The Islamic Archaeology of Ifriqiya and the central Maghreb

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Introduction

It is often forgotten that North Africa played a pivotal part in the development of Islamic archaeology as a discipline through the important French excavations at the Qal'a of the Beni Hammad in Algeria in the late nineteenth century, one of the earliest excavations at an Islamic site by European archaeologists anywhere in the Islamic world. This early promise proved short-lived. For most of the 20th century, the Islamic period has been the preserve of art historians and historians, with only a handful of small-scale excavations conducted at the spectacular palatial-cities, mosques, ribats and fortresses of Algeria, Tunisia and Libya. Since the 1990s, there has been a significant rise in the number of projects and amount of evidence available, as well as a new interest in revisiting old questions and models for the Islamic period. The majority of research, however, continues to focus on the 'dark age' transition from Rome to Islam, and the monumental architecture of the ninth-eleventh centuries. This chapter charts the development of Islamic archaeology and lays out the key scholarly debates in Ifriqiya and the central Maghreb, broadly understood as encompassing modern-day Tunisia, Algeria and western coastal Libya (Figure 1).

[Insert Fenwick-Fig 1.]

Background: A brief history of Ifriqiya and the central Maghreb

Arab armies first entered Cyrenaica from Egypt in 642 but it took many decades before the Byzantine capital Carthage fell in 697/8 and Africa became Ifriqiya (Brett 1978, Kaegi 2010, Manzano Moreno 2010). North Africa did not remain part of the caliphate for long. The Umayyads and the Abbasids never managed to establish firm control over North Africa and

the eighth century was characterized by repeated rebellions and revolts of both the local Berber populations and rival factions in the Muslim armies (Fenwick 2019c). Caliphal rule was replaced by a series of Muslim successor states including the Rustamids (761-909) in western Algeria and the Aghlabids (800-909) in Ifriqiya itself (Talbi 1966, Anderson et al. 2017). North Africa became the seat of empires under the Shiite Fatimids (909-1171) who ruled from Tunisia before they moved their capital to Cairo in 972 (Brett 2017, Bloom 2007). The region was then ruled by their vassals, the Zirids (972-1148), a Sanhaja Berber dynasty (Idris 1962, Golvin 1957), but within a few decades, the central Maghreb was seized by the Hammadids (1014-1152). The eleventh century was also marked by the movement of the Banu Hilal from Egypt into the Maghreb, traditionally depicted as economically and socially devastating.

The rise of the Almohads (1120-1269) marked the first time that North Africa and al-Andalus was united under one rule (Bennison 2016). After the Almohad empire collapsed, Ifriqiya and the central Maghreb was more often under the control of a single dynasty, usually based in Tunis or in Algiers. The Hafsid dynasty (1229-1574) based in Tunis united much of the region again though little is known archaeologically of this period (Daoulatli 1976): this was a time of great connectivity with many Muslims from al-Andalus fleeing from the Reconquista and much commerce and piracy on the Christian world. The Ottoman seizure of Algiers (1529), Tripoli (1551) and Tunis (1574) in the 16th century had major, if largely unexplored, implications for North Africa. Almost nothing has been written about the archaeology of the Ottoman period, though scholars have studied extensively the architecture and urbanism of North African cities in this period (Saadaoui 2001, Raymond 2002). The French conquest of Algiers in 1830, the establishment of a Tunisian Protectorate in 1881 and the Italian colony of Libya in 1911 marked the start of a complex colonial relationship with the region, within which archaeology and the Islamic past has played an important role.

[Insert Fenwick-Fig 2. About here]

Islamic archaeology in North Africa

The origins of Islamic archaeology in North Africa are inextricably entangled with the French colonial mission. The earliest excavations were those conducted by Paul Blanchet and General Léon de Beylié in the late nineteenth century at the Qal'a of the Beni Hammad in Algeria (Figure 2), the capital of the Arab-Berber Hammadid dynasty in the eleventh and twelfth centuries (De Beylié 1909, Marçais 1913). The excavations focused on the large-scale exposure of the mosques, palaces and gardens and the architectural decoration and luxury items they contained, such as mosaics, stucco, metalwork and glazed ceramics. The result was stunning catalogues of objects, inscriptions and detailed architectural descriptions, but provided little information on the social, economic or political aspects of medieval life. Despite this early interest, Islamic archaeology remained a minority pursuit for many decades. France's (and later, Italy's) close ideological association as the successor of Rome in Africa, combined with the extraordinary number of sites with standing monumental Roman architecture, privileged the Roman period with disastrous consequences for medieval archaeology (Lorcin 2002, Fenwick 2008). When medieval remains were encountered, they were usually destroyed without being recorded in order to reach the monumental temples, theatres and elite housing of the early Roman period. This state of affairs continued throughout the colonial period – only a handful of small-scale excavations took place at dynastic palace-cities like al-Abbasiya (Marçais 1925) in Tunisia and Achir (Golvin 1966) and Sedrata (van Berchem 1954) in Algeria.

