming).

The evidence for east–west exchange is strongest for the 4th and 3rd centuries, which is why the new results from Euesperides are so important. From around 200, these Syrtic ports turned, not just to their 'own' sides of the Mediterranean, but more specifically to their own regions for amphora-borne commodities and to the new, high-quality Italian production for fineware. The 2nd century at least could be characterized better as a period of north–south rather than east–west exchange, and the evidence from Jerba highlights the importance of the role of Italy in all of this. Nonetheless, the north–south axis of fineware markets in particular doesn't form an absolute barrier to east–west trade, and in most cases relents by the end of the 1st century with the new popularity of eastern Sigillata; Jerba alone of the sites studied here retains its strong connections with Italy. How though can we explain this north–south reconfiguration of redistribution networks in the 2nd century to focus on regional production and on Italy, against a background of new agricultural and industrial production and urban development? In conclusion, I will suggest three approaches that provide at least a partial answer.

The first is the collapse of regional power relations in Africa. The Tripolitanian ports were under the control of Carthage in the 4th and 3rd centuries (Pseudo-Scylax 111 and Polybius 3.39.2), but the Numidan king Massinissa took over the taxation of the Tripolitanian cities from Carthage in the early 2nd century (Livy 34.62). In the mid-3rd century, the Ptolemies regained Cyrenaica from the rebel governor Magas (Justin 26.3); the foundation of Berenike was a consequence of this change. The effect of these changes in the case of the Tripolitanian cities was new economic autonomy as well as new prosperity, and the destruction of Carthage in 146 then enabled these ports to take over at least some of that city's production and distribution activities; Cyrenaica's submission to a distant kingdom may by contrast partially explain Berenice's relative isolation. At the same time, Carthage's successive defeats in the Punic Wars compromised its ability to protect its own trade and traders, opening up more cities in the western and central Mediterranean to Italian and other merchants.[23]

At the same time, the rise of Rome to the north altered supply patterns in the central Mediterranean. As noted above, the Roman conquest of Greece coincides with a drop in Greek exports to all our ports, although Aegean amphora imports remain considerably more resilient than either coarsewares or finewares from that region. In a similar way the defeat and subsequent destruction of Carthage seems to go along with the

loss of Tunisian/Tripolitanian sources of coarseware and amphorae in Cyrenaica (Swift, 2005: 165), as well as the turn to Italian markets in Tripolitania. The expansion of Roman and Italian mercantile activity in Africa after the Punic Wars might suggest that those wars were at least in part about trade,[24] but the evidence from the Syrtes – the differences within the distribution patterns of different types of pottery, as well as the turn away from Italian sources of fineware in the later 1st century as their quality declines – does not suggest that this trade was in any sense directed or controlled by the Roman state. One thing it does suggest is that different genres of pottery (and therefore presumably other traded goods) circulated in unpredictable combinations that become traditional on particular routes: it seems likely, for instance, that while coarsewares and finewares regularly arrived together in Euesperides in a 'distributed assemblage' from the Saronic Gulf (Swift, 2005: 164), central Italian amphorae and fineware travel to Berenike separately, and in different periods. Trade is of course a two-way process and while the aftermath of the Hannibalic War certainly opened up new markets to Italy, it also opened up markets for her African trading partners, who took advantage of them with new industries and agricultural production, as exemplified by the development of the wine industry on the island of Jerba.

The new prominence of the north–south axis in the 2nd century cannot however be explained solely in terms of the breakdown in east–west power relations along the African coast, and the new political and economic ascendancy of Italy to the north. Another important factor is the pattern of trade further south, and in particular the caravan routes from the Syrtic Gulf to the Saharan oases. In the same way that Marseilles is a focal point of the north-west Mediterranean maritime facade, drawing seaborne trade through the Gulf of Lion, and up the rivers inland, the ports of the Syrtes are southern Mediterranean 'gateway settlements' for routes inland, 'corridors leading into continental space' (Horden and Purcell, 2000: 133, 137). Although the east–west route through the oases goes back at least to the time of Herodotus (Liverani, 2000), the concrete evidence revealed by the Anglo-Libyan Fazzan Project for the role of the Saharan oases in north–south trade with the Mediterranean is later, from the time of the Punic wars. As well as 3rd-century Punic-style amphorae and coarsewares, late Greco-Italic and Dressel 1A amphorae show the penetration of goods from Roman Italy by the 2nd century (Mattingly 2007: 308). The apparent expansion in north–south Saharan trade in this period closely coincides with economic growth in the Syrtic cities, and in particular the new prosperity of Jerba, a well-known slave-market in the medieval period at least; perhaps Italian connections continue more strongly there than elsewhere because, as Fentress suggests in this volume, the island had become a, or even *the*, major slave terminus for Italy.

All of this means that we should be looking at the Syrtes not as a boundary or barrier between places but as a place in itself, interconnecting east and west, and, increasingly, north and south. In the Hellenistic period at least, the Syrtes are not back-to-back peripheries of east and west, but a Mediterranean crossroads.

Notes

1 I gave versions of this paper over the course of 2008 at the Université de Toulouse – Le Mirail, Stanford University, and an Oxford Maritime Archaeology Conference in Madrid as well as at the British Museum. I owe thanks to all those who offered useful comments and questions on those occasions, to Lisa Fentress, Michael Fulford and Philip Kenrick for generously commenting on a draft, and to Pascal Arnaud, Josh Ober, Candace Rice and Keith Swift for sharing data, ideas, and unpublished papers. I want to particularly thank Lisa Fentress and Andrew Wilson for discussing the results of their excavations with me, and Amelia Dowler and Elizabeth Galvin for organizing such a stimulating conference. All dates not otherwise noted in this paper are BC.

2 Cf. Shaw, 2006: 3.

3 Cf. Mattingly, 1995: 159 for early misgivings.

4 For the problems of 'navigating' the coastal land route in the 20th century, before the Italians built the Via Litoranea, see Holmboe 1936; I am grateful to Philip Kenrick for this reference.

5 For a more detailed account based on modern navigation manuals, see Fulford 1989: 169–72; in addition to these publications, my description of the challenges facing shipping in the area benefits from discussion with Pascal Arnaud.

6 I am grateful to Nicholas Purcell for pointing this out to me.

7 It is interesting to note in passing that although the modern notion of the Syrtes as a barrier between regions tends to focus on the dangers of the Greater Syrtis, Pseudo-Scylax tells us that the Lesser Syrtis is 'much more dangerous and hard to sail' than the Greater (110).

8 Cf. Laronde 1987 for, on the one hand, the scarcity of direct evidence for contact between Carthage and Cyrene before the Hellenistic period, and, on the other, the existence of indirect evidence that it did in fact take place. For broader east–west cultural connections along the southern coast of the Mediterranean, see the work of Antonino Di Vita who has consistently argued for cultural links between Tripolitania (and the Punic world more generally) and the eastern Mediterranean, especially Alexandria (1968, 1976).

9 All four projects yielded urban assemblages from excavation, although the pottery from the survey of Jerba naturally comes from rural contexts as well.

10 A gap still exists in the Cyrenaican evidence in the later 3rd century, since Euesperides was destroyed *c.* 250, and the Berenike excavation site at the Sidi Khrebish cemetery was on the outskirts of the ancient city and therefore yielded very little 3rd century pottery. I have therefore considered all the evidence from Berenike under the 'later' period, and I have done the same with the evidence from Jerba although there is a very little evidence there for earlier trading activity.

11 The clay used for the western Phoenician imports is rather better than that available locally, but it is hard to be more specific about its sources given the pan-regional characteristics of the fabrics and technologies used: Swift, 2005: 152.

12 K. Swift, pers. comm.

13 There is one possible indication of at least sporadic trade between Cyrenaica and the Maghrib in the later period: the identification of Cyrenaican amphora fabrics meant that Göransson could identify a new class of Cyrenaican amphora (Cyrenaican Amphora 3, whose dated examples are early 3rd century), and suggest that an example of this has been found at Sabratha (identified in the Sabratha catalogue as a Van der Werff 2 (Keay 1989: fig. 10 no. 163)), suggesting at least sporadic exchange of amphora-carried goods in an east–west as well as west–east direction (Göransson 2007:60, cf. 217 n. 157). This can be no more than a suggestion, given that only two rim fragments were catalogued at Sabratha, and in any case the identification awaits confirmation.

14 Note that Hannibal's general Choaspes, who came from Jerba, led a unit of nomadic tribes from the mainland, including Garamantes (Fentress, Drine and Holod 2009, 75).

15 See Riley, 1979: 419 (fig. 1) for the quantifications from stratified contexts used here (and in Fulford 1989).

16 2nd–1st century western Phoenician amphorae have been found in underwater excavations along the Cyrenaican coast, although far fewer than the Greek amphorae found at the same sites (Laronde, 1990: 10).

17 On the possibility that Cyrenaica was 'in some respects a commercial backwater' in this period, Riley 1979: 407.

18 K. Swift, pers. comm.
19 17 Classical and 38 early Hellenistic fragments are recorded.
20 Though note that the 1st century is 'not well represented stratigrapically' at Berenike (Kenrick, 1985: 493).
21 Cf. 514: 1,494 sherds of ESA were recorded, compared with 1,935 sherds of Italian Sigillata. Philip Kenrick suggests to me that the suppression of piracy in the Mediterranean may have favoured the greater exportation of eastern Sigillata.
22 See also Strabo 17.3.18 on the city of Zuchis, the first reached in the Emporia (before Sabratha) which has 'dye factories and all sorts of fish-salting establishments'. It is very likely that Sabratha was also engaged in murex production, given the amount of evidence for the industry in the Roman period (for which see Wilson 1999).
23 For Carthaginian protectionism in Africa (and Sardinia), see Polybius 3.24.11 (the 'second treaty' of the mid-4th century; cf. Aristotle *Politics* 1280a), with Arnaud 2005: 149.
24 During the Jugurthan war Italian traders are found at Cirta, Utica and Vaga: Sall. *Jugurtha* 21.2, 26.1–3 47.2, 64.5. For economic causes of the Punic Wars, see Lancel, 1992: 379.

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Coins, Cities and Territories

The Imaginary Far West and South Iberian and North African Punic Coins[1]

Bartolomé Mora Serrano

Nineteenth and 20th century European historiography on the archaeology of the Maghreb and its early history contains numerous references to the close relations between southern Iberia and western Mauretania, the future Mauretania Tingitana. This geographical proximity was particularly obvious in the area of the Gibraltar Straits and had remarkable influence not only on ancient Greek and Latin literary sources but also on innumerable archaeological remains analyzed in depth by research projects in southern Spain and Portugal and northern Morocco.[2] Coins have contributed to the definition of the geographical and cultural area known as the 'Círculo del Estrecho', a term proposed by M. Tarradell in the 1960s.[3] Recent works by J. Alexandropoulos, L.I. Manfredi, L. Callegarin and E. Gozalbes reflect appropriately the current relevance of these topics in the field of numismatics (**Pl. 1**). At the same time, these works also reflect superseded antique visions of a colonial nature present in archaeological researches from the times of the Protectorate[4] (for example, numismatic studies since the 1850s). Thus, one of the main Spanish numismatic corpuses was directed by A. Delgado in late 19th century and includes a chapter devoted to the coins from Tingitan Africa for a better understanding of ancient Hispanic coinage.[5]

Leaving aside the political and ideological background which partly inspires these works, I must highlight the existence of other numismatic arguments which justifies my interest in the ancient history of southern Spain and northern Africa, considered as a single research area. Using less information than that available nowadays, numismatic literature since the late 19th and early 20th centuries contains many modern concepts such as 'community of interests' and 'cultural and ethnic interrelations'. The inscriptions on Hispanic-Punic and Mauretanian coins, their iconographic similarities, but also closer observations regarding coin find-spots or the similarity of diameters and weights between coins from both sides of the Straits of Gibraltar area culminates in a Theory of Homonoias between the major cities from Baetica and Tingitana.[6]

Of course, this old theory is overcome nowadays. However, many studies insist on analyzing the important role played by Gadir/Gades (present-day Cádiz) within the Straits area and, particularly, in North African territories. The necessary review of ancient literary sources and the growing number and quality of archaeological records have incorporated, under new methodological approaches, one of the richest historical testimonies: the ancient coins from southern Iberian Peninsula and north-western Africa.[7]

Phoenician-Punic influence in coin design

The usefulness of Phoenician-Punic influenced coin iconographies in western Mauretania must be seen from a threefold viewpoint: civic, territorial and self-defining. Thus, coins minted in this region between the 3rd and 1st centuries BC may be interpreted as a book put into images which belatedly reproduce the Phoenicians' and Greeks' perception of the Mediterranean Far West. This ranges from the first references by Homer and Hesiod, and subsequent references by Greek-Sicilian poets such as Stesichorus of Himera,[8] to the later and decisive contributions in Hellenistic-Roman times such as Eratosthenes, Posidonius, Strabo and Pliny, among others. This survey does not omit Peripletic literature: it is also important to highlight the peripluses of Pseudo-Scylax and Hanno, etc.[9]

Firstly, these literary images from the Far West were alien to the inhabitants of these territories, but – as confirmed by the coins of the governing aristocracies in these towns and especially of the Mauretanian monarchy – they assumed and re-elaborated these geographical myths.[10] With such an aim, they made use of ancient iconographies but also introduced new designs. Previous studies have particularly looked for coincidences. I will also emphasize the existing differences put

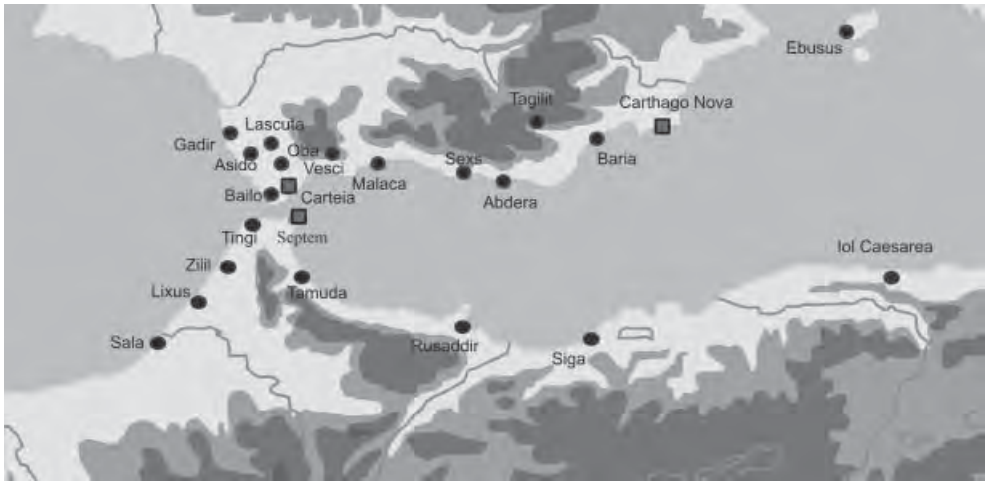

Plate 1 'Circulo del Estrecho' (Círcle of the Straits) and its coinage ©B. Mora

Plate 2 Gadir (Alfaro IV.2) from Cayón auct. 2002 no. 388 © Áureo&Calicó

Plate 3 Panormo-sys (SNG Cop. 679) CNG 78 2008 © Classical Numismatic Group, Inc., http://www.cngcoins.com

forward by some outstanding and striking absences. In my opinion, the abovementioned points suggest the possibility of looking for a political and ideological justification regarding the unquestionable influences of the Hispanic side of the 'Circulo del Estrecho' (particularly of Gadir) on the coins from western Mauretania.

I certainly believe that Phoenician-Punic-influenced iconographies from the Far West reflect the existence of old myths related to ecumenical limits. However, at the same time, these populations were in a marginal situation in relation to the central Mediterranean. This peripheral situation is enforced by the belated and limited diffusion of civic coins, which was fostered by the restrictive monetary policy of Carthage in this region until the end of the 3rd century BC,[11] with only one important exception: Gadir. The coinage of this city demonstrates the town's interest in highlighting the territorial and self-defining role of the old God of Tyre, responsible for the colonization of the Far West, then administered by Gadir. In short, it reflects Gadir's intended cultural and economic hegemony over the region.[12]

The monetary language of Gadir

The coins of Gadir makes use of Greek monetary language, which exemplifies the mythic image of the region shared by both Phoenicians and Greeks. Gaditanus Melqart is shown as Heracles by means of an iconography created in Cyprus and perfected in Sicily.[13]

This area plays a key role in the development of the monetary iconography of Melqart-Heracles and it is not surprising that we find the main parallels in the coins of Solus minted from the beginning of the 4th century BC, and also in tetradrachms minted by Carthage in Sicily.[14] However, when the city mints silver coins in the second half of the 3rd century BC, besides adding the place name and the formula of issue, it introduces a new element to the type of Melqart-Heracles from Gadir: a club or *clava*. It is a well-known attribute of this deity but only in Gadir is it combined with the image of the beardless god and also carries the lion-skin. Thus the uniqueness of these coins is ensured, and by extension the city itself.

The head of Melqart-Heracles – in lion's scalp and with tuna fish – is combined with an interesting type: the facing head of Helios (Phoenician *Šamaš*) which, under Greek interpretation (**Pl. 2**), refers to the travel completed by Heracles on Helios' golden bowl.[15] That is how Stesichorus (frag. 184–185) and Pherecydes (frag. 1–13, 17) recount it as a result of that new image of the Mediterranean Far West, which is on the limits of the known earth but nonetheless integrated within the *oikumene*.

This iconography is a clear geographical reference to the dominions of the *Gaditanus* god – the western territory where the sun sets. It is found in Sicily (Panormus - sys), particularly in beautiful coins showing the shape of a star with a human face occupying its central part (**Pl. 3**).[16] However, it is further west where new and more numerous references to this iconography are found in the earliest coins from Gadir, dating back to the 3rd century BC. Nevertheless, these types alluding to the west where the Sun sets, also seem to have their own personality and meaning, which is independent from the Melqart-Heracles image, used in coins of the Straits area throughout the 2nd and 1st centuries BC. The most evident testimony is provided by the coins from Malaca (present-day Málaga) and Baria (present-day Villaricos, Almería). These cities, the only two Hispanic-Punic mints located on the coasts of southern Spain, made no use of the already widespread Melqart-Heracles iconography (Mora Serrano, 2007: 429).[17] Furthermore, the same iconographic motif was represented in some enigmatic silver denominations with no inscription which are likely to have been minted in the southern Iberian Peninsula within the context of the Second Punic War (CNH 77.4; Campo and Mora, 1995b: 110). The male, bearded deity, wearing an oriental crown, is combined with a little head surrounded by light rays on the reverse (**Pl. 4**), which is undoubtedly the same representation of Helios-*Šamaš* found on the reverse of the earliest bronze Malaca coins (ibid.: 107–19, pl.3.3). This is a relevant piece of information to expand upon later, but now I would like to emphasize the appearance on the obverse of the first issue of Malaca of Egyptian iconography – very possibly representing the Baal of the city – as can be deduced from the presence of the double crown or *pschent*. Malaca's craftsmen follow the archaic fashion of oriental inspiration, and especially Egyptian styles which are reworked by Punic artisans.[18] It should also be noted that although it is a civic coinage, it seems likely that the abundant minting should be linked to the presence of Carthaginian troops in the region that would take advantage of the port and its good connection with the valley of Guadalquivir, at least from 212–211/209 BC. when it seems that these territories became a strategic position for the Carthaginian army.[19]

The influence of the coins of Gadir in the Straits region, Iberia and northern Africa must also be tackled. This influence is unquestionable[20] and can be observed both in the diffusion of town epigraphic formulae preceding place names[21] (*mb'l - Lkš/* Lixus and *mb'l – tyng'/*Tingi) and in the influence of the composition schemes of coin reverses. On several occasions

Plate 4 AR obol from southern Spain (CNH 77.4) (size 2:1) © B. Mora

Plate 5 Tingi (SNG Cop. 721) © B. Mora

though – as observed in Tingi (**Pl. 5**) – both tuna fishes are substituted by two wheat ears. The same can be seen in the designs by relevant mints in the southern Iberian Peninsula subjected to strong cultural and ethnic Phoenician-Punic influence (Domínguez Monedero, 2000: 64–5).

However, there are also important absences in need of a convincing explanation such as the absence of Gadir's obverse type, showing Melqart-Heracles wearing a lion's scalp, which remains a widely-known image within the region. This is not only due to its presence on coins whose identification in Mauretanian coins turns out to be as scarce as it is problematic. Prior to the widely-known coins by Juba II, the clearest representation of this divinity is found in Numidian coins from Hippo Regius, although its iconography differs widely from Gadir's.[22] This deity has also recently been described on the obverse of coins of Zilil. However, most researchers identify a classic representation of Hermes/Mercury on the basis of the caduceus in front of the head.[23] The deficient execution of these coins, together with the scarcity of well-conserved coins, remains a serious obstacle for this new identification. The same occurs with that recently proposed for the obverse head on the coins of Rusaddir (present-day Melilla) (López Pardo, 2006: 175–6). The bad conservation of these coins only enables researchers to relate them to representations from Tingi and other mints in western Mauretania, identifying the image as Baal-Melqart, an unknown local divinity or, more recently, a royal portrait, possibly that of Bocchus I (Manfredi, 1995: 182; Alexandropoulos, 2000: 199–200).

Two interesting observations can be drawn from the previous comments.

1) The scarcity or absence of the adoption of Gadir's Melqart-Heracles model in civic and royal coins in western Mauretania. It should be noted however that this absence has no direct relation to the existence of the worship of Melqart, widespread in these Far West territories.[24]

2) Closely related to point 1, there is a difficulty in identifying Melqart-Heracles or other divinities of the Phoenician-Punic pantheon. Identification is therefore sometimes justified on the basis of the existence of a strong local component which consciously impregnates many of the anthropomorphic representations found in western Mauretanian coins.[25] This contrasts with the more canonized models found in mints west of the Moulouya River.[26]

Gadir and Lixus: the iconography of altars and temples

This singularity or localism, which is particularly projected on certain monetary iconographies in these regions due to the infrequency of type or to the novelty of their combinations, can be observed in the coins of Lixus. The importance and antiquity of the Phoenician founding of Lixus is well documented in texts (the capital city of the *Kolpos emporikos*, 'the Gulf of Commerce', mentioned by Strabo, *Geographica*, 17.3, 2). It does however need confirmation which can only be provided by archaeological excavation. The earliest works in the archaeological site date back to the 1950s, with Spanish and French missions. These works are continued nowadays by a Spanish-Moroccan archaeological team which is currently obtaining excellent results.[27]

As already pointed out, the absence of Gadir's Melqart-Heracles iconography in the coins of Lixus is very significant. This is also striking for many researchers,[28] especially if we bear in mind the close relation between this North African emporium and Gadir. This relationship became closer within the context of the great developments undergone by fishing and pickling industries in the Hispanic-Phoenician town and its surroundings from the 6th–5th centuries BC.[29] In literary sources, a classic example of this is the intended symmetry between Gadir and Lixus situated on the 41' meridian, which reproduces the Pillars of Hercules westwards. Referred to by Eratosthenes's *Geographica*,[30] among some other passages referring to the great age of the sanctuary of Hercules, its origin is to be found in the re-elaborations of ancient mythic-geographical tales which took place in Hellenistic times. This last was also fostered by the attempt of local aristocracies to rival neighbouring cities' aristocracies in antiquity and prestige.[31] Undoubtedly, numismatic iconography is a suitable field to spread this kind of message, as can be observed within a later context of the Romanization of Hispanic-Punic and Punic-Mauretanian coin series.[32]

In spite of having separated the identification with Melqart-Heracles from the enigmatic identity of the characters portrayed on the obverse of the coins of Lixus, whose parallels in form with the coins of Malaca have supported an unlikely identification with Chusor/Khotar (Hephaestus-Vulcan),[33] the coins of Lixus show the clearest allusion to Herculean myths in this region. However, this allusion is singular, since it represents a *naiskos* or altar devoted to its worship (**Pl. 6**).[34] Unquestionably, this image is related to literary references to the Melqart altar located in Lixus' vicinity – an old tradition collected and reported by Strabo (17.3, 3). In this and the subsequent, more explicit passage by Pliny (*Naturalis Historia*, 5.2–4) there is a reference to the existence of an altar (*bomos/ara*) located on the outskirts of Lixus, in an islet located in the estuary of the Loukkos River. Therefore, it differs from the sanctuary of this divinity within the city walls, in the monumental quarter, which must be identified with the famous *delubrum Herculis*.[35]

These tales must have been well enough known among the ruling classes in Lixus at least since the second half of the 2nd century BC. This is because they were materially, culturally and

Plate 6 Lixus (Mazard 640) from Triton XI 2008 © CNG

Plate 7 Lascuta (CNH 126.2) from IVDJ no. 2042 © Instituto Valencia de Don Juan (Madrid)

Plate 8 Lascuta (CNH 126.3) from IVDJ no. 2043 © Instituto Valencia de Don Juan (Madrid)

literarily open-minded to the Mediterranean Hellenistic Koine[36] which firstly favoured their early and intense contact with Gadir and then with the presence of Romans and Italics in the Straits region. Therefore, this literary culture is likely to have inspired directly this minting activity, which, due to the neo-Punic and Latin epigraphy, is believed to have taken place in the second half of the 1st century BC.[37]

The Lixus altar occurs rather infrequently in the iconography of the Phoenician-Punic coins of the Straits area. However, it finds its main parallel in the Hispanic coins from Lascuta.[38] Here, the relation to Gadir's Melqart-Heracles worship manifests itself in the representation of two altars linked to the image of the Phoenician god wearing a lion's scalp and carrying a club on the coin's obverse (**Pls 7–8**).[39] The fact that these types appear in a traditional Hispanic Libyan-Phoenician mint has numerous implications when it comes to evaluating the existence of an ethnic or, at least, cultural North African Punic component in the populations of Phoenician origin which differs from that reported.[40] The Hispanic testimonies commented on so far show an early inclusion of worship objects into coin design in the 'Círculo del Estrecho'. This reaches its climax in coins from the 1st century BC and the beginning of the following century with the presence of temples in Malaca, Abdera (present-day Adra, Almería) and, later, in Gades.[41] The altar on the coins of Lixus fits into this iconographic environment, although, as commented previously, it shows a strong local personality.

Images of the Far West

In spite of the evident contact and influence on coin iconography in the Straits area, there are also clear differences, and it is on this point that I shall focus attention next. The singularity of coin types from western Mauretania should not be explained by reasons of 'Africanism' or 'indigenism'. I certainly believe that it is more appropriate to talk about the existence of ancient and new types articulated with local and regional intention. These iconographies are also considered to reflect an antique mythology of the Phoenician-Punic Far West. However, – unlike the Hispanic population – Phoenician-Punic communities select those most closely-related to their territory. They therefore link an image to the old traditions reproduced in mythic-geographical literature connecting the extreme of the *oikumene* to fantastic events and to the riches and fertility of these territories.[42]

What images then do they use? Common topics, of course. There are no clear references to the items we know through archaeology and literary sources (e.g., Hanno's long *Periplus*)[43] such as furs, gold, ivory, wild animals, precious timbers, etc. These elements have been defined as exotic riches whose image is projected into literary references after the Roman conquest of Mauretania.[44] On the other hand, the craftsmen producing Mauretanian coins were subject to the technical and composition-space limitations which characterize this kind of work.[45] Apart from some already mentioned exceptions, these designs are usually inspired by common iconographic resources and the craftsmen compose an image discourse at the service of the governing authorities.[46] Thus, they make use of old types such as the tuna fish – an antique symbol of sea wealth in Greek iconography of the Archaic and Classic periods. Therefore, the tuna fish should not always be associated with Melqart or pickling activities either. However, it is true that in the Phoenician-Punic Far West, and particularly in Gadir, the image of the Phoenician god is closely related to the protection and indirect control of fishing and related industries by means of the well-known western-Phoenician pickling products (**Pl. 9**), whose consumption in Athens, Olympia and Corinth were reported by literary sources and are found in the archaeological record.[47]

However, most of these images of the riches of the Far West are of an agricultural nature and so wheat and barley ears play an important role in design. As with the tuna fish, this is an iconographic type very widespread among ancient coins, especially in Greek and Punic coins from the central Mediterranean regions. This can be seen from the well-known Greek models of Metapontum[48] to those developed in Carthaginian coins as a reflection of Carthage's cereal policy. It is rather striking that these types gathered a territorial meaning based on their use in coins in the Libyan revolt and especially on the reverses of the city of Iol (**Pl. 10**).[49] Thus, it is important to point out the antiquity of the coins from this old African capital city (the future Caesarea). The appearance of new coin finds in well-dated hoards or archaeological contexts

Plate 9 Gadir (Alfaro V.1) from Cayón auct. 2002 no. 416 © Áureo&Calicó

Plate 10 Iol (SNG Cop. 679) from CNG 805644 © Classical Numismatic Group, Inc., http://www.cngcoins.com

Plate 11 Bar Kochba War (Hendin 729) Amphora © D. Hendin

Plate 12 Lixus (SNG Cop. 695) from IVDJ no. 2009 © Instituto Valencia de Don Juan (Madrid)

bringing forward their chronology up to late 3rd century BC, within the same chronological environment as Numidian coins.[50]

In spite of being a less frequent type, though preserving the same significance, there is the question of how the presence of the bunch of grapes should be interpreted. It is also an old trope related to the riches and fertility of a particular territory. The clearest example of this can be found in the Bible (Numbers 13.24) with the well-known bunch of grapes sent to Moses from the Valley of Eshcol (symbolizing the fertility and riches in the Promised Land), an image which was to be renewed later on coins from the two Jewish revolts against Rome (**Pl. 11**).[51] Once we have arrived at this point, we now face again the possibility of an 'economic' viewpoint of these types, assuming an ancient wine production in the region. Although the archaeological evidence is insufficient, the representation of bunches of grapes in coins is used to prove[52] or to look for other explanations [53] in which it is considered that in this case bunches of grapes may be explained as the result of a complex set of traditions including cultural customs and traditions derived from mythic-geographical literature. This justification is complex, but we should recall the existence of place names in the region such as Arambys (Hanno's *Periplus*, 5) and Ampelusia (Pomponius Mela, *De Chorographia,* 1.5), meaning 'Mount of Grapes/Vines', which is identified with Cape Spartel. In addition there is an ancient belief relating Dionysus to these territories and the vine culture developed by holy Ethiopians to serve the Olympic banquets mentioned in the *Iliad* (I.423–25) and the *Odyssey* (I.22–26).[54]

These iconographies become territorial images and gather in the coins of western Mauretania, both in civic and Mauretanian royal coins.[55] When did this happen? The identification and interpretation of iconographies in ancient coins in general and in Mauretanian coins in particular faces an important obstacle. The inaccuracy surrounding many pre-imperial series is problematic and, as previously raised in Hispanic-Punic numismatics,[56] so is the fact that the same coin may be dated with a range of more than a century according to the supporters of a high or a low chronology. This fact does not affect type interpretation to a relevant extent, but it does influence research on type origin and subsequent diffusion.

The fact that the coins of Lixus are the ones likely to have included and spread these types (tuna fish, wheat ears and bunches of grapes) turns out to be interesting. However, so far only the chronology of the second quarter of the 2nd century BC has been ascertained (Ancient Mauritanian Period I, *c*. 200/175–150 BC) for denominations combining a male head with exotic tiara and long cord on the obverse, with a bunch of grapes flanked by the neo-Punic legend *mb'l/lkš* (**Pl. 12**).[57] In the absence of further well-dated finds, traditional studies on types and style, metrology and metallography will help to identify the remainder of the coin issues in this important mint.[58] In this sense, it will be important to know if the Lixus mint begins with divisions of the unit, which are to be minted later on as well. Another remark should be made regarding the variety of combinations shown by the Lixus coinage (also valid for other mints such as Tingi) in the sense of an 'overall reading' of the iconographies of a particular mint in successive issues. The local nature of these coins and the prolonged period during which coins are used as currency enabled users a continuous and rich reading of these iconographic programs.[59]

Tuna fish, and especially bunches of grapes and wheat ears, predominate in the mints on the Atlantic coast of present-day Morocco, but their presence also extends to other Mediterranean enclaves,[60] among which Rusaddir (present-day Melilla) is to be highlighted. The reverse composition of these coins (in its two variants)[61] is considered to show the reception, in this eastern region, of the same riches-related topics commented on so far. The tendency to interpret the types of Rusaddir through economic reasons occurs again.[62] This is in spite of the fact that the possible agricultural advantage which could be obtained from the city surroundings must be limited and, so far, is only known through references from subsequent years. On the contrary, monetary iconography contributes nothing to the obvious exploitation of sea resources, and perhaps also to city-controlled miners.[63] Its possible relation to the commercial route drawn by the Moulouya River should not be ruled out, since the establishment of the city is essentially due to its strategic coastal position.[64] This is justified in the sense of the city's Phoenician name *rs'dr*: Rus ('cape') –addir ('powerful'), and its Greek versions, Akros from Pseudo-Scylax (*Periplus*, §111), and possibly also Strabo's *Metagonion* (17, 3, 6). This is clearly related to the main geographical feature of the Cape Tres Focas.[65]

Multiple interpretations have also been contributed to the bee design on Rusaddir reverse designs (**Pl. 13**), which undoubtedly is the most exotic among those commented upon here. The handiest interpretation relates it to regional agriculture,[66] but there are also some other more suggestive proposals, such the idea of a relation to some goddess such as Artemis or Astarte (Fernández Uriel, 2004: 156–62). This could be supported by the discovery of a sanctuary of this Phoenician deity in Melilla and by the re-interpretation of 'Addir' as an epithet related to different goddesses of the Punic pantheon such as Astarte, Isis and Tanit (López Pardo, 2006a: 170, 176–9). The inclusion of the bee may be interpreted here – as in

Plate 13 Rusaddir (SNG Cop. 714v.) from IVDJ no. 1993 © Instituto Valencia de Don Juan (Madrid)

the case of the wheat ear and the bunch of grapes – as a generic allusion to the riches and fertility of these African Far West territories.[67]

Apart from the complex interpretation of these Rusaddir reverse types, I am also interested in their interesting compositional scheme. The central motif (bee) is flanked by two other motifs (two wheat ears or bunch of grapes and wheat ear). This tripartite composition, whose origin is likely to be in a Carthaginian coin reverse design showing three wheat ears, and is also found in Iol's reverse designs.[68] This finds its closest parallel in the coins of Timici where a bunch of grapes is flanked by two palm leaves or maybe wheat ears.[69] This can however especially be seen in the troublesome *mqm šmš* coins, which will be examined below. The bee is replaced in these coins by a star with a bunch of grapes and a wheat ear, and sometimes also a meander pattern. The attribution of the first issues of this coin to Bocchus I (*c.* 180–80 BC) (Alexandropoulos, 2000: 196–7, 406), together with the find of a Rusaddir coin in an archaeological context dating back to the second half of the 2nd century BC (Villaverde Vega, 2004: 1863), leads us to suppose that the coins are contemporary. At the same time, this raises the possibility that the Rusaddir mint adopted some types and designs they identified themselves with, and then substituted the star with the bee. This is another illustrative example of the strong personality of the Mauretanian numismatic types.

