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Land, Forts and Harbours

An Inside-Out View of North Africa to the Mediterranean between the Byzantine and Early Islamic Period

by *Anna Leone*

Our understanding of the territorial development in North Africa from the end of the Byzantine period into the Early Islamic period still presents numerous problems. The regional diversity reflected in the ancient landscape organisation, alongside the modern lack of common methodology and strategy, make interpreting the archaeological evidence difficult on a larger scale. There are some areas where more work is required to provide a full understanding of the impact of the Islamic expansion throughout the entire North African territory. The major points that need to be addressed are pottery production as well as vessel circulation after cessation of production of African Red Slip (ARS) pottery. On a larger scale, also issues of landscape changes and forts need to be considered¹, specifically the distribution of forts during the Arab period in connection with the placement of the forts (and possibly later *ribāt*) along the coast. The systematic appearance of fortified structures across the landscape has been identified in the territory of Tripolitania, but an understanding of land organisation in the rest of North Africa is still very limited. A complete work which would take into account the system of forts immediately before and immediately after the Islamic conquest is missing, and further discussion of the available data is needed. A final point that requires consideration is the issue of trade routes. Some evidence, especially from Tripolitania, seems to indicate that some reorganisation occurred in the territory after the 6th/7th c.², and again in the 12th c.³. These three essential issues will be addressed in this paper with the aim of identifying trends and setting an agenda for future work. Despite the patchy set of archaeological data, an attempt will be made to single out trade directions using an inside-out perspective. The focus will be primarily on

the territory of Africa Proconsularis and Byzacena in the centuries between Late Antiquity and the Early Arab period, with some additional reference to Tripolitania in the same period⁴.

A Changing Landscape?

Various parts of North Africa have been surveyed extensively and offer rich datasets⁵. The geographical focus of this paper considers that part of the North African territory which has been surveyed most extensively. Its uniqueness lies in its advanced state of preservation, sometimes providing distinctive groups of data for interpretation, as well as in the large amount of archaeological fieldwork carried out there since the 19th c., albeit with certain caveats. The earliest work lacked a refined methodology and, on a more general level, the difficulty in dating post-7th-c. pottery has left the later phases of occupation mostly neglected or only addressed within a large chronological span generally indicated as from the 7th-8th c. to modern times. For these reasons, when it comes to the transition into the Islamic world, works are usually hampered. Moreover, the landscape offers a very diverse environment, from pre-desert and desert areas to mountain areas, from coastal sites and harbours to very isolated inland territories. Many parts of modern Tunisia have been subject to surveys, beginning in the 19th and the early 20th c. with the *Atlas Archéologique de la Tunisie* and continuing into modern times (fig. 1). Some of these surveys aimed at specific areas (such as coastlines)⁶ or products (such as the Sahel pottery survey)⁷. Conducted on a larger scale, and focusing on the

1 See Bonifay in this volume.

2 See Leone in this volume.

3 Hassen 2014.

4 For a detailed consideration of Tripolitania, see Leone's paper in this volume.

5 A full synthesis of the bibliography on all aspects of North African archaeology updated to 1995 is contained in Mattingly - Hitchner 1995.

6 See Slim et al. 2004, and for a coastal survey recently started, see <<http://rpmnautical.org/overviewtunisia.html>> (last accessed: 15 October 2015).

7 Peacock et al. 1990.

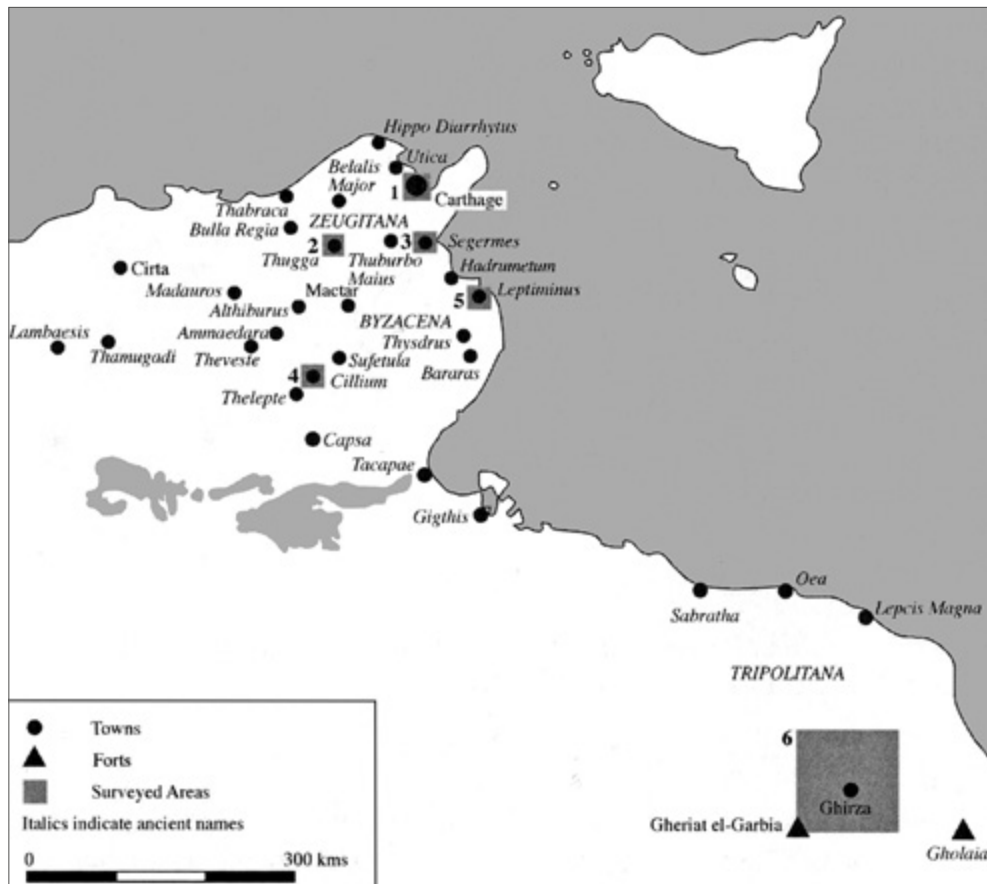


Fig. 1 Maps with different surveys

reconstruction of the landscape and its transformations, investigations have been carried out in the surrounding territories of the cities of Carthage, Dougga, Segermes, Kasserine, and Leptiminus⁸. Numidia, unfortunately, is very difficult to discuss as no fully published, extensive surveys are available. A large part of data refers to work which took place during the colonial period (at the end of the 19th c. and the beginning of the 20th c.). The only survey carried out in recent years in Algeria, in the Belezma region, is partially published, as fieldwork was in fact interrupted by the civil war⁹. During the survey 45 sites were recorded, most of which dated to the 4th and 5th c. The sudden cessation of work in the area and the lack of information from later phases make it impossible to discuss the changing landscape after the Roman presence. In Mauretania Caesariensis, a systematic survey was carried out by Philippe Leveau (1994) in the territory around the city of Caesarea. Results have shown the presence of villa sites and settlements with evidence of

agricultural activity (e. g. cisterns, hydraulic systems, olive presses), but the major focus was on the Roman and Late Roman periods. There is a noted drop in site numbers beginning in the 3rd c., although the pottery evidence indicates that occupation continuity existed across the 4th and 5th c. The data available for Mauretania Caesariensis and for Numidia is therefore too limited to support specific discussion of the exploitation and economic vitality of the Late Antique countryside. The more obscure point, both in consideration and analysis, is the Islamic period. An effective comparison, even a general one, with the other regions is currently not possible.