Islamic heritage was not entirely neglected. Orientalist interest in Islamic architecture, decoration and the fabric of the 'Islamic City' led to meticulous studies of the monuments

and medinas of important cities (especially Algiers, Tunis, Tlemcen, Sousse, and Kairouan) in French-occupied territories, though not in Italian-held Libya . Detailed architectural studies of individual monuments (largely mosques, ribats and fortifications) also took place in Algeria and Tunisia, some of which were accompanied by limited excavation (for Morocco, see Fili this vol). The pioneering scholarship undertaken in the first half of the twentieth century by French scholars such as Georges Marçais (1876-1962), Henri Terrasse (1895-1971) Alexandre Lézine (1906-1972), Lucien Golvin (1905-2002) and others, many of whom worked in multiple North African countries, remains the essential point of reference today. This is precisely where the problem lies: in the still important work of Marçais (1954), which has not yet been supplanted as the reference manual for medieval art and architecture for Tunisia, Algeria and Morocco the focus was only on architecture and elite material culture.

After Tunisia, Algeria and Libya gained their independence, and coinciding with a burgeoning interest in medieval archaeology in Europe in the 1970s and 1980s, Islamic archaeology began to flourish. Research has continued to focus on monumental architecture and palatial centres, but very different research trajectories can be seen in the three countries. Libya, in many ways, provides the most comprehensive evidence for the early Islamic period despite being hampered by American and United Nations sanctions (1986–2004) and ongoing conflict (2011-). The work of the Libyan scholar Abdulhamid Abdussaid, who excavated medieval sites of Ajdabiya, Medinat-al-Sultan, el-Merj and Zuwila in the 1960s and 1970s, laid the foundation for Islamic archaeology there. In the following decades, diachronic field-surveys such as the UNESCO Libyan Valleys Survey were accompanied by major excavations at the Fatimid towns of Ajdabiya and Surt as well as the careful excavation of late phases at the coastal classical cities of Ptolemais, Leptis Magna, Sabratha, Tocra, and Berenice (see King 1989). At the time of writing, Libya has been in a state of civil war since 2011 putting much of its heritage at risk, and many of its Islamic mosques and tombs have

been targeted and destroyed by Salafist militants, though this has received only limited attention from cultural heritage specialists (Brodie 2015).

In Tunisia, Islamic archaeology became a recognized department of the Tunisian Antiquities Service in 1948 under the leadership of Slimane-Mostafa Zbiss who began a systematic series of restoration works (with some excavation) in the medinas of Tunis, Monastir, Sousse, Kairouan and Mahdia. Nonetheless, excavations remained limited in scope compared to those at Punic or Roman sites, and focused on the Aghlabid foundation of Raqqada (Chabbi 1967-1968), and the later Fatimid foundations of Mahdia (Louhichi 1997), and Sabra al-Mansuriya (Zbiss 1956, Ajjabi 1985). As Patrice Cressier (2013: 119) has pointed out, it is astonishing that only three sites have been the main focus of attention for over a hundred years – and indeed, even more remarkable that we still know so little about even these sites. Ammar Mahjoubi's (1978) excavations and analysis of the late antique and medieval layers at Henchir el-Faouar (anc. *Belalis Maior*) marked an important turning point in the study of the complex histories of Roman towns after the Arab conquest. At the same time, pioneering work on medieval ceramics began to establish a preliminary typology for the region (e.g. Vitelli 1981; Louhichi 1997). From then on, but particularly since the 2000s, archaeologists have examined the medieval layers of many Roman towns, as well as conducting more systematic research at sites like Sabra al-Mansuriya (Cressier and Rammah 2006) and occasionally surveying the medieval and early modern rural landscape as on Jerba (see Holod and Kahlaoui 2017).

Archaeological research has been impeded in Algeria by civil war (1991–2002) and lack of investment. Important excavations were conducted at the Almohad port of Honaine in the 1970s (Khelifa 2008) and at Sétif and Cherchel in the 1980s as part of a new wave of interest in the post-classical city (Mohamedi et al. 1991; Potter 1995). However, excavations at the Rustamid capital of Tahert are only briefly described (Cadenat 1977), and other

Algerian sites, such as the Idrīsid mosque at Tlemcen excavated in the 1970s, have yet to be published. New salvage excavations in the city of Algiers promise to provide important information on the medieval and Ottoman history of the city, but the number of active fieldwork projects remains low due to lack of resources and trained personnel (Khelifa 1987).

