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Archaeological approaches to the Islamic Emirate of Crete (820s-961 CE): a starting point[1]

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Introduction: a brief literature review

Located at the crossroads between the Western and Eastern Mediterranean, and a gateway to the Aegean and the Greek world, in its millennia of history the island of Crete has been a cultural bridge between Europe, Africa, and Asia. Birthplace of the Minoan civilisation, Homeric land of 'one hundred cities', capital of the Roman province of Cyrenaica, and a core region of the Byzantine Empire from the 5th to the early 9th centuries, between the 820s and 961 Crete became an integral component of the Mediterranean Islamic world, and a key ideological and military frontier (*taghr*) in the Aegean confrontation between Byzantium and the *dar al-Islam*.[2]

Historical research into Crete in the Islamic Period has attracted a good deal of interest since the late 19th century; the seminal works by Tsougarakis and Christides, as well as the *Greco-Arabica XI* volume edited by Chatzaki, are excellent examples of research on the Emirate of Crete based primarily on textual evidence.[3] However, there has been a remarkable lack of archaeological research into the Islamic Emirate of Crete, and Islamic archaeology as a discipline long struggled to emerge and consolidate itself in this island.[4] This is in sharp contrast to the broader Mediterranean context in which, in recent years, renewed attention has been given to the subject of Islamisation in the late first millennium CE (8th-10th centuries); by Islamisation, this paper refers to the ideological and social creation of local Muslim communities, followed by their cultural integration into the *dar al-Islam.*[5] This issue has been central to archaeological research agendas in Spain, the Maghreb, Sicily, Egypt, and the Levant, and has produced a range of new insights into the processes by which these regions were assimilated into the Islamic world.[6]

[1] This paper emerges from my ongoing doctoral research at the University of Edinburgh entitled 'Sicily and Crete between Byzantium and the *dar al-Islam* (8th-10th c.)'. I wish to thank a number of individuals and institutions for their help and support. For allowing me to study the artefacts treated here, I am grateful to: the Ephorate of Antiquity of Heraklion, in particular V. Sythiakaki and E. Kanaki; the Historical Museum of Crete and its curator, A. Kaloutsakis; the British School of Athens and K. Christakis and T. Whitelaw at the Stratigraphical Museum in Knossos; and the Baldwin Brown foundation for funding my travel to Crete in 2018. I wish to thank all the scholars who have patiently read earlier drafts of this paper, offering invaluable comments and suggestions which have greatly improved its content and form. My thanks go to (alphabetically): Z. Aletras, L. Arcifa, Y. Brokalakis, J. Crow, M. Legendre, M. Riso, B. Russell, M. Stoker, and T. Whitelaw. Finally, I am in debt to A.M. De Luca and A. D'Ottone for their help with numismatic evidence. I take full responsibility for any mistake that may remain.

[2] On the concept of *taghr*: Fois 2014 and Nef 2013. The precise date of landing within the 820s (possibly 824 or 827) is still debated, see: Gigourtakis 2011. According to the ninth-century *Kitab Futuḥ al-Buldan* by al-Baladhuri (d. 892), the Muslims who landed on Crete under the leadership of Abu Hafs (d. 861), and who then established an independent Emirate which recognised Abbasid authority, were of Andalusi origin, although they had been present in Egypt (Alexandria) for about ten to 25 years: Christides 1984: 85. After multiple attempts in 829, 866, 912, and 949, Byzantium was able to recapture the island in 961, under general Nikephoros Phokas: Makrypoulias 2000. For a more general historical context: Tsougarakis 1988: 20–30.

[3] Gaspar was among the earliest scholars to focus on the formation of the Islamic Emirate of Crete: Gaspar 1904. Tsougarakis 1988 and Christides 1984, and more recently Tsougarakis 2011 and Christides 2003. Chatzaki 2011. For a more systematic survey of the extensive historical research on Islamic Crete: Starida, 2016: 57, footnote 1.

[4] In the Cretan context, by 'Islamic archaeology' I refer to the timeframe of 820s-961, excluding the centuries of Ottoman rule (*c.* 1669–1898) due to the profoundly different historical and cultural framework of this later period.