Africa Proconsularis is one of the most extensively surveyed regions and the area for which the majority of data is available. The patterns appear to be extremely varied. The territory of Carthage was partially surveyed in the 1980s during the large UNESCO project 'Pour Sauver Carthage'¹⁰. The same territory was then investigated again at the beginning of the 21st c. by an Italian

⁸ For a synthesis see Leone – Mattingly 2004, 137–139.

⁹ Fentress et al. 1991; for a recent reconsideration of the data from this survey, see Dossey 2010.

¹⁰ Greene 1983.

team in the area surrounding the La Malga cisterns, focusing primarily on the Punic period¹¹. The earlier results offer quite a distinctive pattern characterised by a decrease in occupation in the 4th c. This seems to be confirmed by the general trend identified in the urban area. In the forum of Carthage there is evidence of decadence, with the civil basilica in a state of disrepair, suggesting that the city was not particularly wealthy when the Vandals arrived¹². It seems probable that this was also reflected in the occupation of the surrounding landscape. The situation seems to have changed after the Vandal conquest, with an intensification in site occupation in the 5th c. and a boom in the 6th c. (more than 90 sites, reaching almost the same level of occupation as in the Roman Imperial period in the 2nd and 3rd c.), which appears to have been a period of maximum occupation in the countryside. After this phase we see a progressive decrease in site numbers, with very little occupation (less than 10 sites recorded) by 700 AD. In all, sites decreased by 95% from 600 AD to 700 AD¹³. This is likely the result of a decrease in the exploitation of the countryside and a reduction in population, which must have moved primarily within the city, as scattered occupations in different abandoned monuments are found throughout the urban sector¹⁴.

The Segermes Valley survey considers a sector near the coast. Results show a variety of different sites, from small dwellings to farms. In the majority of cases it has been suggested that infrastructures were used for olive processing and olive oil production. The survey focused on the period from the pre-Roman phase into the 7th c., when production of ARS effectively ended. Data shows increased site occupation in the Severan period, which appears to have continued across the entire 3rd c. The 4th c. seems to have been a phase of prosperity. Occupation of the countryside may have been particularly intense (based on pottery presence) in the 5th and 6th c., although a decrease in site numbers has been recorded after 450 AD with a significant increase at the beginning of the 6th c.¹⁵. These data in particular seem to contrast with the Vandal period, where an increase in building activity, especially from the second half of the 5th c. on-

wards, is archaeologically demonstrated (as suggested by very recent excavations)¹⁶. Moreover, as stressed by surveyors, recorded growth is indicated by the high distribution of the pottery form Hayes 88, as it began to be produced in the area. The progressive appearance of pottery kilns producing ARS in both urban and rural areas, especially from the second half of the 5th c. onwards¹⁷, makes it difficult to interpret the data. For the later periods it is pointed out that historically the phase between the early 7th c. to 845 AD is deemed prosperous, but this is not reflected in the archaeological record. Unfortunately, it is still very difficult to understand these particular periods. Situated north of Tunisia, inland, is the city of Dougga/Thugga, whose territory has been quite extensively investigated¹⁸. The results, based on pottery, show a different population distribution pattern. There was an occupation boom in the region in the late Imperial period, with 38 new sites and 132 sites in total. The Vandal period, conversely, shows a decrease in population and the data suggests a reduction in total sites to 65, with only two new sites. The Byzantine period recorded no new sites, but overall occupation grew with 74 sites in use. Settlement patterns seem to suggest a drop in population after the second half of the 7th c., with possibly as few as 38 total sites. This substantial fall in settlements is particularly difficult to evaluate due to the challenges inherent to dating pottery after the 7th c. The Dougga survey has identified a total of 21 sites, which appear to have been occupied between the 8th and 13th c. The data indicate that these settlements were normally located in proximity to rivers and major trade routes. The sites appear to have continued to produce primarily olive oil, as confirmed by the numerous olive presses still in use¹⁹. Another common feature recorded in almost all these sites is the use of cisterns, indicating continuity of cultivation activities. The data do not show the presence of extended fortifications; effectively only one site appears to be a fort²⁰. While much is known of the surrounding territory, the urban settlement of Dougga itself has not been investigated extensively, although occupation continuity within the city has been noted due to the presence of an early Islamic bath complex in the former forum area, excavated by an Italian team²¹. The territory of

11 Panero 2008.

12 Leone 2007, 159 note 136.

13 Greene 1986.

14 For a discussion on the early Arab occupation in Carthage, see Leone 2007a, 178–181 and, more recently, for the discussion on the intense occupation in former churches and Byrsa Hill, Stevens 2016.

15 Ørsted et al. 2003.

16 Leone 2007b.

17 Bonifay 2004.

18 de Vos 2000.

19 de Vos Raaijmakers – Attoui 2013; Islamic sites are: DU006 (p. 26), DU014 (p. 31), DU015 (p. 31), DU025 (p. 33), DU031 (p. 37), DU061 (p. 52), DU063 (p. 53), DU065 (p. 55), DU073 (p. 63), DU074 (p. 64), DU171 (p. 85), DU172 (p. 66), DU177 (p. 87), DU184 (p. 89), DU261 (p. 106), DU363 (p. 118), DU395 (p. 127), DU508 (p. 143), DU527 (p. 148), DU546 (p. 152), DU565 (p. 156).

20 This is DU184, Henchir Kessar, west of the Wadi el-Guettar DH180.

21 The excavation (unpublished) was carried out under the direction of Marco Milanese and Sauro Gelichi in the 1980s.

the ancient city of Bulla Regia was partially examined in the 1970s²². Unfortunately, the data sets are particularly difficult to compare, as the survey was not systematic and focused primarily on architectural evidence from the Roman period. The majority of data record later-phase ARS, indicating occupation in Late Antiquity.

Moving south to Byzacena, data are available from Kasserine in the region of the Tunisian high steppe, from the Cillium-Thelepte survey carried out by Bruce Hitchner. The survey covers six areas within a 20 km radius of the modern town of Kasserine and focuses primarily on the Roman and Byzantine periods. Different settlement types were identified there, from farms to agrovilles (i. e. larger rural settlements). The overall picture is one of an intense network of villas around the two urban sites of Cillium and Thelepte, while a network of agrovilles developed far from a forum, temple, bath complex, Christian basilica, and 22 olive presses. A different type of site, but nevertheless similarly monumental, is Henchiret Touil (a large farm?), characterized by a building with four large presses, a large courtyard, and possible storerooms²³. In this area, the regional economy was based on olive oil production, but the absence of a structure that can be interpreted as a domicile suggests that the owner probably did not live at this site. The survey results appear to show an increase in settlements, especially in the 4th and 5th c. This intensification resulted in the occupation of nearby hilly areas, with new irrigation systems being implemented based on local traditions and the construction of forts. The Islamic period is characterised by reduced settlement numbers and limited occupation. The archaeological evidence indicates the reuse of courtyard farms, coinciding with the presence of cisterns and olive presses. Occupation is connected primarily to the Wadis and major trade routes; as in Tripolitania, other sectors seem to have been taken over by pastoralism²⁴. On the coast, a recent survey has investigated the territory surrounding the ancient city of Leptiminus (Lamta)²⁵, revealing some new information about the relationship between the town and its suburbs. For instance, pottery production centres in the Roman Imperial period ringed the outskirts of the city, entering the urban areas only after Late Antiquity. Moreover, there are numerous identifiable kilns located on the coast. The town of Leptiminus saw shrinkage between the 6th and 7th c., with several abandonments of sites in the suburbs²⁶. In the early Islamic period the city did not

have an important harbour, while Sousse, Monastir, and, in particular, Mahdia became major ports up to the 12th c. The settlement moved to Lamta in the mid-9th c., when a *ribât* fort was built along the coast. Pottery production, which characterised the city and its hinterland in the Roman period, migrated to the southeast at Moknine, and the city ceased to maintain a role in associated trading activities²⁷.