Islamic archaeology is still in its infancy in North Africa in comparison to Roman, Punic or prehistoric archaeology, but there is an increasing desire to change this situation driven by both North African and European academics. Although there are still only a handful of national and international research projects dedicated specifically to medieval archaeology, archaeologists are now beginning to systematically include post-classical layers and sites in excavation and field survey. This has transformed our understanding of the transition from Byzantine Africa to Islamic Ifriqiya (Fenwick 2019a for an overview), though progress is slow and remains regionally variable. Dating is the most significant challenge: in the absence of good ceramic chronologies, it is often difficult to date medieval occupation, particularly for the pivotal eighth century (Fenwick 2013: 12-4). Equally problematic, but rarely acknowledged, is the lack of attention paid by archaeologists to the twelfth to nineteenth centuries – only a handful of sites from this period have been excavated, and almost none to modern standards. Our difficulties are exacerbated by the fact that the most important centres of Islamic Africa such as Kairouan, Tunis, Algiers and Tripoli have all been occupied continuously since antiquity. Urban rescue archaeology remains rare, despite the precedent set by the UNESCO-sponsored excavations of Carthage in the 1980s. As a result, we know more about abandoned Roman towns and medieval palatial sites than those medieval or early modern towns that were continuously occupied, and much more about monumental architecture than domestic dwellings, industrial complexes or rural settlement.

Cities

Scholarship in North Africa has focused almost exclusively on the medieval city, and can be separated into two key strands divided along disciplinary lines (Fenwick 2018). The first, led primarily by classical archaeologists and inspired by Kennedy's (1985) *Polis to Madina* article, focuses on 'the Fate of the Classical City': did towns flourish after the Arab conquest, or declined in size, population and prosperity? The second, led by medieval archaeologists, might be described as the 'Islamic city' debate: what were the significant monuments and public spaces of the early Islamic city?

Archaeologists have given far more attention to the first theme than the second in recent years. Scholars are in broad agreement that the fifth-sixth centuries mark the point when the monuments and public spaces of the classical city were transformed into their medieval form in North Africa (Thébert and Biget 1990, Leone 2007, Pentz 2002). New fieldwork as well as the re-evaluation of earlier reports is beginning to make clear too that the Arab conquests were not as catastrophic for North African cities as traditionally imagined. Debate centres around on how one interprets the evidence from a handful of well-excavated towns that flourished in the Roman period and were abandoned at some point in the middle ages (see Fenwick 2013, Fenwick 2018, Fenwick 2019a, Fenwick 2019b, von Rummel 2016).

[Insert Fenwick Fig 3. here]

The picture that emerges is of the great degree of urban variability in the early middle ages. Large, fortified, urban sites on major routes and ports, such as Tripoli, Sousse, Tobna, Béja and Biskra, continued to thrive and formed the basis of the early medieval urban network. Sousse (Roman Hadrumetum), for example, continued to serve as military and regional capital under the Umayyads and Abbasids and in the late eighth century, a fort (*ribāṭ*) was built to guard the interior port, near or on, what was presumably the Roman *forum*. The look of the town was wholly transformed in the mid-ninth century by the

Aghlabid emirs when Sousse became the main naval base for expeditions to Sicily, though the addition of an arsenal and interior port, a Kasbah, a congregational mosque and other smaller mosques as well as a large defensive enceinte that encircled 32 ha and encompassed the entire city including the arsenal and interior port (Figure 3; Lézine 1956, Mahfoudh 2003; Fenwick 2018). Sousse shows us how rapidly a town could be transformed from a Roman city into a walled medieval Islamic city centred around mosque and ribat.

We don't understand the plan and layout of other towns very well, as many of them remain occupied today or have only been partially excavated. Certainly, the site of Leptis Magna (*Lebda*) continued to be the same size in the ninth century as in the seventh century, comprising a walled settlement of ca. 28 ha around the port area with some small pockets of occupation outside the walls around the market, *chalcidicum*, circus and hunting baths (Cirelli 2001). Other towns such as Belalis Maior seem to have grown by the addition of extra-mural quarters in the eighth or ninth century to house new Muslim occupants (Fenwick 2013). The Byzantine capital Carthage is a notable exception to this pattern, and is the one city which seems to have been destroyed in the aftermath of the Arab conquest. Here it is clear that the vast area inside its walls (400 hectares) was reduced to a series of small agricultural villages, perhaps centred around the Byrsa hill which seems to have retained some semblance of urban function (Figure 4; Fenwick 2019b, Stevens 2016). Carthage was not the only town to fail in the middle ages. Smaller towns of the northern Tunisian Tell, Numidia and along the Tunisian coast also seem to suffer disproportionately and are abandoned or reduced to very little between the seventh and ninth century. Excavations at the small urban sites of Uchi Maius, Althiburos and Chemtou found clear signs of abandonment between late antique layers and later medieval re-occupation during the ninth or tenth century (Gelichi and Milanese 2002, Kallala et al. 2011, Touihri 2014).