New designs from old territorial images and *mqm šmš*

However, other new well-known topics from ancient images used in regional coins – apart from these fertility-related topics from the Far West – are added to coin designs later, but in new forms. I refer in particular to the Helios (*Šamaš*) design which uses both iconography and epigraphy. It should be taken into account that this design was found in Malaca in the 1st century BC in some denominations showing the neo-Punic inscription *šmš* under a tetrastyle temple (Campo-Mora 1995a: 120–1; Mora Serrano, 2007: 429) (**Pl. 14**). It is difficult to understand the nature of this east–west relationship in the monetary types of Malaca, but I think it is justified with Malaca's view of itself as a Far West place, as with other places in the region. Does this imply close contact between this city and more western territories? Recalling the oldest of Malaca's emissions with solar types, the astral symbols and the inscription *šmš* that is now under discussion, these have interesting parallels in North African coins. But there is no evidence of a direct influence between the coin-dies of Malaca and other North African mints, although the parallels – though not direct – are oriented towards western Mauretania, especially Lixus and *mqm šmš*. Along with other numismatic and archaeological evidence, we can recall the reference of Strabo (3.4.2) in which he describes Malaca as a market for the nomadic people (or Numidian) from the opposite coast.[70]

I consider that both the star and the *mqm šmš* inscription ('place of the sunset')[71] generically allude to the Far West and therefore are also applicable to western North Africa, where they acquire a special significance. This does not prevent the design idea being claimed by other localities in the Circle of the Straits, as in the case of Malaca[72] or Lixus. Indeed as I have pointed out this is so for the solar disc at the top of the altar or chapel (shown by Alexandropolous, 2000: 340). This can even be noted in the place name *Lkš*, since its meaning could be related to the idea of remote, extreme places dominated by the Sun.[73] If this interpretation is accepted as a working hypothesis, one of the most relevant issues in the study of *mqm šmš* coins - the location of its mint[74] – would now occupy a secondary position in relation to the justification of the existence of these singular types and inscriptions.

These coins, both those known as autonomous and those referring to Mauretanian monarchs (Bocchus I, Bocchus II and Juba II), show sophisticated designs. Therefore, my argument is based on two main relevant points:
1) an insistance on the absence of references to Melqart;
2) the coins show an iconographic and epigraphic synthesis with a clear pan-Mauretanian purpose.

Therefore, from this viewpoint, I believe that proposing the attribution issues to the Mauretanian monarchy is very interesting (Alexandropoulos, 2000: 195, 202–3). From a chronological viewpoint, this dating is indirectly supported, as already noted, by the discovery of a coin of Rusaddir in contexts corresponding to the late 2nd century BC and by the evident similarities among the reverses of both coins.[75]

Thus, together with well-known types alluding to mythic territorial riches such as the wheat ear and the bunch of grapes, other types are now added which locate it with greater accuracy. This can be seen in the double allusion to Helios-*Šamaš* through the inclusion of a star at the centre of the design and the neo-Punic inscription *mqm šmš* below it (**Pl. 15**). As already pointed out, aside from the numerous transcriptions proposed for the whole inscription (*mqm šmš*)[76] it is a 'non-existent place name' (López Pardo, 2006a: 210) and requires a knowledge of the relationship of *Šamaš* with the Far West.[77] In this case, one or several mints in the service of the Mauretanian monarchy could be in charge of minting these abundant coins which mark, with the reign of Bocchus I (*c.* 118–80 BC), the expansion of the use of local coinages in these territories.[78]

Ocean iconography

The other piece of iconography used in the design of these coins which alludes to the Far West is the ocean. But, how is this represented? Curiously this is represented in two forms, both in an archaic image and a modern one. The former appears on royal coin reverses in the shape of a zigzag[79] or meander[80] pattern which refers to no particular river but to the ancient image of the river-ocean which borders these lands to

Plate 14 Malaca (CNH 101.16) from Cayón 2002 no. 481 © Áureo&Calicó

Plate 15 *Mqm šmš* (SNG Cop. 705-706) © B. Mora

Plate 16 Tamuda (SNG Cop. 718 v.) from IVDJ no. 1994 © Instituto Valencia de Don Juan (Madrid)

Plate 17 *Mqm šmš* (SNG Cop. 711) from Triton auct. V 592 2002 © Classical Numismatic Group, Inc., http://www.cngcoins.com

Plate 18 AV Hadrianus (RIC II 125) from CNG © Classical Numismatic Group, Inc., http://www.cngcoins.com

the west (**Pl. 15**).[81] However, in the choice of this archaic type, the image the inhabitants of this region had of the meandering streams of the large rivers flowing into the Atlantic Ocean (large towns are located on the banks of the Sebou and Loukkos) should not be dismissed. This justifies Pliny's (*Nat*., 5.2–4) allusion to the dragon which watched over the Garden of the Hesperides, whose appearance in the coins of Tamuda, flanked by two wheat ears (**Pl. 16**),[82] strengthens this territorial interpretation. At the same time, as we have already commented in the case of Rusaddir, Tamuda coin reverses show clear dependence on the designs made widespread by *šmš* coins.

The second reference to the Ocean is much more widespread and is found in the 'autonomous' series of coins. (**Pl. 17**). On their reverse the image of the king is replaced by the Ocean in a classical and high-quality representation. This fits well into an exoceanic trend developed since the mid-2nd century BC and of which Posidonius' book on the Ocean is an excellent example.[83] This iconographic trend explains the presence of the Ocean in the pre-imperial coins of Tingis and also later in Augustan times, which can be related to the *šmš* types.[84] They can also be related indirectly to the coins of Gades through the *acrostilolium* present in the reverse of the sestertius and dupondius coins minted in the name of Agrippa.[85] The more explicit incorporation of Ocean into Gaditanus Hercules iconography is provided by Hadrian's aureus (**Pl. 18**).[86]

Conclusions

These iconographies got progressively Romanized, but the process by which they became an iconographic trope in the Straits area can be observed in the transition to the Roman age. The first coin of Julia Traducta (Algeciras?), founded in Augustan times with inhabitants from Tingis and Zilis, illustrates this process neatly. Combined with the obverse representations of Gaius and Lucius, the reverses are occupied by well-known iconographies from the region of the Circle of the Straits such as the bunch of grapes, wheat ear and tuna fish.[87] Although debatable, a very late echo of these monetary types with clear territorial allusions is probably found in Islamic transitional coins minted in this region, which, apart from the representation of a star on the gold coins, show a wheat ear and tuna fish as their central motif (**Pl. 19**).[88]

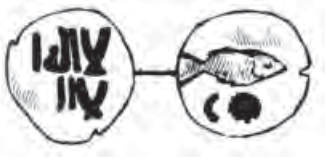

Plate 19 Islamic coin from North Africa or Al-Andalus (Codera pl. II.9) © F. Codera (1879)

Looking back, most of the coin types from the cities of the Phoenician-Punic tradition in the region of the Straits, can be explained according to civic identity. However, this local reading should not be interpreted as a localism because, when the vast majority of these coinages were produced – 2nd–1st centuries BC – the Roman hegemony in the region had important consequences for these cities, transforming the socio-economic and political structures and, more slowly, their cultural structure in its broadest sense. An important aspect of these changes is the development of commercial channels and, consequently, the intensification of inter-regional contacts, which in my opinion favours a supra-political reading for a common iconography of these territories of the Far West.

My work is intended to demonstrate the geographical, self-defining and non-ethnic interpretation of the coins of the Straits area and especially of those from western Mauretania. Unquestionably, there are shared myths and a common substrate, but the differences between both territories also turns out to be rather significant. With the gradual economic and political integration of Mauretania into the firstly Hellenistic and subsequently Hellenistic-Roman Mediterranean *oikumene* (since the late 3rd century BC), a common cultural *koine* is constructed. This fixes old clichés and mythic images linked to extreme spaces since very ancient times. The 'canonization' of these traditions in Hellenistic times ends up becoming a part of the idiosyncrasy of certain peoples – those from western Mauretania in this case - who associate with one another by means of symbols and myths belonging to a legendary past constituting their identity.

Notes

1 Research project: HUM 343; PO6-HUM-01575; HUM2007-63419. I would like to thank G. Cruz for interesting suggestions and A. Dowler (BM) for improving the English version of this paper.

2 In the case of the Maghreb, these projects were promoted through the creation of international Hispanic-Moroccan research teams. Excavation projects focused on the ancient towns of Lixus, Tingi, Tamuda (Beltrán and Habibi, 2008; Bernal, Raissouni *et al.*, 2008), Volubilis, Thamusida and Gilda are good examples of this.

3 Cf. Tarradell (1965), on classic works on this issue developed by Blázquez (1961) and Ponsich (1975). However, more recent views should also be reported, such as that of Niveau de Villedary (2001). Nevertheless, there are scarce historiographical analyzes on the diffusive historical and archaeological context in which this term was created (López Pardo, 2002: 21–6; Aranegui, 2008: 126–31; Ramos, Pérez Rodríguez *et al.*, 2008: 116–21).

4 The number of bibliographic references on this topic has grown considerably within the last few years, although under widely-differing perspectives (Gozalbes Cravioto, 2008: 76–91; En-Nachioui, 1996–7: 785–8; Sebaï, 2005).

5 Gago, 1873: 351–64, the author of this chapter, recalls the fact that some of these territories were part of the region of Hispania in Roman times.

6 Applying to the West the well-known topic of monetary alliances previously assayed in the main study focused on North African

numismatics: *Numismatique de l'Ancienne Afrique* by L. Müller (Mora Serrano, 1994: 68).

7 As shown up in a recent overall view (Callegarin, 2008).

8 The slow evolution of their perception culminates with Ptolemy from the viewpoint of the history of ancient geography (cf. Janni, 1997: 37).

9 It is true that no accurate conclusions can be drawn from the first references regarding the relationship existing between western mythology and Heracles, the Garden of the Hesperides, the Sunset, the Ocean and the fertility associated with liminal spaces, due to incomplete data, among other reasons. Its relationship to sailing and Phoenician-Punic and Greek environments however seems rather clear (López Pardo, 2008).

10 Although it is of too late a date to be included in this discourse, the most evident example of all this is found in Juba II (cf. Coltelloni-Trannoy, 1997; Alexandropoulos, 2000: 222–30).

11 This topic was tackled in depth by L. I. Manfredi (2003: 422–3 and 2006: 264–71).

12 This especially conditions Gadir's political-economical features in relation to Carthage (Chaves Tristán, 2009: 332–40). The Carthaginian defeat in Iberia and the subsequent pact signed by the inhabitants of Gadir with Rome gave rise to a new stage in which, together with its well-known economic background, ideological strategies aimed at reinventing Gadir's identity were put into practice, as reported by Strabo (Cruz Andreotti, 2007: 64).

13 Cf. Bonnet, 1988: 414–15 and Hermary, 1992: 131. Melqart's classic aspect must be related to the Greek elements associated to Melqart worship in Herakleion, although the traditional, Phoenician component of its worship still remains (Marín Ceballos, 2001: 323–7).

14 AlfaroAsins, 1998: 37; Manfredi, 2000: 13 and Jenkins, 1978: 5–10.

15 As reported in other, later works such as that by Apollodorus's *Bibliotheca*, who tried to show an archaic version of these myths (Giovannelli-Jouanna, 2004: 194–5). This relationship of Gadir's coins with Helios-Sun is compatible with the sailing vocation of the town's patron god (Chaves Tristán, 2009: 319).

16 Cf. Manfredi, 1995: 342–3, nos 43–6) and Gandolfo, 1998: 349. The references to coins in the different corpuses used are not exhaustive but are aimed at illustrating a few representative issues.

17 By re-reading the types in this mint and in the neighbouring *Tgl(y)t/*Tagilit (present-day Tíjola, Almería), the intended representation of Melqart-Heracles is now interpreted as Astarte-Isis (Alfaro Asins, 2003). Therefore, the iconography of the Hispanic mint is on the most western limit of the numismatic representations of this goddess (Manfredi, forthcoming).

18 Cf. Hölbl, 2004, 65.

19 At least cf. López Sánchez, 2010: 43–4.

20 Among recent works analyzing this topic, the contributions by J. Alexandropoulos (1988) stand out.This also tackles other important aspects such as metrology, drawing special attention to weight standards. Thus, Mauretanian coins from Lixus, Tingi, Rusaddir, etc. are subjected to a twofold influence: that of Numidian coins (Syphax) and Gadir's coins between the 2nd and 1st centuries BC, weighing around 12.5 g and diam. 27mm (Alexandropoulos, 2000: 194; Mora Serrano, 2006: 46).

21 Manfredi, 1995: 86–7 (Tingi); 90–1 (Lixus). Their repercussion on the remaining coins in the region is anecdotal (cf. Manfredi, 1995: 138 – Thagaste), although the greatest diffusion of this epigraphic formula is found in Gadir's Hispanic-Punic coins (Alfaro Asins, 1991: 115–16; Manfredi, 1995: 130–2). The date these coins were minted is not precisely known; however, proposed dates are near the Barkid intervention in Iberia, thus reaffirming their political autonomy (cf. Mora Serrano, 2007: 416–17, 427), in agreement with the early and intense development of western-Phoenician urban development in the 6th century BC (Ferrer Albelda and García Fernández, 2007). A similar interpretation may be proposed for the early adoption of these civic formulae in Lixus and Tingi – in this case as an expression of their civic identity in opposition to the Mauretanian monarchy.

22 It is represented with no lion's head, the club behind and a star over its head, thus strengthening its astral nature (see for example, SNGCop nos 672–4; Manfredi, 1995: 172–3; Alexandropoulos, 2000: 312).

23 Alexandropoulos, 2000: 337; Mazard, 1955: nos 627–9; SNGCop nos 743–5. Some other authors prefer not to declare themselves regarding this issue: they recall the prevalence of the caduceus in North African religious iconography (cf. for this view Manfredi, 1995: 185–6).

24 Cf. Jourdain-Annequin, 1992: 282–91 and Bonnet, 1988: 186–8, 196–201.

25 This idea was developed by J. Mazard (1960: 112–16), while J. Marion (1972: 65) added a Hispanic shade highly praised in recent studies (Manfredi, 1995: 182–6 and Alexandropoulos, 2000: 203).

26 This is a traditional border between both Mauretanias which has its limits in the east with the 'region of Iol-Caesarea'.

27 Among a vast bibliography where we find reasonable overviews about these coins, I must point out the excavation reports published by the University of Valencia (Aranegui, 2005), which are especially interesting for the study of the coins of Lixus. The location of the Gulf of Commerce in Lixus' neighbourhood is not unanimously agreed upon due to transmission errors in ancient sources, but it is the most likely location (for this argument see López Pardo, 2004: 89–90).

28 In this sense, it is not fully discarded, according to the weight of archaeology and especially the Herculean literary tradition related to the city (cf. Bonnet, 1992: 124–5)..

29 Cf. Muñoz Vicente and Frutos Reyes (2009) and Aranegui Rodríguez and Rodrigo (2007).

30 Cf. Moulay Rchid, 1989: 328–31; Jourdain-Annequin, 1992: 268–9.

31 Cf. López Pardo, 2000: 821–5. The best example is still Gadir/Gades (Cruz Andreotti, 2007: 60, 386). The continuation of neo-Punic epigraphy and the persistent use or revision of ancient types in Roman-provincial Hispanic coins emphasize this point (Beltrán Lloris, 2002: 179).

32 Where there is a combination of civic identity and connection to the imperial house (Ripollès, 2005a: 91; and Amandry, 2000). Gadir is one of the most significant cases: the portraits of Augustus and his successors, together with the allusion to Balbo (López Sánchez, 2003: 103–5), are associated with the ancient protective divinity of Gadir (cf. Chaves Tristán, 2009: 346).

33 Manfredi, 1995: 186–7; Alexandropoulos, 2000: 339–40; Botto and Oggiano, 2003: 145–6.

34 Manfredi's (1996) well-documented study of this monument, whose general research lines I assume, supports the formal identification of this representation as an Egyptian style votive *aedicula* or edicule for which parallels from Carthage-influenced regions in the central Mediterranean can be found. At the same time, this work also recalls the existence of other sources of inspiration for coin types such as the carving of precious stones and gold/silver work, better known through Punic numismatics from eastern Mediterranean regions (see Mora Serrano, 2000: 158, 164).

35 Buildings H and, especially, F – according to M. Ponsich's (1975) names – are the best candidates for identification with the Melqart-Heracles temple (see also Blázquez, 1988: 531–5, 537–40; López Pardo, 1992; Mierse, 2004: 570–1).

36 For this view see Ghazi-Ben Maïssa (2005). Although its Hispanic origin is likely, the diffusion of imitations of black-varnished dinner-services in western Mauretania is an interesting indicator, together with the evolution of the index of shapes (see Bridoux, 2008: 621–4). In general, the study of ceramic materials (particularly amphoras) from Mauretanian archaeological sites is essential to get to know the nature and evolution of the integration of these territories into Mediterranean commercial circuits (Callegarin, 2008: 315–8).

37 Cf. Mazard, 1955, nos 639–40 and Alexandropoulos, 2000: 478–9. The possibility of relating these coins to the extraordinary labours performed by Juba II in this town (his literary erudition is widely known, as pointed out by Roller (2003: 163–82)) is rather attractive. Therefore, it is unquestionable that Juba II took advantage of the town's mythic past in relation to Melqart-Heracles (for further views see Jourdain-Annequin, 1992: 290; Roller, 2003: 133–5, 154–5; Aranegui, 2008b: 126).

38 CNH 126,1–2; 126,3: we must add to these examples the type of Tagilit already mentioned (SNGCop no. 750), related in this case to Astarte-Isis' worship in Baria.

39 Cf. García-Bellido, 1987: 135–5.

40 Apart from its definition, one of the main problems faced by its study is determining the moment, or the different stages, at which the settlement of these peoples took place: Punic or Second Punic War times (see Domínguez Monedero, 2000: 67–70; López Pardo

and Suárez Padilla, 2002).

41 Mierse, 1993: 40–9. Chaves Tristán 2009: 346. Their interpretation is not consistent. Without denying a possible allusion to the new imperial order, I think this is compatible with the allusion to the old Heracleion.

42 Common topics in many cases related to Heracles, Helios or Ocean in the mythic-geographical space shared by both Phoenicians and Greeks, who were interested in the exploitation of the natural resources of these Far West territories (for examples of this see Jourdain-Annequin, 1992: 269–72; López Pardo, 2000: 11 and 2004: 86, 96).

43 The problematic data and authorship of this work has been exhaustively analyzed (see González Ponce, 2009: 19–44). However, I believe this does not affect the general aspects I am interested in, such as sources of wealth and the characteristics of commercial exchange in Atlantic Africa.

44 See Gozalbes Cravioto, 2008: 602–6.

45 See Gozalbes and Ripollès, 2002: 15–16.

46 See Mora Serrano, 2000: 158, 160; 2007: 423.

47 Manfredi (1987); Mederos (2007) and López Castro (1997: 96–100) all contribute literary references and archaeological and numismatic documentation.

48 That is, SNG ANS no. 602, from the late 3rd century BC.

49 See in particular Manfredi, 1993: 200; 1993–1995: 247–9 (on land).

50 Cf. Manfredi, forthcoming. Contemporary to Syphax coins, it has been suggested – for silver issues from the Second Punic War – there is a possible dependence on the monetary policy of the Numidian kings (for this view see Manfredi, 1995: 179; Ripollès, 2008: 56–7).

51 In a clearer way in the Second or Bar Kochba War: 132–5 BC (e.g. Hendin, 2001: n. 729–30). See also Porton, 1976: 173 and Goodman, 2005: 166. This image of opulence (see Goor, 1966: 49) is moved to Africa, as reported by Strabo (XVII, 3, 4), who refers to such heavy bunches that two men were necessary to carry them.

52 See Marion, 1970: 110–1; Alexandropoulos, 2000: 339; Hilali, 2008: 224–6.

53 This is generally the most extended interpretation for Hispanic-Punic coins (for this view see Chaves Tristán and García Vargas, 1991: 140; Mora Serrano, 1993: 74–5).

54 See Bianchetti, 1991; López Pardo, 2004: 88, 95–6; Gabard and Rebuffart, 1990: 231–2.

55 Since the interesting coins attributed to the western Numidian realm, perhaps to Massinissa (see Mazard, 1955: nos 99–100 and Manfredi, 1995: 313 nos 31–32), date back to early 1st century BC (Alexandropoulos, 2000, 404). An advanced chronology is also proposed for the coins of Sala, whose reverses (for example, SNGCo nos 715–716) reflect the iconographic model created in Lixus and, particularly, the *mqm šmš* issues.

56 Campo, 1994: 82–4; Ripollès, 2005b: 196.

57 E.g. Mazard, 1955: no. 633; SNGCop no. 694; Alexandropoulos, 2000: no. 168 and Tarradell-Font, 2005: 188–9. Other similar examples, also including the possibility of anepigraphic coins with the same types are reported in a higher number of levels corresponding to Antique Mauritanian 2 phase (*c.* 150–30 BC)

58 See L. Callegarin in this issue.

59 Cf. García-Bellido, 1992: 241; Mora Serrano, 2000: 161–2 and 2007: 410, footnote 4.

60 I recognize here the presence of these types as the main or outstanding part of a design and not as an accompanying secondary type or element, as occurs, for example, with the bunch of grapes on the obverses of Gunugu/Gunigum (see Mazard, 1955: no. 569).

61 Cf. SNGCop nos 713–4.

62 For this view see Marzard, 1960: 115; Manfredi, 1993: 200; Gozalbes Cravioto, 2004: 146. However, other authors are more cautious and generically allude to fertility-related types (for example, Alexandropoulos, 2000: 200).

63 The knowledge of Phoenician-Punic Melilla began with the important necropolis in Cerro de San Lorenzo. Furthermore, recent excavations in other areas of this town, especially in Plaza de Armas, confirm the existence of a pickling industry (see López Pardo, 2006: 183; Fernández Uriel *et al.*, 2008: 10–3). On the other hand, the exploitation of iron and lead mines in antique times has also been suggested (see Manfredi, 2006: 264).

64 It is a convenient stopover in the Straits route due to its strategic location in the Alboran Sea and its connection with Malaca, on the Hispanic coast (cf. Gozalbes Cravioto, 1991: 112; Callegarin, 2008: 298, 302).

65 See Lipinski, 2004: 418–20 and López Pardo, 2006: 169–74.

66 E.g. Mazard, 1955: 177; Manfredi, 1995: 182; Alexandropoulos, 2000: 200, the latter two following the interpretation by Fernández Uriel, 1992: 328–9. Although assumed by some researchers (e.g. Fernández Uriel, 2004: 161), the relationship between Rusaddir and some place names such as Melissa or Melitta in ancient sources which refer to North African coastal locations are rather unclear (e.g. Hecateus, frag. 327 and Hanno's *Periplus*, 5, 8), since the nearest location may correspond to Slyt (if we admit its reconstruction via Selitta), to be found between former Zilil and present-day Asilah (see López Pardo, 2004: 89; Lipinski, 2004: 450). Anyway, Melitta/Melissa is reported to refer to other locations in the North African littoral (cf. Lipinski, 2004: 569). Furthermore, it should not be fully discarded that the bee is an allusion to one of the former town names, thus following widely-known examples in Greek numismatics (see García-Bellido, 1992: 241). However, the coin would be the only remaining testimony. In spite of being rather forced, we may recall here the old proposal by St. Gsell justifying Siga's reverse type with the representation of Bacchus, as a pun between the name of the king and that of the Roman god (for this see Alexandropoulos, 2000: 200).

67 Honey is also a symbol of abundance and prosperity in ancient imagery (for examples see Vázquez Hoys, 1991: 65).

68 Reused in a coin of Tingi (SNGCop nos 734–737).

69 See Mazard, 1955: no. 577 and Manfredi, 1995: 181. On the other hand, its relation to the types attributed to Camarata is obvious (SNGCop nos 676–7) (see Alexandropoulos, 2000: 198). The head on the obverse of these coins is considered to be a representation of a Mauretanian king, possibly Bocchus I, as suggested also for Tingi, Tamuda, Sala and mqm šmš (Alexandropoulos, 2000: 196–203). No findings prove these earlier chronologies, unlike those already mentioned for Lixus and Rusaddir, or the identification of the interesting re-striking of Timici over Ebusus (see Callegarín, 2008: 313–4).

70 López Castro and Mora Serrano 2002: 187–8.

71 Cf. Bonnet, 1989: 98.

72 For examples of these see López Castro and Mora Serrano, 2002: 187–8.

73 For this theory see López Pardo, 2004: 86; Jourdain-Annequin, 1992: 268.

74 It is a widely discussed topic. However, no agreement has been reached by researchers yet. The classic connection to Lixus (Manfredi, 1995: 88–91 and 2006: 282) is opposed by a more northern and interior location between Volubilis (Alexandropoulos, 2000: 197–8) and Gilda (Callegarin and El-Harrif, 2000: 29–31). Among the arguments used to support one or another location, the distribution of coin finds is very important. This highlights the scarce presence of the šmš coin in Lixus and its surroundings. The publication of new coin find suggests greater prudence when putting forward this argument (cf. Callegarin, 2008: 314).

75 In any case, it remains clear that the coins of Rusaddir coins are previous to the reign of Bocchus II (49–33 BC) as has been previously discussed.

76 Many viewpoints have been proposed for this inscription following its interpretation as market, temple and even necropolis, but all of them agree in its relation to the Far West (Manfredi, 1995, 89–90).

77 This should logically also be applied to the Hispanic Eastern World, as in the iconographic study of one of its most representative monuments (López Pardo, 2006b: 208–10).

78 Cf. Alexandropoulos, 2000: 203 and Callegarin, 2008: 311, 316.

79 Alexandropoulos, 2000: 200, suggests the stylized representation of a sun-ray.

80 Suggested by Manfredi, 1995: 187.

81 This is a very old literary image, as seen in Homeric poems, closely linked to the Far West and the colonial environment shared by Greeks and Phoenicians (cf. Plácido, 2008: 37).

82 Cf. Mazzard, 1955: nos 583–4; SNGCo nos 718–19. See also LIMC VII/1, 32 and pl. 22. 1

83 However, its popularity and diffusion can be found in Artemidorus' and Polybius' writings quoted by Strabo (see Cruz Andreotti, 2007).

84 For this see Alexandropoulos, 1988: 5–13 and 2000: 333.
85 RPC nos 80–84; Alfaro Asins (1998: 155–6) and Chaves Tristán (2009, 346). However, the main and most evident relation is to Agrippa, whether as *Praefectus Classis* or as town patron.
86 Especially RIC II no. 125, where – apart from the legend HERC-GADIT – it is represented with the bow of a ship and a reclining figure (probably alluding to the Ocean, maybe even to the *Oceanus gaditanus* mentioned by Pliny (*Nat*. 2.227; 9.10) (cf. García-Bellido, 1963: 145; Corzo Sánchez, 2004: 53–62; Cruz Andreotti, 2007: 434).
87 RPC nos 101–106.
88 Its possible relation to the Straits' ancient numismatics was pointed out by A. Delgado in the 19th century (see Rodríguez Pérez, 2005: 25–9).

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Carthaginian Garrisons in Turdetania

The Monetary Evidence

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Carthage and the Iberian Peninsula: synthesis and state of the question

The relationship between Carthage and the Iberian Peninsula has traditionally been interpreted as the result of Carthaginian domination and from an invasionist perspective.[1] Indeed, the historiographical tradition, up until the 1980s, understood the involvement of Carthage in Iberia as another episode of its imperialist policy, leading to the substitution of the Phoenician colonial domination by the Carthaginian occupation towards the end of the 6th century BC. An important manifestation of this is the repopulation of Phoenician territories and cities by Libyo-Phoenician populations, as was the case in Gadir, Seks, Malaka, Abdera and Baria.[2] This interpretation was based mainly on literary sources, but was rooted in an uncritical and decontextualised analysis of a limited, dissimilar and polemical collection of Greek and Latin texts by Justin, Diodorus, Avienus, Pseudo Scymnus, Macrobius and Vitrubius.[3]

The archaeological documentation was relatively abundant since the early 20th century thanks to the excavations of three important funerary areas, Cadiz, Villaricos and Ibiza, and particularly due to the considerable increase in archaeological excavations from the 1960s onwards, and the 'rediscovery' of the Phoenicians along the Mediterranean coasts. However, the analysis of the archaeological record barely influenced the historicist discourse that understood the history of Spain as a succession of invasions among which the Phoenician and Carthaginian episodes were thought to have had barely any incidence on the formation of Hispanic identity (Ferrer 1996b: 2002–3).

However, with the fundamental work by C.R. Whittaker, 'Carthaginian imperialism in the fifth and fourth centuries', in 1978, it became evident that an aggressive and antihellenistic, properly imperialistic, Carthaginian policy had not existed in Iberia until the Barcid period (Whittaker, 1978). This interpretation, with few exceptions,[4] was adopted by Spanish researchers who took on board the concept of *hegemony* over that of *imperialism*, and suggested administrated commerce as the expression of Carthaginian supremacy in place of territorial annexation and control.[5]

Again, the evidence that supported this idea came almost exclusively from the analysis of the rare and meagre Greek and Latin literary sources that mention the Punic communities of Iberia and their relationships with Carthage. The archaeological record had always been viewed as an illustrative complement for the arguments, with an ethnographic and archaeographic value, but had rarely constituted the central methodological axis of historical analysis (Ferrer, 1996b: 89–90). One of the few exceptions in this respect is the work by M.E. Aubet (1986: 612–24), which presents the deep changes undergone by the old Phoenician colonies throughout the whole of the central and western Mediterranean during a period in which Carthage took control of the territories colonized by the Phoenicians. These transformations may be evidenced in the archaeological record by:

a) the disappearance of the red engobe and the appearance of standardized ceramic types of North African origin, though this evidence does not justify breaking;
b) the emergence of new burial types lacking precedents in Phoenician peninsular typology and with roots in Carthage, a phenomenon that is accompanied by the replacement of the rites of incineration by inhumation;
c) the urban growth of centres such as Gadir and Ebuso;
d) the documentation of religious cults linked to the Carthaginian pantheon, mainly to Tanit.

Over the past two decades,[6] this concept of hegemony has spread to the concepts of cultural independence and political asymmetry between Carthage and the Punic cities.[7] This hegemony, headed by *Gadir*, would have been autonomous and formed a confederation (Domínguez Pérez 2006) or league (Arteaga, 1990; 1994; 2001) that united the old Phoenician colonies under the sacred authority of the sanctuary of Melqart-Heracles of Gadir.[8] It has also been suggested recently that these cities of Phoenician origin may have generated a 'western Phoenician' ethnic identity, opposed to the Carthaginian, and based on the Tyrian origins of Gadir and the other old colonies. This was based in particular on the cult of the tutelary gods of Tyre (Melqart and Astarté) which established links between all of these communities, unlike Carthage, whose protecting divinities of the city-state were Tanit and Baal Hammon (López Castro, 2004).

The Carthaginian presence prior to the Barcids: the monetary evidence

This interpretative model not only distances *Gadir* from the tutelage of Carthage but also constitutes the city as the great metropolis of the Extreme Occident. It places Gadir on an equal footing to Carthage, and as a hegemonic power among the Punic cities of Iberia and Atlantic Africa. However, it also displays numerous contradictions that are incompatible with the Greco-Roman testimonies and their exegesis, as well as with the archaeological record from which we shall analyze the monetary evidence.

The Carthaginian coins found in the south of the Iberian Peninsula were thought until fairly recently to correspond to the coins in circulation during the Second Punic War. Under this understanding, L. Villaronga presented two Carthaginian coins found in the area of El Gandul (Alcalá de Guadaíra, Seville), and argued the existence of a Carthaginian camp dating to the time of this conflict (218–206 BC). Along the same lines, F. Chaves compiled all of the known Carthaginian coins

and designed a map of the military sites that were active during the war, distinguishing between the camps proper, among which was El Gandul, and the outposts that served as a logistic support to the main garrisons (Villaronga, 1983; Chaves, 1990). Based on these two studies, El Gandul began to be recognized in numismatic studies as one of the sites that has yielded the highest number of Carthaginian coins (Alfaro, 2000).

A few years ago, however, two hoards of Carthaginian coins from El Gandul (Alcalá de Guadaíra, Seville) and reports on isolated finds at Fuentes de Andalucía (Seville) and other sites across Andalusia were published, with a chronology attributed to the late 4th or early 3rd century BC.[9] These dates reopened the question of the presence of Carthaginian armies in Iberia prior to the arrival of Hamilcar Barca in 237 BC. Although one of the hoards contained 182 coins (Pliego 2003b: p.32) (the second in contrast contained only 23)(Pliego 2005: p.531–3) both are but a small sample of the volume of coins that have been recovered from various areas of southern Iberia. Most of these coins belong to the Siculo-Punic issue with Tanit / horse and palm tree (*SNGDan*, 109–19) (**Pl. 1**), followed in number by the Sardo-Punic series showing Tanit / Protome (*SNGDan*, 148–51) (**Pl. 2**). There are also coins belonging to the earlier Carthaginian bronze issues, Tanit / galloping horse (*SNGDan*, 98) (**Pl. 3**), Palm / Protome (*SNGDan*, 102–6) (**Pl. 4**), and a very unusual issue in the Iberian Peninsula from the early 3rd century BC with Palm tree / horse standing head reverted (*SNGDan*, 126–7)(**Pl. 5**).

More recently, new reports of hoards and isolated finds have appeared in the nearby municipality of Fuentes de Andalucía. These finds were recovered from Cerros de San Pedro, which yielded almost 1,000 bronze coins of the types described above, and Arenal II (Fernandez Caro, 1992: 64,78,144–5,148), where a cache of over 1,000 common Siculo-Punic coins (*SNGDan*, 109–19) were recovered during the mining of a quarry. The isolated finds correspond to the sites of Fuente de la Reina, Añoreta I, and Argamasilla (Ferrer 2007). The revision of earlier reports that had gone unnoticed (De Mata Carriazo, 1970: 55; 1973: 435–6) and access to new data from other places throughout Andalusia such as La Tablada (El Viso del Alcor, Sevilla), Los Castellares (Puente Genil, Córdoba), La Camorra de las Cabezuelas (Santaella, Córdoba), Cerro Máquiz (Mengíbar, Jaén), Mesas de Asta (Jerez de la Frontera, Cádiz), etc., all of which were important settlements of the Guadalquivir valley, require an explanation that exceeds the light-weight commentary that all of these finds must be linked to the context of the Second Punic War, as residual material still in circulation.