Evidence from different territories indicates how varying landscapes had different reactions to the Islamic conquest. Overall, there appears to have been a decrease in site occupation in the 7th c., although this observation may lack certainty due to difficulties in dating. Fortifications appear in the landscape primarily along the coast and, according to the Kasserine survey, to the south of the region. The landscape there is characterised by the presence of highlands and uplands and a complex system of exploitation. Further development into the Islamic period saw the expansion of pastoralism²⁸.

Coastal Sites, Harbours, Forts

Occupation of the territory cannot be fully understood without considering the development of harbour areas. The continuity of occupation, as in the case of Carthage, or the abandonment of urban areas, as for instance at Leptiminus, along coastal areas seems to be connected strictly to the presence and use of harbours. Understanding the nature of harbours in the 7th and 8th c. is still a complex process. Due to the lack of specific research, data are not detailed enough to draw definitive conclusions. However, there are some elements which point towards the use of ports, though mostly small ones. The evidence suggests these could have been used for short cabotage, due to the lack of larger infrastructures, or in use by smaller boats with a reduced cargo in comparison to the earlier centuries. Carthage itself offers some insight through its numerous, significant productive activities located on the coasts from the 7th c. onwards, such as a pottery kiln in the Antonine baths complex and the nearby Magon quarter, which continued to be used despite reduced building sizes and street closures²⁹. Another pottery kiln was found north of the baths, along the shore at Falbe Point 90 and in the circular harbour on the central island³⁰. The general setting of

22 Antit et al. 1983, 134–164.

23 Hitchner 1989; Hitchner 1994.

24 Hitchner 1994; Wanner 2006.

25 Mattingly – Stone 2011.

26 Mattingly – Stone 2011, 277–279. See also the discussion by Stevens in the volume.

27 Mattingly – Stone 2011, 280 f.

28 Hitchner 1994.

29 Leone 2007a, 225.

30 For a synthesis and additional bibliography, see Leone 2007a, 179–181.

small productive centres in connection with houses suggests, on the one hand, a change in the organisation of production and, on the other, a possible use of natural ports for small boats navigating a short distance to major harbours, as for instance Sousse, Mahdia and Monastir. This trend can also be confirmed by Lepcis Magna, where the harbour shows evidence of intense occupation in the early Islamic period, with pottery production and other activities. The Italian excavations by Bartoccini and later by Laronde in the port area have uncovered a large settlement and burials (mostly east of the harbour) with productive activities; this settlement appears to have been occupied until the 9th/10th c. Also found in the area was the same type of pottery produced in a kiln at a settlement in the Flavian Temple in the same period³¹. The two areas are located close to one another, in the same coastal area of the city.

The city, which most likely continued to be occupied until the 9th/10th c., probably had small ports in use to allow for inter-regional commercial exchange and the reach of major harbours. Trading activities continued also at the harbours of Tunis and Mahdia, which were also used for construction purposes, to support movement of building materials and recycled marble decorations for the decoration of buildings³². The commercial connections between east and west continued, though at a lower scale, as indicated by the pottery evidence (see below). Any attempt to trace affective trade from North African harbours in the 6th and 7th c. is very difficult. While sources indicate that the major trade routes developed during these centuries ran south of North Africa, in particular from Kairouan through the south to Fes and from Tripolitania to the Sahara, the effective establishment of an organised coastal trade system only appeared to have developed in the 9th and 10th c. from the coast of Spain to North Africa³³. The major development on the North African coast, which occurred primarily from the end of the 8th c. with the construction of forts, in particular Sousse and Monastir, does not appear to have had a primarily economic function. These coastal forts were initially called *qsar* (*qsar*, singular) and only later, in the Hafside period, were they addressed as *ribāt*³⁴.

The study of North African fortifications and their evolution from Late Antiquity/Byzantine period into the Arab period is still somewhat limited, and an overall analysis is still missing. Denis Pringle's work on Byzan-

tine forts of North Africa published in 1981 remains the major study focussed on the Byzantine period. Analysis of forts and fortifications looks primarily at the frontiers, with the principal focus on *limes*³⁵.

City walls are obviously a different issue, although they make an appearance in the North African landscape in Late Antiquity. Carthage had its city wall built for the first time in 425 AD, to defend the city against Vandal attacks. The wall did not actually enclose the entire city, with part of it left outside. It was later restored in the Byzantine period and possibly again after the Arab conquest³⁶.

The Byzantine Army and Forts in Africa

The setting up of the Byzantine province of North Africa followed a series of specific steps which were structured around the organisation of the territory (fig. 2). This layout saw the development of forts, which according to function and location acquired different forms.

The territory of Africa Proconsularis and Byzacena underwent considerable reorganisation after the conquest: estate owners could claim their own possessions, and catholic churches could reclaim their estates. The province had two different armies: a sedentary one for controlling the borders and an itinerant one with soldiers stationed in different areas according to need and potential threats to security³⁷. The Magister Militum Africae was settled in Carthage, while other commanders were located at the principal fort of each region: in Tripolitania the fort was at Lepcis Magna, and in Byzacena at Capsa and Thelepte (Leptis Minus is also mentioned by some sources). The army was distributed across the landscape in order to keep control over all the areas³⁸. The distribution of forts followed the organisation of the province, and we can trace its development from the borders moving inland.

After the Byzantine conquest there was the need to reorganise the landscape and provide security through the presence of forts. Securing the landscape necessitated several steps: fortifying the border; providing a series of forts which offered refuge; and closing the passages

31 On the excavation see Laronde 1994; for the pottery from the Flavian Temple, see Dolciotti 2007. For an overall overview of the transformation of Leptis Magna in the Islamic period, see Cirelli 2001.

32 Cahen 1978, 308.

33 For a detailed discussion see Valérien 2012.

34 Picard – Borrut 2003, 38.

35 See, for instance, recently with previous bibliography: Rushworth 2015. The discussion is limited to the frontier areas and it considers variations between Numidia, Tripolitania and Mauretania.