[Insert Fenwick-Fig. 4. about here]

Medievalists have largely focused their attention on the new monumental architecture (mosques, ribats and palaces) of Tunis, Kairouan and to a lesser degree, the palace-cities of the Aghlabid and Fatimid periods. Precise information is much less plentiful for the new foundations of Kairouan (670) and Tunis (705) than for new foundations elsewhere in the caliphate. Nonetheless, the later Arabic texts have allowed scholars to reconstruct the key points in their development (Mahfoudh 2003, Marçais 1954, Lézine 1966). Both mark an obvious break with the classical city in urban planning. Established as new Muslim cities to house the Muslim soldiers and ever-growing Muslim community, they included new types of buildings including mosques and the *dar al-amara* (governor's residence) that had never been seen before in North Africa. Kairouan was laid out on an orthogonal plan (Bahri and Taamallah forthcoming) with a large congregational mosque and *dar al-amara* at its centre and a souq. This urban model was formalized early on in the conquest of Iraq and Syria-Palestine in the 630s and 640s and it was brought to North Africa (Akbar 1989).

After the collapse of caliphal power, the dynasties that divided up North Africa typically built their own palace-cities, often outside existing centres. For the early middle ages alone (700-1050), we can count at least nine Muslim capitals built and (usually) later abandoned– Tahart, al-Abbasiya, Raqqada, Achir/ Bénian, Sedrata, Mahdia, Sabra al-Mansuriya, the Qal'a of the Beni Hammad and Mansourah (Tlemcen). These short-lived settlements have all been excavated to some degree. The earliest was the Rustamid capital of Tahert (Algeria) founded in 761 to the west of the Byzantine stronghold of Tiaret. The northern part of the settlement occupies 8 ha and was defended by a rectangular enceinte of pisé de terre. Inside, excavations revealed houses with plaster walls and roof tiles separated by narrow roads. On the southern plateau there is a large rectangular building identified by Marcais (1946) first as the early medieval kasbah, or fortress, but is more likely to be the 19th century fortress built by the rebel Amir Abd al-Kader (Cadenat 1977). The city was destroyed

by the Fatimids in 909 when the Rustamids then moved to Sedrata in the northern Sahara.

[Insert Fenwick-Fig. 5. about here]

In Tunisia, the Aghlabid dynasty built new royal towns to house themselves and their retinues in the immediate vicinity of Kairouan: al-ʿAbbasiyya in 800, which was later replaced by Raqqada in 876. Marçais' limited excavations at al-'Abbasiya in the 1920s revealed only a mound of pise and mud-bricks and a basin: the decorative elements are presumed to have been taken to Raqqada (Marçais 1925). Excavations there in the 1960s revealed a square fortified complex with around 109 rooms, courtyards and annexes that is interpreted as a palace (probably the Qasr al-Sahn), a large reservoir and a brick-making kiln (Figure 5; Chabbi 1967-1968). It was built in pisé in three successive phases and is similar in form to the Umayyad desert castles of Syria and Iraq. This is but a small fraction of Raqqada: medieval texts describe at least five royal palaces and gardens, a congregational mosque, baths, markets, caravanserais, as well as barracks for the 10,000 enslaved Sudanese military troops with which Ibrahim II is said to have surrounded himself with in the new city. These descriptions of scattered palaces, gardens and barracks are redolent of the Abbasid palace-city Samarra in Iraq built in 836 and would be later mirrored in Fatimid Sabra al-Mansuriya and the Qal'at Bani Hammad.

The Fatimids, a Shiite dynasty of caliphs who came to power, built their own new capitals. The first of these, Mahdia (al-Mahdiyya - [the city] of the Mahdi) was built on a peninsula jutting out into the Mediterranean. Easily defendable and with a harbour, access was controlled by an enormous outer wall with six towers, 10m in width, which was traversed by a vaulted corridor (Squifa al-Kahla) leading to the grand mosque built in ca. 912 but later re-modelled as excavations revealed (Lézine 1965). The southern palace has been partially excavated and contains simple geometric floor mosaics which demonstrate that North African mosaic-making traditions survived well into the tenth century (Louhichi 2004).

Mahdia was soon replaced by a new palace-city, Sabra al-Mansuriya, built on the outskirts of Kairouan in 947 and enclosed by a vast area of 111 hectares in an elliptical shape, in imitation of the circular city of Baghdad (Cressier and Rammah 2006). Much of the site has been destroyed by the expansion of modern Kairouan, but its basic topography is known from aerial photographs and limited excavations. The city was divided into an inner circular zone which contained at least two 'palaces' and elaborate basins with pavements of *opus* sectile, mosaics, stone sculptures and one of the most important collections of painted stucco with animal and human representations from the Maghreb before the 11th century (Barrucand and Rammah 2009). The outer zone contained residences and workshops producing glass and fine ceramics (lustrewares) and jewellery. Subsequent palace architecture, decoration and design at the Zirid capital of Ashir (934) and the Hammadid capital of the Qal'a of the Beni Hammad (1008) owed much to the models set by the Aghlabids and Fatimids in their palace-cities outside Kairouan.