As we have mentioned, the series identified among the finds of the Guadalquivir valley are:

1) Tanit / galloping horse (*SNGDan*, 98). At El Gandul, there is a single example of this coin that has been dated by most authors as prior to the issue of Tanit / horse and palm tree, although many other coins of this type have been found in the Iberian Peninsula (Alfaro, 2000: 25).

2) Tanit / horse and palm tree (*SNGDan*, 109–19). This is a widely distributed series throughout the Mediterranean basin (Cinisi, Monte Adranone, *IGCH* no. 2209, Yale), and is the most common type at El Gandul and among the Andalusian finds. Despite the homogeneity of the types of obverse and reverse, there are important stylistic differences that may be due, as

Plate 1 Tanit / horse and palm tree (SNGDan, 109–19)

Plate 2 Tanit / protome (SNGDan, 148–51)

Plate 3 Tanit / galloping horse (SNGDan, 98)

Plate 4 Palm / protome (SNGDan, 102–6)

Plate 5 Palm tree / horse standing head reverted (SNGDan, 126–7)

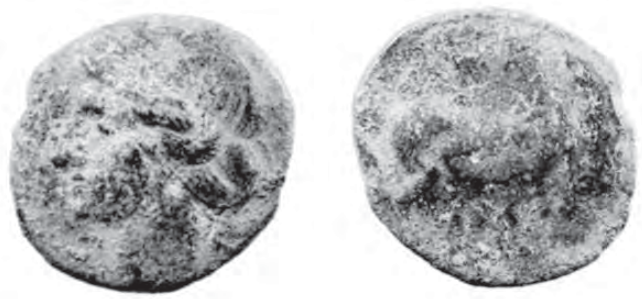

Plate 6 Tanit / horse standing head reverted (SNGDan, 126–7)

Plate 7 Tanit / protome and letter beth (CNH, 39; Class VIII of Villaronga)

suggested by Acquaro and Manfredi, to the existence of several coinage workshops (Acquaro and Manfredi, 1989). The main differences between the coins of this series are in the number of globules that are part of the type, the introduction of which in the field of the design suggests that they may correspond to some kind of internal control (Buttrey, 1978: 142). The location of these globules within the field has enabled the distinction between several groups (Jenkins and Lewis, 1963: appendix 3), some of which are present in the hoards of El Gandul.

However, the classification of the coins in one or another group is difficult since, as noted by Buttrey (Buttrey, 1978: 140), many coins are not well centred, and given the peripheral location of the globules they are difficult to identify. Perhaps the reason why most of the coins recovered from El Gandul (120) belong to the group that does not include any globule in the field, although some may belong to groups 9 or 16, may be precisely due to the peripheral location of the globules. 37 coins from El Gandul have been classified in group 6 of Jenkins and Lewis (1963), 13 in group 5 and 10 in group 7. Groups 8, 11 and 15 of the same authors contain one coin each (Pliego 2003b: 38)

3) Tanit / protome (*SNGDan*, 144–78).[10] Twenty-nine coins belong to this group, of which 21 are from the hoards and 8 are isolated finds. There are differences between them in terms of style, as well as the inclusion in some coins of particular symbols or letters on the back, to the right of the protome, perhaps due to them belonging to different issues. In the first case, they are symbols with deep roots in the Phoenician-Punic world, such as the star or the crescent, while the few letters – since most of the coins are anepigraphic – are identified as the letters *'ayin*, and maybe *waw*,[11] and one coin even appears to bear the inscription (ṣyṣ).[12] The dispersion of this series in Sardinia (Manfredi and Francisi, 1996), Sicily (Tusa Cutroni, 1967; 1968; 1969–70) and Iberia (Alfaro, 1993: 17; Alfaro, 2000: 29) coincides with the previous series, thus leading Manfredi (1989) to suggest the integrating character of the Sardo-Punic coins in relation to the Tanit / horse and palm tree series.

As well as these three series identified in the two hoards of El Gandul, a further three have been identified in isolated finds. The earliest, prior to the Second Punic War, displays the typology of Tanit / horse standing head reverted (*SNGDan*, 126–7) (**Pl. 6**) and has been dated in the early 3rd century BC, despite the uncertainty of its place of coinage and limited distribution in Iberia (Alfaro, 2000: 32). Also dated in the early 3rd century BC are two coins that must have been issued by Carthage between 221–210 BC. Just as the previous coins described, the obverse shows the head of Tanit while the reverse displays a horse standing with head reverted, that can appear alone (*SNGDan*, 302–6), or with a palm in the background (*SNGDan*, 324-5). These finds are not uncommon in the Iberian Peninsula despite belonging to a period in which the circulatory needs had to be covered by the Hispano-Carthaginian issues, and in fact, coins belonging to this typology are numerous in the port of Melilla (Alfaro, 1993: 30; 2000: 32).

Hispano-Carthaginian coins have also been identified among the isolated finds, albeit represented by only five bronze examples. According to L. Villaronga (1973), the Hispano-Carthaginian bronze issues began to be coined around 220 BC, once the Carthaginian conquest of the south and east of Iberia was consolidated. The issues present are Tanit / Protome and letter *beth* (*CNH*, 39; Villaronga, 1994, Class VIII) (**Pl. 7**), with two examples; another coin of the same typology but of rough manufacture (*CNH*, 44)(**Pl. 8**); and two coins, one with man's head / Protome (*CNH*, 50)(**Pl. 9**),[13] and one carefully designed with Tanit / Helmet (*CNH*, 43)(**Pl. 10**).[14]

Plate 9 Man's head / protome (CNH, 50)

Plate 8 Tanit / protome (rough manufacture) (CNH, 44)

Plate 10 Tanit / helmet (CNH, 43)

As mentioned above, Spanish research had traditionally linked the first three series to the coinage characteristic of the Second Punic War (218–206 BC), perhaps due to the fact that, without exception, they are decontextualised finds. However, the assemblages documented in the central Mediterranean, which are very similar in composition to the hoards of El Gandul and correspond to mostly well defined archaeological contexts, have been dated by Italian researchers to the 4th and early 3rd centuries BC.

It was P. Orlandini (1964: 9–11, 50), based on the Carthaginian coins found at the Sicilian city of Gela, who first dated the Tanit / horse and palm tree series between 310 and 282 BC, year in which Gela was destroyed by Phintias. This chronology has been maintained with barely any changes, although Manfredi (1990: 22–3) extended the chronology to the first half of the 4th century BC, on the basis of the dates suggested by Jenkins (1983: 21–2) for an assemblage found at Mqabba (Malta) in which this type is not actually present. For Guido (1994) the two first issues would date between 375–360 and 340–325 BC. Visonà (1990), on the other hand, considered that the Tanit / galloping horse series was coined from the mid-4th century until 344–320 BC, while the Tanit / horse and palm tree series would date to 310–280 BC.

This chronology is enhanced by a comparison with assemblages from other parts of the central Mediterranean, particularly the hoards of Cínisi (Buttrey 1978: 127–43) and Monte Adranone in Sicily, *IGCH* 2205, and the of Yale hoard (Malta) (Visonà, 1990: 170–92), all of which have been dated in the 4th century BC and display a composition very similar to that of the coin assemblages recovered at El Gandul, Fuentes de Andalucía and from other sites of the Guadalquivir Valley. The assemblages of the central Mediterranean are nonetheless slightly earlier than those of Andalusia since they include the earliest series of palm tree / protome and palm tree / Pegasus.

Table 1 Composition of the Mediterranean hoards

Series	Cínisi	IGCH 2205	Adranone	Yale	El Gandul I	El Gandul II
Tanit/ horse & palm tree	193	59	83	255	164	20
Palm tree/ protome	-	11	-	45	-	-
Palm tree/ Pegasus	1	23	1	7	-	-
Tanit/ protome	-	-	-	-	18	3
Total	194	93	84	272	182	23

On the problem of chronology, our hypothesis is mainly based on two facts:

1) the dating of the Sicilian-Punic and Sardinian-Punic coins in their places of origin, not only from numismatic study, but also as a reflection of the study of the archaeological contexts of the sites where they have been found (e.g. Gela). On the other hand, L.I. Manfredi is one but not the only scholar who offers high chronologies for these coins. Other authors like Visonà (1990), Guido (1994), Orlandini (1964) and Jenkins (1983) all give chronologies of early 4th century or beginning of the 3rd century BC for these coins;

2) comparison of this hoard with hoards of the Second Punic War makes it clear that these are of two different times and different circumstances: some are bronze coins, the coins of soldiers in an economy still not very-monetized, and the others are silver, for the payment of troops, in a context of increasing monetization.

On the other hand, we do not suggest that the Carthaginian military aid to Gadir constituted a Hellenistic type war effort. We fully agree with F. Cadiou (2008) that until the Second Punic War there was not such an large effort, but that does not mean that there were no wars: they existed (e.g. in the Iberian world, a society of warrior aristocrats, or in the Meseta, where the form of life was endemic banditry and war between communities).

Finally, the finding of these small hoards in El Gandul and the Cerros de San Pedro (Fuentes de Andalucía, Seville), and other locations, indicates that these troops took control of the territory with the aim of dominating Carmo (Carmona, Sevilla), the most important 'oppidum' of Turdetania.

In summary, we may consider that these issues are the basis of the coins in circulation in the Mediterranean basin during the 4th and first third of the 3rd century BC, and that neither their issue nor their circulation may be attributed to the Second Punic War, except as residual coins. This same conclusion is reached through the analysis of the coin assemblages particular to the period of conflict, which display a very different composition to that described above. To support this hypothesis we have two samples of the coins in circulation during the Second Punic War: the hoard recovered at Doña Blanca (Alfaro and Marcos, 1994) and the assemblage of Carthaginian coins recovered from the dredging of the port of Melilla (Alfaro, 1993: 19). As we shall see below, both assemblages are evidence of the Carthaginian coinage, probable coined at Carthage itself, that circulated normally in the Peninsula during the second war between Romans and Carthaginians.

In the first of these assemblages, a purse belonging clearly to a soldier, none of the coins correspond to those presented in this study. Indeed, the 56 coins all correspond to the typology of Tanit / horse standing head reverted (*SNGDan*, 302–6; 324–5). On the other hand, the assemblage from Melilla would have been composed of approximately 10,000 coins, most of which belong to the Tanit / horse standing head reverted type, with or without a palm tree branch. Of the coins studied, there is only one very worn example belonging to the Tanit / horse and palm tree series. Alfaro concluded that the sinking of the boat took place towards the end of the 3rd century BC and interpreted the presence of 4th and early 3rd century coins as residual (Alfaro, 2000: 32). Thus, the Siculo-Punic and Sardo-Punic coins that are so common at El Gandul are not usually found in contexts of the Second Punic War, unless their presence is residual in which case their state of conservation is not comparable to some of the well-preserved coins that we have included in our catalogue.

Carthage and Iberia: texts, contexts and pretexts

How can we explain the presence of these Carthaginian bronze coins at a time, in the late 4th century or early 3rd century BC, at which Carthage supposedly held no direct control over the south of the Iberian Peninsula?

Obviously, this volume of coins at a time at which a monetary economy had not yet been established in this part of the Iberian Peninsula cannot be understood except in relation

to the presence of an army (Pliego, 2003b: 48). The volume of the hoards and their geographical provenance, from two large *oppida* near *Carmo*, the most important fortress of the Guadalquivir, has drawn our attention to the possibility of garrisons or military camps destined to intimidate and besiege the city with troops from Sardinia or Sicily (Ferrer, 2007: 210). To defend this hypothesis, we have the use of written sources that display the Carthaginian interest in Iberia, and particularly in the lands bathed by the Atlantic Ocean. These support the hypothesis of a Carthaginian hegemony in the south of Iberia prior to the Barcid period. However, it is not solely the texts, but also the contexts, both of the Punic communities of Iberia and of the political panorama of the Mediterranean, that give credibility to the arguments put forward.

Before presenting our arguments, it is necessary to take on board that this selection has been carried out on a limited sample, since the literary references to Iberia prior to the Roman conquest are very scarce due to various factors (Ferrer, 1996a). The most obvious is the loss of a great volume of information due to the abandonment of Greco-Roman literature in Late Antiquity and Medieval times, and its more or less random preservation. However, according to the testimonies left by some authors, for instance Herodotus or Aristotle, we must also take into account two nonetheless important factors.

First, that Iberia was not a well-known area nor a place of interest to the Greeks, since with the exception of *Emporion*, in the north-east of the peninsula, there were no other Greek colonies. The most specific knowledge was only of the coasts and belonged to the Archaic period. The case of Herodotus (Alonso Nunez, 1986: 243–9) is paradoxical since he admits his ignorance of the western lands and when he speaks of these – for instance of Tartessos – it is always conditioned by the Greek colonial activity, mainly Samian and Phocaean (Wagner, 1986; de Hoz, 1989; Placido, 1989; 1993a and b; 2002). The geographical marginality of Iberia contributed, moreover, to the location in this land of those myths related to the physical and mythological frontiers of the ecumene, such as the works of Heracles, the return of the *nostoi* or Homeric places.[15]

Second, this ignorance of Iberia also originated in the fact that the Greek interest in other peoples, giving birth to a science, Ethnography, was interrupted for a long period between Herodotus and the Hellenistic period (Momigliano, 1984: 13). Iberia was not integrated in the main Greek commercial circuits, nor was it part of its geographical culture (Peretti, 1979: 93–4). On the contrary, most of its Mediterranean coast belonged to the Phoenician-Punic and Iberian sphere, that is to lands of barbarians (cf. Ferrer, 2008).

Much of the geographical and ethnographical information of the three centuries between 500 and 200 BC has a direct or indirect origin in the Greek *periegesis* and *periples*, and we believe that a considerable volume of this knowledge may have been transmitted by the Carthaginians (Ferrer, 2008). A selection of these sources allows us to document the interests and knowledge of the Carthaginians of the Extreme Occident.

For instance, Herodotus, despite his ignorance of western lands and his mistrust in what was told at his time about the confines of the ecumene (Hdt. 2. 23; 3. 115 and 4. 36), had heard about the commercial relationships (the 'silent commerce') that the Carthaginians had established with the Ethiopians of Libya, beyond the Columns of Heracles.[16] The periples of Hanón[17] towards the south Atlantic and of Himilcón[18] throughout the northern Ocean belong to this same context of attention to the oceanic waters and lands. Both were projects promoted and directed by the Carthaginian state and reflect the interest in expeditions and the supply of raw materials such as tin, gold, ivory or products such as the salted fish sauces that were produced along the Mediterranean coast of Iberia and that, according to Pseudo-Aristotle (*Mir.* 136), were consumed and commercialized by Carthage itself. These enterprises must make us reflect not only on the role played by *Gadir* as a receiving port of the Mediterranean periples and as a starting point of the oceanic periples as noted by Pliny the Elder (*Nat.* 2.168–9), but also on the capacity of initiative of the Carthaginian state to undertake projects of this scale and, logically, on their interests in the far-western lands (Ferrer, 2004).

In the mid-4th century BC, the idea that the south of Iberia and the oceanic lands belonged to the Carthaginian sphere must have been acknowledged in Greek and Latin cultural spheres, although this does not imply that they really were Carthaginian possessions and even less that these populations were considered as daughters of Carthage. Rather this is what the Greeks believed, either because the ethnic 'Carthaginian' encompassed all of the Phoenicians of the West,[19] or because the Carthaginians themselves were interested in maintaining this belief. A testimony that supports this hypothesis is that of Pseudo-Scylax, dated by its internal context to the mid-4th century BC.[20] This text contains references to the presence of Carthaginian emporia along the Iberian coasts, beyond the Columns of Heracles (*Periplus 1*). It is also significant that the maritime distances measured in days of navigation used Carthage as their reference (Pseudo-Scylax, *Periplus* 111).[21]

Another revealing testimony, although not from the Greek sphere but in this case from a Roman-Carthaginian source, is the clause of the second treatise between Carthage and Rome (*c.* 348 BC), in which there is a topographic reference to *Mastia Tarseion* in the prohibitions imposed on the Romans and their allies referring to piracy, colonization and trade.[22] The treatises described by Polybius correspond to an internationally diffused Greco-Punic scheme, possibly arriving in the West through Tyre (Scardigli, 1991: 101). Its purpose was basically to define the limits of the areas of navigation and free commerce, and to avoid the aggressions of the contracting party or third parties, particularly piracy, at times difficult to distinguish from commercial activity. These agreements were amicable pacts that foresaw the protection of the foreign citizen albeit in a restrictive sense, and in the second Polybian treatise it was Carthage which guaranteed the fulfilment of the stipulations. Carthage possibly did so in the name of its *symmachoi*, of Gadir and other Punic communities of Iberia, while the other party, as well as Rome, may have been an allied Greek state, for instance Massalia, with which Carthage had come to an agreement after some conflicts caused by the capturing of fishing boats and piracy (Krings, 1998: 248).

The note transmitted by Eratosthenes (Str., 17. 1, 19) on the sinking by the Carthaginians of foreign ships that navigated through the waters of Sardinia and the Columns of Heracles is, in our opinion, the confirmation that in the 3rd century BC the

clauses of the Polybian treatise were still valid. The two areas forbidden in the treatise were Sardinia and 'beyond *Mastia Tarseion*', thus this passage must be understood as a logical and legal consequence of the breaching of the agreements between states and as the most efficient way of eradicating piracy from these waters. This was for Strabo (17. 1, 19) the reason why many of the things said about the West were unworthy of credit.

As a whole, the knowledge held by the Greeks on the Extreme Occident in the 4th and 3rd centuries BC did not exceed imprecision[23] and myths,[24] and much of the body of notes gives a fairly approximate idea that, firstly, much of the Greek knowledge of Iberia in the 5th to 3rd centuries BC had been transmitted through Carthage, and secondly that the Greeks held the idea, real or not, that Carthage had taken control over the area of the Straits of Gibraltar (Ferrer, 2008a: 61).

However, there are a number of more specific testimonies on the relations between Carthage and Iberia prior to the Barcid conquest of which three are given by Polybius: 1) the reference mentioned above to *Mastia Tarseion* (3. 24); 2) the note, referring to the lead up to the First Punic War that comments that the Romans were worried about the fact that the Carthaginians had subjugated not only the territories of Africa but also many areas of Iberia and that they controlled all of the islands of the Sardinian Sea and of the Tyrrhenian Sea (I 10, 5); and 3) in a third instance, Polybius (2. 1, 5–7) mentions that Hamilcar Barca, after crossing the Columns of Heracles, recovered Carthaginian control over Iberia.

A further reference transmitted by Diodorus Siculus (5. 38, 2) alludes to a 'very old' Carthaginian exploitation of the Hispanic mines that would have served to finance the wars of Sicily and Libya against the Romans. However, the most explicit written reference to a military intervention of Carthage in the south of Iberia is that transmitted in the epitome that Justin wrote of the work of Pompeius Trogus (44. 5, 1–4) on the Carthaginian help given to Gadir when faced with the provocations of neighbouring peoples and the later conquest of part of the province. The notes by Justin on the original text of Pompeius Trogus, makes it impossible to establish an approximate date, although it is certainly prior to the landing of Hamilcar in 237 BC.

By this interpretation, we do not in any way claim to re-instate the old invasionist or imperialist scheme, but rather we wish to reflect on these archaeological finds in a historical context defined by the relations between states. These quotes and others have always been contemplated from the exclusive perspective of a supposed Carthaginian aspiration of occupying Iberia, but never from the perspective of the Punic communities already long established in the Peninsula, who were probably much more interested in the protection offered by the Carthaginians than in their domination. Gadir and other Punic cities would have demanded protection, especially against the endemic piracy and the threats by potentially dangerous neighbours, and acted as umpires in the conflicts between the Punic cities. Carthage, in exchange, would have been guaranteed a supply of metals, especially silver, for which Iberia was virtually its only source. We do not have any written evidence that the Punic cities had any war fleets or armies of significant size. We do, however, have references that when one of these cities, Gadir, probably the most important one, saw itself threatened by 'neighbouring peoples' it received the very timely aid of Carthage. Later, at the final stages of the Second Punic War, when the end of the Carthaginian dominance in Iberia seemed very probable, Magon in desperation asked for the gates to be opened invoking the old alliance and friendship between both cities, though the city refused to help recalling a previous sacking (Livy 27. 37, 10; Appian *Iber.* 38).

During the second half of the 4th century BC century and early 3rd century BC therefore, the traditional balance that kept Carthage in Sicily (*epicracia*) evolved into a more aggressive policy (*eparchia*) against Syracuse; it is then when the first Carthaginian colonies appear in Sicily and when the intervention in Sardinia is more prominent in certain areas of the island (especially in mining and agriculture). In this context, mid-4th century (*c.* 348 BC), Carthage signed a treaty with Rome, the second in which a part of Sardinia and Iberia (Mastia and Tarseion) were excluded from the possible piracy, colonization and commerce by the allies of Rome (probably Massalia, as Scardigli, 1991). A text of Eratosthenes, in the beginning of the 3rd century BC confirms the interest of Carthage in protecting Iberia and Sardinia from potential enemies.

The agreements of Carthage with the Punic cities in Iberia, including Gadir, are explained by the mutual interest of the latter in being protected from potential enemies from outside or inside of Iberia, and Carthage for the control of the Atlantic routes and also the silver supply of Sierra Morena, the most important mining district of Iberia. Justin's text is clear about this, while the testimony of Polybius and Livy can indicate the old alliances between Carthage and Gadir made over time. How otherwise could Hamilcar Barca land peacefully in Gadir in 237 BC?

From the point of view of the archaeological record, the Punic expansion in the area of Lower Guadalquivir is apparent in two directions: at the mouth of the river Betis (now the Guadalquivir), Gadir imports, especially oil and salted fish, are abundant, while on the coast of Huelva and Portugal the area experienced the expansion of imports from Gadir in the 4th and 3rd centuries BC. Was it then the voyages of Hanno and Himilco occurred which led to a process that Portuguese writers called the 'gaditanización' of the Algarve?

We believe that it is in this diplomatic tradition between Carthage and the Punic cities of Iberia that we may find an explanation to the presence of Carthaginian garrisons in Turdetania between the late 4th and early 3rd century BC.

Notes

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1 See Ferrer, 1996b; 2002–3, for recent perspectives on the theme of Spanish historiography.

2 The roots of this interpretation go back to Spanish medieval historiography, to the chronicles of Alfonso X, and survive well into the 20th century. In Spanish historiography, it was particularly noticeable in the work of Schulten, 1924. The two most representative Spanish figures of this tendency are García y

Bellido, 1942a; 1942b; 1952; and Blázquez, 1980.
3 Cf. Wagner, 1985; Barceló, 1988; Ferrer, 1996a.
4 In particular: Bendala, 1978; 1987; 1994; de Frutos, 1991; 1993; Koch, 2002; López Pardo and Suárez, 2002.
5 Cf. Wagner, 1983; 1984; 1989; 1994; López Castro, 1991; 1991; 1992; 1995.
6 See the contributions up until the early 1990s in López Castro, 1994.
7 An exception in Marín and Lomas, 1992.
8 See also Niveau de Villedary, 2001. Making some remarks, Muñoz Vicente and De Frutos, 2005.
9 Cf. Pliego, 2001; 2003a; 2003b; 2005. Ferrer, 2007.
10 Type IB of Forteleoni, 1961.
11 We do not discount the idea that it may be an error in the coinage or a consequence of the deterioration of the die: cf. Pliego, 2003b: 42.
12 Similar to no. 66 of Forteleoni, 1961.
13 There are few known examples of these issues and they would represent 1/4 of the unit for Villaronga, and 1/5 of the unit for Collantes Pérez-Arda, 1980.
14 According to Villaronga, 1994: 69, it corresponds to 1/4 of the unit.
15 The identification of the Phoenician Gadir with Eritia was suggested by Stesichorus of Himera in the 7th century BC (*PMGF* 154), and was also transmitted by Pherecides (Str. 3.4,5), Herodotus (4.8), Herodorus of Heraclea (*De adm. imp.* 23) and Plato (*Criti.* 108e): cf. Antonelli, 1997; Biraschi, 1996; Carrière, 1995; Amiotti, 1987; Ballabriga, 1986.
16 Cf. Parise, 1976; Domínguez Monedero, 1994; López Pardo, 2000.
17 Pliny, *NH* 2.169. On the periplus of Hanon: González Ponce, 2004.
18 Pliny, *NH* 2.169; Avienus, *OM* 115 and 413.
19 This is a hypothesis that we believe unlikely since Pseudo-Aristotle (*Mir.* 136) distinguishes between the Phoenicians of Gadira and the Carthaginians: cf. Ferrer and Álvarez, 2009, and Ferrer, 2008b.
20 On dating: Fabre, 1965; see also González Ponce, 2004: 62. Peretti, 1979, believes that the original work of Scylax of Caryanda, dated to the late 6th century BC, was revised and corrected by an anonymous writer who updated the geo-ethnographic data for contemporary needs.
21 In the *Mirabilia* of Pseudo-Aristotle there are three episodes related to the Atlantic activities of the Carthaginians: the fishing of tuna by the Phoenicians of Gadir and their commercialization by Carthage; the permanent fires on the other side of the Columns of Heracles, according to the periplus of Hanon (cf. *Mir.* 37); and the discovery by the Carthaginians of a desert island in the Ocean and their attempts to not give any publicity to the find (*Mir.* 84). This story corresponds to another by Diodorus Siculus (5. 20, 1–4), often attributed to Timaeus of Tauromenion, in which the Carthaginians impeded the establishing of an Etruscan colony on an island located in the Ocean. See Ferrer 2008a: 61–2.
22 Polybius 3. 24. On the problem of the geographical location of Mastia Tarseion there is a recent controversy over the African or Iberian location of the toponym: Ferrer and de la Bandera, 1997; Moret, 2002; Ferrer, 2006; Ferrer, 2008b.
23 Notes attributed to the 5th century BC enable us to perceive the scarce knowledge, and also the little credibility, that Greek navigators and adventurers were given by their contemporaries, but moreover, by later authors. The Massaliote Euthymenes, as presented by Aristides (*Or.* 36. 85), thought that the water surrounding Gadir was soft and safe to drink, though this was considered an error by the author, since this was not mentioned by the fishermen nor the Carthaginians who navigated the Columns of Heracles. The Athenian Euctemon (*fl.* 436–424 BC) believed, according to the testimony of Avienus (*OM* 350–370), that the coasts of the Straight were inhospitable, covered with forests, with deep water and thick mudflats, in which even unloaded boats could not navigate. In the 4th century BC, Iberia was a great unknown in Greek erudite circles: Aristotle (*Mete.* 1. 13 [350b, 1–5]) thought that the rivers Istro (Danube) and Tartessos (Guadalquivir) ran from the Pyrenees – the latter of the two has its mouth by the Columns of Heracles. This disinformation among the Greeks also led Isocrates (12. 250) to distrust what was said about the Columns of Heracles.
24 Cf. Antonelli, 1997: 166–8. From the mid-5th century BC there is a growing interest of Athens towards the Extreme Occident, that would lead to the re-elaboration of the mythical past in which Athens had an active role. The notes transmitted by Philostratus (*VA* 5, 5) on the existence in Gades of a gold belt of Teucer or a statue of Themistocles, as in the references of Thucidides (6. 15, 2), Aristophanes (*Eq.* 1303 and *V.* 700) and Plutarch (*Nic.* 12, 2) to the ambition of Alcibiades to extend the Athenian empire to Sardinia or the Columns of Heracles, were taken in this context. These notes are related by Antonelli both to the exportation to the Occident of the stories of Ogygia and Menestheus, and with the appearance in Sardinia of Norax (Paus., 10. 17, 5).

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Coinages with Punic and Neo-Punic legends of Western Mauretania

Attribution, Chronology and Currency Circulation

Laurent Callegarin

African numismatics, and more particularly the study of pre-Roman coinage in Mauretania, has not progressed much over the past 150 years. A few general works or syntheses are available on the subject (Müller, 1860–74; Charrier, 1886/1912; Mazard, 1955; Jenkins, 1969; Burnett *et al*., 1992; Manfredi, 1995; Alexandropoulos, 2000/2008). There are two possible explanations for this deficiency.

1) Besides the fact that it is very difficult to have access to the collections of Moroccan or Algerian museums, there are hardly any listings of the museums' resources. Numismatists therefore continue to work on the same specimens present in the great European or American public collections.

2) Few excavations have been carried out since the 1950s on these territories. Past archaeological operations were confined in the main to Roman lands. Consequently, the pre-Roman monetary resources available for study have not been renewed for at least 50 years.

This study will mainly focus on the territory of western Mauretania (a region centring in modern Morocco), where significant progress enables us today to contemplate exploring many new numismatic fields. This new impulse is due to two factors. The first concerns the resumption of large-scale programmed and preventive excavations on Moroccan territory, which raises new questions that partly concern the so-called 'Punic-Mauretanian' or 'Mauretanian' period. The second concerns the access to private collections.[1] The most interesting ones were often constituted at the time of the French and Spanish protectorates by foreign residents who later returned to Europe. If the data relating to the find-spots has been archived and is precise enough, these latter collections are sometimes equivalent to what can be found on a site.

The two elements mentioned above open up new horizons for investigation and renovation of Mauretanian and even African numismatics. Five fields of research are of particular concern.

1. The revision of the past attributions of coins to cities or to sovereigns and the identification of new mints.
2. The new information which the examination of unrecorded coins brings to the study of coin series and to the iconographic repertoire of the various mints.
3. The monetary system, and in particular its standards and their evolution.
4. The chronology of the monetary issues, in connection with the stratigraphical context and with the study of the mixed hoards found in or outside Africa.
5. The currency circulation in African territory, and in particular in Mauretanian territory since the appearance of coinage.

These five fields of research will be illustrated by four concrete examples. It is a question here only of presenting briefly the problems, and certain conclusions, on which I work at present.

New attributions: the case of the coins with a *BBʿL* legend

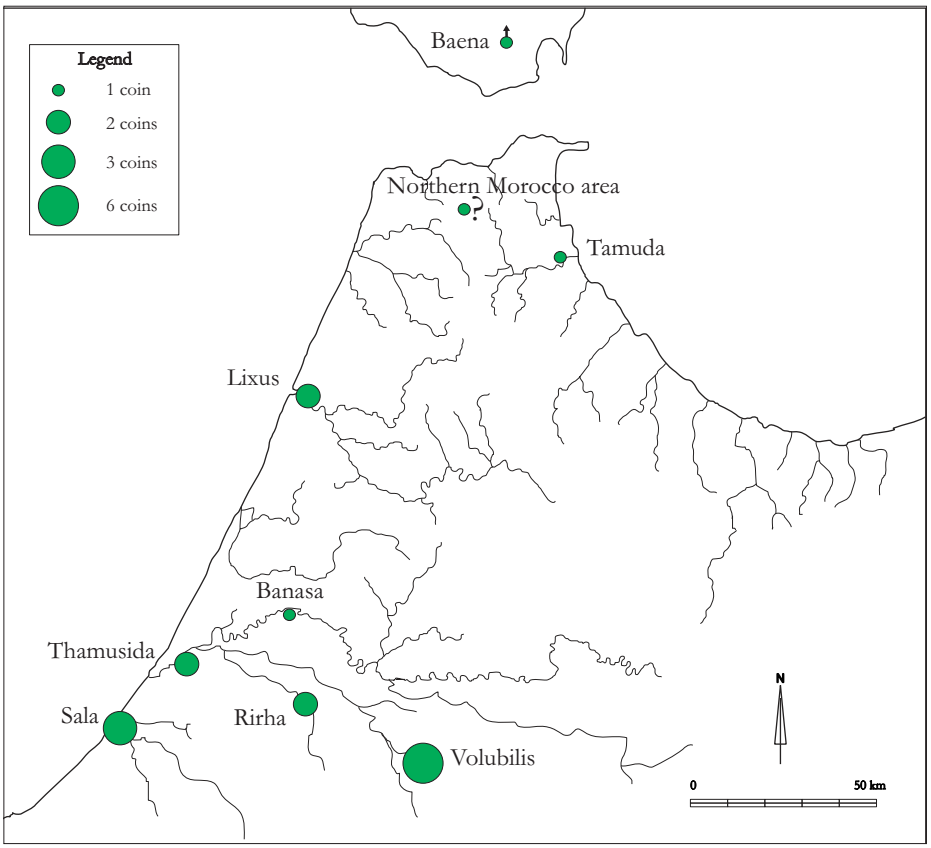
It is unclear which mint struck the coins with the *BBʿL* legend, which feature an eagle with its wings spread on the obverse and a crescent containing a globe on the reverse (**Pl. 1**). It is now certain however that, according to a map of find-spots, this mint was situated in southern Oued Sebou, in western Mauretania (Boube, 1992: 257). The assumption put forward by L. Müller (1860–74) and later backed up by J. Mazard (1955) – that the coins came from the Numidian city of Bulla Regia – has been definitively rejected.[2]

J. Alexandropoulos recently claimed that these coins were from Babba or Volubilis (Alexandropoulous, 2000/2008: 338 and 342). This hypothesis is based upon phonological and archeological considerations. I myself previously decided to defend the second theory, of Volubilis (Callegarin and El Harrif, 2000: 31). On the other hand, R. Rebuffat (Rebuffat, 1999: 268) attributes these coins to Bovalica or Boballica (Ravennate, III, 11, 163, 6), allegedly to be found on the Atlantic coast of southern Sala, if we are to believe the Guidonis *Geografica* listing (84, 8). Whatever the case, the area where the majority of coins were found forms a triangle of which the angles are Sala, Banasa and Volubilis (**Pl. 2**).

A new element now enables us to reopen and possibly close that file: the re-examination of the reading of the legend by A. El Khayari and myself, thanks to the good quality of some specimens found in private collections (**Pl. 1**). The final letter, generally identified as a *lamed*, is in fact a *taw*, which offers the legend: BBʿT.[3] In Latin transcriptions of Punic names the drop of the final *taw* is however very common. Only the rereading of the legend enables us to attribute these coins to a pre-Roman mint of Bab(b)a. Babba will later be one of the three Roman colonies to be founded in Mauretanian territory during the Augustan period and for which we already know the coinage (Amandry, 1984; *RPC*: 867–9).

Plate 1 Mauretanian coin with BBʿT legend (Coll. Cores 287); diam. 16mm. Photo: L. Callegarin

Plate 2 Map of coins distribution of mint BB'T



The site of this city has still not been identified however. Several hypotheses were formulated on this subject. J. Boube, for example, proposes the site of Souk-el-Djemaa el-Ahouafat, near Banasa on the Oued Sebou (Boube, 1983–4) and R. Rebuffat suggests identifying Babba with the site of Sidi Saïd, on the R' Dom river, between the cities of Rirha and Volubilis (Akerraz *et al.*, 1985–6; Akerraz *et al.*, 1986). E. Gozalbes Cravioto, following M. Euzennat (Euzennat, 1989: 95–109), opts for a locality in the Loukkos high valley (Gozalbes Cravioto, 1997: 59), while J.E.H. Spaul suggests merging Babba with Thamusida (Spaul, 1994: 198).