36 Leone 2007a 168–181 with further bibliography.

37 Diehl 1896, 121.

38 Cod. Iust. 2, 4b.

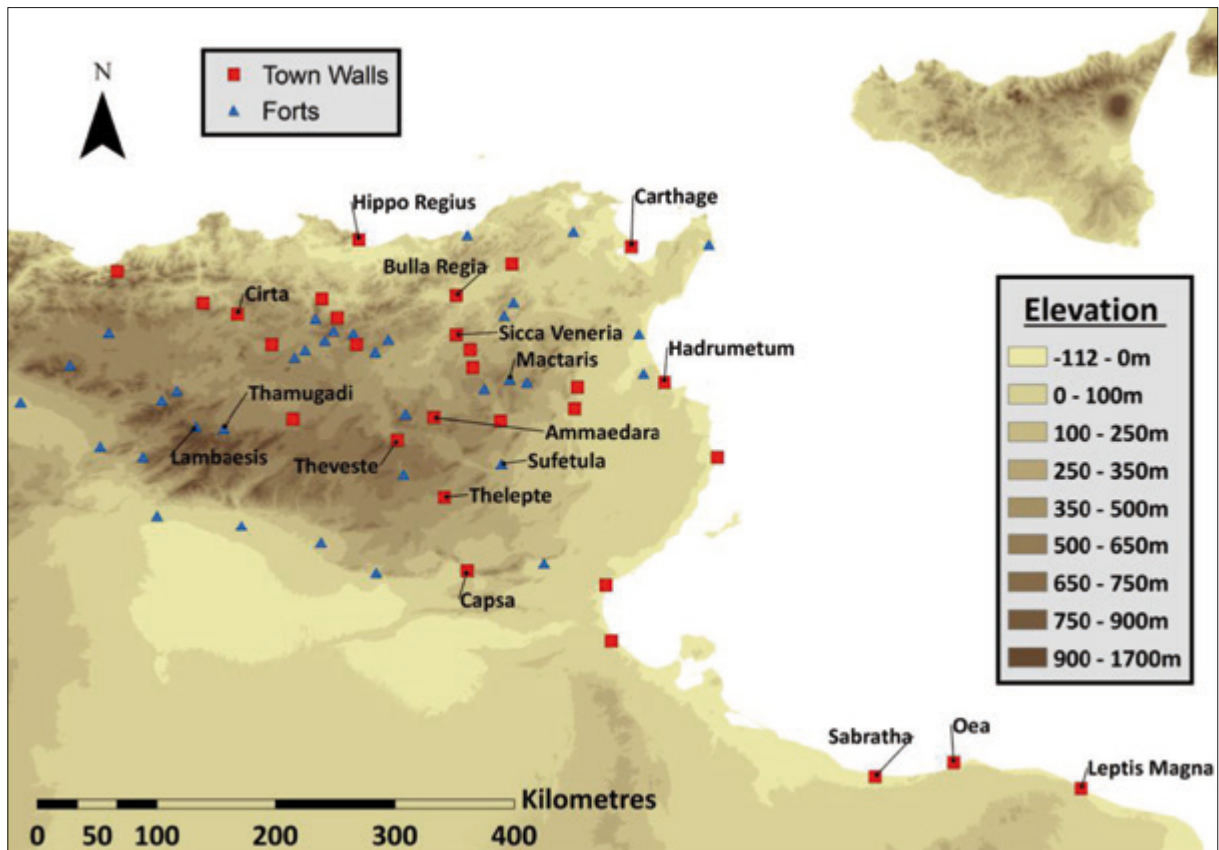


Fig. 2 Byzantine fortifications in North Africa

along the major communication routes³⁹. An essential first step was to create fortified citadels. This is well attested archaeologically, as in the case of Carthage, with the refurbishment of the city walls in AD 425 and later⁴⁰, but this is also attested at Sabratha (fig. 3) and Leptis Magna in Tripolitania, where the area of the city included inside the Byzantine city walls was significantly smaller than the Roman city (fig. 4). Moreover, at Leptis Magna the walls left out part of the *forum vetus* of the city⁴¹. These major cities formed the principal system of defence, characterised by a city wall which offered protection to the inhabitants of the territory in case of danger, as well as a fort for the permanent residency of the army. In Leptis Magna, for instance, despite the poor excavations in the Italian colonial period, it is possible to see that the fort was placed in the Severan Forum⁴². In the Bagradas valley, near Carthage, Vada is surrounded by walls⁴³. Along the coast many Roman cities were also surrounded by walls, as for instance at Hadrumetum.

Cities with city walls and forts appear to have been common along the borders and along the coast.

We see also a second type of settlement formation, which is characterised by the absence of city walls but the presence of forts. This type of fortified city appears to have been common in the second line of fortifications in the interior. The aim was always to provide a fort with an army that can offer refuge to the inhabitants of the city. A small fortlet is for instance recorded at Thugga, where the fort included part of the former forum of the city (fig. 5)⁴⁴.

In both cases these settlements were substantially different from the Roman classical cities, as their central focus was the presence of the fort. Sbeitla, which had no walls, but three forts in different parts of the former city in connection with a church and inhabited nuclei (fig. 6) offers a good example⁴⁵.

Forts, not directly connected with the presence of cities, were also built after the Byzantine conquest of

39 Diehl 1896, 167.

40 Leone 2007a, 294 f.

41 Leone 2007a, 196.

42 Leone 2007a, 273 with further bibliography.

43 CIL VIII 14399.

44 Ritter – von Rummel 2015.

45 See Duval 1982; Leone 2013, 182.

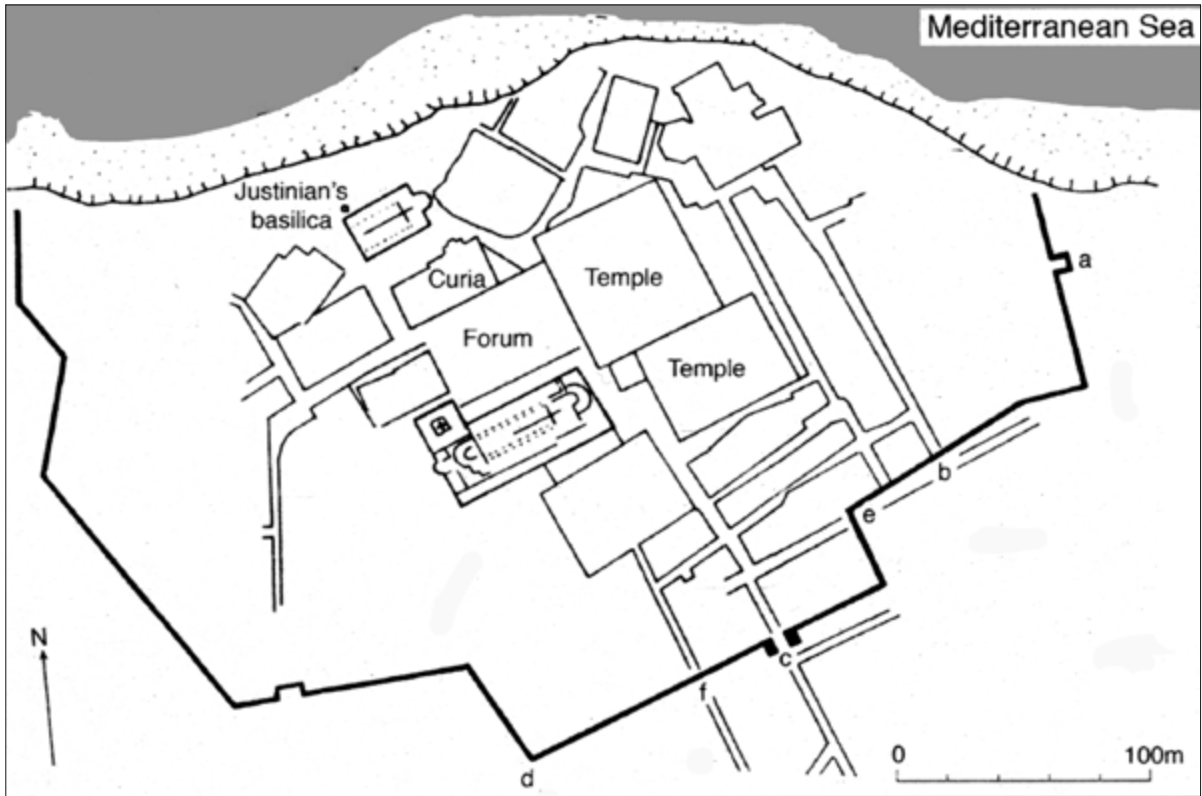


Fig. 3 Byzantine walls of Sabratha (scale 1 : 3000)