[Insert Fenwick-Fig. 6. here]

A rare glimpse into urban life beyond the palace-city comes from two sites: Sétif in Algeria and Surt in Libya. Salvage excavations at Sétif in the 1980s revealed a tenth-eleventh century neighbourhood (Mohamedi et al. 1991). The houses followed a uniform courtyard layout: an L-shaped entrance leading onto a large central courtyard surrounded by long narrow rooms which served as kitchens and sleeping/ reception rooms (Figure 6). Each courtyard contained small domestic storage pits (silos) and wells and were probably also used for housing animals. This house form only appears after the Arab conquest, and seems to be connected to the Arabization of society (Fentress 2013). For Fentress, this reorganisation of domestic space is symbolic: the entrance protected the domestic space, and the organisation of the dwelling reflects a spatial control by the paternal figure and a rigorous separation between men and women. Later a medieval rampart was constructed and a Muslim infant

cemetery created just inside, possibly including a small marabout tomb. New forms of material culture speak to changing social and religious practices – filter jars were used to store water, pork was not consumed, tombs were placed on the right side with their head to the north-east and facing Mecca. A similar pattern appears at Surt in Libya, where excavations have revealed a congregational mosque, forts, walls and gates as well as courtyard housing, workshops and cemeteries (Fehérvari et al. 2002). Far more is known of the urban plan and it seems that the medieval town was surrounded by a substantial wall with two forts in the southern half, as well as an exterior fort to the NE, and a central large courtyard mosque with a qibla facing south-south-east (the orientation usually used in the Maghrib) (Mouton and Racinet 2011). Our understanding of other medieval towns, newly founded or long-established centres, is extremely poor and heavily reliant on architectural studies of surviving monuments (e.g. mosques, shrines, walls, ribats) and the brief and partial summaries in the Arabic texts.

Rural landscapes

Africa, 'Rome's granary', was one of the most important agricultural producers and exporters in the Mediterranean in antiquity. Medieval North Africa was equally famed for its agricultural wealth and often described as the most fertile region in the Islamic world. The region is ecologically varied and offers different possibilities for cultivation. Enough rain falls on the coast and Tell to grow grain, olives, figs, fruit trees and vines. The more arid plains and pre-desert required flood-water or spring irrigation or the digging of wells to allow agriculture but support pastoralism and animal husbandry. In the middle ages, the Maghreb produced large amounts of olive oil, wine, wheat and barley, honey, saffron, dates, fruits, sesame oil, cotton as well as producing textiles, leather and other animal products that were exported all over the Islamic world (Vanacker 1973).

Few excavations of rural sites have taken place and only a handful of field surveys in Tunisia and Libya have recorded the presence of medieval occupation, of which the most important are the UNESCO Libyan Valleys Survey in the 1980s, the Jerba survey in the 1990s and the Leptis hinterland survey in the 2000s (Fenwick 2013). Although the UNESCO Libyan Valleys Survey did not systematically analyse medieval ceramics, they identified high numbers of sites in the Islamic period (Barker 1996; Sjöström 1993). Fortified farms (gsur) continued to be built in the ninth century, and many Roman sites continued to be occupied. By the eleventh century, the more remote and marginal wadis were abandoned for sedentary farming, and substantial medieval villages concentrated in the wettest regions of pre-desert zone in the northern Beni Ulid, Merdum and Mansur wadi systems and oasis at Gheriat el-Gharbia (Barker 1996: 177-8). The archaeological survey of the island of Jerba (Tunisia), as yet not fully published, recorded all phases of occupation from pre-historic periods through to the end of nominal Ottoman control in the middle of the 19th c. (Holod and Kahlaoui 2017). Rural settlement boomed where the numbers of sites had doubled by the tenth century and small farms cover the landscape, perhaps connected with the immigration of Ibadi settlers to the island.

Our best glimpse into the changing medieval and early modern countryside comes from the Italian survey in the hinterland of Leptis Magna (Lebda) conducted between 2007 and 2013 (Cirelli et al. 2012, Munzi et al. 2014). Although Leptis remained an important, if diminished, centre, a significant drop in numbers of rural settlement and a decoupling of this region from broader trading circuits occurs as early as the sixth century. Between the eighth and eleventh century, rural settlement (primarily open farms which presumably cultivated olives) increased significantly in the hinterland of the town, perhaps related to its revival by the ninth century. In the arid interior, a similar increase is seen though the settlement pattern here is constituted of fortified villages and tower-granary structures, many newly founded.

Site numbers drop again in the twelfth and thirteenth centuries, perhaps relating to a rise in pastoralism and the abandonment of Lebda or the westward move of the Banu Hilal. A second phase of rural expansion comes in the Ottoman period when unfortified villages and isolated houses appear (some with subterranean olive mills), alongside marabouts, and the ceramic material contains imports from Jerba and beyond.