To conclude, we can say that Bab(b)a (BB'T) is a pre-Roman city which struck pre-Augustan monetary series at least during the 1st century BC,[4] before it struck coins as a Roman colony. The metrological characteristics of Babba's issue (diam. 17–15mm; median wt 3.56g based on 14 specimens) are the same as the other issues struck by autonomous cities of Mauretania, as Zilil, ŠMŠ, Sala, or Tamuda, and also correspond to the quarters of series III of the mint of Lixus (cf. *infra*), struck in the mid-1st century BC. On the basis of the dispersal of the coins, Baba should be situated somewhere in the neighborhood of Volubilis. In my opinion the site of Sidi Saïd, on the R'Dom river, has the best attributes and seems most likely.

An unpublished iconographic detail in a Lixitan issue: a step towards the identification of the tutelary divinity?

The coin presented below can be considered as unpublished because, in spite of the drawing of a specimen realized in 1993 by C. Atalaya (Atalaya Ceballos, 1993) and the publication of an illustration of one of the coins of the Cores collection (num. 712) in an exhibiton catalogue (*Las almadrabas*, 2007: 72–3), the coins of this issue were never the object of a real scientific study.

The obverse of this bronze coin presents a male head (bearded?) left, wearing a conical hat from which a cord hangs ending with a circular ornament in three points; behind the head, a double axe or bipenne. The reverse shows a vine branch with a vertical bunch of grapes, a leaf (to the left) and two tendrils (to the right and to the left); on both sides of the vine branch the neo-Punic legend  , that is MP'L LKŠ, interpreted as 'made in Lixus' (**Pl. 3**).

Apart from the bipenne, this coin presents the same typological points (though with a stylistic treatment of a higher quality) and metrological characteristics as coin 236 of Müller, 634 of Mazard, 697 of the SNG Cop. and 168 var. of Alexandropoulos.

Most numismatists interpret the male head on the obverse as that of Chousor, a Phoenician god likened to Hephaistos-Vulcan, who, following the example of images from Malaca, wears a *pileus* (Müller, 1860 III: 159; Mazard, 1955: 189; Jenkins, 1969: no. 692). Others prefer to remain careful by speaking about a 'male head' (Alexandropoulos, 2000: 478), deducing that the iconography of this deity is not assured (Bonnet, 1993; Fantar, 1993; Manfredi, 1995: 186–7). The identification with a Phoenico-Punic Hephaistos-Vulcan is strengthened nevertheless if it is added that a double axe is engraved in the third (cat. 2) of issue I (*infra*). The axe, as the pincers, the hammer and the bellows, is one of the classic attributes of Hephaistos (Chaves Tristán and Marín Ceballos, 1992: 186).

But, according to E. Lipinski, Chousor's personality is more complex than that of his Greek and Latin counterparts and is distinguished by his varied functions. Indeed, he is a god craftsman and architect, a god smith and weapon-smith, but also patron of the fishing and the shipbuilding industries (Lipinski, 1995: 108–9). It is this last function, revealed by

Plate 3 'Unpublished' coin of Lixus (Coll. Cores 712); diam. 16mm. Photo: Macu Cores

Eusebius of Caesarea (*Evangelic Preparation*, I, 10, 11), that J. Alexandropoulos uses to make of the Lixitan god a maritime god (Alexandropoulos, 2000/2008: 339).

The most serious counterproposal in this identification comes from specialists in Phoenico-Punic world iconography. C. Bonnet and M. Fantar, underlining rightly the weakness of the iconographic argument in favour of Chousor, advance the hypothesis that the god Melqart is representated, for the reason 'de sa prééminence supposée dans les cultes de Lixus' (Bonnet, 1988: 200) and because he is 'responsable à la fois de la prospérité sur mer et sur terre' (Fantar, 1993: 118). This hypothesis, so fragile, can nevertheless be strengthened by the examination of two 'documents'. Firstly, the stele of Aleppo (Syria), dated to 9th century BC, on which we can read a dedication to Melqart and see one of the rare representations of the god before Hellenic influence. This representation of Melqart wears a pointed beard, a conical hat and carries an axe (Bonnet, 1988: 133–7, pl. 2, fig. 6). The second 'document' is a Carthaginian ring from Bordj Djedid (Tunisia), dated to the 4th century BC, on which is engraved a god with a conical hat (a Phrygian hat?) brandishing a bipenne over a lion (Bonnet, 1988: pl. 4, fig. 12). The author hurries however to add that the bipenne in the Phoenico-Punic world (a common element in many depictions of deities) underlines the exertion of natural strength without necessarily defining a specific function of the deity with which it is associated (Bonnet, 1988: 128 and 136).

What is here in question is the measure by which the original Phoenician iconography of Melqart (without Hellenic influence) survived from the 6th century BC. Would it be really possible that the ancient Phoenician colony of *Lixus* kept in memory and engraved on its coins an archaic representation of the Tyrian god, while the city of Gadir, a place of the most famous western temple dedicated to Melqart, shows on its coins a totally hellenized Melqart? The examination of other nearby monetary pictures can bring in some other perspectives.

The picture of this deity on the Lixitan obverse can be compared to the other Phoenico-Punic coinages of the western Mediterranean. First of all, the numismatic literature quickly draws a parallel with the coins of Malaca, where the deity displays the same conical hat, associated with a pair of pincers. Here, it is the function of demiurge smith which seems to prevail. Also, coins attributed to Macomades (?) have a bearded male deity with the same hat. It was likened to Chousor-Ptah by J. Mazard but only suggested as such by J. Alexandropoulos (Mazard, 1955: 153; Alexandropoulos, 2000/2008: 318). Finally, and it is maybe the best parallel, an issue of Hippone presents on its obverse a male head to the right with a club behind (identified with Melqart) and on the reverse, a male head to the left with pointed hat, with an axe behind (M. 64; Maz. 543 (Icosium); SNG Cop. 673; Alex. 117). This last example brings together two divinities of the Hippo Regius (?) pantheon. I reject the possibility that it is the same god represented on each of the faces in two different functions drawing my conclusions from the simple fact that the portraits are so strongly differentiated. So, if the club on the obverse characterizes a hellenized Melqart, the reverse distinguishes another deity, influenced too by Greek imagery, which could then be identified with Chousor.

The association of epigraphic, iconographic and literary elements brings together the idea of the existence of a Baal from Lixus, in other words a Lord of places, who preserved his aspect and archaic attributes. The one deity who would fit in as the best for various requirements and functions (metal industry, fishing and navigation, architecture) remains, by default, the god Chousor.

Nevertheless, I prefer, for lack of irrefutable arguments, to adhere to the idea of a god of War, a Master of Lixus, who finds a surprising parallel on a stele of Qadmous (Syria, Museum of Tartous), excavated in 1988 (*La Méditerranée des Phéniciens,* 2007: 110, cat. 78). Indeed, here we see a Baal, wearing a conical hat from which hangs a long lock rolled up in its extremity and holding a lance and a double axe.

A last question remains: how do we then have to understand the design of the reverse, namely the bunch of grapes? In that case, it seems that the reading of the whole coin is double and separates the obverse interpretation from that of the reverse. If the deity therefore truly is Chousor, the bunch of grapes finds no particular echo in the wide field of his functions. So, as others have written before (Marion, 1970; Bonnet, 1993; Alexandropoulos, 1992: 138), the type of the reverse reminds one only and simply of one of the primary economic activities of the city (Strabo, 17.4; Pausanias, 1.33, 5–6; Pliny the Elder, *NH*, 5.2; Pomponius Mela, 1.5). The number of bunches of grapes also allows to differentiate the unit of the denominations of this series.

Interpreting the monetary series: the case of *Lixus*

The contribution of private collections has made it possible to offer a coherent classification of the coins struck by the mint of Lixus (Callegarin and Ripollès, 2010). This is the very first time that such a classification of a series has been tried out on a Mauretanian coinage.

In the 2000s there were published two works taking for their theme the metrological system followed by the issues of Lixus. The study of J. Alexandropoulos (2000: 338–9) reduces the Lixitan system to only four values (1 unit, whose theoretical weight is around 11–14g, and three lower denominations), underlining the narrow existing metrological relation with the Gaditan system and the evident parallels with Massylian issues and the pre-imperial denominations of Tingi. M. Amandry's analysis (2000: 57), which is based on the examination of 76 coins, postulates that issues with a neo-Punic legend and those with bilingual legends (neo-Punic and Latin) were made simultaneously, moving closer together, in a determinedly Romano-centrist design. By disregarding stylistic data, either a semi-uncial system, or the quarter-uncial system was set up at

the time of Augustus.

Our catalogue (Callegarin and Ripollès, 2010) is based on a corpus of more than 496 coins. Based on the median weight, on the iconographic style and on the epigraphic evolution, the Lixitan production is, in our opinion, organized in three series (**Table 1**). Series no. 1 concerns exclusively the coins with a neo-Punic legend (MP'L LKŠ) and unchanging types – the face of a man wearing a hat on one side and one or two wine grapes on the other; this first issue was struck according to a system of fractions of 1:3:6. The coins cat. 2–4 are struck with a median weight of 4.25g, which is exactly a third of that of coins cat. 1 (12.78g). In turn, the median weight of the smallest denomination of this series, cat. 5–7 (1.49–1.74g) suggest that this could be half of the previous series, that is the sixth.

Series no. 2 sees the introduction of a bilingual legend, with the addition of a Latin legend (LIX) and a change in the type – masculine face, grapes, naiskos. But we also note the adoption of a new fractional system. The units,[5] with a median weight of 11–12.82g, remain a lower weight than the units of series no. 1, but the denominations are expressed in halves and sixths, because their weight (respectively, 5.46–7.25g and 1.90g) corresponds to this value. The adoption and the public proclamation of the Latin shape of Lixus' place-name announces the introduction of this new system. This metrological change is not inevitably due to Roman influences however, because the same arrangement of the denominational system appears in the other contemporary African cities.

Series no. 3 continues the epigraphic bilingualism and uses a greater variety of types – masculine faces, grape(s), wheat, tuna fish(es) – that are organized in a way that is similar to Gaditan bronzes. From a metrological point of view, this ultimate series is rather close to the previous series, with nevertheless a slight general decrease of the median weights of the units and halves.

During the elaboration of this catalogue, we tested the likelihood and the coherence of the previously proposed classifications. In agreement with the older corpus, it is evident that coins using a strictly neo-Punic legend (series no. 1) are the most ancient; archaeological and epigraphic arguments made recently urge support of this idea. On the other hand, the issues of series no. 2 and no. 3 are more complex to order. By confronting the style of the engraving, the epigraphy of the legends and the weight characteristics, it was possible to propose a more coherent succession of issues. In the first place, the median weight of the denominations of series no. 3 seems lighter than both previous ones. Secondly, the examination of the style of the engraving and the choice of the types imposes this classification, in which the coins of series no. 2 partially repeat the types of series no. 1 and, not unimportantly, the stylistic links are closest between both these series than with series no. 3. Thirdly, the epigraphy also endorses this proposed classification, given that the legends show a progressive simplification of the written form of each of the letters. In spite of these arguments, our classification of issues remains subject to amendment.

The central question remains: from whence comes the monetary standard used by Lixus? The collated statistical data suggest the adoption of an initial unit of about 12.78g. This standard is recognizable in the western Mediterranean area: it has parallels in African, including Carthaginian coinage, and coinages on the Hispanic side of the Circle of the Straits, such that of Gadir. In my opinion, the monetary standard, which served as a metrological base not only for the units of series no. 1 of Lixus, but also for the first units of the mint of Tingi (median wt about 13.26g), has to be sought in Massylian bronze issues, found in great quantity in stratigraphic contexts dated to the 2nd century BC. The Numidian metrology derives, with some adjustments, from the Carthaginian weight system (Alexandropoulos, 2000: 162–3), and no doubt influenced the first Mauretanian issues.

Concerning compatibility between monetary systems, I observe that series no. 1 of Lixus gets closer to series VI.A of the mint of Gadir (Alfaro, 1988: 81), whereas the Lixitan series no. 2 and no. 3 establish weight parallels with the Roman semi-uncial system. It is these last links which influenced the latest works on the subject (Alexandropoulos, 1992: 252; Alexandropoulos, 2000: 338; El Harrif and Giard, 1992: 269; Amandry, 2000: 57–8; Rhorfi, 2002) which propose a chronology of the Lixitan issues particularly low and tight, roughly speaking between, at most, 49 and 10 BC. New stratigraphic data has come to disturb this vision of things as in the first issues of the mint of Lixus (*infra*), but as regards the ultimate issues, their chronology is not easy to establish. So far the archaeological contexts supply excessively wide dates, and, at best, the *terminus ante quem* does not bring precision. However, the total absence of allusion to Roman power, on the account of either the legends or types, while the other Mauretanian issues showed it, suggests that the last series of Lixus was struck sometime around 33–25 BC.

Table 1 Median weights of Lixus coins

Issue	Cat. no.		Value	Diam. (mm)	No. of coins	Median wt (g)
1	1	Maz. 630–632 v	unit	28–26	90	12.78
	2	-	third	17–16	9	3.91
	3	Maz. 634–634 v	third	17–16	24	4.62
	4	Maz. 633	third	18–15	93	4.18
	5	-	sixth	15–12	115	1.74
	6	Maz. 637	sixth	14–12	14	1.61
	7	SNG 698	sixth	14–12	8	1.49
2	8	Maz. 640	unit	29–28	2	11
	9	Maz. 639	unit	29–28	7	12.83
	10	Marion, 1972, 314–315	unit	28–26	4	8.57
	11	-	unit	28–25	3	7.86
	12	Maz. 642	half	22–20	14	5.46
	13	Maz. 641	half	22–20	15	7.26
	14	Mazard 1960, no. 642bis	sixth	15–14	5	1.9
3	15	Maz. 638	unit	30–28	13	11.37
	16	-	half	21–20	3 (2 fr)	5.64
	17	Maz. 635	half	20–19	5 (1 fr)	4.18
	18	Maz. 636	quarter	18–15	18	3.45

The dating of the first Mauretanian issues: Iol and Lixus

Mauretania's monetary production is separated in two categories: the royal coins and the cities' issues.[6] The royal coins probably appeared at the mint of Siga, with issues such as those of Syphax and Vermina at the end of the 3rd century BC. However, they encounter a chronological hiatus until the appearance of Bocchus I (118–80 BC), to whom are now

attributed at the very least the coins of *ŠMŠ* and Siga (Callegarin and El Harrif, 2000: 32–3), which were to be perpetuated by his successors.[7] Contrary to the chronology of the royal issues based on the name of the monarchs, the chronology of the coins of Mauretanian cities is based on weak arguments that generally come from an intuition based on a global and conceptual apprehension of African production. Faced with the absence of reliable data, the chronology of the majority of Mauretanian issues noticeably fluctuates between a high dating (2nd–1st centuries BC), albeit vague, offered by G.K. Jenkins, and a low dating (between 49 and 33, or even after 33 BC), a theory which seems to prevail nowadays (*supra*). On the other hand, numismatists admit that two cities of oriental Mauretania struck their coins earlier: the cities of Iol – with first issues that appear to be more contemporaneous with those of Syphax – and of Icosium, a mint which was possibly active until the end of the 2nd century BC (Alexandroupoulos, 2000 /2008: 324 and 326).

Recent archeological digs as well as the discovery of new mixed hoards shed a new light on these datings. Indeed, the recent publications of the Hispanic hoards of Cerro Colorado and of the one called X4 (Ripollès, 2009), both buried during the second Punic war, help consolidate what we learned from the Tanger hoard (Villaronga, 1989), by confirming the existence of silver coins struck by the Iol mint at the end of the 3rd century BC.

The question of the origin of the Numidian coinage, royal or civic, occurs here, since the city of Iol emits silver coins, with a complete denominational scale of a shekel, half and quarter (Manfredi, 1995: 284–5, N 101–3; Alexandropoulos, 2000: 471–2, N 141–3), while Syphax simply emits bronze coins. According to J. Alexandropoulos (forthcoming), during the second Punic war, Iol would have seen a 'relay' role, of intermediary between both poles – the South of Spain and Carthage. Punic power was strengthened during and by this conflict, while the choice of Syphax to become allied to Carthaginian power in 206 BC deprives him of any silver resources. The coinage of Iol, which is doubtless the first of Numidia, produces a real monetization of the neighbouring region from the end of the 3rd century BC by striking, at the same time as silver coins, a large quantity of bronze. A short time later (between 206–3 BC), the coinage of Syphax, on a much more limited scale, would introduce the monetization of only Masaesylia, but without being able to assure the creation of a real coin supply there. It will be necessary to wait until there are plentiful issues of Siga, from the first half of 2nd century BC, with the royal diademed effigy of Massinissa/Micipsa, some of which are anepigraphic, others marked with the letters MN (Mazard, 1955: 57–72; Jenkins, 1969: nos 495–503; Alexandropoulos, 2000: 398–9, nos 22–5).

It is in this context of the monetization of the African West that appear the first Mauretanian issues. Moreover, the Lixus digs unveiled the presence of small Lixitan bronzes in stratigraphic levels that were clearly dated to the mid-2nd century BC (Tarradell-Font, 2005: 187). It is today difficult to give clear answers as for the original function of the first Lixitan issues given that we know nothing of the factual history of the Mauretanian kingdom before the reign of Bocchus I (118–80 BC). But the exclusive striking of bronze coins removes the possibility of a connection with remuneration for military or mercenary elements, and directs us more to a commercial function of issues in connection with the extreme-occidental area (*infra*).

The chronology of Mauretanian civic strikings, credibly previous to the local royal issues in whatever is considered African territory, must then clearly be re-evaluated. By doing so, one will notice that the important Mauretanian coastal cities – such as Iol, Icosium, Lixus and quite probably Tingi – struck their first coins at the same time as most of their Hispanic equivalents, with whom they share a common iconographic fund based essentially on the representation of Phoenician divinities and local resources, in particular that of the fishing industry (Alexandropoulos, 1988).

An outline of currency circulation in western Mauretania (3rd–1st centuries BC)

The appearance of the currency in Mauretanian territory is contemporary with the second Punic war. Not only does it launch the royal issues of Syphax and his son, as well as the first Iol coins, but also the Carthaginian transportation of coins along the African coasts, as proven by the discovery of Carthaginian coins in the port of Melilla (Alfaro Asins, 1993). A careful study of the stratigraphic horizons shows that the first coins to have really been introduced, aside from in a military context, are the great Numidian bronzes minted in the name of Massinissa and his successors (Callegarin, 2004: 515). These bronzes can be found widespread in contexts dated back to the 2nd century BC. They were dispersed across Mauretanian territories slightly before or at the same time as the appearance of the first Phoenico-Punic coins from Hispania and were still being used during the imperial Roman times (Callegarin, 2008). The site of Tamuda enables us to observe clearly this monetary chronology: the currency circulation of the second half of the 2nd century associates the Numidian bronzes, Gaditan issues and the coins from the Mauretanian cities of Tingi and Lixus (Gozalbes Cravioto, 2007: 52–3). A standard weight, common to all the Numidian strikings and to those of series VI of Gades, established at roughly 13g, served as a model for the great bronzes of the first series of Tingi and Lixus. The parity between all currencies was therefore assured, although some of the denominations used changed from one series to another. The minting and circulation of coins made exclusively from bronze reinforced the uniqueness of the extreme-occidental area. Indeed, if currencies in precious metal have a real value which they keep in any place, establishing this fact as an instrument of adequate exchange for larger business, suggests that bronze coins, struck in a meaner metal, without real intrinsic value, are above all intended to allow exchange in a more restricted area. That these coins, bound by a more restricted area, are emitted to cater to (outside other means of exchange) some more complex and concrete types of exchange and spending on a more minor scale, is very suggestive. Their circulation in a space as large as the 'Circle of the Straits' makes one consider these bronzes as real commercial exchange tools that suggest privileged economic relations.

The fiduciary role of the Mauretanian issues, of which the number of producing mints does not stop growing during the 1st century BC, is not in question. If we can consider as prestigious the royal issues of Bogud and Bocchus II because of the paucity of coin finds (Mazard, 1960: 107–16), those of Juba

II on the other hand are numerous enough to suggest otherwise. Given that not as many coins of the last series of Gades (series VII of Alfaro) were found as of Malaca (series IV of Campo and Mora) on Mauretanian territory and given that the Latin issues of the colonies of Iulia Constantia Zilil and Iulia Campestris Babba are insignificant, we can suppose that the coins of Juba II and his son, using a complete denominational range, fill (along with Roman coins) the functions of the ancient south-Hispanic bronzes.

From 25 BC and until the annexation of the kingdom of Mauretania between 40 and 42 AD, it is essentially Romanised coins of Juba II and his son Ptolemy, associated with residual bronzes from Massylian, Mauretanian and Phoenico-Punic mints, which assure the cash supply. On the margins, I note the presence of Roman coins, stemming directly from Italian or Spanish-Roman colonial mints.

Conclusions

That is how, at the end of the 2nd century BC, many currencies could be found in Mauretanian lands: Massylian, coins from Gades and other Phoenico-Punic cities (particularly Malaca, Sexs and Ebusus) but also local currencies from great coastal cities such as Lixus, Tingi, Icosium and Iol, associated with the royal series of Bocchus I. The discovery in Melilla of a Rusaddir coin in an archeological layer datable to the 2nd century BC (Villaverde Vega, 2004: 1863, n. 103), and the fact that its bronzes had an average weight of *c.* 12g, which is thus close to the average weight of Lixitan and Tingitan coins, leads one to think legitimately that Russadir started to strike its coins from the reign of Bocchus I at the very least. The precocity of the striking in these Mauretanian cities is quite possibly linked to the stimuli received from Hispanic and Ebusitan shores, but it also points to their status as great African port cities. The 1st century BC experienced an acceleration of the monetization of Mauretania, although it is still impossible to define the point of the introduction of a real monetary economy since the global volume of issues remains very low with the striking of mints of all great pre-Roman cities and of Augustan Roman colonies, in addition to royal issues. But, in a similar fashion to the circulation of the Mauretanian coins of the 2nd century BC, those of the 1st century BC remain essentially local, confined to occidental Mauretania, despite a real – albeit slight – supply in the channels of the Gibraltar straits.

Notes

1 I thank quite particularly G. Cores Uria (Madrid) who allowed me to study his collection.

2 The arguments advanced by L. Müller, one of the epigraphic order – 'Le mot primitif a probablement été בית בעל, *maison de Baal*, qui par contraction est devenu בבעל, et enfin par *aphœresis* בעל [Bulla]' (Müller, 1874: 58) – and the other one of the stylistic order – 'Le type du revers et l'écriture conviennent mieux à la Numidie' (Müller, 1874: 58) – had already been criticized by the semitologist J.M. Solá Solé: 'BB´L (en el corpus BBAL). Es lectura que no ofrece dificultades. Los dos B iniciales, de factura púnica, son claros. Es, en cambio, extremadamente dudosa la explicación de L. Müller, que J. Mazard también recoge, a base de BT B´L (= bet Baʿal 'casa de Baʿal'), que, por contracción, hubiera dado BB´L y, finalmente, B'L, Bulla. Difícilmente una vocalización del tipo Baʿal podría dar en púnico Bulla' (Solá Solé, 1958: 12).

3 For this, I pay tribute to J. Zobel de Zangroniz who correctly read the legend. See the criticism of L. Müller on this reading (Müller 1874: 173).

4 For a complete study of this coinage, see Callegarin and El Khayari, forthcoming.

5 The units cat. 10–11 of series no. 2 have a lower median weight than they should have because of the incomplete character of known examples.

6 Recently, J. Alexandropoulos, according to L. Müller's proposition, published a new classification of Mauretanian coins, attributing a large part of the coinages of autonomous cities to Mauretanian kings, in particular to Bocchus I (Alexandropoulos, 2000/2008: 193–203). This classification, which is based on a relevant monetary analysis, exists as a working hypothesis. Since we are waiting for the confirmation of this idea, I shall keep the ancient classification.

7 See the comment based on metalographic analysis in Chaves *et al.* 1999: 210.

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Maz	Mazard, 1955
M	Müller, 1860–74
SNG Cop.	Jenkins, 1969

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The Garamantes of Fazzan

An Early Libyan State with Trans-Saharan Connections

David Mattingly

Introduction

The discussion elsewhere in this volume of trans-Saharan trade routes in pre-Islamic Africa recurrently focuses on a Saharan people called the Garamantes. They have become increasingly central to research on pre-Islamic Saharan trade in recent years and this short contribution seeks to explain why this is so and to outline the broader implications of the new knowledge to our understanding of the early cultural heritage of Africa. Hitherto, the contribution of the Garamantes has been minimized or overlooked in general books on the archaeology, civilization and historical geography of Africa.[1] But I contend that they represent the earliest indigenous urbanized state in the central Sahara, a veritable civilization that made the desert bloom through sophisticated irrigation methods. They were also a focal point in pre-Islamic times for communication and trade networks that linked the Nile, Mediterranean and the Maghreb with the Sub-Saharan societies around Lake Chad and the Niger Bend.[2]

One reason why they have frequently been underestimated and undervalued concerns their depiction in the Greco-Roman literary sources. When these classical sources described native peoples it is clear that they did not do so in an objective way, but rather they reflected the biases and preconceptions of the time. In the first section below, I shall review briefly some aspects of the ancient literary picture and contrast this with the impressive testimony of the archaeological data relevant to the Garamantes of the Libyan Sahara.

As we shall see, the testimony of the ancient sources is far from neutral or impartial and the comparative lack of archaeological exploration of Libyan and Maghrebian indigenous settlement and society has allowed the Greco-Roman view to stand largely unchallenged.[3] The 19th- and 20th-century colonial rule of the Maghreb, compounded this problem through the construction of a research agenda that prioritized (and continues to do so) urban classical sites and classical art at the expense of pre-Roman and rural settlement.[4] The problems are particularly acute for the desert-dwelling peoples of the northern Sahara, whose modern descendants the French and Italian colonial governments characterized as troublesome tribal nomads. The ancient desert dwellers were in general assumed to have been much the same and this view appeared to receive some support from the ancient sources.[5]

The Garamantes are an important exception to the general rule that we lack archaeological data for these people, in that they were the subject of pioneering Italian research in the 1930s, some large-scale but poorly published investigations by Mohammed Ayoub in the 1960s and in-depth investigation by Charles Daniels in the 1960s and 1970s.[6] Two syntheses have appeared in German in the 1980s–1990s and the Garamantes and their region of Fazzan have been dealt with in the *Encyclopédie Berbère*.[7] Important excavations by an Italian team led by Mario Liverani on some outlying Garamantian settlements in the region of Ghat (*c*. 400km south-west of their heartlands) have been followed by a series of important publications.[8] From 1997–2001, I directed an interdisciplinary team (the Fazzan Project or FP), focused on survey of the heartlands of the Garamantes and excavation at their oasis capital Garama (modern Jarma) in southern Libya.[9] The final publications of that project have also encompassed the task of bringing to press the full results of the earlier work by Daniels, establishing a new baseline of knowledge about the Garamantes.[10] This work has been continued since 2007 in a new collaboration, the Desert Migrations Project (DMP).[11]

The Garamantes in the ancient sources

Ancient writers from the time of Herodotus to the end of the Roman period depicted the Garamantes as the epitome of a barbarian people, menacing the Mediterranean world from their desert strongholds. The Garamantes were referred to by Herodotus in his famous account of the oasis dwellers of the Sahara and featured in the works of most later sources dealing with this region, though the majority of such references simply repeat information from Herodotus or offer one of a number of other stereotypes of the tribe (Herodotus, *Histories*, 4.174; 4.183).[12] The overriding images are of a warlike and exotic barbarian people, first subdued under Augustus when a remarkable long-range raid by his general Cornelius Balbus penetrated to the Garamantian heartlands in the al-Ajal.[13] Pliny's account of the resulting triumph suggests that the conquest of the desert landscape was being celebrated as much as was the military victory (in the same way that Caesar's crossing of the ocean at the world's end excited an exaggerated response in Rome, far beyond the merits of his actual achievements in Britain) (Pliny, *Natural Histories*, 5.35–37). Thereafter, the Augustan poets describe the tribe as belonging to the limitless empire of Rome (Vergil, *Aeniad*, 6.791–97). However, that they were not truly part of the empire is emphasized by their subsequent role in revolt and warfare both in Augustus' later years and under Tiberius. Tacitus denigrated the rebels as brigands (*latrocines*) and stated that the Garamantian king was a 'receiver of stolen goods and partner in the raids, not by taking the field with an army, but by dispatching light-armed troops, whose numbers report magnified in proportion to distance'(Tacitus, *Annals*, 4.23). At the end of the Tacfarinan war (AD 17–24), the tribe sent envoys to Rome, where their outlandish appearance caused a minor sensation.[14] In AD 69, the Garamantes were taken as allies by Oea, one of the coastal cities, in a squabble about territory with her greater rival Lepcis Magna. The Garamantes besieged Lepcis and looted the surrounding countryside before being chased off by Roman army units, who then pursued them into the desert and secured a victory (Tacitus *Histories,* 4.50 and

Pliny *NH*, 5.38). Their booty was recovered apart from that which they had sold as 'they wandered through inaccessible villages'. Only the barest outline of events is given by our sources and we learn almost nothing of this people beyond their reputation for being warlike and ungovernable, that they habitually engaged in banditry on their neighbours and were devious in covering up the well heads with sand to hinder pursuit when retreating from raids to the north.[15] Tacitus' view of the Garamantes, then, seems remarkably similar to the French writing about the troublesome Tuareg, concentrating on their propensity for raiding, their nomadic lifestyle and their impermanent settlements.[16]

In the later 1st century AD, there were several further Roman expeditions to Fazzan, one by a man described as Septimius Flaccus, probably to be identified with the governor of the mid-AD 80s, Suellius Flaccus (Desanges, 1978: 197–213; Mattingly, 1995: 71–4). There are hints here though of a changing relationship. Flaccus evidently visited Garama after first crushing a revolt by another desert tribe, the Nasamones. He then travelled south from Garama in company with the king of the Garamantes, who was evidently hunting Ethiopians (presumably a slaving raid) (Ptolemy, *Geography*, 1.8, 1.10). A few years later, a certain Julius Maternus again travelled far south of Garama to a lake where the rhinoceros was to be found, almost certainly Lake Chad (Ptolemy, *Geog.*, 1.8.). Both these journeys seem to have taken place with the active assistance of the Garamantes, implying some closer treaty relationship. In the mid-3rd century, informal documents from a Roman fort on the desert route north of Fazzan at Bu Njem refer several times to Garamantes being encountered by patrols or outposts on desert trackways (Marichal, 1992: 110–14). Some of the tribesmen were evidently trading with the garrison. Troublesome raiders, whilst still carefully watched, seem for the most part to have been converted into trading partners.

Several other snippets of information in our literary sources suggest that the Garamantes were not quite the nomadic barbarians, they have often been taken for. We learn that they were a populous people whose major settlements were evidently of urban or proto-urban character, even if their dwellings are elsewhere dismissed as huts (*mapalia*). Garama was described by Pliny and Ptolemy as the Garamantian capital and as a *metropolis* of the tribe, and several other sites are referred to specifically as *oppida (*Pliny, *NH,* 5.36; Ptolemy, *Geog.*, 4.6.12). Herodotus mentioned both agricultural and pastoral practices among the Garamantes, referring to the spreading of loam onto the salty soil before cultivating it and to their peculiar, long-horned backward-grazing cattle (Herodotus, *Hist.*, 4.183). Disappointingly, Mela and Pliny gave no up-to-date information on Garamantian farming, although it must have existed following the campaign of Balbus. Lucian's 2nd-century work is typical of the more persistent Roman stereotypes that located the Garamantes in a land of sand and snakes:

> Who could live in a land so savage and barren and consumed by drought? … Only the Garamantes live on its borders, a lightly clad, agile tribe who dwell in tents and live mainly by hunting (Lucian, *Dipsades*, 2).

Even after archaeological exploration of Fazzan began in the 1930s, considerably more credence was placed in the sources which depicted the Garamantes as tent-dwelling (Lucan and Lucian) or as warlike and intransigent (Tacitus). Resistance was interpreted as nomadic antipathy for sedentary peoples and 'civilizing' powers, and little credence was given to the specific reference to oasis agriculture. It was a particular challenge of Daniels' work in the 1960s–70s to start to challenge these preconceptions.

The Garamantes and Saharan trade

There has been a long debate about the origins of trans-Saharan trade, polarized between two conflicting views. In one camp are the specialists of Africa in the Islamic Age, such as Michael Brett, who deny that there was any true trans-Saharan trade in pre-Islamic times:

> although [the Garamantes] traded with Rome, there is no clear archaeological evidence of trans-Saharan trade before the 'golden age' of Islam created a substantial market for Sudanese gold and slaves, supplied by camel (Brett, 2006: 271).

At the other extreme of the debate is Mario Liverani, who has argued that trans-Saharan trade of a sort existed already by the 6th century BC, based on a line of incipient oasis communities, reported on by Herodotus, running for 4,000km west and south-west from the western Egyptian desert to the Niger Bend.

> though the volume of this trade may have been fairly small, the passage of Herodotus … forces us to accept that the main caravan route from Siwa to the Niger was already known during the 6th century BC (Liverani, 2006a: 458–9).[17]

There are several compelling reasons to accept the logic of Liverani's argument. First, is the fact that the development of the oases communities demanded regular communication between them. It is striking that the repeated figure of 10 days journey between the spring mounds referred to in the Herodotean account correlates with the most common journey stage length of Islamic accounts (Herodotus, *Hist.*, 4.183–85; Thiry, 1995, 399–448). The significance of the 10-day figure is that it constitutes the maximum comfortable travel time between major water points for a caravan carrying goods and the water for its sustenance.[18] Second, we can observe the movement of 'things' – primarily plants, animal species, ideas, knowledge and technologies along this line in the period in the late 2nd and 1st millennia BC. Herodotus provides information on a small group of the Nasamones people (whose home oases lay south of Cyrenaica and the Gulf of Sirte) making a long journey south-west across the Sahara till they reached a substantial river, clearly in the Sub-Saharan zone and almost certainly to be equated with the River Niger (Herodotus, *Hist.*, 2.32–33). The third and crucial point is that we can now recognize in the evidence from southern Libya of the emergence of an early state in the central Sahara, the Garamantes.