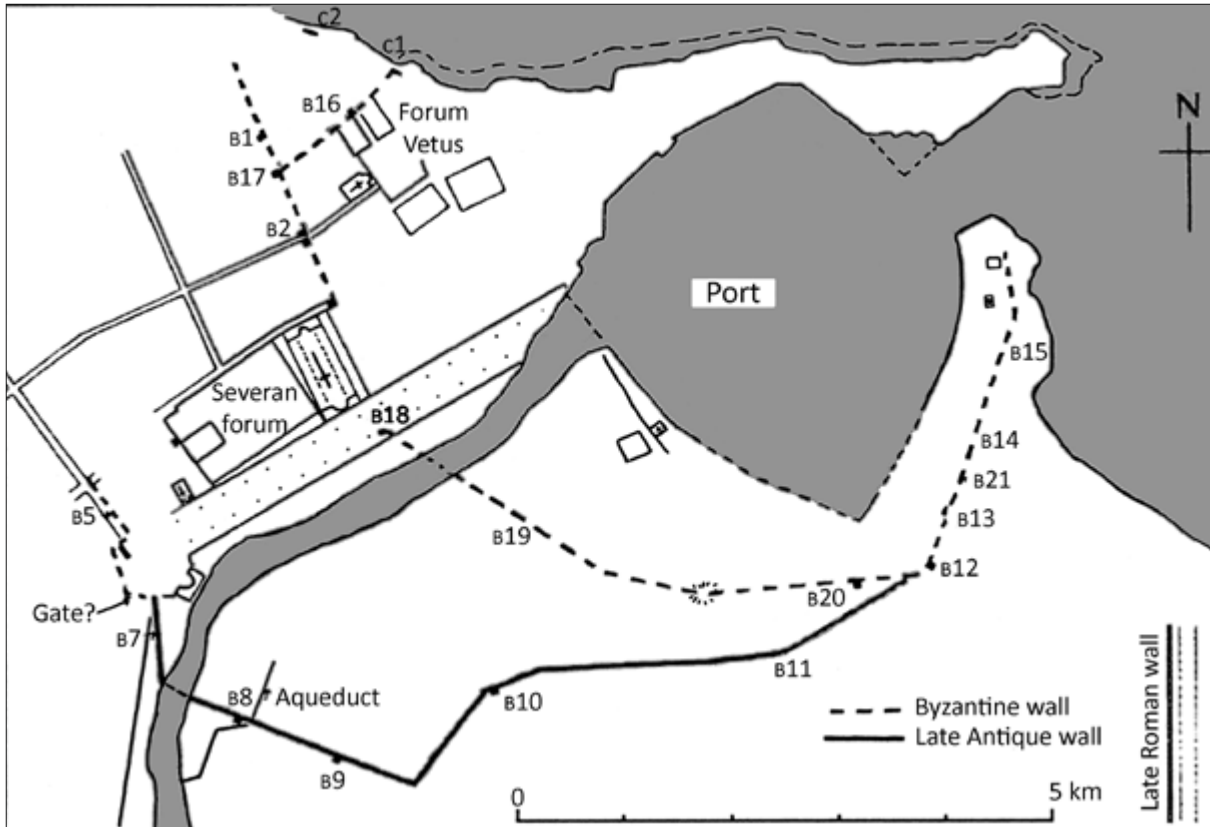


Fig. 4 Leptis Magna. Byzantine wall

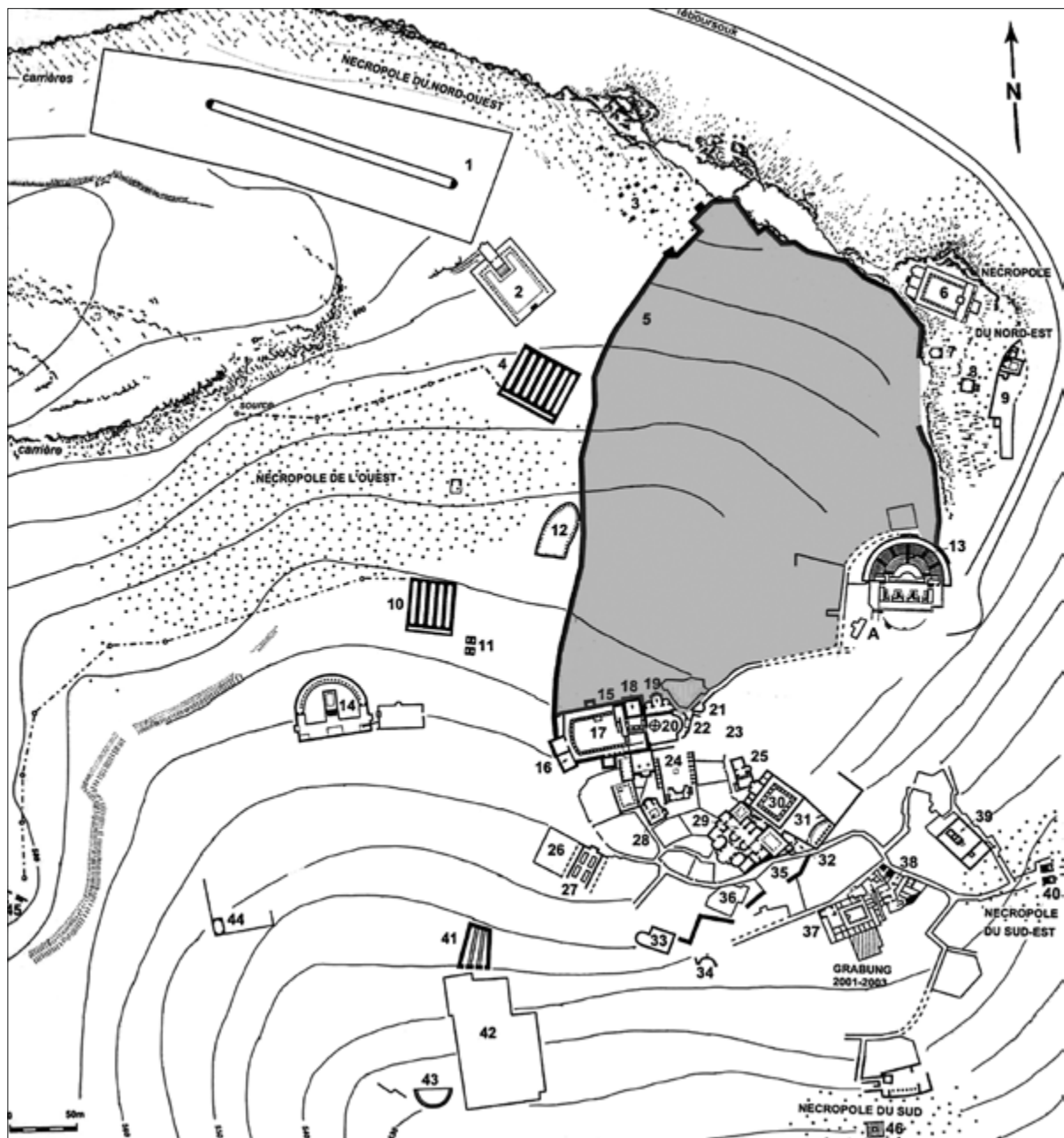


Fig. 5 Thugga plan of the citadel (scale 1 : 5000)