A key, but often neglected, theme linked to that of rural settlement is that of the ecological changes and shifts in agricultural practices that occurred in the middle ages. The zooarchaeological evidence shows a continued reliance on sheep, goat, cattle for milk, meat, wool, bone and leather (Fenwick 2019a). The North African scrub landscape is ideally suited for sheep and goat herding, and it is unsurprising that they dominate the faunal assemblages in all periods. Cattle are more important for traction and meat in wetter Algeria at sites such as Cherchel and Sétif, in contrast to sites further east in Tunisia and Libya. Strikingly, there is a sharp drop in pig husbandry in the early medieval period, surely connected to the spread of Islamic dietary prohibitions. Nonetheless, at almost all sites, pig bones continue to be present in small numbers and it seems likely that some may be wild boar, which are a common sight in the forested regions of Algeria and Tunisia today and are still hunted (and eaten).

Medieval agriculture focused on the 'Mediterranean triad' of cereals, olives and grape, supplemented by pulses (lentils, chick peas and beans). Olive oil was produced and exported in quantity across the Mediterranean in the middle ages (Jalloul 1998), though probably not on the same scale as in the Roman period. Pollen data and sediment analysis suggests that there is a decline in large-scale oleioculture in the middle ages in the arid regions of southern Tunisia and Libya. In the Libyan pre-desert, for example, olive trees were intensively cultivated for olive oil in the Roman period, but by the tenth or eleventh century, large-scale oleioculture had been replaced by an agriculture regime of cereal farming and pastoralism (sheep/goat) (Barker 1996: 352-7). While tree-crops (grape, oil, fig, date,

almond) did remain important they appear in far smaller quantities than in the Roman period and olive presses are absent from the medieval villages.

Andrew Watson's (1989) controversial thesis that the early Islamic period witnessed a 'Green Revolution' has not been evaluated systematically in North Africa where only limited archaeobotanical research has been conducted due to the challenges of collecting, floating and studying samples. As yet, there is little archaeological evidence for the introduction of new crops and agricultural practices to Ifriqiya in the medieval period, and there is already evidence in late antiquity for many of Watson's 'new' crops (e.g. durum wheat, sorghum and cotton) in the irrigated Libyan Fazzan oases and pre-desert (Decker 2009). The written sources indicate that sugarcane was introduced to parts of Ifrīqiya by the ninth century (and more successfully to Sicily by the Aghlabids where sugar moulds have been found), though as yet, no archaeological correlates have been uncovered. The picture is certainly more complicated and targeted archaeobotanical and zooarchaeological work in conjunction with climatic work is urgently needed to reconstruct agricultural regimes and animal husbandry.

Ceramics and material culture

On the eve of the Arab conquests, North Africa was still one of the most important ceramic producers in the Mediterranean. African tablewares (African Red Slip Ware), lamps and amphorae were distributed across the Mediterranean. The final phases of African Red Slip ware production are the subject of much debate. Production at key workshop centres like Nabeul seems to continue into the early eighth century but of a lower-quality standard with a whitish fabric and dominated by a late, simpler form of the Hayes 105 plate (Bonifay 2004: 210). Bowls such as Hayes 109 and Hayes 106 continued to be produced into the end of the seventh century, and perhaps into the eighth, based on finds in Italy and southern France (Reynolds 2016). Much more controversial and poorly understood are the eighth and ninth

centuries (Cressier and Fentress 2011). Our poor knowledge of the ceramic typologies of this period certainly contributes to this haziness, but there was also a significant contraction in the level of trade as well as a shift towards handmade wares and local coarsewares.

Scholarship has focused on three types of glazed ceramics: the yellow "Raqqada' wares', metallic lustrewares of the tenth and eleventh century, and Hafsid ceramics of the fourteenth century onwards (Louhichi 2010 is the best overview). The first glazed wares appear in the late ninth century manufactured at the Aghlabid palatial site of Raqqada (established in 876) at the same time as in Sicily and al-Andalus. The yellow of Raqqada (*jaune de Raqqada*) - are extremely distinctive with their mustard yellow-lead glaze and their abstract designs in green (copper) and brown (manganese). The new technique was accompanied by a new decorative repertoire of anthropomorphic and zoomorphic figures (especially birds) and the addition of specific Arabic formulae such as 'al-mulk' (sovereignty) (Daoulatli 1994).These wares were widely diffused across North Africa and into sub-Saharan Africa, and their similarity with the earliest glazed wares of Palermo (*giallo di Palermo*) and those of Ifriqiya does seem to support the long-held notion that artisans originating from this part of North Africa spread new glazing techniques across Sicily (Ardizzone et al. 2015). A second variant on a white background with geometric and epigraphic decoration and no zoomorphic imagery was much more limited in quantity and diffusion, and Soundes Gragueb Chatti (2017) has recently suggested that this was a palatial production for the Aghlabid elite, inspired by Chinese Tang porcelain, and not for common use or distribution. Metallic lustreware ceramics first appear in the tenth-eleventh century, imported from Fatimid Egypt as well as being manufactured locally. Recent excavations at the first Fatimid capital of Sabra al-Mansuriya uncovered a kiln with lustreware wasters. Scientific analysis shows that a very different recipe (with significantly less silver) was used by the Tunisian potters to produce these ceramics (Waksman et al. 2014). Later still, under

the Hafsid dynasty, Tunis became a major exporter of ceramics across the Mediterranean, especially to northern Italy, Provence and Egypt. Ceramics are characterized by simple geometric, floral and faunal decoration in cobalt blue and manganese brown probably produced in workshops in Tunis or its suburbs from the fourteenth century (Louhichi 2010).