[5] Definition modelled after Ardizzone, Nef 2014: 8–9; Molinari 2015: 191–92; and Carvajal 2013: 59; 68. Cf. Gayraud 2014. See also discussions proposed in the numerous papers of Peacock 2017 and Valérian 2011.

[6] For recent archaeological overviews of the Western and Eastern Islamic world see volumes edited by Senac 2012 and Talmon-Heller, Cytryn-Silverman 2015. In particular, for al-Andalus the literature is extensive, see syntheses offered in Gutiérrez 2015a, Valor, Gutiérrez, 2014, and Carvajal 2013. On the Maghreb (Tunisia, Morocco, Libya etc.) and the Central Mediterranean (including Sicily), most recently see the volumes edited by Anderson, Fenwick, Rosser-Owen 2017 and Nef, Ardizzone 2014. See also the essay by Reynolds 2016, and

After the earliest archaeological investigations in the 1950s, the archaeological work of numismatist Miles during the 1960s and 1970s is particularly noteworthy; in addition to various articles and an exceptional monograph on the coinage of the Emirate of Crete, Miles was one of the first scholars to conduct independent and focused archaeological research on Islamic Crete, albeit with limited success.[7] He carried out, with Warren, the only existing work on a rural building dating to the Islamic period (the so-called Arab Building at Knossos), and he was the promoter and director of the urban excavations at Ag. Petros in Heraklion, the capital of the Emirate (*Rabḍ al-Handaq*).[8] These urban excavations, however, remain largely unpublished and, although they uncovered significant features of the Islamic city and sealed archaeological contexts, many of the artefacts remain unstudied in the archaeological archives of the city.

Similarly, the numismatic and ceramic finds unearthed in the 1990s and 2000s during several urban excavations in Heraklion remain largely unpublished.[9] A limited selection of a dozen ceramic items and a few small finds from the Kastella excavations (dir. L. Starida) are exhibited at the Historical Museum of Crete (IMK henceforth). These, currently, constitute the bulk of material evidence known from Heraklion/*Handaq*, providing a glimpse into Islamic material culture from the capital of the Emirate. Poulou published a number on these items in two separate articles which are among the most prominent archaeological studies of medieval Crete.[10] One article treated the urban development of Heraklion from the early to late Medieval Period, and the other discussed broader settlement patterns and ceramic production and circulation across the whole island from the 7th to 12th centuries. However, in spite of her outstanding treatment of the First and Second Periods of Byzantine occupation (7th-8th and 11th-12th centuries), her discussion of the Islamic Emirate of Crete is limited in scope. Resembling a far earlier observation of Sanders, a pioneer of post-Classical archaeological research on Crete, in 2011 Poulou stated that the 'Arab conquest creates a gap in our knowledge of life on the island', and little has changed over the course of the 2010s.[11] Two important archaeological conferences of the last decade exemplify this lack of interest towards Cretan archaeology of the Islamic Period: the 3rd *Archaiologiko Ergo Kretes* (2013), and the 12th International Congress of Cretan Studies (ICCS 2016).[12] In both cases, the contributors jump from the First to the Second Byzantine Period, without any discussion of the archaeological and historical evidence pertaining to the intervening years of Islamic rule.[13]

In the context of this notable gap in scholarship, this article proposes a targeted and independent focus on the archaeology of the Islamic Emirate of Crete, demonstrating that a more systematic analysis of the available material evidence can advance our understanding of the island in this period, and can indicate fruitful directions for future research.

Methodological review

It is important to state at the outset that the Muslims who conquered Crete came to interact with pre-existing (Byzantine) local communities. Hence, a greater understanding of these urban and

papers in Cressier, Fentress 2011, and in Nef, Prigent 2010. For Egypt (with specific focus on Fustat): Gayraud, Treglia, Vallauri 2009. On Syria-Palestine: Walmsley 2007 and 2011.

7 Miles 1964 and 1970. For early archaeological works dealing with Islamic remains from Heraklion: Platon 1950. Kalokyris 1959 published a selection of coins and pottery dating to the Islamic period found during archaeological excavations of the Byzantine church at Vyzari (Amari Valley). For a discussion on this site and the finds from the excavation see infra, section on settlement patterns.