I must own up to having been sceptical at an earlier stage about the scale and significance of Garamantian-Roman trade and the extent to which this made a significant contribution to the economy of Tripolitania, the Roman coastal territory of the great cities of Lepcis Magna, Oea and Sabratha (Mattingly, 1995: 155–7). However, my direct engagement with the evidence in Fazzan has convinced me that this trade was very substantial indeed and potentially highly profitable on both sides. There is also growing evidence that the Garamantes traded with the Sub-Saharan zone, though relatively few

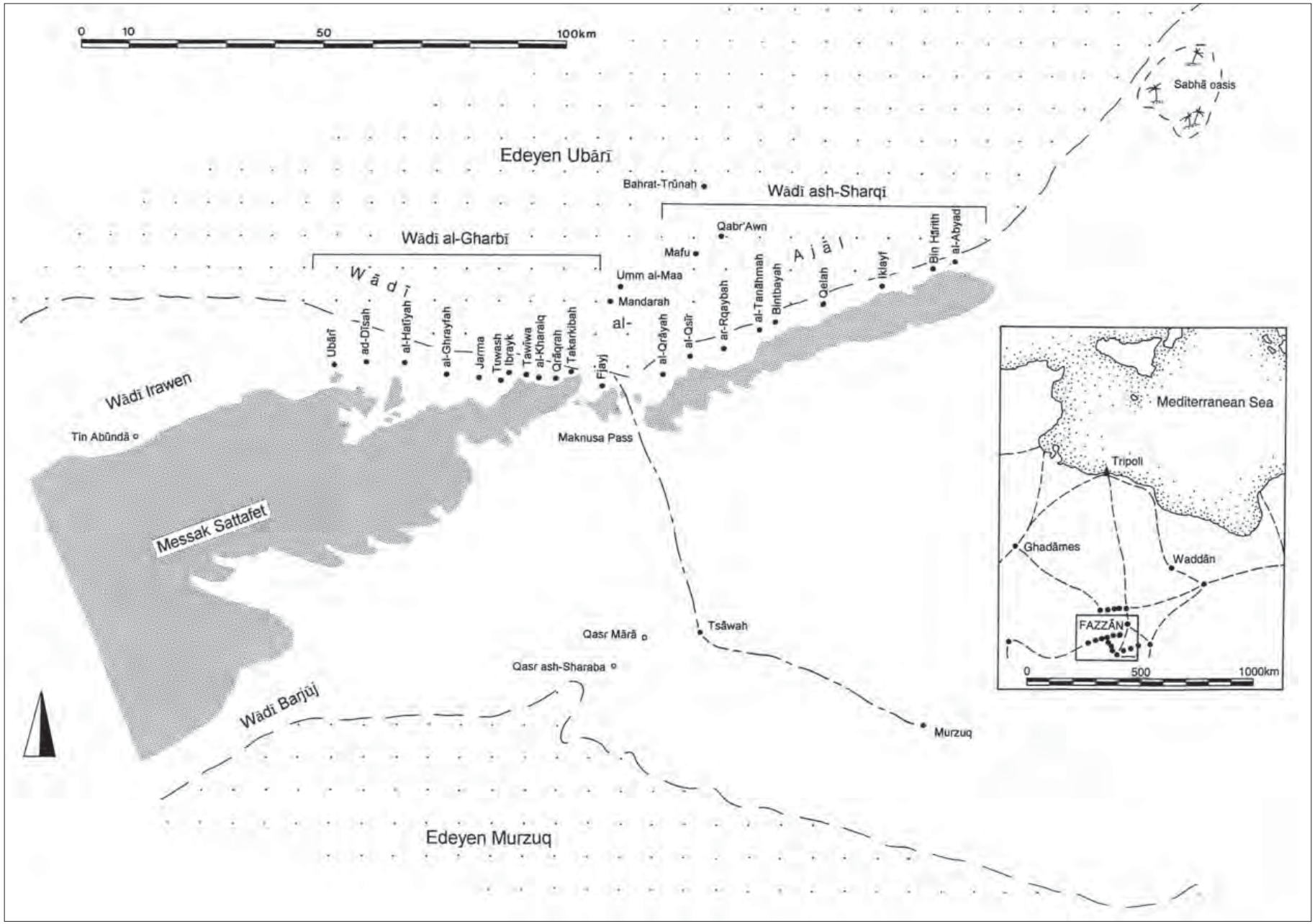

Plate 1 The Garamantian heartlands in the Wadi al-Ajal

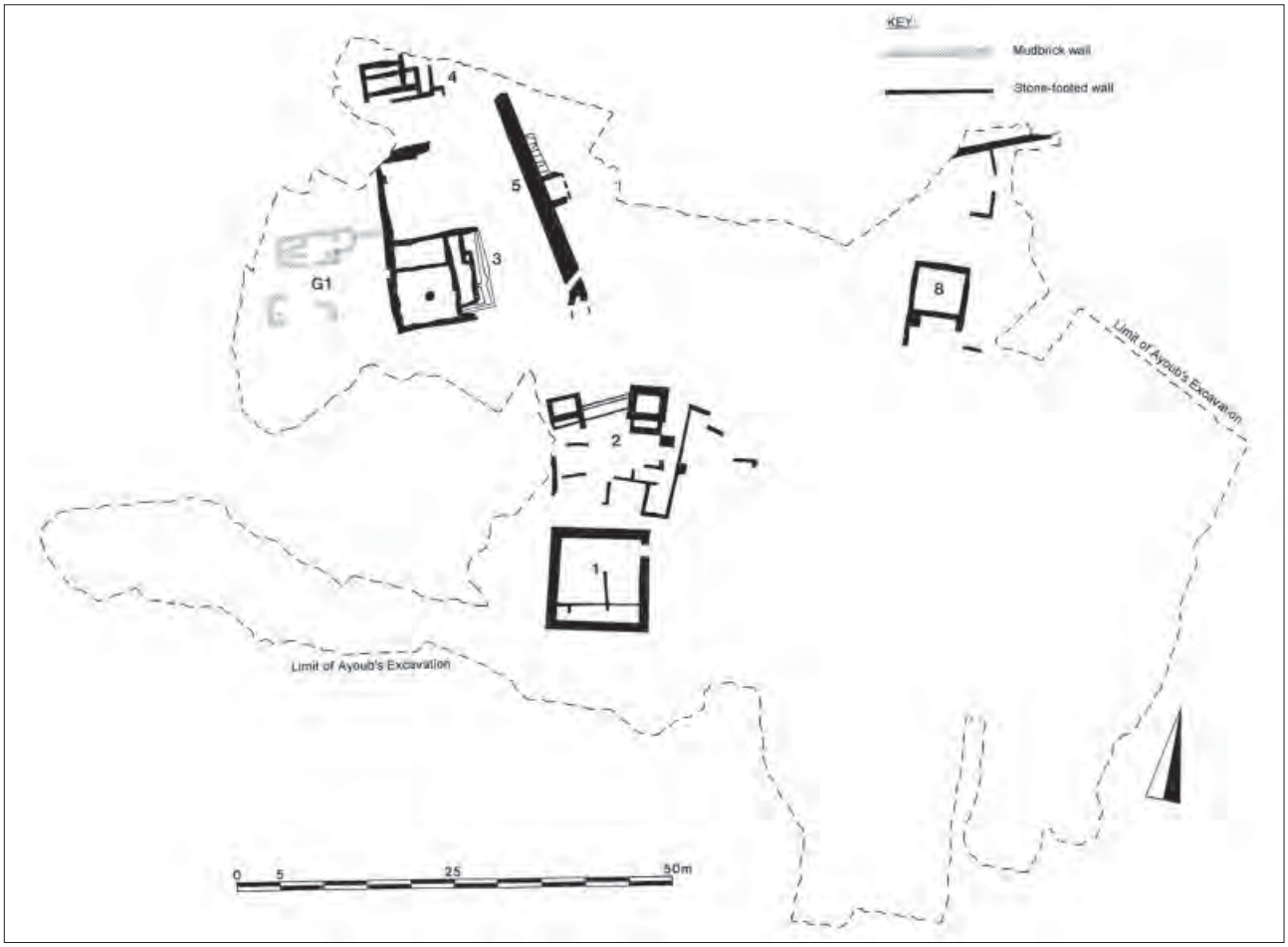

Plate 2 The centre of ancient Garama (Old Jarma), showing buildings excavated by Ayoub, Daniels and the FP

commodities from the Mediterranean were passed down the line by the Garamantes.

The archaeology of the Garamantes

Archaeological research has produced significant evidence, necessitating a review of the crude stereotypes of the Garamantes as barbaric nomads. At the height of their influence, the Garamantes appear to have controlled a vast desert territory of *c.* 250,000km^2, and that at times they threatened both the cities of the Mediterranean coast and Sub-Saharan populations of Chad and Niger (Tacitus, *Hist.*, 4.50; Ptolemy, *Geog.*, 1.8). Survey and excavation by my team have amplified important results obtained in the 1960s and 1970s by Charles Daniels. At the time of his premature death in 1996, much of his work was unpublished (Daniels, 1989; Edwards, *et al.* 1999), but a series of major publications, on both the Daniels' archive and the renewed British fieldwork, have now made available a substantial dossier of information.[19]

The archaeological evidence allows us to re-evaluate their historical reputation, with the reality being almost the exact opposite of the popular image. For much of the Roman period the Garamantes thrived on a combination of intensive oasis agriculture (using sophisticated irrigation systems) and trade. Their tribal capital Garama took on a strong urban character and their use of material culture and writing marks them out as a Saharan civilization of considerable magnitude - a polity rather than a tribe.[20]

The heartlands of the Garamantes lay in the Wadi al-Ajal (*c.* 1,000km south of Tripoli), a sinuous depression (*c.* 150km long by 3–5km broad) running broadly west to east (**Pl. 1**). It is sandwiched between a towering sand sea to the north and a cliff-like rock escarpment backed by a barren rock plateau (*hamada*) to the south. Annual rainfall in this region is negligible – less than 10mm on average – but frequently with none whatever for several years at a stretch. It is a very unpromising environment at first sight. However, water could be found in antiquity at shallow depth below the bottom of the valley, permitting intensive cultivation of a narrow oasis belt in the valley floor. It has long been recognized that the territory of the Garamantes extended considerable distances north and south of the al-Ajal – incorporating oases in the Wadi ash-Shatti (100km north), Ghat (300km south-west), Murzuq (100km south-east) and Zuwila (200km east).[21]

The primary archaeological component of my project was the excavation of a site within the major ancient urban centre of the region at Jarma (ancient Garama). This is a still standing medieval caravan town, dominated by an imposing mud brick *kasbah* or castle. Below these later structures (some only abandoned in the 1930s) lies a complex stratigraphic sequence of earlier cities superimposed one on another to a depth of 4–5m. Some clearance excavation by Ayoub in the 1960s revealed a group of Garamantian buildings at the core of the site (**Pl. 2**).[22] Unlike most of the later structures these have stone walls, some of ashlar quality, and reflect the power and wealth of the site in its heyday in the period between the 1st and 4th centuries AD. One of these buildings was fronted by a broad set of steps and incorporated columns in its facade – it is arguably a temple of the desert god Ammon. However, further

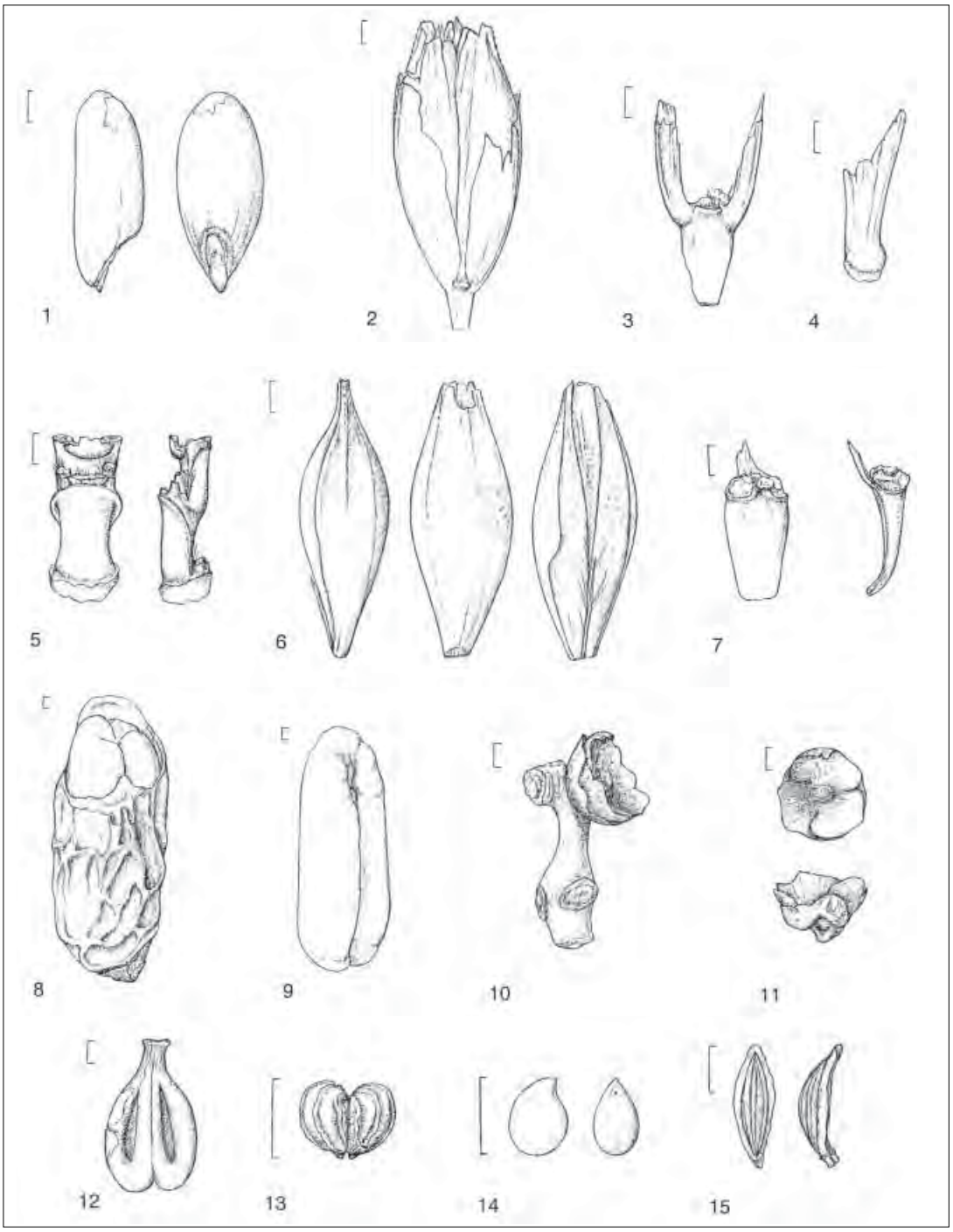

Plate 3 Botanical remains of cultivated crops from the early Garamantian settlement at Zinkekra: 1–4, 7 wheats; 5–6 barley; 8–11 date palm; 12 vine; 13 celery; 14 fig; 15 dill (after van der Veen 1992)

mud-brick structures below the stone buildings push the origins of the settlement back towards the mid-1st millennium BC. The site at Jarma thus provides us with an 'urban' sequence going back 2,500 years and this can be extended still further when the nearby proto-urban hillfort called Zinkekra is added to the picture.

The primary phase of occupation at Zinkekra (the early Garamantian period) was from *c.* 900–500 BC. Daniels' excavations here produced evidence not only of the huts and shelters terraced into the hill, but of animal bones and plant remains. The faunal record, perhaps unsurprisingly was dominated by sheep and goat bones. The botanical record reveals an equally astonishing picture. From a series of contexts dated by C_{14} samples to the first half of the 1st millennium BC, came a range of agricultural produce (wheat, barley, grapes, the date palm), while all the weed species present were types indicative of a hyper-arid climate much as today (**Pl. 3**).[23] The clear conclusion is that the early Garamantes were already advanced agriculturalists long before they had contact with the Greco-Roman world, practising irrigation in a region of negligible rainfall, where subterranean aquifers are the only significant source of water.[24] Accompanying this technological and agricultural revolution, Zinkekra marks the earliest stages of settlement nucleation in the Proto-Urban phase (500–1 BC) and new forms of social differentiation which were continued and accelerated when a true urban centre developed after 300 BC at Jarma, a few kilometres away in the centre of the plain. In the Jarma region,

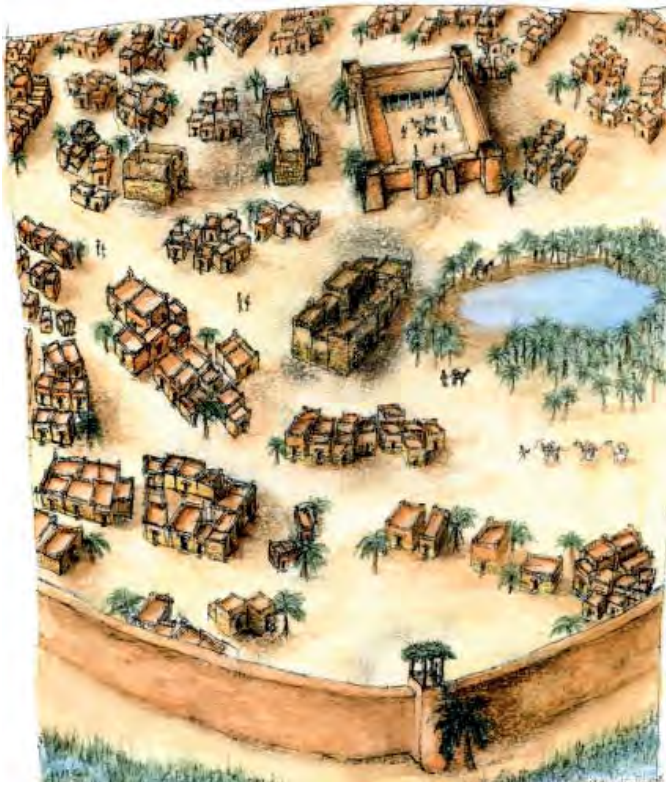

Plate 4 Reconstruction painting of the possible appearance of ancient Garama (Old Jarma) in Late Garamantian times (D. Miles-Williams)

then, we have an effective urban sequence of nearly 3,000 years length, with the Garamantes being identified as the people responsible for bringing about a series of momentous socio-economic changes.

The most recent excavations at Jarma were designed to refine knowledge of this long urban sequence, producing a series of time-slices illustrating the entire history of this remarkable site (**Pl. 4**). The lack of stratigraphic recording in Ayoub's clearance excavations left unresolved many questions about their dating and function – though Daniels did make a few soundings below their foundations to establish a partial chronological framework (Daniels, 1971). We have conducted a systematic and stratigraphic excavation, backed up by a programme of radiocarbon dating, adjacent to the Garamantian temple previously uncovered.[25]

The Classic Garamantian period (AD 1–400) in particular stands out for the diversity and richness of its faunal and botanical assemblages. As well as sheep and goats, there were also cattle and pigs. There is also clear evidence of the introduction into the Central Sahara between the late 2nd millennium BC and 1st millennium AD of the horse, the camel and the domestic fowl.[26] The archaeobotanical record also documents substantial additions to the initial agricultural package, in particular with the introduction of Sub-Saharan crops such as sorghum and cotton.[27]

The material culture revealed demonstrates clear change over time – some phases are unmistakably richer, some more impoverished than others. In the Garamantian period an abundance of wine and olive oil amphorae, ceramic finewares and glass ware was imported from the Roman world (**Pl. 5**). Imports of Roman date appear to have been far more widely distributed in society than those of later date. While there was some decline in the overall volume of imports accompanying signs of growing insecurity in the Late Garamantian period (AD 400–700), there were still some imports of very high prestige value (see Hoffmann below). By comparison, for much of the medieval and early modern periods, the Jarma region was characterized by relatively low numbers of imported goods, despite the continuing existence of trans-Saharan trade at this time.[28]

In order to provide a wider context for the picture of life in the town, the excavation was complemented by fieldwalking and by more extensive survey in the Jarma region. Our systematic fieldwalking has revealed that the Garamantian settlement pattern was far denser than previously suspected, with numerous satellite villages all around Old Jarma.[29] Excavation by Daniels at one of the villages close to Jarma, known by the modern name of Saniat Jibril, revealed a densely built-up site, comprising many small units of one or two rooms, constructed back to back and side-by-side to form larger complexes (Daniels 1971; 1973). There was abundant evidence for craft activity at this site, including weaving, metal-working and ostrich eggshell bead production (Mattingly, 2003: 117–22; 2010). We have also located at least two large Garamantian settlements in addition to Jarma itself that appear to be urban in scale and internal organization.[30]

The FP gazetteer combines both the Daniels' material and the new work, with the total number of known Garamantian sites now approaching 1,000 (Mattingly, 2007). The evolved settlement pattern reflects the localization of farming activity in the oases along the base of the depression. In addition to the large urban centre at Garama, there were clearly regularly spaced village settlements all along the valley, to match the extensive evidence of cemeteries along the foot of the escarpment – where 10,000s of graves have been recorded.

Garamantian culture was extremely heterogeneous. Although distinctive Garamantian tomb types, offering tables and stele have been recognized at various sites throughout Fazzan, there is undoubtedly a concentration of the most prestigious tomb types in the vicinity of Jarma itself. This adds weight to the argument that Jarma was the location of centralized authority within Garamantian society and the area where hierarchical divisions in that society were most pronounced (Mattingly, 2003).[31] As well as several mausolea of recognizable Romano-African tradition, there are also stepped tombs similar to the Egyptian *mastaba* form and even some mud-brick pyramid tombs. Although the biggest of these stand only 3–4m tall, the largest pyramid cemetery contains well over 150 separate examples.[32] The pioneering work of Caputo, Ayoub and Daniels on Garamantian cemetery sites[33] can now be understood better – both in relation to the preceding Late Pastoral phase (cf. Di Lernia and Manzi, 2002), but also as a distinctive cultural phase in its own right (Mattingly, 2003: 187–234).[34]

The story of the Garamantes is in some ways best read against a background of changing availability of water. After the major incident of climate change around 3,000 BC, the Sahara has been a hyper-arid environment, with minimal rainfall and progressively limited surface water sources. There may have been a few lakes and springs still sustained by the groundwater table in the early Garamantian period (early 1st millennium BC), but these seem to have dried up around this time (Drake *et al.,* 2004). The success of Garamantian


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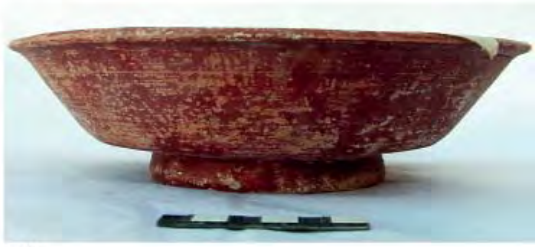
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H83 (graffiti)


H85 (stamp)


H83 (stamp)


H89


A3


A3 (detail of handles)


H204

Plate 5 Imported Mediterranean pottery from a 1st-century burial excavated by Ayoub in the Garamantian cemetery at Saniat bin Huwaydi

agriculture was due to the adoption of more sophisticated methods of tapping into the groundwater. One of the most important and enigmatic classes of monument is the *foggara* irrigation system. The *foggara* is an underground irrigation canal, similar to the Persian *qanat* or the Arabian *falaj*, which tapped into an aquifer below the foot of the escarpment and led flowing water out into the oasis proper.[35] They are readily identifiable at the surface, where traces survive, from the regularly spaced vertical shafts which were dug to facilitate construction and maintenance of the channels, though they must have added hugely to the labour involved. The shafts can be up to 50m deep, gradually diminishing in depth until the channel emerges at the surface, from which point surface channels will have distributed the water into the irrigated plots.

The available dating evidence shows that the *foggara* system was introduced to Fazzan during the Garamantian period and their use probably extended into the early Islamic period. It is clear that these structures were a key to ancient irrigation in the region, though evidently they have been dry

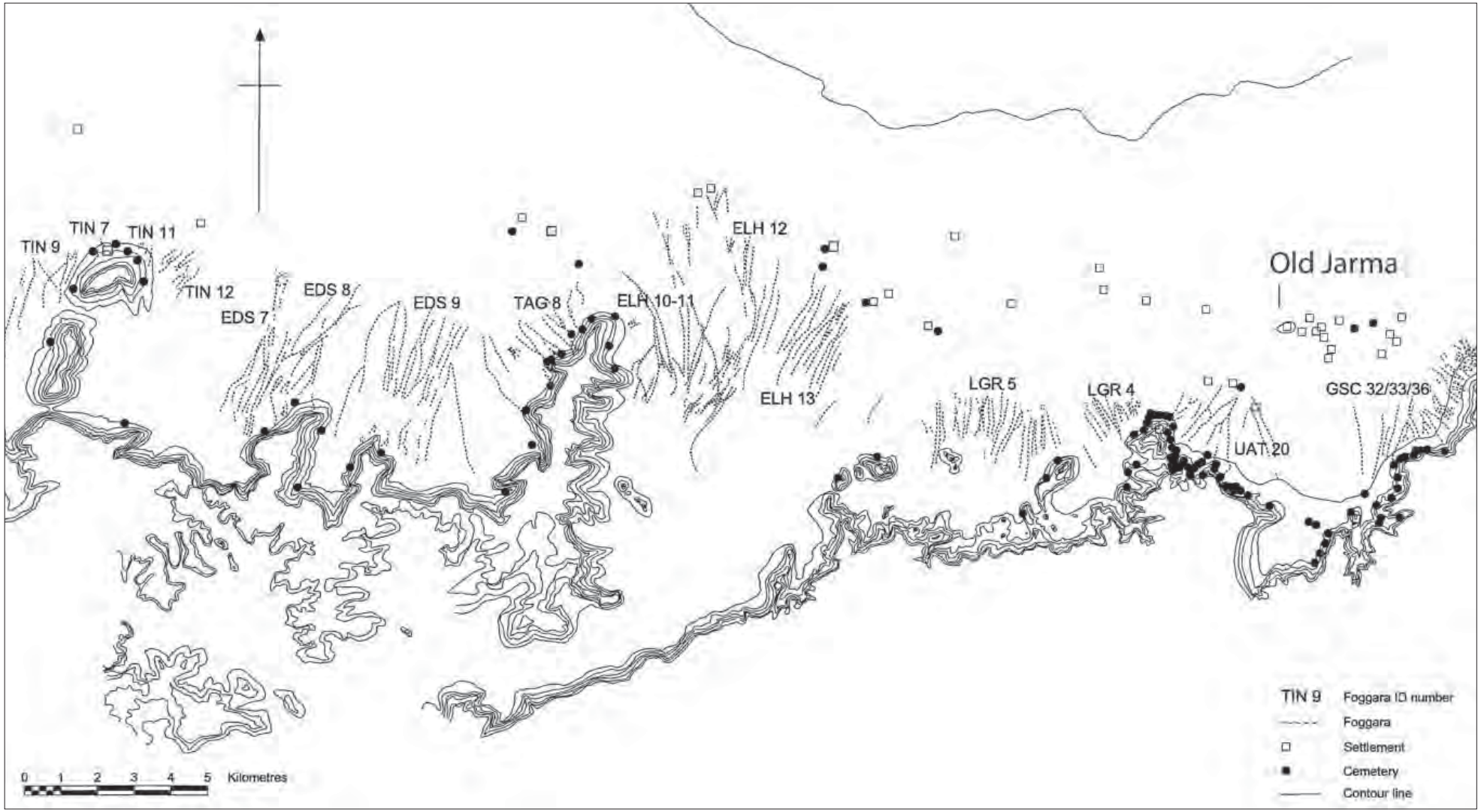

Plate 6 Map of settlements, cemeteries and irrigation systems (*foggaras*) in the Jarma area of the Wadi al-Ajal

for many centuries now. There are many hundreds of these structures visible on the air-photographs, and most were several kilometres in length (**Pl. 6**). The labour involved in their construction and maintenance was on a huge scale – it has been calculated that the construction of the *c.* 550 *foggaras* currently known in the Wadi al-Ajal would have required 72,000 man-years of labour (maintenance of the systems once established would have been a significant addition to this figure). One of the strongest supporting arguments for the existence of a highly organized Garamantian polity is that only a state could mobilize or supply labour on this scale (Mattingly, 2003: 273).

The *foggara* irrigation systems were a major landscape feature, and they clearly facilitated large-scale and extensive cultivation of the valley floor oasis area. A crucial question we are still seeking an answer to is when these systems were abandoned – perhaps because of falling water levels in the aquifer. Our best guess at present is that this occurred in the early Islamic period, though whether cause or effect of the collapse of Garamantian civilization is still unclear. At any event, the settlement density, the number and scale of the cemeteries and the *foggara* systems all combine to highlight the Garamantian period as one of peak population and oasis cultivation.

The Garamantes represent in part a continuation of the local Neolithic (Late Pastoral) tradition, as is clear from lithic and ceramic finds at their early settlements.[36] But they probably comprised a great confederation of peoples and there are indications that some elements may have migrated from oases further east, nearer Egypt, bringing with them (or importing subsequently) knowledge of improved technology for oasis cultivation (notably the *foggara*). There are clear parallels, for instance, between the Libyan tribesmen on Egyptian reliefs and in rock art of southern Libya and Algeria (Ruprechtsberger, 1997: 66–8). Skeletal studies, albeit of a small sample of burials, confirm that the Garamantes comprised a mix of ethnic types, including Berbers (Mediterranean African), negroid people and others of combined Berber/negroid traits.[37]

Garamantian civilization was thus the result of raised population levels in the northern Sahara following the development of advanced irrigation systems. The concentration of tens of thousands of people in the largest of these oases allowed them to dominate a large expanse of the Sahara – launching military expeditions and trading in equal measure to all points of the compass. The classical sources speak of the Garamantes hunting the *troglodytae* and 'Ethiopians', a strong hint of slave raiding against neighbouring peoples (Herodotus, *Hist.*, 4.183; Ptolemy, *Geog.*, 1.8). The chapter by Fentress in this volume focuses on the possibility that there was a significant Saharan slave trade in classical antiquity, with the Garamantes as the key middle-men. Quite apart from the possibility of selling-on such captives north across the Sahara, the intensive irrigated cultivation and the dangerous task of constructing underground irrigation canals (*foggaras*) could have absorbed large numbers of slaves.

The Garamantes and trans-Saharan trade

The evidence for the existence of trans-Saharan trade at this date has grown significantly as a result of the most recent research. Aspects of the trade relations of the Garamantes are addressed by other contributors to this book. I shall limit myself to a few brief comments.

The question is no longer whether there was significant interconnection between Nile/Mediterranean states and the Sub-Saharan regions in pre-Islamic times, but on how fully we can document and understand these contacts. The large quantities of Roman trade goods found at Garamantian sites and in their burials indicate that something of value must have been passing towards the Mediterranean.[38] Despite the denials of Islamic specialists such as Brett, the connections between the Garamantes and the Sub-Saharan zone are becoming increasingly clear. We can identify the incorporation of Sub-Saharan crops in Garamantian agriculture as a marker for more extensive contacts – crops include pearl millet, sorghum and cotton (cf. Pelling, 2005; 2008). Finds of hippo ivory, ebony beads and cowrie shells offer glimpses of trade goods. There are also people of undeniable Sub-Saharan character present in the Wadi al-Ajal in this time period (**Pl. 7**). While it is clear that few Mediterranean goods reached the Sub-Saharan zone, this appears to have been due in large part to Garamantian predilection for such goods and the fact that the Garamantes had plenty of other things to trade with their southern neighbours. This included foodstuffs and salt, but also textiles and a mass of beadwork – in ostrich eggshell, carnelian, amazonite and glass (**Pl. 8**). The early trans-Saharan trade was in effect a series of interconnected trade networks, with the Garamantes at its centre, rather that an open route accessible

Plate 7 Skull of a young woman of negroid physiognomy buried in a cemetery at Taqallit wearing a lip plug of Sub-Saharan type, a unique find in the Wadi al-Ajal

Plate 8 Making 'money' in the central Sahara? Evidence of Garamantian beadmaking from the village settlement of Saniat Jibril

in its totality from north to south or south to north by traders based in the Mediterranean or Sub-Saharan zone.

As Fentress argues below, slaves were a potentially very lucrative commodity, especially if targeted at a niche market in exotic (dark-skinned) youths of both sexes. Apart from slaves, it is likely that the Garamantes traded with Rome in foodstuffs (dates and barley), salt, gold, semi-precious stones (especially red carnelians and turquoise amazonite), ivory, wild animals, and natron (used in ancient glass making). There is increasing evidence for sophisticated Garamantian textile production and some of this material may have been traded. All these commodities leave little tangible trace in the archaeological record, so the challenge of the next phase of research is to improve our methods for identifying or retrieving this evidence, for provenancing a range of materials, and for tracking people who moved within the trans-Saharan network.[39]

Conclusions

The Garamantian achievement was considerable and the simple terms 'tribe' or 'chiefdom' seem inadequate to describe the level of social, economic and cultural organization. In comparison with the Late Pastoral phase, when herders had to start to adapt to the consequences of climatic change, the period of the Garamantes (between 900 BC and AD 500) brought in a series of dramatic socio-economic changes:

- the development of urbanism;
- the evolution of a hierarchical and probably slave-using society;
- the adoption of a written script for the Libyan language;
- the further development of agriculture to encompass a range of Mediterranean and desert crops that require intensive irrigation (cereals, grapes, olives, dates);
- the introduction of the horse, the camel and wheeled transport to the Sahara;
- the creation of trade and political relations that extended north to the Mediterranean, east to Egypt and south to Sub-Saharan Africa;
- a massive demographic expansion to a level that was probably not equalled again until the last 40 years.[40]

The true significance of the Garamantes in Saharan, Maghrebian and Sub-Saharan history is only just starting to be appreciated. Human migration (whether voluntary or enforced) appears to have been a significant dynamic in the changes that took place along routes that inter-connected the Nile, Mediterranean, Sudan, Lake Chad and West Africa. The trans-Saharan connections that passed through Garamantian territory also had transformative effects not only on the central Saharan societies, but also potentially important repercussions for Sub-Saharan and Maghrebian cultures. As many of the papers in this volume attest, the Garamantes offer us a new way in to investigate the realities of pre-Islamic trade and contact, with major implications for our understanding of African history.