In contrast to these luxury ceramics, almost nothing has been written about the monochrome green, brown and yellow glazed pottery that is found widely across North Africa, though we might expect it to follow the same chronology tentatively proposed for Sicily: green glazes from the end of the ninth or beginning of the tenth followed by the introduction of less common brown and yellow monochrome glazes in the tenth/ eleventh centuries (Ardizzone et al. 2015: 245-6). Unglazed tablewares, cooking wares, storage containers, lamps and handmade wares which are the commonest forms are even less well understood. The rapid spread of new ceramics forms - conical bowls, platters, pitchers- in the late ninth century, may relate to changing habits in communal dining and service practices associated with Islam. The one- (or two-) handled *jarrito* with a wide cylindrical neck and flat base is a particularly characteristic form in North Africa, Spain and Sicily and may have been used for storing yogurt or milk, a practice common in Morocco today (Reynolds 2016: 155).

Whilst scholarship has focused on glazed ceramics, the period also saw new innovations in glass-making techniques. A radical change in glass production occurred in the Mediterranean during the late eighth and ninth century, when glass-makers stopped using natron from Egypt as a flux and started using plant ash instead (Henderson et al. 2004). In theory, the shift to plant ash would have allowed the emergence of primary workshops in North Africa, as the raw materials no longer had to be imported, though artisans may still have imported the fine sand from Levant or glass ingots. Medieval glass workshops at Surt, Libya (10^{th} c.) and Sabra al-Mansuriya (10^{th}-11^{th} c.) and several North African towns were

known as being important production centres for different types of glass goods. Vast quantities of glass are typically found in Islamic layers at urban sites in North Africa, though they have seldom been studied and thus precise dating is challenging. Everyday items include cups and goblets, beakers, lamps, perfume flasks and medicine bottles in similar styles to late antiquity. Some new glass forms also appear in this period, including vessels with relief-cut decoration (9 th-11th c.) and lustre-ware decoration (9th-11th century), probably imported from Egypt (Foy 2003). Glass was also used as window panes at palatial sites such as at Sabra al-Mansuriya and the Qal'a of the Beni Hammad.

Textiles rarely survive but were an important North African export as well as import. One of the earliest Islamic textiles was embroidered in Ifriqiya, the so-called 'Marwan tiraz' which was probably imported from Central Asia and then embroidered in a Tunisian silk workshop (dar al-tiraz), indicating that already by this date, Abbasid-appointed governors in North Africa were receiving the most luxurious commodities from the Islamic East (Moraitou et al. 2012). In the pre-desert and Saharan regions, textiles do sometimes survive due to the arid conditions. At Ghirza in Libya, flax, cotton and wool textiles dated to the tenth century have been recovered (Wild 1984). Most are made of a clockwise twist (Z-twist) or S2Z-plied yarns and are either undyed or decorated in multi-coloured bands with woven or embroidered designs. By the tenth century, textiles in the forms of carpets and embroidered cloth were one of the most important exports of Tunisia (Goitein 1967).

Archaeology of religion

The spread of Islam in North Africa is a contested, but understudied, topic. Archaeologists traditionally assumed that Christianity only survived precariously after the Arab conquests and that there was a large-scale and rapid conversion to Islam (see Handley 2004). Historians, in contrast, have shown that large Christian communities continued to thrive after

the Arab conquests and certainly until the eleventh century (Talbi 1990, Prevost 2007, Valérian 2011). The latest research suggests that in Ifriqiya (unlike the Maghreb al-Aqsa), the spread of Islam was slow and Christianity remained the dominant religion for several centuries.

Churches continued to be the major religious foci of many of the old towns, though it has proven difficult to demonstrate this archaeologically due to a tendency to date church abandonment to the seventh century. At Sbeïtla, for example, a medium-sized town which had an astonishing eight churches in use in the seventh century, including a double cathedral complex, five smaller churches, and a cemetery church, there is no evidence for a sudden destruction or abandonment of any churches after the Arab conquest (Duval 1990). In the following centuries, some churches were repurposed for industrial or other uses, presumably reflecting a decline in the size of the Christian community over time, but at least two churches (Basilicas IV and V) continued to be used into the tenth century. Christians did not simply continue to use existing churches, but also built new ones at Kairouan, where funerary inscriptions attest to the existence of a substantial Christian community and church officials there into the tenth century (Talbi 1990).