8 For the Arab Building at Knossos: Warren, Miles 1972. For a preliminary report of the 1967 excavations at Ag. Petros: Miles 1974.

9 Starida 2011 and 2016: 62–68. See also Starida, Kanaki 2010. Among the urban excavations in Heraklion, those at Koroneou, Almirou, Capt. Marinelli, and Byron Thalita Streets are the most relevant, but detailed analyses are only available for structural features.

10 Poulou 2008 and 2011.

11 Poulou 2011: 382. Almost identically, Tsougarakis 2011: 293: 'The main problem for archaeologists is that the more than 130 years [of Islamic rule] have left almost no trace anywhere'. Cf. Sanders 1982: 1.

12 For the former: Karanastasi, Gigounaki, Tsigonaki 2015. Proceedings of the 4th meeting held in 2016 are in press; proceedings of the 12th ICCS are forthcoming.

13 There are a few marginal exceptions, such as Z. Aletras' poster 'Η συνέχεια της αστικής ζωής στο μεσοβυζαντινό Χάνδακα: οι λουτρικές εγκαταστάσεις' presented at the 12th ICCS (2016), in which some Islamic coins and oil lamps are featured.

rural communities immediately before the conquest is an essential prerequisite for further study of the formation of the Islamic Emirate of Crete; however, although extensive archaeological research has been conducted at Gortyn, Eleutherna, and other Late Antique city sites of the island, the late 8th and early 9th centuries remain overall archaeologically patchily known.[14] The scope of this article does not permit a detailed examination of the period preceding the Islamic conquest, although analysis of local communities and their possible survival during the Islamic Period are included where appropriate.[15]

Secondly, an archaeological approach interprets material culture and everyday objects in order to reconstruct aspects of daily life and social and economic realities. Regarding the Islamic Emirate of Crete, what are the archaeological markers which indicate integration of local material culture with that of the broader Islamic world? Within the corpus of portable items, these markers are found primarily among ceramics, coins, dress accessories, and other small finds. However, if an object incorporates or displays 'Islamic features' (namely design, decoration, or the application of a certain crafting technique, such as glazing), this does not necessarily indicate cultural or ideological integration to the *dar al-Islam*. Coins are paradigmatic examples. Despite displaying strong 'Islamic features' in terms of metrology and inscriptions, discussion of the cultural implications of coins is highly problematic due to their economic value. By contrast, careful evaluation of the morphologies and technical features of ceramic assemblages grants us closer insights into aspects of daily habits, domestic practices, technical expertise, economic activities, and culinary tastes of the incoming Islamic community on Crete. As Arthur has argued, 'food and eating habits, almost as language, made up a fundamental element in the definition of cultural groups and in differentiating foreigners'; ceramic items, as essential elements of pre-modern domestic life, are reflections of the society which designed, crafted, used, and disposed of them.[16]

This is particularly illuminating with regard to the marked transition between ninth-century Byzantine and Islamic culinary habits and technological practices. During the 9th century, in fact, a general process of assimilation of material culture occurred across almost the entire *dar al-Islam*, in which a standardised assemblage of pottery was introduced, perhaps from the Middle East (modern territories of Iraq and Iran) and from Egypt, for cooking, serving, and storing food and liquids.[17] Glazed and unglazed plates, basins, mugs, pitchers, jars, cooking pots, oil lamps, and specific devices such as bread-baking plates and *tannur*s (bread-ovens), or *saqiya* irrigation pots for agricultural water management, were among the most common and distinctive items introduced and adopted throughout al-Andalus, the Maghreb, Egypt, and the Levant.[18]

In order to interpret these Cretan finds, parallels and comparisons can be drawn between this material and that which was produced and circulated within the other territories of the *dar al-Islam* during the 9th-10th centuries. The Emirate of Crete had a strong Mediterranean character, because of its geographical position, and since its Muslim community had connections to al-Andalus and to Egypt. Therefore, in order to contextualise the process of Islamisation on Crete by means of comparative evidence, my case-studies will utilise evidence from the Iberian Peninsula, Egypt, the Levant, the Maghreb, and Sicily, as well as evidence from more distant territories of Iraq and

[14] Zanini 2013: 186. For similar considerations regarding Cyprus and the Eastern Mediterranean, see Randall 2013. For the approach to consider the last decades of Byzantine control and the first of Islamic rule in parallel, not separated: Nef, Prigent 2006 and Legendre 2016: 4–5. See also Bintliff 2008. This approach is pivotal in my PhD research.