North Africa. These were normally located in a strategic position controlling a passage, or a major road. Henchir Zaga for instance was built between between Beja and Tabarca⁴⁶. Another example is offered by Borj Hallal which controlled access to the area of Bulla Regia⁴⁷. In the Mejerda valley there was a road leading from Carthage to Hippona, along which different types of fortification developed, from the coast (city walls and forts)

to the inland (mostly settlements with a fort and large isolated forts at key passages). All these structures were part of the defensive system set up by the Byzantine Empire in the aftermath of the conquest of North Africa. They were occupied by the army, serving, on the one hand, to protect the borders and the main connecting roads and, on the other hand, they were strategically placed to offer support in case of danger.

46 CIL VIII 520.

47 Diehl 1896, 214.

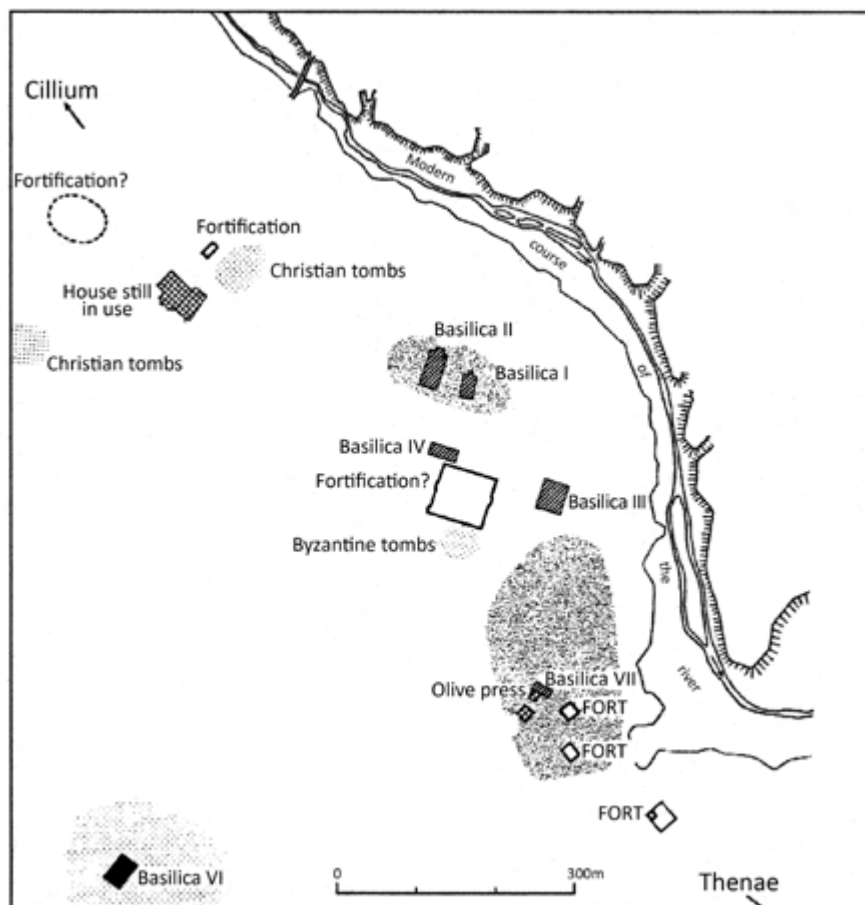
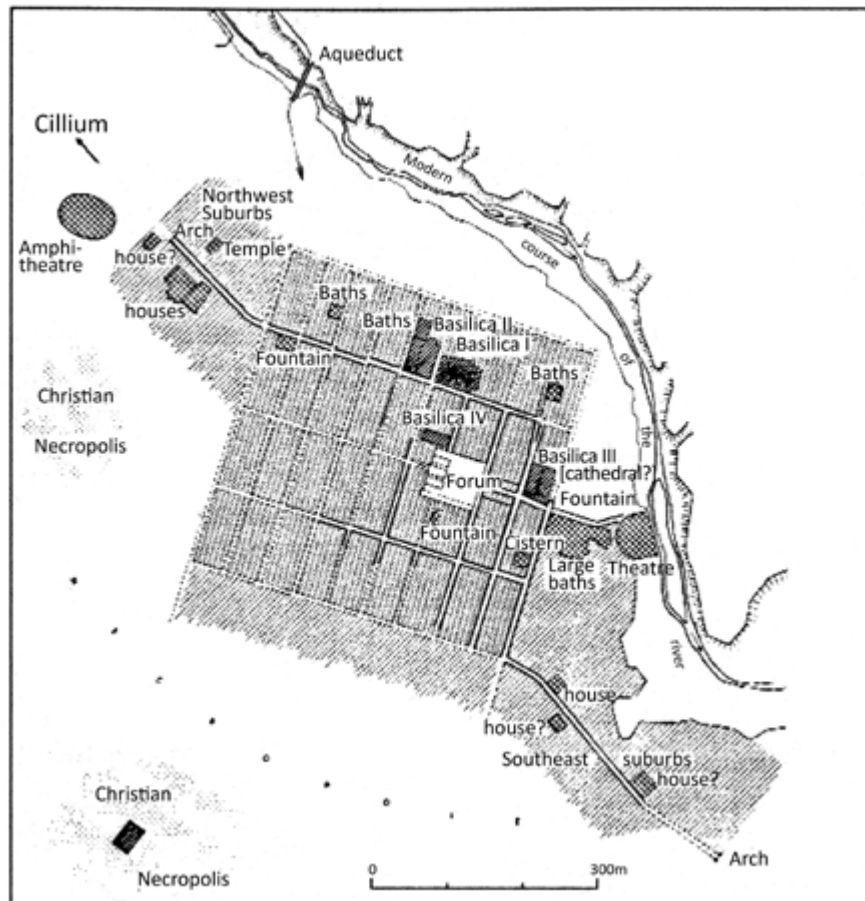


Fig. 6 Sufetula-Sbeitla. Roman and Byzantine city (scale 1 : 1000)

Fortifications in the Landscape

A last type of fortification was characterised by small towers and forts, which were not part of the official building programme put in place after the Byzantine conquest of North Africa. These settlements were, in fact, connected with the exploitation of the countryside and its production: their construction was made necessary by the particular conditions of the territory and the presence of tribes who made the countryside dangerous and insecure.