Notes

1 The *Penguin Atlas of African History* (McEvedy, 1995: 20–43) for example features a sequence of maps showing socio-political developments either side of a largely empty Sahara, with just two maps indicating the presence of oases in Fazzan (in AD 1 and 200), but no mention of the Garamantes. Brower Stahl, 2005, and Connah, 2004, ignore them completely, while Ehret, 2002: 222 accords them a mere two sentences. Mitchell, 2005, is an exception in showing full awareness of the importance of Saharan communications and connectivity.
2 For some previous succinct expressions of my views, see Mattingly 2000a; 2004; 2005; 2006.
3 On the ancient Libyan people, see Bates, 1914; Gsell, 1918/29; Camps, 1980; Desanges, 1962; 1980; Mattingly, 1995: 17–49; Brett and Fentress, 1996.
4 Mattingly, 1996; Mattingly and Hitchner, 1995: 165–74; cf. Barker *et al.,* 1996a/b.
5 Leschi, 1943; Rachet, 1970; cf. Trousset, 1982.
6 Ayoub, 1962; 1967a/b; 1968; Daniels, 1968; 1969; 1970; 1971; 1989; Pace *et al.,* 1951; RSGI 1937.
7 Ruprechtsberger, 1989; 1997; *Encyclopédie Berbère, s.v.* Fezzan, Garamantes.
8 Liverani, 2000a/b/c; 2004; 2006a/b; 2007a/b; cf. also Castelli *et al.*, 2005.
9 Mattingly *et al.,* 1997; 1998a/b; 1999; 2000a/b, 2001.
10 Mattingly, 2003; 2007; 2010; forthcoming.
11 Mattingly *et al.,* 2007, for an introduction to the aims of the project.
12 Cf. Mattingly, 2003: 79–90.
13 For the history of Roman military action against the Garamantes, Daniels, 1969: 37–8; 1970; 13–21; Mattingly, 1995: 70–3; 2003: 76–86.
14 Tacitus, *Ann.*, 4.26: *raro in urbe visi … culpae conscia.*
15 Tacitus *Hist.,* 4.50: *gentem indomitam et inter accolas latrociniis fecundam … recepta omnis praeda nisi quam vagi per inaccessa mapalium ulterioribus vendiderant.*
16 On the Tuareg, see Duveyrier, 1864; also now Nicolaisen and Nicolaisen, 1997.
17 Cf. also Liverani, 2000a/b; 2006b: 1018–20.
18 Thiry, 1995, does cite some longer journeys between major oases, but these were often supplemented by numerous wells and minor oases where additional water and fodder could be taken on. Stages of 12–15 days with inadequate water sources were generally very perilous if caravans prioritized cargo above safe limits of water and food.
19 Mattingly, 2003; 2007; 2010; forthcoming.
20 Mattingly, 2000a; 2003; 2004; 2006.
21 Daniels, 1989: 58–59; Edwards, 2001 (for the Barjuj/Murzuq area); Liverani, 2000a; 2006a/b; 2007a/b (Ghat). The location of Garamantian sites known before the present phase of fieldwork is presented in cartographic form in Mattingly 2000b, with the full gazetteer of the new work Mattingly, 2007.
22 Ayoub, 1967a; Daniels, 1971; Mattingly, 2003: 156–7, 163–8.
23 Cf. Mattingly *et al.,* 2002; van der Veen, 1992; 2007.
24 Cf. Daniels, 1989: 51; Mattingly, 2003: 351–4; Pelling, 2005; 2008; van der Veen, 1995.
25 Recorded in Mattingly *et al.* 1997; 1998a/b; 1999; 2000a/b; 2001; Mattingly forthcoming.
26 Cf. Grant, 2006; Mattingly, 2010.
27 Pelling, 2008, for a substantial summary of the results from Jarma.
28 On the *post*-Garamantian history of Fazzan, see Mattingly, 2003: 90–106; Thiry, 1995.
29 Cf. Daniels, 1989, 49; Edwards *et al.,* 1999: 113–14; Mattingly *et al.,* 1997: 13, 19–20; 1998b: 131, 133; 1999: 135–8.
30 Mattingly, 2007: 229–31 Qasr bin Dughba; 263–65 Qasr ash-Sharraba.
31 Mattingly, 2003: 351; cf Liverani 2006a for a view from the Garamantian periphery, which draws out some important contrasts.
32 Ayoub, 1967b; 1968; Daniels, 1971; Edwards *et al.,* 1999: 113–19; el-Rashedy, 1988; Mattingly, 2007: 75–83.
33 Ayoub, 1967a/b; 1968; Daniels, 1973; 1977; 1989; Mattingly, 2010; Pace *et al.,* 1951.
34 See further the work of the DMP Burials and Identity sub-project, Mattingly *et al.*, 2007; 2008; 2009.
35 Goblot 1979; Klitzsch and Baird, 1969; Mattingly, 2003: 235–65; Wilson, 2006.

36 Daniels, 1968; Mattingly, 2010; cf. Cremaschi and di Lernia, 1998.
37 Daniels, 1970: 27–35; Pace *et al.,* 1951: 443–542; di Lernia and Manzi, 2002; Mattingly, 2010.
38 Bovill, 1968; Law, 1968; Liverani, 2000b/c; Mattingly, 1995: 155–7. See Lyon, 1821 for a detailed account of the early modern caravan trade.
39 This is very much the focus of my current project, the Desert Migrations Project, see Mattingly *et al.*, 2007; 2008; 2009.
40 Urbanism: Daniels, 1971: 262–5; Mattingly, 2003: 142–5, 155–9. Hierarchical society: Daniels, 1970: 27–35; Mattingly, 2003: 217–20. Written language: Daniels, 1975; Mattingly, 2003: 317–24. Agriculturalists: Daniels, 1989: 56–8; Mattingly, 2003: 351–4. Horses and chariots: Camps, 1989; Mattingly, 2003: 342–6. Traders: Bovill, 1968: 1–44; Fontana, 1995; Liverani, 2000b; 2006a; Mattingly, 2003: 355–62. Demographic peak: Daniels, 1989: 49, estimated that there were at least 120,000 Garamantian burials in the al-Ajal alone, but the recent work is revising these estimates upwards, Mattingly, 2003: 351; Mattingly *et al.,* 2008: 227.

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Trans-Saharan Long-distance Trade and the Helleno-Punic Mediterranean

Michael Sommer

A very great nation

> But when the Libyans had moved away, the multitude of the Negroes appeared like a cloud on a level with the ground, in the place which the others had occupied. They were there from the White Harousch, the Black Harousch, the desert of Augila, and even from the great country of Agazymba, which is four months' journey south of the Garamantians, and from regions further still! In spite of their red wooden jewels, the filth of their black skin made them look like mulberries that had been long rolling in the dust. They had bark-thread drawers, dried-grass tunics, fallow-deer muzzles on their heads; they shook rods furnished with rings, and brandished cows' tails at the end of sticks, after the fashion of standards, howling the while like wolves.

These are not Herodotus', but Flaubert's Garamantes, featuring in his historical novel *Salammbô*. However, Herodotus' Garamantes seem to spring from an even more fabulous universe: in his famous list of the 'peoples of Libya' (Hdt. 4. 168–187), he claims that the Garamantes 'fly from every man and avoid the company of all; and they neither possess any weapon of war, nor know how to defend themselves against enemies.' (Hdt. 4. 174).[1] On the other hand, he mentions men,

> who are called the Garmantes, a very great nation, who carry earth to lay over the salt and then sow crops. From this point is the shortest way to the Lotophagoi, for from these it is a journey of thirty days to the country of the Garmantes. Among them also are produced the cattle which feed backwards; and they feed backwards for this reason, because they have their horns bent down forwards, and therefore they walk backwards as they feed; for forwards they cannot go, because the horns run into the ground in front of them; but in nothing else do they differ from other cattle except in this and in the thickness and firmness to the touch of their hide. These Garamantes of whom I speak hunt the 'Cave-dwelling' Ethiopians with their four-horse chariots (Hdt. 4. 183, 1–3).[2]

Flaubert, in his amazing novel, takes something for granted which in modern scholarship is rather contested: the very existence of pre-Islamic trans-Saharan trade, with routes crossing the vast desert and converging in Carthage, the sumptuous setting of *Salammbô*. Conventional scholarly wisdom, however, has it that trans-Saharan long-distance trade did not start until the age of the dromedary and indeed not until the coming of Islam: 'The regular commercial and cultural exchange between western Africa and the Mediterranean world did not start properly until the 8th century AD' (Masonen, 1997: 117). The quest for traces of a Mediterranean presence – of whatever kind – in Sub-Saharan Africa has even been referred to as a colonialist attempt to reduce Africans to 'passive objects in their encounter with other civilisations' (ibid.: 116).

Be this as it may, at the basis of this paper is the hypothetical assumption that there is more to ancient accounts about trans- or *circum*-Saharan contacts – including narratives like the famous *periplous* of Hanno, king of the Carthaginians – than just the classical authors' notorious fancifulness. To be sure, since its domestication in Late Antiquity, the dromedary provides a – not merely symbolic – thread linking the histories of Africa, Europe and the Near East (Cummings, 1986: 3–4). To assume that crossing the desert was within reach for its neighbours, is plausible however, even though the process of desertification, stretching (according to paleaoenvironmental data) from about 2300 to about 700 BC, was certainly completed by the time Herodotus was writing (Liverani, 2003a; Kröpelin, 2008).

Ethnographic narratives

In close relation to the general problem of its plausibility, Herodotus' account raises a number of further questions: first, how can the apparent contradictions in his narrative be explained? Herodotus introduces the Garamantes as solitary, chicken-hearted underdogs whose inability to defend themselves he deems noteworthy – only to get back to them later as 'a very great nation' (ἔθνος μέγα ἰσχυρῶς) experienced in charioteering and slave-hunting. This is a remarkable discrepancy. Second, what information does Herodotus possess on the ethnic backgrounds – their 'identities', if you like – of the desert people he lists and how reliable is his account in this respect? And third, how does a 'powerful nation' in the midst of the Sahara fit in with what we know about the situation in the Mediterranean in Herodotus' time? To address these questions, my paper will attempt a brief textual analysis of the Herodotus-narrative, followed by an attempt to map the Garamantes in the world of the 5th century BC.

Herodotus' excursus on the nomadic peoples of Libya seems straightforward. He begins with the campaign of the Persian satrap Aryandes in North Africa, some of whose tribes were under Persian overlordship, 'while the greater number paid no regard to Dareios.' (Hdt. 4. 167, 3). This leads Herodotus to his list of peoples inhabiting the Libyan Desert. He mentions the following groups: Adyrmachidai, Giligamai, Asbystai, Auschisai, Bakales, Nasamones, Psylles (whom Herodotus reports as extinct), Garamantes, Makai, Gindanes, Lotophagoi, Machlyes and Ausees. Some of them he locates in the hinterland of coastal cities: the Asybstai in the vicinity of Cyrene, the Auschisai in the area of Barke, a city in western Cyrenaica. The Lotophagoi lived on a 'peninsula', easily to be identified with the island of Djerba. Further west, the Machlyes and Ausees 'dwell round the lake Tritonis' (ibid., 180, 1), probably the Gulf of Gabès. For Herodotus, each of these peoples is of a particular ethnographic interest: the Gindanes' women, for instance, wear leather anklets, one for each man they had sexual intercourse with (ibid., 177). The list follows an evident geographical rationale, roughly from east to west, along the Mediterranean coastline. The group located furthest inland appear to be the Garamantes, the group located furthest

to the west are the Ausees in present-day Tunisia.

What follows is a brief description of the area's geography: next to the littoral comes an area where the wild animals live and 'and above the wild-beast region there stretches a raised belt of sand, extending from Thebes of the Egyptians to the Pillars of Heracles' (ibid., 181, 1) – the Sahara. In this desert, oases can be found, or, in Herodotus' words,

> in intervals of about ten days' journey there are fragments of salt in great lumps forming hills, and at the top of each hill there shoots up from the middle of the salt a spring of water cold and sweet; and about the spring dwell men, at the furthest limit towards the desert, and above the wild-beast region (ibid., 181, 2).

The ethnographic description of the Saharan peoples – Ammonioi, Garamantes, Atarantes, Atlantes and an unknown people inhabiting the last water place – is arranged along this chain of seven oases. The account features a number of striking elements, of which the reference to the 'great nation' of the Garamantes is certainly the most puzzling one. Second, the regular gaps of 10 days' journeys between the individual oases stand out. The perspective is linear, based on Egypt. Third, like in the preceding list of peoples living close to the sea, Herodotus connects each group with specific ethnographic memorabilia. But while these may be exotic in the first list, the properties of the second group of peoples are truly outlandish, especially as we get further afield: the Garamantes have oxen 'that go backward as they graze' (ibid., 183, 2), the Atarantes have no names (ibid., 184, 1) the last, unnamed people lives in houses built of salt (ibid., 185, 3). Finally, it is conspicuous that for one oasis, Augila, Herodotus, does not provide us with the name of an ethnic group living there; he just mentions, as in the first list, that Augila is regularly visited by the Nasamones who collect palm-fruits there.

Barbarian *topoi*

What are we supposed to make of such a narrative? It has been suggested we should discard the information provided here altogether (Swanson 1975: 598) or partly (Gsell, 1915: 155; Lloyd, 1975: 136) or to approach it only from a, as it were, metahistorical point of view, focusing on the discourses of otherness underlying ancient ethnography.[3] Undeniably, Herodotus, like any ancient ethnographer, applies stereotypical patterns of interpretation to his subject. A recurring one is that of the inverted world ('verkehrte Welt', Nippel, 1990: 18–19), manifest in his description of Egyptian customs which are opposed to those of all other peoples (Hdt. 2. 35, 2). One of his favourites is the inversion of gender roles, also applied to the peoples of Libya.[4] But the presence of 'barbarian' *topoi* in the text does not mean that all the details are imaginary. Wilfried Nippel reminds us, to my mind correctly, that 'Herodotus shows a scholarly ethos committed to objectivity' ('Herodot zeigt ein der Objektivität verpflichtetes wisschenschftliches Ethos', Nippel, 1990: 15).

This 'ethos' is particularly visible in Herodotus' critical treatment of his own sources. In the case of the peoples of Libya, Herodotus must have had a wealth of different sources. The tribes living close to the Mediterranean were known to the Greeks (and Phoenicians) for several centuries. They lived in the vicinity of Greek or Phoenician cities, maintained manifold ties with the Aegean and Levantine colonists and were, from a Greek point of view, just outside the *oikoumene*. The tribes of the Sahara were a different matter. Herodotus must have come across them in Egypt: this is suggested by his geographical perspective. The account's linear structure, the regular alignment of the water places and the mention of one particular place (Augila) without a people related to it suggests that his main source was indeed an itinerary, garnished – by Herodotus himself or secondary sources – with ethnographic details to make it fit in an ethnographic excursus on Libya. The apparent discrepancy in his description of the Garamantes – if it is not the result of textual corruption[5] – could be explained in the same way. In his effort to associate as many stages of the route as possible with a particular tribe or group, Herodotus may have confounded pieces of information of various origins. This could suggest that 'Garamantes' at his time was a rather vague, generic term, which referred to a variety of rather disparate groups, living in the area of the Zella-Fuqaha' oasis. If we attempt[6] – with Carpenter, 1956; Law, 1967; Liverani, 2000b, who all read the narrative as an itinerary – to pinpoint Herodotus' geographical indications on a map of the Sahara, a route running diagonally across the Sahara, from Egypt towards what is now northern Nigeria, emerges.

The Garamentes in a globalizing Ancient world

Provided this interpretation of the text is correct, how does a trans-Saharan trade route in Herodotus' time fit in the wider Mediterranean framework of the period? Travelling through the desert was troublesome and dangerous; it required a logistic backbone of some sophistication and huge investment; it required people in the first place who were willing to do the job. What could have caused men to take the risk and trouble? The question inevitably leads to the kinds of goods involved in the trade. Herodotus makes recurrent mention of salt, of which the Sahara is rich indeed: salt was the main commodity the Sahara supplied to the medieval trade networks, whereas gold and slaves travelled from Sub-Saharan Africa northwards.[7] Herodotus' reference to Garamantes hunting cave-dwelling Aithiopians (Hdt. 4. 183, 4) may well be read as an allusion to slave trade. If Herodotus describes a trade route here, a route that directly pointed towards West Africa's gold-mining areas, slaves and gold were in all likelihood the commodities transported along this route.

Why were slaves and gold required in the Mediterranean, to an extent that justified the effort, cost and risk implied by the trans-Saharan route? The Mediterranean used to have its sources for such goods, sources of long standing at that. The most comprehensive description of an Archaic Mediterranean commercial network is the famous 'Lament over Tyre', in the book of Ezekiel (27). The book obviously dates to the period of Exile, but the passage has almost certainly older sources, which go back into the 8th and early 7th centuries BC, when Tyre was at the climax of its commercial power. In this text, the Phoenician coastal city is portrayed as the centre of an extensive network of trade routes, the rationale of which is straightforward: agricultural products, raw materials and slaves are brought to Tyre, whereas the Phoenician city supplies luxury commodities and services. Like a spider in its web, Tyre was the centre of a full-fledged, integrated, hierarchic commercial system with a strictly vertical division of labour between core and periphery (Liverani, 1991; Sommer, 2000: 127–8; Sommer, 2007). Generally speaking, the further

afield a region was from a Levantine's point of view, the less developed it was economically and the less sophisticated were the goods it had to offer. Those who had to offer nothing but their manpower supplied slaves.

For our purposes, it suffices to have a closer look at the areas that were involved in the exportation of gold and slaves. 'The traders of Sheba and Raamah traded with you; they exchanged for your wares the best of all kinds of spices and all precious stones and gold' (Ezek. 27: 22). Sheba and Raamah can be identified with the southern tip of the Arabian peninsula, present-day Yemen, the ancient Arabia Felix. The other passage of interest is the one concerning the suppliers of slaves: 'Javan, Tubal, and Meshech traded with you; they exchanged human beings and vessels of bronze for your merchandise' (ibid. 27: 13). Javan, first mentioned in the 'table of nations' in the book of Genesis, is the Hebrew word for Greece, Tubal refers almost certainly to northern Anatolia, Meshech is the central Anatolian landscape of Phrygia.

In Ezekiel, all these areas appear as parts of the outer periphery of Tyre's commercial system; they are literally on the fringes of the world of that period. The world of Herodotus' time is clearly a very different one: Greece has witnessed the rise of the *polis*, the victory in the Persian Wars and a steady economic boom making cities like Athens, Miletus and Corinth hubs of the Mediterranean long-distance trade rivalling with Tyre and the other Phoenician cities. The Black Sea littoral in northern Asia Minor had been subject to Greek colonization resulting in substantial changes and, in the *longue durée*, a radical process of transculturation between Greek and indigenous populations. Central Asia Minor became the centre of the Lydian kingdom and later a part of the Achaemenid Empire, linked to the Persian 'royal route', with subsequent rapid development. South Arabia, from the 7th century onwards, turned from a tribal area, populated by largely segmented societies, into the urbanized, literate centre of a fully-fledged empire. The construction of the dam of Marib in the 6th century BC marks a true watershed, allowing for intensive agricultural production and, in the long run, substantial demographic growth.

All this suggests that, towards the middle of the 1st millennium BC, the Mediterranean–Near Eastern economic system was rapidly changing. New centres were emerging in old peripheries, achieving self-sustained growth. Societies that had been merely able to supply slaves and raw materials were developing industrial capacities themselves, and they were evolving into active participants in the intercontinental long-distance trade. Old peripheries turning into new centres and 'global' economic growth call for the development of new peripheries. As a consequence, the emergence of a trans-Saharan trade-route and the rise of urban or proto-urban societies in the oasis belt in the 5th century BC can not only be explained, as recently done by Mario Liverani,[8] as a result of the final stage of desertification around 700 BC; it also fits in with the general pattern of demographic, economic and commercial expansion we encounter in the Mediterranean and Near East. Unless I am very much mistaken, Herodotus' Libyan tribes were the tiger states of his time, benefiting from a globalizing ancient world and its insatiable appetite for raw materials and manpower.

Notes

1 τούτων δὲ κατύπερθε πρὸς νότον ἄνεμον ἐν τῇ, θηριώδεϊ οἰκέουσι Γαράμαντες, οἳ πάντα ἄνθρωπον φεύγουσι καὶ παντὸς ὁμιλίην, καὶ οὔτε ὅπλον ἐκτέαται ἀρήιον οὐδὲν οὔτε ἀμύνεσθαι ἐπιστέαται.

2 καὶ ἄνθρωποι οἰκέουσι ἐν αὐτῷ τοῖσι οὔνομα Γαράμαντες ἐστί, ἔθνος μέγα ἰσχυρῶς, οἳ ἐπὶ τὸν ἅλα γῆν ἐπιφορέοντες οὕτω σπείρουσι. συντομώτατον δ' ἐστὶ ἐς τοὺς Λωτοφάγους, ἐκ τῶν τριήκοντα ἡμερέων ἐς αὐτοὺς ὁδός ἐστι· ἐν τοῖσι καὶ οἱ ὀπισθονόμοι βόες γίνονται· ὀπισθονόμοι δὲ διὰ τόδε εἰσι. τὰ κέρεα ἔχουσι κεκυφότα ἐς τὸ ἔμπροσθε· [3] διὰ τοῦτο ὀπίσω ἀναχωρέοντες νέμονται· ἐς γὰρ τὸ ἔμπροσθε οὐκ οἷοι τε εἰσὶ προεμβαλλόντων ἐς τὴν γῆν τῶν κερέων. ἄλλο δὲ οὐδὲν διαφέρουσι τῶν ἄλλων βοῶν ὅτι μὴ τοῦτο καὶ τὸ δέρμα ἐς παχύτητά τε καὶ τρῖψιν. [4] οἱ Γαράμαντες δὴ οὗτοι τοὺς τρωγλοδύτας Αἰθίοπας θηρεύουσι τοῖσι τεθρίπποισι· . It is at least a curious footnote that chariots are indeed a common motif in the Saharan rock paintings: 'In the western Sahara they occur along a route running from the region of Figuig (Southern Oran) and the Djebel Bani in the north, via Zemmour, Mauritanian Adrar, and the Dhar Qualata to Tondia, near Goundam on the Niger. In the central Sahara, the route runs from the Fezzan and Fort Polignac in the north, via Tassili des Ajjers, Hoggar and Ti-m-Missao to Es-Souq in Adrar des Iforas.' (Law 1967: 181–2; cf. also Gautier 1935a: 553–6; Gautier 1935b: 14–17.)

3 Generally along the lines of Hall, 1989. But see Nippel, 1990: 11–29, on 'ethnographische Topoi' and 'Deutungsmuster'.

4 Hdt. 4.180, 2: ὀρτῇ δὲ ἐνιαυσίῃ Ἀθηναίης αἱ παρθένοι αὐτῶν δίχα διαστᾶσαι μάχονται πρὸς ἀλλήλας λίθοισί τε καὶ ξύλοισι, τῷ αὐθιγενέι θεῷ λέγουσαι τὰ πάτρια ἀποτελέειν, τὴν Ἀθηναίην καλέομεν. τὰς δὲ ἀποθνησκούσας τῶν παρθένων ἐκ τῶν τρωμάτων ψευδοπαρθένους καλέουσι. ('They celebrate a yearly festival of Athena, where their maidens are separated into two bands and fight each other with stones and sticks, thus (they say) honoring in the way of their ancestors that native goddess whom we call Athena. Maidens who die of their wounds are called false virgins.').

5 As suggested by some editors of the text (Burn; Legrand). McCall, 1999: 199–200.

6 With Carpenter, 1956; Law, 1967; Liverani, 2000b; Liverani, 2000a; Liverani, 2001; Liverani, 2003b, who all read the narrative as an itinerary.

7 The trans-Saharan trade reached its climax between *c.* AD 700 and 1100, when gold from Ghana and the upper Niger region as well as slaves from Sub-Saharan Africa was transported through the desert to the Mediterranean, where demand was constantly high. The Berber tribes of the desert exported salt to Ghana and – in return for Sub-Saharan gold – received finished products from the Mediterranean centres (Mauny, 1961: 293–396; Curtin, 1984; Thiry, 1995: 502–42; Liverani, 2000b: 507–8). For the early modern period, Austen, 1993.

8 Liverani, 2001; Liverani, 2003b.

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Slavers on Chariots

Elizabeth Fentress

Modelling slaving societies

This paper deals with sources of slaves outside the Classical world, rather than the multiple ways of acquiring them inside it – private sale, war, banditry and piracy, reproduction, penal slavery, foundlings.[1] The model used here is provided by an example far from Africa, but one that gives as a clear view of the mechanisms of the slave trade outside the area directly controlled by Rome. It comes from the recent work of André Tchernia and Michel Poux on 2nd-century Gaul (Poux, 2004; Tchernia, 2010).

The scale and intensity of the trade between Tyrrhennian Italy was already clear from the Madrague de Giens wreck, excavated by André Tchneria and Antoinette Hesnard between 1972 and 1975 (Tchernia, Pomey and Hesnard, 1976; Pomey and Tchernia, 1978: 233–51). It was huge, and scientifically loaded with somewhere between 6,000 and 7,800 Dressel 1 amphorae, whose stamps, many of which were of P. Veveius P. f. Papus, indicate that they came from the region of Terracina (Tchernia *et al.* 1976: 14).[2] Above these were found 1,635 sherds of black glaze vases, with a minimum number of individuals totaling 287, of these latter, 233 were drinking cups (ibid. 47–59). Diodorus' well-known remark that the Gauls liked wine so much that they would trade a slave for a jar of it immediately seemed here to be directly relevant (ibid.: 47–59).[3]

In France, rescue archaeology then brought about the discovery of a large number of ritual sites and tombs scattered throughout the country. Dating between the middle of the 2nd century BC and the middle of the 1st, they showed a range of similarities. First, they were covered with amphorae. Hundreds of them.[4] Enough amphorae to keep 1,000 people drunk for a week. Gallic tombs, too, contained large amounts of amphorae. At sites such as the Verbe Incarné at Lugdunum ditches surrounding an open enclosure are filled with very deliberate deposits of amphorae, alternating with pig bones (Poux, 2004: 527). There were at least 700 individual amphorae. These were very systematically disposed within the ditch. In some places were groups of rims which still had their stoppers, in their mouths, and had thus been sliced off with a hatchet: clearly an ancient form of opening a bottle with a saber. Elsewhere were aligned the large straight handles of the Dressel 1 form. The bone layers showed that around a hundred pigs had been axed as well. This was clearly not normal domestic refuse. The excavators decided that it was a military camp where the troops had partied incessantly (Mandy, 1989: 37–95; esp. 85–90). The fact that no Roman military equipment was found there made this an odd conclusion, and details like the decapitated skull of a woman from the same deposit and the articulated skeletons of two horses did not sit well with this hypothesis either. Poux takes it, and the numerous similar sites, as the remains of gigantic Celtic potlatches, where a chief traded enormous amounts of food and drink for a spectacular rise in his status – note that the chief Luern, who enclosed a space of 6 stadia where he filled vats with expensive wine and had so much meat prepared that no one could eat without stopping for days, had a reputation which reached Poseidonios.[5]

Now, the study of the amphorae in the deposit has revealed that it was not created in a single moment. Rather, a group of about 50 amphorae stamped by L. Sestius were found together, as are another group of Dressel 1 A forms (Poux 2004: 529 n.2). So it looks as if the ditch had surrounded more than one party, over several decades. Poux interprets it as a ceremonial site, where wine amphorae and pigs were sacrificed to the unity of the tribe. Tchernia points out that the wine in the amphorae bound for Gaul in the Madrague de Giens wreck were filled with red wine, and thus the act in which the amphora was decapitated would have revealed a satisfyingly bloody-looking contents (Brun, Poux, Tchernia and Tournier, 2010 ; Tchernia forthcoming). The beheading and burial of the amphorae can be seen as a substitute sacrifice (Poux, 2004: 529 n.2 passim).

Thus these are not simply parties, or even drunken orgies: there is a serious ritual component, in which human sacrifice might or might not have been included. The relationship between these sites and the slave trade is fairly easy to imagine. Slaves were the principal merchandize that the Roman merchants received in return for the wine they delivered. It is hardly insignificant that Lugdunum, which was one of Strabo's *emporia*,[6] has so far revealed five of these sacrificial enclosures – including that of the 'Verbe Incarné'. But where did the slaves come from? You can hardly raid your own countryside on a regular basis: soon there would be no peasants and no food. Clearly the supply of slaves depended on raiding parties with an element of surprise on their side. The more and braver men the chief could command, the more slaves he could acquire, and the more wine would become available for the great sacrifices – which, in turn, would enhance his prestige and the loyalty of his men. This potlatch of wine and meat is redistribution in its most primitive form. It seems to have initiated around the end of the 3rd century BC, the date at which the first of these feasting sanctuaries was created (Poux, 2004: 195). It thus pre-dates the creation of the great Italian wine estates of the 2nd century, but not by much. After 150 BC the practice took on massive proportions, with wine arriving in every corner of Gaul.[7]

Poux and Tchernia's reconstruction of this traffic gives much food for thought. It was not, of course, the only instance of the exchange of wine for slaves – Strabo explicitly associates the trade with Aquileia, and with Tanaïs on the northern shore of the Black Sea.[8] Tanaïs must have inherited the role of the Black Sea ports of Olbia in the Greek period, receiving slaves from the steppes from the Scythians, whom they supplied with the wine and perhaps silver for their celebrations.[9]

Now, while the Roman state did not approve of slaving within its boundaries it had no problem with the sale of slaves: indeed, Scheidel estimates that between 250,000 and 400,000 new slaves were required per year to maintain a slave workforce of somewhere between 5,000,000 and 8,000,000.[10] Although within the empire piracy and kidnapping undoubtedly took place, the Romans preferred to let their slaving be done by people outside the empire, except in cases where slaves were a by-product of war.[11]

However, there appears to have been some connection between emporial sanctuaries and the slave trade. Apart from Delos, where Strabo tells us that 10,000 slaves (a myriad) passed through every day,[12] we know from Cicero that a group of pirates wintered in the bay under the temple of Venus, presumably the sanctuary of Tas Silq on Malta.[13] Did they sell their captives outside its *temenos*? The sanctuary certainly became rich, and had a distinctly African flavour, for Valerius also tells us that an admiral of the Numidian king Massinissa stole some massive ivory tusks kept in the sanctuary. These were subsequently returned by Massinissa, and dedicated there with an inscription.[14] We have increasing evidence that the Phoenicians intensified their use of slaves during the 2nd century, both for farming, as new estates were founded in the territory of Carthage, on Jerba and near Gadir-Cadiz, and for the industrial production of fish products (Fentress, forthcoming; Lopez Castro, 2007).[15] They may, of course, have used Delos as their source, but it seems possible to relate another slave trade to the Phoenicians, as well. This involved mobility, speed, and the Garamantes of the Fezzan.

The Garamantes and the Mediterranean

Within the context of other papers on the Garamantian routes, including Andrew Wilson's very sophisticated analysis of the small scale exchanges that complement the long distance movements of objects and people (Wilson, forthcoming),[16] it is unnecessary to establish the density of exchange for which the Fezzan provides evidence. What I want to do here is to argue particularly for the presence of slaves among the commodities that were traded there.

Liverani posits the existence of a trade in gold from the 6th century BC, and makes a plausible case for the use of the camel from the 6th century onwards (Liverani, 2000).[17] It is hard to interpret the great oracular sanctuary at Siwa founded by Amasis (570–526 BC) as anything other than an emporial sanctuary, marking the border with the desert tribes (Kuhlmann, 1988). It is the period from the 5th century that, as David Mattingly and Mario Liverani have shown, marks the beginning of the shift from *oppida* on the highlands towards the formation of the city of Germa; a process that culminated in a Garamantian state extending from the Fezzan through the Taddrart Acacus, complete with subsidiary towns and forts.[18] This transformation, for Liverani, would have been powered in large part by the increasing expansion of the gold trade.

There are problems, though. First, although this is a cavil, there are no known cities on the Niger River before the 2nd century BC; the earliest layers excavated at Jenne Jano, and this was not yet a city.[19] Second, and rather more important, are the arguments advanced by Timothy Garrard in an article dismissing the early importation of Ghanaian Gold (Garrard, 1982). First, the Cyrenian gold coinage did not last, and the experiment was not repeated after the middle of the 5th century. Carthage struck gold and electrum at various mints, but apparently only in Sicily and Sardinia. There is no evidence that this gold came from West Africa. Ptolomaic gold coinage probably came from the recycled gold of their closed exchange system, as well as from Nubia, while the Romans struck no gold in North Africa or Egypt until 296 AD (ibid.: 446). However, by the 5th century AD all taxes from North Africa had to be paid in gold.[20] Byzantine gold coinage from Carthage is also plentiful, while the conquering Arabs lost no time in setting up a mint in Kairouan to strike gold. Garrard argued from this evidence that the supply from the mines of Ghana only came on-line at the end of the 3rd century AD, and this has not yet been seriously disputed. What did their undeniable caravan trade carry?

Iconographic evidence for African slaves

My answer is naturally going to be centred on the slave trade. Slaves were a particularly mobile merchandize, for unlike other commodities slaves could walk, and provided convenient carriers for other objects. Further, there is evidence for black slaves in the Mediterranean from as early as the 6th century BC. This evidence is exclusively in the form of images: in paintings on ceramics and in small statuettes which clearly represent black slaves. A good collection of these was made by Grace Beardsley as early as 1929 (Beardsley, 1929).[21] Subsequently, however, Frank Snowden's wide survey of images of black people in Antiquity tended to slide over the servile nature of many of these images, interpreting shackles as 'rings' and their wearer as 'perhaps a captive' (Snowden, 1970: no. 42).[22] However, closer examination seems to demonstrate that Beardsley's earlier impression that most of the images were servile from an early date was entirely correct, while we may add that the great majority of them represent children. The exceptions are mythological representations of the Ethiopians visited by Menelaus,[23] or the Ethiopian bodyguard of Busiris, the king of Egypt.[24] Many early depictions of black people show them as objects above all of curiosity: noble warriors, mythological figures, or ethnographic curiosities, alone on 6th and 5th-century head vases or in contrast to the white heads on Janus flasks (Beardsley, 1929: 23–37). Their heads may even have had an apotropaic value, which we might see on an archaic silver amulet from Cyrene (Warden, 1990: 14 no. 36), or the faience head beads produced in Naukratis, for which there are moulds in the British Museum (**Pl. 1**) (Beardsley, 1929: 18).

Plate 1 Mould for faience African heads, from Naukratis. 6th century. British Museum 1920,0417.3

Plate 2 Head, cast from a 5th-century mould found in Naukratis. Ashmolean Museum, University of Oxford, AN1896–1908 G. 96

Plate 3 5th century bronze statuette of a boy cleaning a boot. British Museum 1859,0301.17, provenance unknown

Plate 4 4th century BC askos of a crouching child. By permission Ashmolean Museum, University of Oxford,AN 1922.205

A head of a young boy in a hood, also from 6th-century Naukratis, seems an equally ethnographic image (**Pl. 2**).