Mosques were not built in quantity in the seventh or eighth century outside the provincial capital of Kairouan, Tunis (and perhaps Tripoli) where large numbers of Muslims lived (Fenwick 2013). In the old towns, mosques seem to have been initially confined to fortresses presumably for the Arab garrison troops, as in the citadels of Belalis Maior, Bagaï and Tobna. In the ninth century, the construction of new dynastic urban foundations such as Tahart was accompanied by the construction of congregational mosques to serve their inhabitants. In the same period, congregational mosques and smaller oratories begin to be built in many of the inherited towns in Aghlabid Tunisia, coinciding with archaeological evidence for the abandonment or repurposing of churches. The great mosques of Kairouan,

Tunis, Sousse (Figure 7), Sfax and Monastir built by the Aghlabid emirs all survive today in their ninth-century form in testament to this mosque-building surge (Lézine 1966, Marçais 1954).

[Insert Fig. 7. About here]

By the eleventh century, most towns possessed a congregational mosque and several smaller mosques and Islam seems to be the dominant religion with small Jewish and Christian communities continuing. The most spectacular examples of these urban mosques have been exhaustively studied by art historians (e.g. Rachid 1983), but only a handful have been excavated. The most significant are the urban mosques of Ajdabiya and Surt in Libya, both of which were re-built and expanded in the Fatimid period and have an octagonal minaret, similar to those found in Egypt (Blake et al. 1971, Fehérvari et al. 2002). Rural mosques, *marabout* (tombs of holy men) and the many medieval cemeteries found throughout the region have been almost entirely neglected to date aside from studies in the Jebal Nafusa and Jerba (Prevost 2016, Holod and Kahlaoui 2017).

Conclusions

Islamic archaeology in North Africa is at a turning point. Despite the pivotal role that the region played in the early history of Islamic archaeology, it has suffered until recently from a lack of interest from archaeologists and the dominance of art-historical and architectural approaches. A growing community of scholars, in North Africa and Europe, using sophisticated theoretical and methodological toolkits, are turning their attention to the rich medieval heritage of Ifriqiya and beginning to transform our understanding of the medieval period. To date, however, research has primarily focused on the 7th-11th centuries and a handful of urban sites and monuments. We know far more about the transition from the late antique to Islamic city, early Islamic palaces, mosques and ribats and museum-quality objects

than we do about trade and the economy, rural landscapes, the impact of Islam on daily life or the introduction of new ceramic forms. Archaeological sciences need to be integrated into research projects to shed light on climate change, migration and mobility and the introduction of new crops, husbandry practices, and manufacturing techniques. Later periods (up to and including the colonial period), as well as a far broader range of site types need to be examined to broaden our understanding of the Islamic world. Finally, there are a number of institutional challenges, particularly in Algeria and Libya, where conflict, security, politics, funding, and a lack of trained field-archaeologists hinder archaeological research. If these challenges can be met, it seems likely that within the next few decades, archaeology will play an important role in rewriting the medieval history of Ifriqiya and the central Maghreb.

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Figure List.

[Fenwick-Fig 1] (Map) Ifriqiya and the central Maghreb showing the main sites mentioned.

Credit Line: © Corisande Fenwick

[Fenwick -Fig. 2] Qal'a of the Beni Hammad

Credit Line: © Corisande Fenwick

[Fenwick – Fig. 3]. Plan of medieval Sousse.

Credit Line: © Corisande Fenwick

[Fenwick – Fig. 4.] Plan of medieval Carthage

Credit Line: © Corisande Fenwick

[Fenwick – Fig. 5]. Plan of Raqqada modified from Chabbi (1967-68) and Google Earth imagery. **Credit Line: © Corisande Fenwick**

[Fenwick-Fig 6]: Reconstruction of Building 1, 10th-11th century neighbourhood, Sétif, Algeria. **Credit line: © Elizabeth Fentress**

[Fenwick-Fig 7]. Great Mosque of Sousse (9th century).

Credit Line: © Corisande Fenwick

Abstract

North Africa played a pivotal part in the development of Islamic archaeology as a discipline through the important French excavations at the Qal'a of the Beni Hammad in Algeria in the late nineteenth century, one of the earliest excavations at an Islamic site by European archaeologists anywhere in the Islamic world. Despite this early promise, for most of the 20th century, the Islamic period was the preserve of art historians, with only a handful of small-scale excavations conducted at the spectacular palatial-cities, mosques, ribats and fortresses of Algeria, Tunisia and Libya. Since the 1990s, there has been a significant rise in the number of projects and amount of evidence available, as well as a new interest in revisiting old

questions and models for the Islamic period. This chapter charts the development of Islamic archaeology and lays out the key scholarly debates in Ifriqiya and the central Maghreb, broadly understood as encompassing modern-day Tunisia, Algeria and western coastal Libya.

Keywords

North Africa; Ifriqiya; Islamic archaeology; urbanism; ceramics; rural landscapes; religion