Recent work by Mattingly et al. has tried to address from a typological perspective the issue of forts in Late Antique North Africa, distinguishing different forms of *qsur* recorded all over North Africa and identifying those from the period⁴⁸. Forts were a feature common across the North African landscape, although primarily found in specific regions such as Tripolitania and Fezzan (especially if located inland and isolated) to the south. It has been convincingly suggested that they had the double function of protection and as bases of support and exchange⁴⁹.

This recent attempt at a typological categorization of forts in North Africa highlights the limit of this approach, given the variety and different types of architecture. The paper also covered a chronological span of one millennium, although the second part attempts to focus specifically on the Late Antique period⁵⁰. One striking piece of evidence is the very limited number of forts in the landscape in both Zeugitania and Byzacena. In the territory of Dougga, only 10 forts on an area of 300 km² have been recorded overall⁵¹. This evidence contrasts quite substantially with Tripolitania, where the presence of *qsur* in the landscape becomes very much diffused in rural areas beginning from Late Antiquity⁵². The organisation of the territory as well as the type of communities in the territory played a role in shaping the landscape. Zeugitania was highly urbanised and it is likely that the countryside became insecure later, as indicated by a series of forts that appeared in the Byzantine period. Byzacena may have been more similar in its rural organization. Here, the Kasserine survey has indeed shown the construction of two watchtowers in Late Antiquity, used to provide protection for the landscape⁵³. These structures were within sight of each other and could commu-

nicate; they were probably a private means to provide security to the rest of the local population. However, most of the forts in Zeugitania and Byzacena were part of official public constructions, mostly the Justinian defensive programme, and were often located in close vicinity or within the urban area. The majority of these forts, in terms of design, were of typical Byzantine form⁵⁴. The same typology was also adopted for private forts in the Byzantine period. The same building traditions and technology appear to have continued after 698 AD; building technique was based primarily on the reuse of large blocks combined with smaller irregular blocks⁵⁵. Construction techniques in use in the Byzantine and Arab periods are very similar and dating these forts to different historical moments is very difficult, some systematic work should be initiated in order to provide a stronger set of data. Some Byzantine forts continued to be in use into the Islamic period, although in general many of them are not well dated. Capsa Iustini-ana, for instance, was a Byzantine fort that was abandoned in the 12th c., but then reoccupied and enlarged in the 15th c.⁵⁶. Also Ksar Belebma, Byzantine in construction, had a phase of occupation in the late 10th c.⁵⁷. At Diana Veteranorum there is a *qsar* that was in use until the post-Byzantine period. Some theatres were transformed into forts in the Byzantine period, such as at both Althiburos⁵⁸ and Bulla Regia⁵⁹. Some Byzantine forts may have been constructed later, like in the case of Henchir Kelbia where a fort was built in the upper part of the city in the 7th c.⁶⁰. The evidence indicates that forts continued to be built throughout the Byzantine period and their presence remained an essential element of the landscape, guaranteeing security for the populations.

From Forts to *Ribāts*: Some Continuity

The same activity continued after the Arab conquest, through both new buildings and the restoration of existing forts. For example, Belalis Maior contains a fort that was built in the Fatimid period⁶¹. At Thugga a wall was added to the Byzantine fortification in the Islamic peri-

48 See Mattingly et al. 2013, with extended bibliography.

49 Mattingly et al. 2013, 169.

50 See Mattingly et al. 2013.

51 Mattingly et al. 2013, 180.

52 See contribution by Leone in the volume.

53 See above note 23.

54 Pringle 1981, 166.

55 A good example is provided by the Abthugni where the fort was built entirely by reusing material. The site was occupied until the 11th/12th century. Ferchiou 1993–1995, 198).

56 Pringle 1981, 195.

57 Pringle 1981, 204.

58 Ennaïfer 1976, 38 f.

59 Beschaouch et al. 1977; Pringle 1981, 242.

60 Pringle 1981, 563 note 65.

61 Mahjoubi 1978, 386.

od⁶². Similarly at Aggar, a temple precinct was transformed into a fort in the Byzantine period, or possibly the Islamic period⁶³. Gasr Laussagia has a fort built in the 4th c. which was fortified again in the Islamic period⁶⁴, and similar continuity of use has also been strongly suggested at Gasr Sidi Hassan⁶⁵. Data are unfortunately too limited to allow a full understanding of the fate of forts in the transition from the Byzantine period into the early Arab period; good chronologies are still missing and, at present, any attempt at offering a model of development of the presence of the forts in the landscape could only be speculative and misleading. Some other new forts were also built inland, and at the site of Gastal-Goussa the fort presents a unique form which recalls the *ribāts*, providing evidence of its construction in the Islamic Arab period⁶⁶. It has to be pointed out, however, that at present a systematic study of the early Islamic fort is missing, and most of the chronologies are suggested on the basis of comparison with monuments whose date is also uncertain.

The best known *ribāts* in the region are those of Monastir and Sousse, possibly built at the end of the 8th c. As mentioned above, at the time of construction they were still defined as *qasr* (e.g. defensive forts); only later, in the 11th c., they may have acquired a religious function and the name *ribāts*⁶⁷. The one at Sousse is mentioned by the sources as an outpost from which the conquest of Sicily was launched⁶⁸. Aside from these two, the best known forts in the region are those at Lamta and Iunca⁶⁹, both of which are still in need of detailed study⁷⁰. Some of these buildings were transformed into Turkish artillery posts in the 17th c., as in the case of Bizerte, Kélibia, Hammamet, and Mahdia⁷¹. Other important forts are at Qasr Hergla; in a few cases, towers are preserved at Borj Khadjia (30 km south of Mahdia), Qasr Ziad (Djebeniana), and Sidi Mansour (10 km south of Sfax). The geographical distribution of the fortifications along the coast reveals that their function was to serve primarily as a coastal warning system⁷². Sources also indicate that they were obliged to provide assistance to commercial ships which were in danger or under attack⁷³. These forts

were flanked by towers, with both types of structures found in high density between Sousse and Tabarqa, particularly in the area of Cap Bon. Fort development started in North Africa at the end of the 8th c. and building activity extended into the 11th c.⁷⁴. These first developments in North Africa extended later into Morocco and then to the coast of Spain. In the latter area, forts developed later in the 9th c. with a second phase between the 11th and the 15th c.⁷⁵.

Coasts, Settlements and Trade: An Inside-Out View

Overall, the data allow us to identify a substantial decrease in occupation of rural areas and a movement towards urban areas, especially along the coast in the time between the end of the Byzantine period and the Islamic conquest. These new settlements were characterised by families living together in houses with annexed production activities. The location of several recorded pottery kilns along the coast may be justified, on the one side, by easy access to salt water, which facilitated vessel production, but also, on the other side, by the fact that small natural or built anchorages may have allowed the transport of goods from smaller centres to major harbours. These towns were probably quite intensively inhabited, although mostly with poor housing connected to production areas⁷⁶. The levels of production were probably substantially lower than in the 4th and 5th c., and a smaller quantity of goods may have been exported. This has been suggested for instance in the case of Sirte in Tripolitania. The settlement there along the coast had a harbour functioning in the early Islamic period and certainly becoming important in the 10th c. and 11th c. At the site, by the harbour, are a large number of *siloi* for grain which were in use in the same period. It has been suggested that the port had a use inasmuch as it could facilitate the export of grain from the city⁷⁷. This existing

62 Poinssot 1958, 54.

63 Pringle 1981, 531 note 82.

64 Di Vita 1964, 139.

65 Faraj 1995, 154.

66 Pringle 1981, 258.

67 Cahen 1977, 267.

68 See some discussion on this in Kennedy 2011. On the building phases, see Alexandre 1954. It is suggested that the architect in fact originally came from the east.