However, from the 6th century onwards we find young black boys who were clearly not simply exotic and interesting but certainly luxury slaves. Some evidence for black slaves in domestic contexts are relatively benign images of household servants, like a girl holding a mirror for her mistress on a black-figured lekythos,[25] or a stool bearer.[26] As time goes on, however, the representation of the black in a lowly, crouching, position, becomes more common. A 5th century bronze from Egypt shows a little boy polishing a boot (**Pl. 3**), while a small Askos from Boeotia shows a crouching boy, with the spout pouring out from his lower back: the image is degrading or worse (**Pl. 4**).[27] In a 3rd-century statuette from the Fayyum the hands of the boy are bound behind him,[28] while a black steatite statuette of a crouching boy is clearly shackled.[29] A 3rd-century askos, from Capua, depicts a child wearing a cloak curled up against the amphora for which he might have been exchanged, and is perhaps evidence for the two-way nature of the trade. In a similar piece from Taranto the child is naked and clearly starving (**Pls 5 and 6**). The majority of the images are of the children who seem to have been the principle objects of the trade: it is noteworthy that in the 19th century, as the slave trade was dying out, overwhelming numbers of children were observed in the Saharan caravans.[30]

By the 1st century BC there is a new twist. Although depictions of squatting Africans continue (**Pl. 7**) slaves are assigned new *personae* as sexually available, well-endowed bath attendants, as on a well-known mosaic from the house of the Menander at Pompeii.[31] Their sexual uses are also evident on a lamp in Boston,[32] or in a series of lamps produced between the 1st century BC and the 2nd century AD (**Pl. 8**).[33] The children still appear, now as servile *delicati*:[34] the dove on a statue of a young black boy from Sousse, created in the Hadrianic period, makes the erotic allusion explicit.[35] The progression from the noble, warrior Ethiopians depicted on early Greek vases towards the slaves found on many depictions of black people in Roman art could not be clearer, and can be interpreted as a

Plate 5 Black glazed 3rd-century pottery oil-bottle from Capua, in the form of a nude African boy resting against an amphora which forms the spout. British Museum 1873.0820.285

Plate 6 Askos of slave boy and amphora, from Taranto (Campanian manufacture?). Ashmolean Museum, University of Oxford, AM1884.583

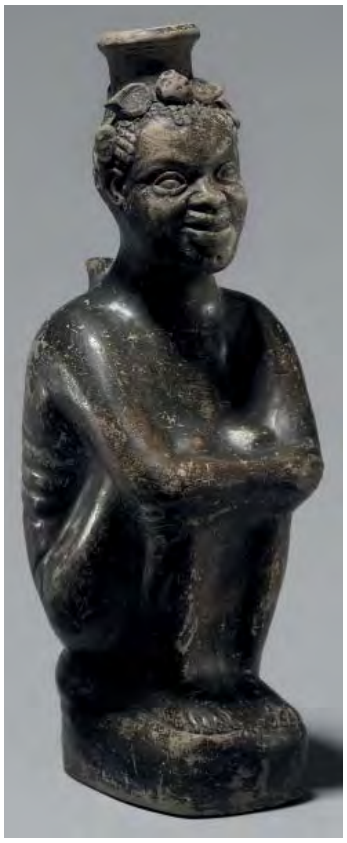

Plate 7 Pottery flask in the form of a squatting African, black glaze, Campania, 80–1 BC, from Ruvo in Puglia. British Museum 1873,0820.287

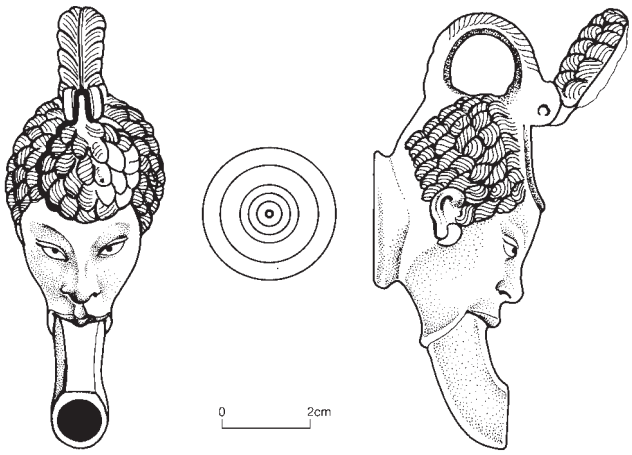

Plate 8 Bronze lamp in the form of an African, the nozzle projecting from his mouth. Provenance unknown. British Museum 1824,0454.17

product of their commercialization through North Africa and the Mediterranean. Black people in Egypt may well have come initially from Nubia or Ethiopia, but the features on most of these images are anything but Nilotic. Sold at Alexandria – *Alexandrinus* is a common epithet (Nielson, 1990: 79)[36] – or at the Syrtis, at Leptis Magna or Gigthis (note that Herodotus speaks of a route from Augila to the land of the Lotus Eaters),[37] they created riches both for their captors, the Garamantes, and for the merchants at those ports. There seems every chance that Punic Carthage was a beneficiary of this trade from the beginning. Frontinus tells us that black auxiliaries served in the Carthaginian army from the 5th century BC.[38]

However, it may have taken a lot longer to achieve a steady flow of slaves than Liverani assumes for the gold trade. There is not much sign that the trade was fully underway before the end of the 5th century BC, when the urban site of Garama really started to take off (Mattingly, 2003: 348), and the quantity of representations of black Africans multiplied. By the time of Terence, however, an 'Ethiopian' slave girl was a fine gift for a lover that could be accepted as plausible in the context of the play, no longer beyond the means of all but the richest.[39]

That this trade continued well into the late empire is demonstrated by a curse tablet from Carthage in which a hapless black charioteer is insulted as '*faex Garamantarum*', the dregs of the Garamantes.[40] It is likely, in fact, that the flow of gold from Ghana from the period of Constantine onwards was a direct consequence of this traffic, using the slaves themselves to carry the gold. Although the traffic probably diminished considerably in the Late Roman period, when Garama declined noticeably, and sites such as Aghram Nadharif were abandoned,[41] the 8th century, after the Arab conquest, saw it begin anew, under the auspices of Kharejite traders who sold slaves into Egypt and beyond (Savage 1997).

Trading

We thus have fairly clear evidence for a trade in slaves, particularly children, supplied by the Garamantes to Mediterranean traders. The routes that we can read from Herodotus suggest that the ports of trade included Siwa, at which they would have been bought by Egyptian traders and moved on to Naukratis or, later, Alexandria (Fontana 1995). Another route, as we have seen, cut up from Augila to the 'land of the lotus eaters'. Here Gigthis probably served as the port of trade, with Punic merchants moving the cargoes on by land or sea to Carthage. Finally, Leptis Magna provided the most direct route to the Mediterranean, and it is hardly a chance that the great Chalchidicum of Lepcis, the auction house/sanctuary from which Braconi argues that slaves were sold, is found on the road between the Severan Gate to the south and the port. At the time it was built it was very likely outside the city limits, the first major building that a caravan from the desert would encounter (Braconi, 2005).

In return for slaves, and the other products like carnelian and wild beasts (Mattingly, 2006: 357–62), the Garamantes imported Roman products, probably textiles,[42] certainly amphorae, and it is these that provide the clearest link to the Gallic tribes we discussed at the beginning. Found in numerous graves, and now on settlement sites (Mattingly, Lahr and Wilson, 2009: 122), Tripolitanian and Italian amphorae occur in huge numbers: Andrew Wilson estimates over 50,000 imported in the period between the end of the 2nd century BC and the 2nd century AD, based on the numbers of tombs and the regularity of Roman amphorae within them.[43] Considering the twin issues of distance and of the desert, this represents exchange on a massive scale. If we take 50,000 as a purely hypothetical figure, it would represent an import of 167 *per annum* over the three centuries, suggesting the passage of as many slaves into the Mediterranean if the 'exchange' rate resembled that of pre-Roman Gaul: not an enormous amount, but a highly visible and valuable commodity. Further, the rate of death from dehydration in the trans-Saharan crossing was severe: Lovejoy estimates that as many as 90% of boys might die in passage in the 19th century, which would imply that around 1,500 were actually embarked for the north (Lovejoy, 2000: 35). As Wilson shows, the trade is likely to have been carried out through a complex web of smaller-scale exchanges,

with slaves being traded up the circuit and amphorae and other goods traded down in ill-defined steps: salt was an important commodity in trade with the Niger Delta (cf. Lovejoy, 2000), as, presumably, was metal work.[44] The details of these steps remain obscure: it is still not certain whether horses or camels were used.[45] However, the rock engravings seem to provide unequivocal evidence for the importance of the horse, whether or not it was used together with camels.

Raiding

The first step towards trading slaves is, of course, catching them. At least initially, the Garamantes appear to have done their own slaving. This is what we can deduce from Herodotus, who famously remarks that they hunted the Troglodyte Ethiopians on four-horsed chariots.[46] David Mattingly makes the interesting suggestion that the representations of Garamantian chariots that are widespread across the Sahara were created not by the Garamantes themselves, but by their victims, groups of earlier pastoral people who used the rock shelters in which the drawings are found (Mattingly 2003: 89). He notes that the chariots could not have been used on the full route across the desert and they could easily have been dismantled and reassembled at appropriate points. Indeed, horses and chariots are particularly useful for raiding people: villages can be burned, and the escaping people captured with the chariots.[47] Jack Goody classes them among the 'means of destruction' necessary to a warrior society (Goody, 1971: 69), while Mattingly points out that horses were used by desert tribes for fighting into late antiquity (Mattingly 2003: 88). It seems likely that rival desert populations were the prey in the early centuries of the Garamantian state, raided both for resale and for the agricultural labour they would provide in the Fezzan itself (Mattingly, 2006: 201). From the desert region the search for slaves must have quickly extended to the Niger Bend. Evidence for Sub-Saharan Africans in the population has been provided by the tombs of the Fezzan, where recent excavations have found a tomb with a very African lip plug (Mattingly, Lahr and Wilson, 2009: 118–19); while the Italian anthropologist Sergi, noted four 'negro' skulls against three 'Mediterranean' and six 'intermediate' (Sergi, 1951: 499).[48]

The Roman general Julius Maternus accompanied the king of the Garamantes on a slave raid towards the end of the 1st century AD as far as the Niger;[49] perhaps this was an annual expedition, like those of the kings of Dahomey (Law 1967: 67). It cannot be excluded that the Garamantian demand for slaves, both for themselves, and for sale into the Mediterranean World, had a knock-on effect along the Niger, stimulating local chiefs to found cities, such as Jenne Jano, based on plundering their neighbours further south. Studies of western Africa at the height of the 19th century Saharan slave trade show chilling pictures of whole regions, like that of Wasulu in the western Sudan, which were deserted by the end of the 19th century (Klein, 2001: 53; Hubbell, 2001). It would be enormously useful for us to know more about what was going on to the south of the Desert, particularly in the region of Jenne Jano. We won't fully understand Saharan commerce until we have seen both ends of it.

Slaving and the state

Andrew Wilson has shown that the *foggara* irrigation systems were essential to the establishment of agriculture within the Wadi al-Ajal, and that they permitted the survival of the substantial population of the Fezzan (Wilson, 2006). He suggests that dangerous job of digging the shafts would most likely have been carried out by slave labour. The techniques for the creation of the *foggaras* seem to have come from Achaemenid Egypt, where they have been dated in the Kharga oasis to the 5th century BC, both by stratigraphy and from a series of contracts involving the sale of water rights (ibid.: 211; Cruz-Uribe, 2003: 537–44). This date coincides with both the foundation of the urban site at Garama and with Herodotus' tales of Garamantian trade. However, in a society whose self-representation is so clearly that of a warrior elite, it seems highly unlikely that any agricultural labour was carried out by the Garamantes themselves.

Clearly, as Wilson notes, the development of irrigation agriculture will have played a role in the creation of the Garamantian state, but the actual organization required to carry out both the raiding and the trading of other populations will itself have affected state formation and the creation of a hierarchical society. The employment of many of the adult males in raiding parties would have withdrawn labour from the agricultural sector, leaving the products of their raids to fill the gap. The slaving societies of early modern West Africa, such as Dahomey, are obvious examples of this process, in which the men are used for raiding parties rather than agriculture, and much depends on the maintenance of their loyalty and desire for war (Law, 1989).[50] The role of imported wine in emphasizing status differentiation and of its redistribution in encouraging the loyalty of the warriors becomes clear here, while the presence of amphorae in tombs would also link wine and its consumption to sacred space and practice. We have no evidence for the dedication of the amphorae comparable to that of Gaul, but it would be interesting to excavate the settlement sites on which they are found for evidence of feasting.

The very elite society of Garama, notable for its ashlar buildings and richly furnished tombs, contrasts strongly with the oases to the south, such as Fewet and Aghram Nadharif, where a process of social differentiation seems to carry on through the early centuries of the 1st millennium AD.[51] The need to control these southern oases will have created new administrative problems: the citadel excavated by Liverani in Aghram Nadarif, near the oasis of Ghat, was built in the mid-1st century BC. This citadel controls an important trade route leading west, and marked, at Ilarlaren, with a major inscription, or palimsest of inscriptions in Libyan script, which underscores its importance as a point of passage. The construction of the citadel seems to be clear evidence of a move by the Garamantian state to monitor and protect that trade route. At the same time, environmental dessication concentrated the existing population in the oases of Bharkat and Ghat. The people perhaps left an earlier, more pastoral life to practice intensive agriculture in the oases. Here, as in the more northerly Garama, agriculture probably involved slave labour. The growing control exercised by the northern state may also have included taxation of trade passing through the southern passes, and the creation of more urban settlements to avoid the dispersion of families through nomadism (Liverani,

2005: 407). While the houses of Aghram Nadharif are of relatively similar size, as are the tumuli nearby, Garama itself displays a clearer social ranking, and the emergence of a political elite that must have exercised direct control over the society and the slave trade.

Conclusions

This is hardly the first attempt to demonstrate existence of a Saharan slave trade carried out by the Garamantes: it has long been recognized, although it is generally considered but a single component of the Garamantian economy. My argument is rather that slave raiding as an economic activity gives a particular dynamic structure to a society, transforming over time its relationships with its neighbours and those within the society itself.[52] Among the effects is the emergence of a warrior elite, and of goods, such as wine, that form part of their rites and display, redistributed by a chief to his men and eventually by a king to his citizens. Control over the elements of warfare, such as the horse, extension of control over the trade routes and the creation of fortifications to protect them, and the creation of an administrative system, are all components of raiding states. The use of slaves on agriculture within the state is a corollary to their trade outside it: in the trade in children the Garamantes provides a rather singular example of this division.

Notes

1 For a discussion of these see Harris, 1980; Bradley, 1994; Scheidel, forthcoming.
2 For the number of amphorae see Pomey and Tchernia 1978: 234. They note a text from the *Digest* (14.2, 1) where ships are described as 'of 2000 amphorae'.
3 Diodorus Siculus 5. 26. 3.
4 Details and distribution maps in Poux, 2004 n. x.
5 Athenaeus, *Deipnosophistes*, Kaibel 4.36, 4–40).
6 Strabo 4.3.2.
7 See on the organization of the trade Olmer, 2003 and Tchernia, 2010.
8 For Aquilea Strabo 5.1.8; for Tanaïs 2.2. 4.
9 On the slave trade in the Pontic region see Batty, 2008 and Avram, 2007.
10 *Op.cit.* in n. 1.
11 On the importance of captives as a source of Roman slaves see Scheidel forthcoming. On the boundaries between those who could be enslaved and those who could not, see most recently Fynn-Paul 2009: 3–40.
12 Strabo 14.5.2.
13 'Dicunt legati Melitenses … ubi piratae fere quotannis hiemare soleant', in Verrem 2.4, 104.
14 Valerius Maximus II.
15 For Carthaginian estates see Fentress, forthcoming. On the use of slaves in the manufacture of fish products see Colum. *Rust*. 8.16.9; see also Lopez Castro, 2007.
16 Now forthcoming as A. Wilson, 'Saharan trade: short-, medium- and long-distance trade networks in the Roman period', *Azania*.
17 For expressions of this idea see Law, 1967 and Bovill, 1958; *contra* see Swanson, 1975.
18 David Mattingly, this volume, and notably, Mattingly, Dore, and Wilson, 2003; Mattingly, Daniels, Dore, Edwards, and Hawthorne, 2007; Liverani, 2005.
19 On Jenne-Jeno see McIntosh and McIntosh, 1981; on the subsequent gold trade see McIntosh, 1981.
20 Garrard, 1982: 447, citing Theodosian *Code* 12.7.1 through Pharr (trans.) 1952.
21 See Desanges, 1976, for a more negative view of the importance of the trade.
22 On Snowden's use of the terms 'Black' and 'Negro' see Snowden, 1983: 16–17. In the later work Snowden argues against deliberate slaving, suggesting that those black people who do appear to be slaves were enslaved as prisoners of war, and that others will have settled in the country in which they fought.
23 *Od*. 4.84.
24 Apollodorus, *Bibliotheke*, 2.1.5 and 2.5.11. The representations on, for instance, the numerous Athenians white-ground lekythoi and aryballoi probably represent the followers of Busiris or Memnon, king of the Ethiopians. They are tall and lean, dressed in sleeved jackets and trousers, and very different from any of the representations of slaves: indeed, they might be seen as genuine representations of Ethiopians, rather than of West Africans: see Beardsley, 1929: 48. See also, for the alabastra, Neils, 1980.
25 G. and A. Magheru Coll; *Corpus Vasorum Antiquorum* 2, pl. 39, 7–9.
26 E.g. a 5th-century Lekythos with a negroid diphrophoros in a grave scene: Berlin Staatliche Museen, 3291; cf. Bosanquet, 1899: 178 fig. 4; Snowden, 1970: fig. 25. Also see a volute crater from the Louvre, K1 Chryses and Agamemnon, by the painter of Athens 1714, 360–350 BC, showing a Negro slave carrying stools. A Negro slave carrying stools is also reproduced in Moon, 1929: 30–49 pl. xv. http://cartelfr.louvre.fr/cartelfr/visite?srv=obj_view_obj&objet=cartel_7860_34926_K1.004.jpg_obj.html&flag=false.
27 A very similar askos from Punic Kerkouane is reproduced by Fantar 1987: III 610, who identifies it as of Alexandrine manufacture.
28 Louvre Br361.
29 BMA 01.8210, reproduced in Snowden, 1970: fig. 40.
30 Klein, 1992: 54.
31 Reproduced in Clark, 2003: 110.
32 A 1st century AD lamp from Arles in which a dwarf holds his gigantic penis (Clark 2003: 153) makes sense of the Boston Museum lamp, in which the penis is broken, the figure is identified as squatting on a wine skin (accession number, 00.329).
33 See also Louvre Br361; note that Syrians are also depicted on lamps performing the same service: Br 3096.
34 Dunbabin, 2003: 451; Nielsen, 1990 downplays the sexual roles of *delicate* and *deliciae*.
35 Cf. de Chaisemartin, 1987: no. 42. She feels that the bird has a funerary reference, which seems curious in a statue found within a house. See also the early 3rd-century black marble slave from Aphrodisias, holding a perfume flask. Louvre Ma 4926, http://cartelfr.louvre.fr/cartelfr/visite?srv=car_not_frame&idNotice=2698.
36 See also Quintillian, *Inst.* 1.2.7.
37 Herodotus, 4.183, 7.
38 *Strategemata* 1.11.18,
39 Terence *Eunuchus*, 165–7 and 470–1.
40 Riese and Bücheler, XXX 183: 155–6; see also Luxorius 43 on Garamantian women as prostitutes (?) 'Ut tibi non placeat Pontica, sed Garamas'.
41 See Mattingly, 2003; 2007: 349, who observes that evidence for Mediterranean trade diminishes significantly after a peak in the early empire. Cf. Liverani, 2005.
42 Murex-dyed textiles were recovered by the Italian Mission in tombs: Pace, Sergi, and Caputo, 1951: 314.
43 Pers. comm.
44 For metalwork and other artisan products of the Fezzan see Mattingly, 2006: 201.
45 For a recent discussion see Brett, 2006; see also Shaw, 1981; Bulliet, 1975.
46 4.183
47 See for example Webb, 1993: 222.
48 Sergi's methodology, based on cranial measurements, would not be followed today, we await the analysis of the osteological material excavated in the current British projects.
49 Ptolemy 1.8
50 See also Goody, 1971: 55f., and Lovejoy, 2000: *passim*.
51 For a fine diachronic treatment of the changes in Garamantian social structure see Liverani, 2007.
52 These dynamics are illustrated in Lovejoy, 2000, *passim*. For the Ancient world see Annequin, 1983.

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A View from the South

Sub-Saharan Evidence for Contacts between North Africa, Mauritania and the Niger, 1000 BC–AD 700

Kevin C. MacDonald

Introduction: rumours from the north

Over the past decade, increasing investigation of Garamantian and Roman North Africa has led to speculation about relatively extensive trans-Saharan links of trade and/or enslavement prior to the 8th century beginnings of Islamic commerce.[1] Liverani, for example, has recently suggested causality between a precocious trans-Saharan trade and increasing signs of social complexity on the southern margins of the Sahara (Liverani, 2005: 447–8). For Sub-Saharan Africanists such assertions are eerily reminiscent of a time when the cities and states of 'medieval' West Africa were largely depicted as products of Islamic trade stimulus. That this traditional way of thinking was gradually over-turned is due to a courageous half-century of archaeological excavation along the Niger River and in the Lake Chad basin; research which has demonstrated widespread (indigenous) pre-8th century AD urbanism and social complexity.[2] Thus, from a southern point of view, one feels some concern that an external impetus for early West African socio-economic complexity may once again be on the agenda of some scholars. This of course does not need to be, so as long as we view the early historic trans-Saharan sphere as one of syncretism rather than domination or dependence.

In addition to the current archaeological developments in North Africa discussed extensively elsewhere in this volume, there have been some long-standing reasons to seriously consider the importance of pre-Islamic trans-Saharan trade. Foremost amongst these is a seminal article by Timothy Garrard that appeared in the *Journal of African History* in 1982, where numismatic evidence was used to argue for a precocious trans-Saharan commerce in gold. To summarize: Garrard observed that gold was rarely, if ever, utilized for coinage in Carthage and/or Roman North Africa until AD 294 when, after 'the Romans had occupied North Africa for 440 years, the mint of Alexandria began to strike its first imperial gold' (Garrard, 1982: 447). By AD 296 gold was also being struck in Carthage, even during the time of the renegade usurper L. Domitius Alexander (AD 308–311), when Carthage was unlikely to have had any extra-African source of gold. While the Vandals did disrupt the coining of gold in Carthage from AD 429 to 534, it re-commenced following Justinian's re-conquest of North Africa. According to Garrard the gold production of Byzantine Carthage's mint in the 6th and 7th centuries was extensive, and though closed by Arab conquest in AD 695, its Arabic replacement began coining gold dinars at similar levels by AD 698 (ibid: 447–51). The gist appears to be that the Arabic gold trade merely took up where the Byzantine trade left off. Altogether, Garrard's argument is a compelling one which has gone surprisingly unheeded by Sub-Saharan scholars. Indeed, as will be seen below, a late 3rd century AD start date for 'non-casual' trans-Saharan commerce, is borne out by slowly accumulating Sub-Saharan evidence. Earlier interactions, I will argue, are less immediately visible and certainly smaller in scale – though not necessarily any less real (**Pls 1 and 2**).

'Carbuncles' and the 1st millennium BC trade: Tichitt and the Middle Niger

In looking for potential southern partners for 1st millennium BC trans-Saharan trade, or at the very least polities worthy of pillage, one is left with a limited range of options. Just south-west of Lake Chad, Carlos Magnavita has recently discovered a fortified agricultural settlement dating to the mid-1st millennium BC which might answer as an example for that area.[3] Further to the west, in the greater Niger River basin, there is the polity of Tichitt and its satellites or successors.

Tichitt, was an early agricultural economy and arguably West Africa's first large-scale complex society. Its settlements, the largest Dakhlet el Atrouss covering 80ha, comprise dry-stone masonry compound enclosures which would have had thatch and/or wattle-and-daub internal structures, including granaries.[4] The socio-economic trajectory and territorial expansion of the Tichitt phenomenon was been researched and debated for decades, the first rigorous work being that

Plate 1 Solidus of Justinian I (AD 482–565) minted in Carthage in 547–548 (Indiction Year 11). British Museum 1867,1225.2

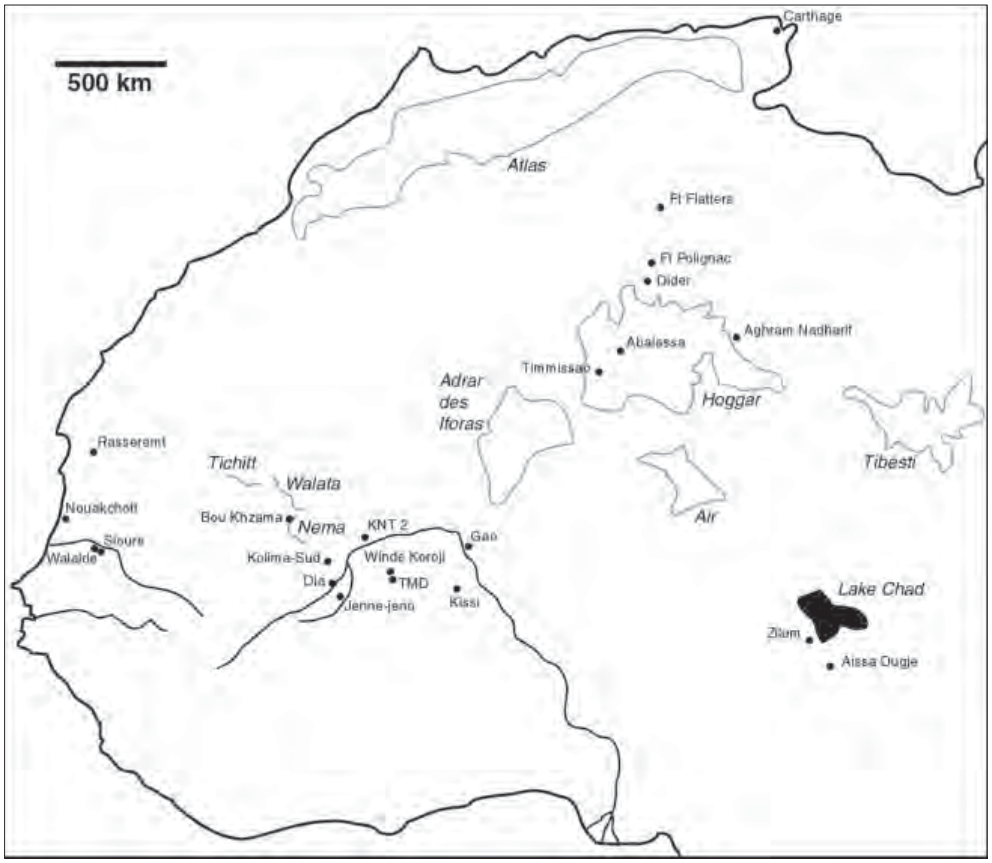

Plate 2 Map of sites and escarpments/ mountainous regions mentioned in the text. Abbreviation: TMD = Tongo Maaré Diabal

undertaken by Patrick Munson at Dhar Tichitt in the late 1960s (Munson,1971). Dhar Tichitt's many settlements have seen continued research, as have those of the neighbouring escarpment of Dhar Walata.[5] Dhar Tagant and its settlements, situated north of the Senegal River, have likewise received serious exploration, and the presence of Tichitt Tradition settlements there has been confirmed (Ould Khattar, 1995a and b). The extension of Tichitt material culture and architecture has also been demonstrated further south at Dhar Nema, with imported stone objects from the Mauritanian escarpments and Tichitt pottery occurring in the northern portions in the Mema and Macina regions of the Middle Niger.[6] In time scale, the Tichitt phenomena began around 1900 BC, reaching its full extension, and probable political apogee by 1000 BC. Economically, I have argued that the initial basis for both status differentiation and wealth at Tichitt and its associated territories was cattle pastoralism (MacDonald, 1998). Over time this socio-political tradition doubtless also embraced more abstract ideological factors, probably linked to noble lineages or clans. Holl has argued that long-distance intra-Saharan commerce also played a role, and I too have asserted that valued stone objects – whether hachettes, stone-rings or beads in semi-precious stone may have served the basis for an exchange economy, or at the very least some means of social insurance (MacDonald, 1998; Holl, 1985, 1993).

In 1988, Roderick and Susan McIntosh dismissed notions of significant long distance trade in the Saharan (Ceramic) Late Stone Age, a period which includes the beginning of the 1st millennium BC. They stated,

> …there is little in the distribution of exotic goods in the Saharan LSA to suggest increasing wealth differentials. Throughout the period, occasional burials contain a small number of beads of semi-precious stones (such as amazonite and chalcedony)… . In nearly every case where source areas have been identified they are less than 400km distant. There is no evidence of growing or even substantial demand through time for these exotics, all of which were likely obtained through either direct visits to source areas or down-the-line reciprocal exchange. Even at Tichitt, there is no reason to invoke, as Holl does, long-distance trade networks controlled by elites to account for the extremely limited movement of imported materials (McIntosh and McIntosh, 1988b: 101).[7]

Yet, if one examines the quantities of long-distance imports recovered from Tichitt sites, there is little difference, at least quantitatively, from materials excavated in pre-Islamic layers of Middle Niger tell sites of Dia and Jenné-jeno. For example from Akreijit (Site 72), the most comprehensively studied of the primary Tichitt settlements, Amblard lists finds of 16 amazonite, 2 carnelian, and 2 ivory beads (Amblard, 2006: Table 57).[8] In comparison, Middle Niger sites *c.* AD 400–800 appear none the richer, despite their generally accepted status by that time as early urban trade entrepots (see **Tables 1–3**, below). Carnelian and amazonite are also known from many Ceramic LSA sites further to the south. For example, an amazonite bead was recovered in the uppermost (1st millennium BC) layer at Kolima Sud (Mema region, Mali), and multiple carnelian and amazonite beads were recovered during surface survey at Ceramic LSA sites of the Windé Koroji tradition (dating to *c.* 2000–800 BC), south of the Niger Rver in the Malian Gourma.[9] Scratch the surface at virtually any Ceramic LSA site in the Sahel and you are likely to make similar scattered finds of such Central Saharan imports. No matter how one chooses to interpret the economic implications of such handfuls of beads, the lesson to be drawn is that the mere quantification of imports from a small archaeological sample is not by itself sufficient to evaluate long-distance interactions and prestige-good economies. Especially because such economies were likely to have included key commodities

whose distribution and ultimate origins are far harder to trace: salt, cloth, enslaved labourers, and livestock (including donkeys and horses, see below). It is also important not to dismiss amazonite and carnelian (chalcedony) as being of little economic importance – compared to copper or, say, glass beads – especially as they are likely to represent the so-called 'carbuncles' of the Garamantes. Regarding their worth in the 1st century BC, Robin Law cites Theophrastos: 'they are so valuable, he says, that even a small one is priced at 40 gold staters' (Law, 1967: 187). While the foregoing is probably a trifle optimistic, there is nonetheless an indication that at that time such semi-precious stones held values far higher than they do at the present. Indeed, one might venture that diamonds are so pre-eminently valuable today only because, for particularistic cultural and economic reasons, we have decided that they are.

The source of these valued 'Carthaginian' stones, according to various classical sources, was said to lie to the south, into the Sahara (Law, 1967: 187–8). Amazonite is an opaque greenish-blue feldspar gemstone whose only documented African sources are in the Eastern Desert of Egypt and in the Libyan highlands to the north of Tibesti (Carité, 1989: 188; Aston *et al.*, 2000: 45–6). Carnelian is a translucent microcrystalline silicate (a chalcedony), coloured by iron oxide impurities to various shades of red to reddish-brown or reddish-orange. What we know about the sources of carnelian remains somewhat more ambiguous. In Egypt carnelian is relatively common, occurring as small pebbles in the Eastern Desert, with larger pieces coming from specific outcrops in the region (Aston *et al.*, 2000: 25–7). In more recent times it is also known that carnelian was imported into West Africa from sources in India (Gujarat). There are no confirmed sources in the Saharan highlands (Carité, 1989: 186), although Insoll has recently suggested, on the basis of carnelian bead-making workshop sites not far from Gao in the Niger Bend, that there may have been Malian sources, perhaps in the Adrar des Iforas. Also, the existence of multiple Saharan sources, distinct from Indian sources, are indicated by a materials analysis of archaeological samples recently undertaken by Insoll's team (Insoll *et al.*, 2004).

Thus, it appears that, at least with amazonite and carnelian, we are indeed dealing with a long-range circulation of Saharan stone resources. Coupled with this were more localised networks of stone object exchange. These await detailed exploration by future geoarchaeological studies. However, one can already cite phthanite siltstones from the Mauritanian Dhars associated with Tichitt stone bracelets and distributed as far south as the Middle Niger, or the various igneous and metamorphic rocks used in making Saharan hachettes, stemming from various Central Saharan sources, and having still wider distributions.[10] Sub-Saharan populations may not have controlled these precious stone resources – which all look to have been situated in the Saharan highlands – but they undoubtedly participated in networks of contact which moved them around a very wide landscape.

The question of 'chariot routes'

In discussing trans-Saharan contacts, one is obligated to at least pay brief homage to one of the oldest 'shaggy dog' stories in the history of Saharan archaeology, that of the 'chariot routes' supposedly marked by hundreds of pictographs (in the Tassili) and petroglyphs (elsewhere) in two great pathways across the Sahara: one starting from Morocco and continuing along the Mauritanian coast before turning eastwards towards the Middle Niger, the other running straight from the Libyan highlands towards the Niger Bend.[11] These trails of motifs, as far as one can reckon from the relative dating of rock art, were quite ancient; probably dating to the 1st millennium BC and beginning sometime after 700 BC (Mauny, 1978: 280; Muzzolini, 1995: 174–7). Inspired in part by accounts of Garamantian charioteers from Herodotus, they were, in the enthusiastic conception of Henri Lhote 'a great highway, cutting through the whole of the Sahara … to the Niger' (Lhote 1960: 129). However, for the sceptic, there have always been problems with such literal interpretations, and common sense opinion against such 'chariot routes' has gradually increased.

There are two primary difficulties with trans-Saharan chariots, the one technological, the other iconographic. Technologically, the typical one person chariots represented vividly in the paintings of the Tassili, or more or less schematically elsewhere, are one man vehicles with a pair of horses attached to a single fixed traction bar which is integral to the triangular perch of the driver. There would have been no system of 'shock absorption', and the ride received would have been at best at jolting one – even across a plain. Reconstructions of such chariots as commonly depicted weigh as little as 30kg, and require repair after utilization on modern flat tracks, within 5km of initial use (Hugot, 1974: 280; Spruytte, 1977). As such they would hardly have been useful as vehicles of commerce, or even long-distance communication, and would at best have been sports cars for the local Saharan aristocracy.

Iconographically, it has long been noted that naturalistic depictions of chariots are restricted primarily to the Tassili, where they are depicted in full 'flying gallop'. Elsewhere, and particularly as one heads south, they are engraved almost as a simple geometric symbol (lateral circles linked by a single line, itself bisected by a t-shaped line). Such motifs lack the depiction of any horses. The Saharan rock art expert Christian Dupuy has noted that in the Malian Adrar des Iforas, where they feature prominently, they appear before the onset of any equine depictions (Dupuy, 2006: 47–9). He has therefore argued that these symbols are more ideological, or at the very least aspirational, rather than literal. Dupuy also notes that instead of being placed along flat 'routes' they are most commonly placed amongst more 'spiritual' symbols high up on escarpments, in locales of difficult access. The argument would therefore be that schematic chariot depictions have a meaning which goes beyond the functional, but which appears to have linked peoples across the mid-1st millennium BC Sahara, from modern Morocco and Libya to central Mauritania and Mali. In the end perhaps, it is the existence of such ideological connections, rather than mythical passing cavalcades of chariots, which is the more interesting and indicative.

Berbers, the collapse of Tichitt and the origins of metallurgy

The ultimate collapse of the Tichitt polity occurred in the mid-1st millennium BC. Munson views this time as an extreme refuge period, with settlements which are 'very small, very poorly constructed, very 'impoverished', heavily fortified, and so well hidden among the high rocks that it would have been almost impossible to have found any of them without the aid of

aerial reconnaissance' (Munson, 1971: 51). Growth in Tichitt Tradition settlements outside of the core region during this period, whether in the Tagant or along the northern banks of the Middle Niger, attests to the 'emptying' out of the escarpments and the Hodh basin at this time. Munson ascribes this to Berber incursions exacerbated by increasing aridity (Munson, 1980). There are external reasons which argue for a serious consideration of Munson's interpretation. As indicated elsewhere in this volume, there were growing Berber agricultural and entrepot sites being located from the 5th century BC onwards on the northern shore of the Sahara, and some evidence that a limited slave trade was occurring at that time. Warfare against the people of Tichitt should therefore not be excluded. The most complete hypothetical narrative of the last days of Tichitt is provided by Munson in his 1980 paper 'Archaeology and the Prehistoric Origins of the Ghana Empire'. As the contemporary and historic heirs to the Tichitt-Walata region, the date of the Berbers arrival along the escarpments is uncertain. Munson posits the 1st millennium BC, largely on the basis of local rock art (petroglyphs), which contain motifs taken as indicative of Berber presence elsewhere in the Sahara (chariots, spear armed warriors with plumes, etc.). For Munson, there was an onslaught of 'Libyco-Berber raiders…' equipped with metal weapons against the people of Tichitt:

> Those persons who were not killed or enslaved barely managed to eke out an existence, hidden in small groups in fortified little villages among the high rocks… . About 300 BC the surviving population of the Akjinjeir phase was induced, under the promise of protection to come down from the fortified villages … and to establish agricultural villages along the caravan route… (ibid: 465).

While the process as recounted is insufficiently subtle, one does unavoidably have to account at some point for the Berber replacement of previous (proto-Mande?) Tichitt hegemony in the region.

Recent fieldwork in the Dhar Néma region, situated between Tichitt and the modern Malian frontier provides some interesting indications about the nature of cultural change in south-eastern Mauritania during the 1st millennium BC (MacDonald *et al.*, 2009). To begin, there is a major shift in pottery style during the Late Tichitt period to less decorated vessels, featuring increasing use of dragged comb motifs, thumbnail punctuate, and high collared vessel forms. Indeed, given a seeming regional continuity of pottery style from *c.* 700 BC into the Berber-dominated 1st millennium AD one must either envision some sort syncretism or else total replacement.

Additionally, there is the issue of the advent of metallurgy in arid West Africa – currently a hotly contested issue.[12] Long thought to have diffused from Carthage or Meroe due to the lack of a preceding local 'Chalcolithic' or 'Bronze Age', increasingly reliable iron working dates from south of the Sahara are pushing timetables of technological transference to their limits. The past five years have seen the publication of early iron working or iron artefacts from:

1) the settlement mound of Dia-Shoma (Mali) *c.* 800–400 BC (Horizon IA): slag, iron fragments and a tuyère, (Schmidt, 2005a);

2) the settlement mound of Walaldé (Senegal) *c.* 800–550 BC (Phase I): slag, iron objects and tuyères, (Deme and McIntosh, 2006);

3) an iron furnace at the site of Bou Khzama (Mauritania) *c.* 760–400 BC (dated on the organic content of an associated potsherd) (MacDonald *et al.*, 2009).

In contrast, there are few, if any, comparable dates for iron smelting from the Sahara. Liverani has recently discussed the potential role of Berbers in passing iron southwards over a trans-Saharan route, and notes the presence of iron working at Aghram Nadharif (as early as pre-citadel 4th–3rd century BC contexts) in south-western Libya (Liverani, 2000: 43). However, earlier dates would be needed somewhere between the Niger and the North African littoral for such theories of diffusion to continue to make sense.

Still, the collapse of Tichitt *c.* 700–300 BC, the nature of Late Tichitt ceramics, and the origins of West African iron technology suggest interesting possibilities for syncretism – or perhaps more violent encounters – between the civilizations of the south and the Berbers. It is clear that these themes need to be developed by focused research over the coming decades.

Scattered traces of the Roman north at the Sahara's southern margin

In terms of purely material evidence, the southern shore of the Sahara has been notably sparse in Roman finds, including durable items such as coins, glass, and imported ceramics. Apart from a few small finds and coins, which will be examined below, there is little to compare with the scale of Roman material culture recovered – for example – from distant India.[13]

Raymond Mauny, the Africanist historian (and sometimes archaeologist) of IFAN in Dakar, closely followed Roman finds in the Sahara between the 1940s and the 1980s.[14] In southern Algeria, still properly speaking the Central Sahara, but well south of the primary Roman interaction sphere, he logged a number of recoveries. These largely comprised scattered Roman/Byzantine bronze coins found by soldiers near Fort Flatters, at Fort Polignac (Ilesi), at Dider, and at Timmissao (south-western Hoggar) - all of which are unfortunately either lost, illegible, or unattributed. To these can now be added: a recent surface find from near the 'Rond-Point de Gaulle' in northern Chad of a *nummus* of Constantine II or Licinius II (*c.* AD 317–340), and a further surface find from the southerly Garamantian settlement of Aghram Nadharif (Libya): a Carthaginian radiate (a fraction of a *nummus*) of Constantine I, minted AD 303 (Munzi, 2005: 330, 327).

There are also the several Roman objects from the Tomb of Abalessa, in the western Hoggar, a southerly Saharan site of particular interest. Although over the years there have been rumours of gold coins found in the 1925 excavation and then 'lost', it appears that the only coins found at Abalessa were 'virtual' ones. These were gold leaves upon which impressions of a bronze coin of Constantine were made. According to Schwartz the impressing coin can be dated to between AD 308 and 324 (Schwartz, 1955: 179–80). Other Roman objects were included amongst the finds at Abalessa, including a Roman oil lamp featuring a winged victory sitting beside a trophy (late 3rd century in date), a Greco-Roman bead, and a glass vessel.[15] Besides this there were various golden objects, including open bracelets, for which Grebenart suggests a Berber stylistic origin, thus implying the early Berber crafting of Sub-Saharan gold (Grébénart, 1988: 187). A single radiocarbon date, undertaken on a piece of wood funerary furniture 1480 ±

130 bp, (ibid.: 189) calibrates to AD 420–670 at a one sigma error range. Given the artifactual context, a date in the earliest portion of this range is probable. Abalessa is suggestive of important trans-Saharan trade by *c.* AD 450, but is all the more mysterious for its isolation.

When we descend to the southern margin of the Sahara, Roman recoveries dwindle further. In terms of well-reported pieces there are but three find sites, all from southern Mauritania.

1) A surface find of two coins on a fossil dune 2km south of Rasseremt, and east of Akjoujt (the epicentre of Mauritania's 1st millennium BC copper industry) (Ziegler *et al.*, 1955). These coins are as follows: (Coin 1) Obverse Legend: CAESAR with elephant trampling dragon, minted in Italy *c.* 49 BC [Julius Caesar], BMCRR Gaul 27; and (Coin 2) Reverse Legend: CL CAESARES with Gaius & Lucius Caesars facing with shields, minted in Lugdunum, *c.* 2 BC–AD 4 [Augustus] BMCRE 513.

2) A surface find in the Tamkarkart of a single bronze coin of Severus Alexander (AD 222–235) (Mauny, 1983: 181).

3) A recovery made by a geological team working immediately north of Nouakchott. This is a denier (45% silver, 55% copper) of Severus Alexander, obverse: inscription: IMP C MAVR SEV ALEXAND, reverse: the emperor standing, turning to the left, with an altar and the legend PMTRPV COSII PP, struck in Rome around AD 226 (ibid.).

More southerly Roman coin finds, whether in Ivory Coast or Cameroun, have been quite rightly written off as either hoaxes or as suspect due to lack of evidence.[16] In 1983 Mauny quite categorically stated that,

> Ces quatres monnaies antiques [those from Nouakchott, Tamkarkart and Rasseremt (2)] sont les seuls découvertes, faites fortuitement et en surface mais dans les conditions satisfaisantes pour en présumer l'authenticité, de tout l'ensemble de l'Ouest Africain au Sud de Sahara [Mauny, 1983: 181].

Why, in comparison to other areas beyond the frontiers of ancient Rome, should there be so few coin finds from the Central Sahara and arid West Africa? Mauny has suggested a probable reason: unlike India or northern Europe, West Africa has no indigenous tradition of coinage use (Mauny, 1956: 249). There was therefore no real potential for coins from the north to 'circulate.' Instead, such examples as did penetrate southwards either stayed in the hands of Berber traders (and made their way back north), or were melted down for the reuse of their base metals. To this end, it is worth noting that Arabic coin finds are similarly rare south of the Sahara. Therefore the relative scarcity of Roman coinage is not necessarily an appropriate index for pre-Arab conquest interactions with the south.

Along the Niger River itself there is virtually no direct evidence for contact at one remove with the Roman north. Some researchers at the conference upon which this volume is based believed they had seen *terra sigilata* (Samian ware) or at least local pottery imitative of it in the Inland Niger Delta. Indeed, early Middle Niger finewares (sometimes termed 'Chinaware' or 'Deltaware') may, with their fine paste, high burnish and red-slipped finish provoke confusion with such Roman wares, especially if highly fragmented.[17] But when viewed as a group there is no doubt that their manufacture is local, decorated as they are with bands of cord roulettes, formed in distinctive local shapes, and produced on a massive scale (10,000s of sherds from excavations). Admittedly their fine paste is out of the ordinary, and one may be inspired to view them as at least inspired by *terra sigilata*. However, the fact that there is a large assemblage of such Deltaware from Horizon 1a at Dia-Shoma – dating to *c.* 800–400 BC and long before *terra sigilata* ever existed – is a convincing antidote to this notion (**Pl. 3**).[18]

Plate 3 Rims, possibly imitative of Roman amphorae (*c.* AD 450–600) from the sites of Tongo Maaré Diabal (context A73) and MD20 (both near modern Douentza, Mali). Compare with Bonifay, 2004: 131, Type Keay 59;145 Type Sidi Jdidi 2, and149 Type Keay 1B.

Amphorae are yet another matter. In 1995 and 1996 we recovered sherds which appeared to come from Romano-African amphorae from the earliest horizon at Tongo Maare Diabel in the Malian Gourma (Context A73, *c.* AD 450–600); a further rim was found during survey at the nearby tell site of MD20.[19] These sherds, with fingertip grooved collars, show close formal similarities with types of large amphorae manufactured in Carthage, including workshops up to 200km further south, or in Caesarean Mauritania. Particular rim form associations can be drawn with the Bonifay types Keay 1B (manufactured in the 4th century AD), Keay 59 (manufactured late 4th through 6th centuries AD) and Type Sidi Jdidi 2 (manufactured in the 7th century AD).[20] The closeness of date between the manufacture of these types and the finds from the Malian Gourma add verisimilitude to their correspondence. Yet, our rims sherds' paste type (coarse grog tempered) does not seem out of place amongst local fabrics. So, could they potentially be merely reflective of some form of 'amphora emulation'? This hypothesis is sustained by recent fieldwork at MD20 (now termed Ngassa 2) by Nicholas Gestrich, which provided additional ceramic finds associating the same rim forms with local comb-stamping and cord-wrapped roulettes.[21] Remarkably, similar fingertip-grooved collared forms have just been published by Park, dated to as early as AD 430–640, from the site site of Tombouze 1, near Timbuktu.[22] Given the traditional North African trading axis of the Timbuktu region, it is tempting to view such rim forms as inspired by (as yet unrecovered) North African imports. It is also worth noting that Douentza is today, and historically has been, a key southern way-point in the Tuareg caravan trade, with salt from the Sahara (Taoudenni) crossing the river at Timbuktu and voyaging overland to Douentza by both camel and donkey, where it is traded against millet from the abundant grassfields of the southern Gourma.

Donkeys, horses and camels (chickens too)

Beasts of burden would have played an important role in any early trans-Saharan commerce, just as they did ultimately in the *post* AD 700 trade. Here I would like to briefly consider absolute proofs in terms of osteological evidence for the

presence of such animals south of the Sahara. Equids, whether donkeys or horses, certainly preceded the camel in North Africa, although initial indications are that they were almost contemporary in arriving south of the Sahara.

Donkeys (*Equus asinus*), originally domesticated in Egypt by the 4th millennium BC do not appear to have been transferred to West Africa until much later (Linseele, 2007: 63). The earliest definite donkey remains in our region come from Cubalel in the Middle Senegal Valley, where a complete metacarpal is dated to *c.* AD 0–400 (MacDonald and MacDonald, 2000: 140). Subsequent to this time donkeys become relatively common in settlement mound assemblages across the Sahel.

Horses (*Equus caballus*) are likewise later than one would expect. A horse burial at Aissa Dugjé in northern Cameroon has been directly dated to AD 660–780. This individual was of a small breed, a pony, as were other horse burials of later date from this same site (MacEachern *et al.*, 2001). However, the notional ideological incorporation of horses into life at Aissa Dugjé in north Cameroon is certainly suggestive of an earlier association with the animal than is yet verified. To the west, horse remains first appear in the long sequence of Akumbu (a tell cluster in the Mema region of Mali) during a phase of occupation dated AD 600–1000. These remains are all from midden contexts, inter-mixed with settlement detritus and food debris (MacDonald and Van Neer, 2008). The Akumbu horses are of intermediate size between ponies and modern thoroughbreds. All other well-dated and definitely identified West African horse remains, or mobilary art, appear to post-date AD 700.

Camel (*Camelus dromedarius*) remains, like those of donkey, are first documented from the Middle Senegal Valley, with a single first phalanx from the site of Siouré dated to AD 250–400 (MacDonald and MacDonald, 2000: 141–2). Subsequently, definite camel remains only appear again in the middens of the great *post* AD 700 Saharan trade entrepots, such as Tegdaoust (ibid.).

Though not a beast of burden, it is also worth mentioning here that the chicken (*Gallus gallus*) is another trans-Saharan import – whether from north to south, or east to west. It also appears prior to the *post* AD-700 trade, with definitely identified remains both from Jenné-jeno (Phase III contexts, AD 350–850) and at Tongo Maaré Diabal (Horizon I contexts AD 450–600).[23]

While such dates for the presence of these various taxa are only *minimums* at our current state of research, they carry some weight. Many long sequence sites have now been excavated in the West African Sahel, whether from along the Senegal River, in the Mema region of Mali, the Inland Delta, the Niger Bend and the Lake Chad basin. The relatively late occurrence of these imports might indeed be indicative of realities south of the Sahara. While horses and donkeys may have plied the Sahara in the 1st millennium BC, they were probably outside the reach of most Sub-Saharan populations until interactions and commerce intensified. It is interesting to note that camel, donkey and chicken all seem to have appeared by the 4th century, when Garrard hypothesises the trans-Saharan gold trade to have begun in earnest.

Mud architecture and expanding settlements

The external source or indigenous development of mudbrick architecture in the Sahel is a theme for which substantial data has only begun to accumulate in recent years. In her 1986 monograph on the West African Sudanic architectural tradition, Labelle Prussin asserts a 3rd-century AD Roman influence in the design of rectilinear 'courtyard houses' adopted by Saharan Berber populations; the initial model being the Roman *limitanai*, or fortified farms, of Libya (Prussin, 1986: 105–8). Ultimately, it is argued, aspects of such Saharan design elements were integrated into the 'Sudanic style' documented in historic Malian mudbrick towns such as Djenné. However, elements of such Berber building technology pre-date Prussin's notional 3rd century AD influences. The remarkable southern Garamantian settlement of Aghram Nadharif provides a combination of dry stone and mudbrick rectilinear architecture, including compounds (without central courtyards) of modular multi-room structures, dating to between *c.* 50 BC and AD 150.[24] How does early architecture in Sub-Saharan West Africa stand in relation to this?

The earliest possible evidence for mudbrick architecture comes from the site of Dia-Shoma. For the most part, in the lower layers of the site, flooding effaced clear traces of architecture, leaving only ashy 'living floors' surrounding by mud melt and debris. However in one case, near the bottom of sondage A, an ancient burning incident left well-preserved mudbricks – even if a clear outline of the structure itself could not be traced. This context has been directly dated to 1990 ± 50 bp (context A115) or 50 BC to AD 70 (one sigma calibration) (Schmidt *et al.*, 2005: 130–1).

Other evidence is somewhat later, but nonetheless demonstrative that mudbrick was in common use along the Middle Niger prior to the *post* AD 700 trade. In the Malian Lakes Region, at the site of KNT 2, the base of an apparent mudbrick compound wall was found deep in this tell's stratigraphy (more than 750cm beneath the surface) in deposits dating to between AD 300–600 (Raimbault and Sanogo, 1991: 301–89). South-east of the Inland Delta, at Tongo Maaré Diabal, there is a long and well-preserved architectural sequence, with both rectilinear structures and mudbrick (combined with rammed earth or 'tauf' structures) beginning in Horizon II (AD 600 and 700). Here we are fortunate to be able to see some of these early structures in plan (**Pl. 4**).

At Jenné-jeno there appears to be a comparative lag in the appearance of mudbrick architecture, with curvilinear tauf or rammed-earth structures present by the 4th century AD, but mudbrick (in the form of local, cylindrical Djenné-ferry) only appearing in the 9th century AD (McIntosh and McIntosh, 1995: 64–6).

Sufficiently expansive excavations aimed at recovering earthen architectural features unfortunately remain all too rare in the Sahel, particularly at earlier 1st millennium BC/AD sites. So, beyond these well-defined sequences we can only speculate on the basis of the expansion of tell sites themselves, which should – by their accumulation of soil – be indicative of at least some form of earthen architecture. Of course, the difficulty with making speculations from quantities of tell sites alone is that larger or higher tells often completely bury earlier phases of occupation, leaving surface collections which are only clearly indicative of later phases of abandonment.

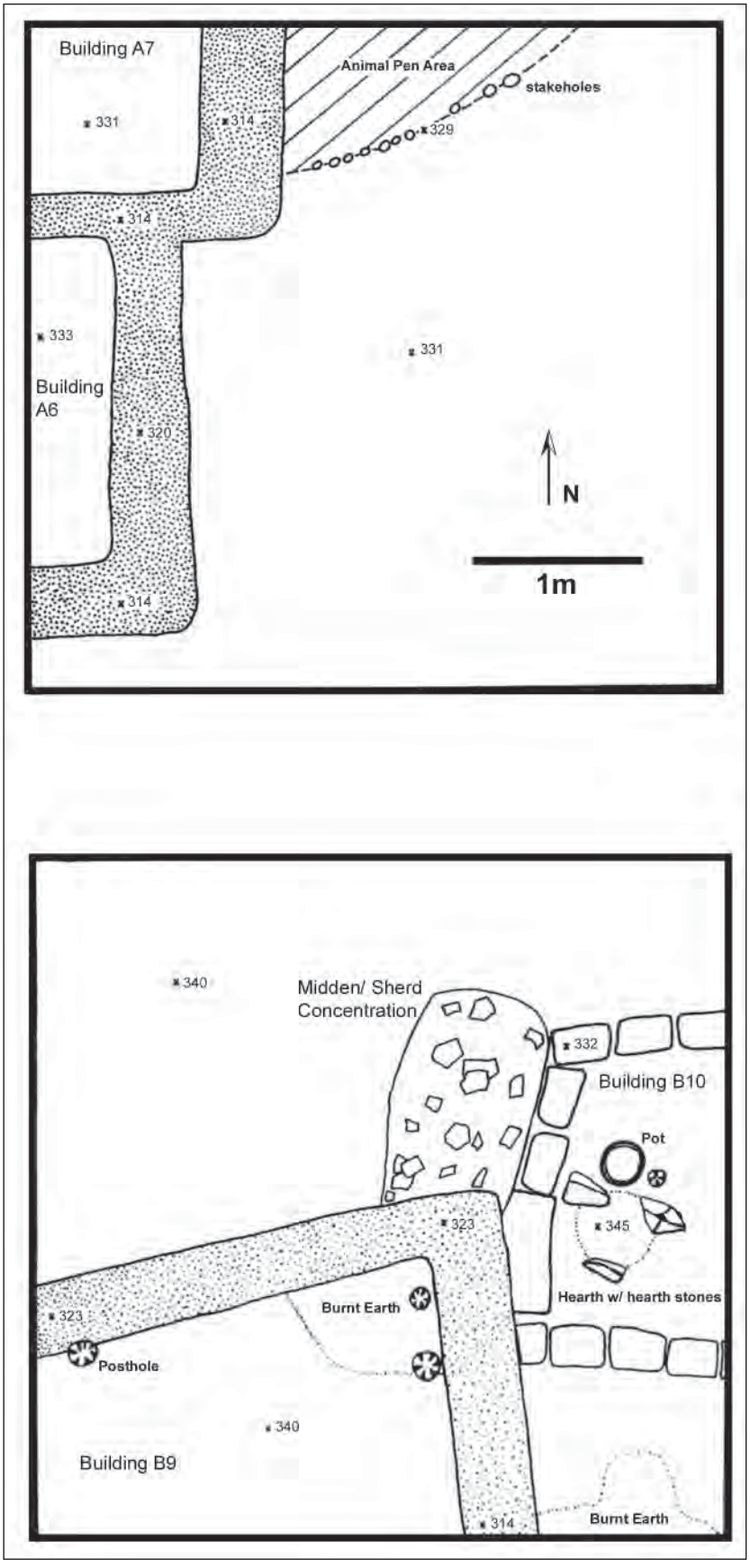

Plate 4 Plan of early rectilinear rammed earth and mudbrick walls from Tongo Maaré Diabal, Horizon 2 (c. ad 600–700). Units A and B. The area between the two exposures is an unexcavated baulk.

With this caveat in mind, we can briefly consider local settlement sequences from three Middle Niger regions in a north to south transect: the Méma, the Macina and the Inland Delta. The Niger Bend, although bountifully endowed with important sites from the 8th century AD onwards, has as yet relatively few dates from our study period, so regrettably cannot be included in this rapid review. In the Méma there was a large scale expansion of settlement at some point in the early 1st millennium AD, with a subsequent major wave of site abandonment during the 5th or 6th century.[25] The sites abandoned were all small in size (generally less than 5ha) so this pattern might also be due to the redeployment or centralization of population into larger settlements, which grew during the second half of the 1st millennium AD. At Dia,

despite the presence of a major *c.* 20ha settlement at Dia-Shoma between *c.* 800–0 BC, settlement growth in its region appears to have only accelerated in the 8th century AD, several centuries later than in the Méma.[26] Further south still, in the Jenné-jeno mound cluster network, expansion began around AD 400, peaking sometime in the 9th century (S.K. McIntosh, 1995: 374–5). The pace of expansion in settlement thus appears to have varied from region to region, but it is clear that large settlements and/or centralized networks of settlement existed along the Middle Niger prior to the *post* AD 700 Islamic trans-Saharan trade.

Saharan interaction with sites along the Niger: evaluating the artefactual evidence

We turn now, at last, to the artifactual traces of interaction at the Middle Niger's primary excavated urban settlements, namely Jenné-jeno and Dia. Between them there appears to be a consistent pattern regarding trade with the north, with quantities increasing between AD 800 and 1000 during the Islamic trans-Saharan commercial 'boom'. Yet indications remain of the earlier trade as well. As Jenné-jeno's excavators assert, this seems to be indicative of a small-scale earlier trade, perhaps a small-scale Berber salt–gold trade in the first half of the 1st millennium AD (ibid.: 390–3).

Table 1. Beads from the 1981 excavations at Jenné-jeno by Phase (S.K. McIntosh, 1995: 248–52)[73]

Phase	Date range	No. of beads (glass / carnelian)
I/II	200 BC–AD 350	2 / 0
III	AD 350–850	2 / 0
IV	AD 850–1400	8 / 1

Table 2. Total grams of copper by phase from the 1981 excavations at Jenné-jeno (S.K. McIntosh, 1995: 265–6)

Phase	Date range	Grams of copper
III	AD 350–700	4.5g
III/IV transition	AD 700–1100	11g
IV	AD 850–1400	70g

At Dia we see a similar pattern with some early imported beads, an indication of persistent earlier trans-Saharan commerce, but also a significant increase by AD 1000.

Table 3. Imported beads from the 1998–2003 excavations at Dia-Shoma and Dia-Mara (Schmidt, 2005b: 266–72)

Horizon	Date range	Materials	No. of beads
1	800 BC–AD1	Glass / Faience	1 / 1
2	AD 1–500	Glass	2
3	AD 500–1000	Glass	2
4	AD 1000–600	Carnelian / Glass	4 / 13
5	AD 1600–800	Carnelian	1

While the temporal increase of imports illustrated by these examples is of interest, the quantity of goods documented is hardly inspiring. Yet, findings from Kissi, south of the Niger Bend in the eastern Gourma (Burkina Faso at the Mali/Niger frontier), show that the great twin cities of Middle Niger commerce are not telling the whole story (S. Magnavita *et al.*, 2002).

At the necropolis of Kissi, for which most C14 dates fall between AD 400 and AD 600, hundreds of glass and carnelian beads have been recovered (S. Magnavita *et al.*, 2003). Kissi, an otherwise inconspicuous series of small settlements and cemeteries, is located directly north of the goldfields of Sirba (Bura), and may be our strongest indication of Garrard's early 1st millennium AD gold trade – flowing in this case through the Niger Bend, rather than the Middle Niger (**Pl. 5**).

Plate 5 Burial with Carnelian Beads from Kissi Cemetery 13, courtesy of Sonja Magnavita

Table 4. Carnelian and Glass Beads from the Kissi Cemeteries (S. Magnavita, 2003: table 4)

Burial zones	Date range	Materials	No. of beads
Kissi 14C	AD 1–700	Carnelian / Glass	128 / 76
Kissi 14A	AD 100–800	Carnelian / Glass	15 / 384
Kissi 3	AD 400–700	Carnelian / Glass	92 / 144
Kissi 13	AD 400– 100	Carnelian / Glass	74 / 462

Table 5. Carnelian and Glass Beads from Kissi Settlements (S. Magnavita, 2003: table 1)

Settlement zones	Date range	Materials	No.of beads
Kissi 22A	AD 1–300	Carnelian / Glass	0 / 0
Kissi 3B	AD 600–900	Carnelian / Glass	4 / 1
Kissi 22B	AD 600–900	Carnelian / Glass	12 / 5
Kissi 14B	AD 900–1100	Carnelian / Glass	1 / 0
Kissi 40B	AD 900–1200	Carnelian / Glass	2 / 2

In examining Tables 4 and 5, one may be tempted to explain the substantive quantities of beads at Kissi by the type of contexts excavated: cemeteries *versus* settlements, with the latter featuring far fewer recoveries. Yet, both Jenné-jeno and Dia have both seen excavation of similarly sized cemeteries with much more modest results. Clearly a different dynamic is operating at Kissi. It is also potentially informative to note the absence of glass or Carnelian beads at the early settlement of

Kissi 22A which dates primarily to a period before the posited late 3rd century AD beginnings of the gold trade.

In recent publications, the sources of import materials at Kissi have been considered in some detail.[27] Materials analysis of glass beads and copper-based objects from Kissi demonstrate the breadth of the trade web being channelled to the Niger Bend and southwards during the 1st millennium AD. Glass beads almost invariably come from western Asia, east of the Euphrates, while finished copper-based objects appear to have been imported from 'Roman Carthage' (Robertshaw *et al.*, 2009; Fenn *et al.*, 2009).

Finally, numerous wool textile remains have been recovered from Kissi 3, 13, and 14C. As there are no technical indicators for weaving at the Kissi sites (e.g. spindle whorls or loom weights), it is suggested with some justification that such wool textiles too may have been imports, especially as the earliest Arabic textual sources speak of the eagerness of West African peoples for such textile products and their use as markers of status. Wool cloth from Kissi 3 has been directly dated to AD 540–660 (Grave 10) and AD 590–680 (Grave 14) (S. Magnavita, 2008).

Why should there be such an elaborate concentration of import finds at Kissi from *c.* AD 400 onwards? Its situation just north of the Sirba goldfields and in proximity to the Niger Bend water corridor are both compelling explanations. The frequency of imports of at Kissi may also suggest also that Niger Bend trade was initially more intensive than that of the Middle Niger. However the rarity of archaeological excavations in early 1st millennium AD mortuary contexts anywhere else along the Niger may conceal comparable cases in a wider distribution.

Conclusions

The trans-Sahara during the 1st millennium BC was heir to a pre-existing network of down-the-line exchange in stone objects.[28] Evidence for the distribution of such pre-Islamic exchange networks ranges as far west as the Mauritanian coast, and extends southwards across the Niger River into the Gourma. It is likely that these traditions of pastoral exchange were enhanced and exploited by the Garamantian 'carbuncle' trade during the last few centuries BC. Rock art evidence, in the form of shared motifs across this same area (e.g. schematic – rather than real – chariots), also attests to trans-Saharan ideological links at this time. The possibility that interactions between Berbers and southerners were not always peaceful is supported by the rapid collapse of Tichitt *c.* 700–300 BC, a phenomenon traditionally linked to increased conflict between this agro-pastoral polity, and more mobile Berber raiders from the north. Despite this, there are also interpretive avenues suggesting possible syncretism at Tichitt, including convergence between later Tichitt pottery styles and Berber traditions, as well as the advent of metallurgy (without clear directionality) in both Berber and Sub-Saharan spheres *c.* 800–400 BC.

By the 4th through 7th centuries AD however, there are indications of a further step in intensification in trans-Saharan interactions. The few known Saharan Roman coin finds and the (isolated) Tomb of Abalessa in the Hoggar, suggest that Romano-African commodities only began to penetrate in the mid-3rd century. Likewise, faunal evidence suggests a wave of new North African animal arrivals from the 4th century AD onwards, namely donkeys, camels and chickens. Finally, there is the growth both of mud architecture and settlement size along the Middle Niger, which though commencing as early as the late 1st millennium BC, does not really take-off until AD 400–600; the same two centuries which correspond with the remarkable trans-Saharan imports found in the cemeteries of Kissi in Burkina Faso. While none of these finds are comparable to the great 9th-century Islamic trade 'boom', they are indicative of a real increase in north–south commercial contacts, probably equating with Garrard's putative AD 294–695 early trans-Saharan gold trade.

It is hoped that the increased level of trans-Saharan scholarly contact evidenced by the present volume will further develop a mature understanding of early interactions between north and south through coming decades of survey, excavation, analysis and collegial exchange.

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Notes

1 See, for example Liverani, 2000; 2003; 2005; Mattingly and Wilson, 2003 and the other contributions in this volume.
2 For 'traditional' views of Islamic-led north–south relations see Bovill, 1958 and Mauny, 1961, for a summary of research developments demonstrating pre-Islamic Sub-Saharan innovations up to the late 1980s see McIntosh and McIntosh, 1988a. More recent Sub-Saharan work is referred to below.
3 the site of Zilum, C. Magnavita *et al.*, 2006.
4 for more detail on Tichitt, its settlements and its economy, see Munson, 1976; 1980; Vernet, 1993; Holl, 1985; 1986; 1993; Amblard-Pison, 2006; Fuller *et al.*, 2007.
5 E.g. Vernet, 1993; Amblard-Pison, 2006.
6 MacDonald, 1996; MacDonald and Schmidt, 2004; MacDonald *et al.*, 2009.
7 Quotation from McIntosh and McIntosh, 1988b: 101. For Holl's opinion, see Holl, 1985: 94. For another perspective on 'valued objects' in the early Saharan economy see MacDonald, 1998.
8 See Amblard, 2006, table 57.
9 for Kolima-Sud, see MacDonald, 1994: 70–156; Ceramic LSA sites with surface recovered Carnelian and Amazonite beads in the Gourma include Douentza M3 (1 amazonite), Oued Ouallo (1 carnelian), and Windé Koroji Est (2 carnelian), see MacDonald, 1994: 253.
10 See MacDonald, 1994; 1996; 1998.
11 For the evolution of the 'chariot routes' idea see Mauny, 1947; 1978; Lhote, 1953; 1960; 1982; Camps, 1993.
12 See Killick, 2004; Pringle, 2009.
13 See for example Turner, 1989, which catalogues several hundred Roman gold, silver, and base metal coins recovered from 79 sites distributed throughout India.
14 See Ziegler *et al.*, 1954; Mauny, 1956, and Mauny, 1983.
15 See Hachid, 2006, 102–3; Grébénart, 1988, 187–9.
16 Mauny, 1983: 181–2. Bovill's citation of a coin of Constantine found while digging by a British colonial correspondent in southern Cameroon also rings false given local soil conditions, and lack of any subsequent publication or illustration of the find. Bovill, [1958] 1995, 36 (footnote).
17 For the definition of such finewares, see S.K. McIntosh, 1995.
18 See Schmidt *et al.*, 2005.
19 The survey and excavations around Tongo Maaré Diabal (near Douentza, Mali) were undertaken by the author and the late Téréba Togola between 1993 and 1996. They have recently been recommenced by Nikolas Gestrich. Unfortunately, these important excavations have seen only preliminary publication up to present: MacDonald, 1994 (chapt. 7); MacDonald, 1997/1998; Bedaux *et al.*, 2003, and Walicka Zeh and MacDonald, 2004. A full monograph on the 1993–6 excavations is currently in preparation

by K.C. MacDonald and Nikolas Gestrich.
20 See Bonifay 2004: 131–49.
21 Nicholas Gestrich pers. comm. regarding south-western Gourma fieldwork undertaken in January–March 2010.
22 See fig. 5 (types 8, 14 and 15) in Park, 2010.
23 For chickens at Jenne-jeno (and elsewhere in Africa) see MacDonald, 1992, the faunal assemblage from Tongo Maaré Diabal's 1993–1996 excavations are as yet unpublished, see note 19.
24 See Liverani 2005: 363–74.
25 49 of the 80 attributed 'Iron Age' settlement mounds documented in the 1989 Togola and MacDonald survey of the Méma were abandoned during or near the end of the early period (*c.* AD 500–600), see Togola, 2008: 15–20.
26 Of the settlement mounds documents around Dia, only 9 feature pre- 8th century AD diagnostics, the bulk of the mounds (48) have artefacts dating to between the 8th and 16th centuries, see Schmidt, 2005: 405–15.
27 S. Magnavita, 2009; Robertshaw *et al*., 2009; Fenn *et al*., 2009.
28 See MacDonald, 1998 for a range of references concerning this phenomenon.

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