69 The current extent of the fort is dated to the Hafside period (Zbiss Slimane 1954).

70 The fort at Iunca is often referred to as built in the Byzantine period. This chronology is suggested on the basis of a reused inscription found in a building outside of Iunca (Pringle 1981).

71 Zbiss Slimane 1954, 145.

72 The sight of a boat was signaled to the other coastal forts and towers. A message could be sent from Ceuta in Morocco to Alexandria in Egypt in one night (Khalilieh 1999, 214).

73 Khalilieh 1999, 217.

74 Zbiss Slimane 1954.

75 Boone – Benco 1999.

76 The idea of intensively inhabited cities has been discussed for the case of Carthage in Ellis 1985. More recently Stevens 2016 stressed the substantial shrinkage of the settlement in the early Arab period.

77 Hardy-Guilbert – Lebrun-Protière 2010, 107. On the presence of numerous *siloi* in settlements, as in the case of Carthage, see Stevens 2016.

commercial activity must have taken place primarily among Mediterranean countries. At the beginning, the exchange focused primarily on the commercial system of Ifriqiya, with the major trade route of the early Islamic period running to Morocco and Spain overland. A series of independent states developed from the 8th-c. crisis along the major connecting route between Kairouan and Morocco to Fes. Commercial interconnectedness grew on a larger scale primarily along this route, while large scale maritime exchange developed later, through the markets in Spain⁷⁸, although this is difficult to reconstruct. In fact, ceramics play an essential role in the process of reconstruction of exchanges, but the difficulty in identifying this process comes from our limited knowledge of North African products in the 8th c. Some new centres of pottery production have been identified in Carthage and Lepcis Magna, as discussed above, and probably in the area of Jerba. In the East, North African products are still very well attested up to the mid-late 7th c., as proved by the deposits in Corinth, Chios, and Sarachne. Exports up to the same period are recorded in Rome, at the Crypta Balbi and in Ummayyad contexts in Beirut. Later amphorae, similar to those produced in the Flavian temple in Lepcis Magna, appeared in the 9th c., while Rome always had 10th- and 11th-c. pottery, probably produced in Jerba, RafRaf-Bizerte and Sejanine⁷⁹.

In North Africa after the Islamic conquest the global amphorae made their appearance. A clear example can be found in the excavation in San Clemente as well as in Sicily, Miseno, Otranto and Egypt⁸⁰. Pottery produced in North Africa and possibly exported from Mahdia, has been recorded in Spain⁸¹.

The pottery evidence indicates that trade continued into the 8th c. and later. The same evidence seems to be proven by the distribution of African coins recorded in Spain, France and up to Britain⁸². The progressively increasing amount of African exported products after the 8th and 9th c. is perhaps the reflection of the fact that long-distance trade by sea started later. After the Islamic conquest a few centuries were necessary to reorganise major commercial exchanges and a network of trade routes by the sea developed in a later phase. Power shifts which characterised the Islamic rule also played a role. In fact, the settings of these coastal sites were not only important to support conquest and regional security but also to boost connectivity, which, though at a lower scale and on a more limited geographical scope, must have continued for centuries to become powerful again and

flanked the internal trade routes from the 9th-10th c. onwards.

The evidence drawn from different aspects of the archaeological evidence provide clearly the limits of the data and the difficulties in chronologies, making a detailed study of forts and forts development in North Africa between the Byzantine and the early Islamic periods a priority.

When combining together data from the forts distribution and the landscape occupation, it appears evident that there was not one shared model across North Africa, but a substantial regional evolution. The existing landscape, the presence and the condition of urban settlements, the level of production and connectivity of different regions, played a significant role in the formation of a new early Islamic landscape. Overall, three major categories of fortifications, starting from the Byzantine period, have been identified. Primarily the cities on the coasts and on the border city offered a combination of city walls and forts to provide refuge for the inhabitants, but also to allow the presence of the army. This was certainly to protect the shores but also to support some trading activities. It is arguable that the small harbours which continued to exist in larger cities, although often at reduced capacity, were serving as short cabotage to major harbours. Inland cities were characterised by a more dispersed type of settlements, enucleated around forts; these cities were normally located on a second line of fortification. Finally, isolated forts were located in closed passages. These typologies altogether are identified for instance in the Mejerda valley, which was highly urbanised in the Roman period. This organisation is more difficult to identify in Tripolitania and partially in Byzacena, where the level of urbanisation was more limited. The evidence shows the impossibility of creating a model that could fit the whole of North Africa, and the necessity of more detailed studies focusing on regional diversity. When moving to the early Islamic period, the understanding is even more difficult to shape. The intense network of cities located in the Mejerda valley changes, for instance, with some cities being abandoned, while some others continued to be inhabited. The data and the excavation are, however, too scanty to provide a clear picture. Archaeologically, many forts are not well dated and it is difficult to follow up the transition into the early Islamic period. It is arguable that some of these forts continued to be in use, but whether they continued

78 Valérian 2012.

79 For the production of carinated bowls in Gerba, see Cirelli – Fontana 2009, for the centre of production in Tunisia see Reynolds 2016, 155.

80 Reynolds 2016, 149.

81 Reynolds 2016, 52.

82 Morrisson 2016, 198.

to have the same defensive function and in what form they continued is still very unclear. Some more detailed work on forts is necessary to provide a clear picture of the transition from the Byzantine into the Early Islamic

period and more regional perspective is absolutely fundamental in order to provide new data and new understanding of the continuity and change. Chronologies will need to be defined before any model can be put forward.

Abstract

Progressively, from the 3rd century, the North African landscape changed substantially. The appearance of fortified complexes became imposing and the transformation of harbours and coastal cities suggests changes in the organisation of the economy. This paper looks at the new landscapes, with forts and production centres, to

discuss how the fortified landscape changes through time and how the trade routes and the trading systems were modified. The limited availability of well-dated evidence makes the task particularly difficult, but it still allows us to point out the processes of these transformations.

Résumé

Progressivement, à partir du 3^{ème} siècle, le paysage nord-africain a considérablement changé. L'apparition de complexes fortifiés est devenue imposante et la transformation des ports et des villes côtières suggère des changements dans l'organisation de l'économie. Ce document examine les nouveaux paysages, avec les forts et les centres de production, afin de discuter de la façon

dont le paysage enrichi évolue au fil du temps et de la modification des routes commerciales et des systèmes commerciaux. La disponibilité limitée de preuves bien datées rend la tâche particulièrement difficile, mais elle nous permet néanmoins de souligner les processus de ces transformations.

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Fig. 1 elaborated from Leone – Mattingly 2004, 137
fig. 5.1

Fig. 2 data from Pringle 1981, map by Peter Gadsden

Fig. 3 after Leone 2007a, 196 fig. 59

Fig. 4 after Pringle 1981, 577 fig. 26

Fig. 5 Ritter – von Rummel 2015, 47 fig. 1

Fig. 6 after Leone 2007a, 182 figs. 55. 56

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