[15] See especially *Settlement Patterns and Administration*, below.

[16] Arthur 2007: 20. Cf. Carvajal 2013: 68.

[17] Anderson, Fenwick Rosser-Ower 2017b, 5–7; 23–24. Sijpesteijn 2017: 656–657. This point should not be taken in absolute terms and the process of cultural assimilation was more nuanced. In fact, besides the introduction of a standardised register of pottery, different regions of the Islamic world, even neighbouring, maintained distinctive productions of domestic pottery, which often reveal technical and/or decorative connections to previous local traditions of ceramic production. For example, in the (late) 9th century, production of painted amphorae is extremely rare in North Africa, yet they are very common in Sicily, where there was a consolidated tradition of painted amphorae during the Early Byzantine Period (8th-early 9th centuries): Arcifa, Bagnera 2014: 171–172.

[18] Alba Calzado, Gutiérrez Lloret 2008; Arcifa, Bagnera 2014; Gutiérrez 2015b; Reynolds 2016; Salinas, Montilla 2017.

Iran (Figure 2). I thereby aim to show the potential for the integration of Crete into global Islamic archaeological research.

Following this introduction, this article organises and discusses material evidence thematically in four sections. The next two sections explore the exceptional artefacts exhibited at the IMK. Although small in number, they illuminate aspects of the daily lives of the settlers of Islamic Heraklion, and demonstrate the potential of a systematic study of these assemblages. Ceramics from the IMK reveal aspects of food consumption, but not of cooking. In view of this absence, the third section offers a restudy of the only context discovered during systematic excavations outside Heraklion, the 'Arab Building' at Knossos, which yielded a modest but revealing assemblage of domestic pottery. The fourth section considers numismatic evidence and settlement patterns. Although little has changed since Miles' work, my synthesis is based on a new analysis of the distribution patterns of coins across the island, and their association, or lack thereof, with non-numismatic evidence. This enhances our understanding of the critically important matter of the coexistence and interaction between Muslim incomers and the pre-existing Byzantine communities.

Finds from the IMK: ceramics from Heraklion (Kastella)

The urban excavations at Kastella in Heraklion (Figure 1a), which uncovered layers dating to the first half of the 10th century, are among the most important archaeological contexts for a study of the Islamisation of this city.[19] Most of the material from the excavations has not yet been published, and only a limited selection of ceramics and other finds from this excavation is exhibited at the IMK (Figure 1b-1i). From this ceramic selection, moreover, only three samples have been previously published: two glazed jugs and one bowl. This study considers the entirety of the published and unpublished ceramics exhibited at the IMK.

Although the number of extant finds is limited, the spectrum of Islamic pottery is almost complete in terms of dining ceramics and tableware. As I shall demonstrate, this corpus of items accords perfectly with the material culture of the broader Islamic world, having precise morphological, decorative, and technological parallels with pottery dating to the 9th-10th centuries from all other regions of the *dar-al Islam* (Figures 2 and 3).

The starting-points for this discussion are the three samples of glazed tableware already published by Poulou: two jugs, perhaps ewers (rims are missing), and one bowl.

The two green-glazed jugs (Figure1b-1c, Figure 3a.i), both one-handled, have hemispherical bodies, flat bottoms, narrow necks, and strap handles. Their outer surfaces are entirely covered in incised and excised geometric decorative patterns, executed directly on the red clay fabrics (superimposed triangles, parallel lines and dots are arranged in vertical and horizontal bands). According to Poulou, the origin of these two items should be sought in the Middle East.[20] Aside from the generic parallels proposed with products from Raqqa-Samarra and Shiraz, green-glazed pitchers and jugs produced in Nishapur in the 9th-10th centuries display identical shapes and similar use of incised decorations (Figure 3a.ii); identical moulded decorations appear also on contemporaneous unglazed jugs from Egypt and the Levant (Figure 3a.iv).[21] Further west, similar but not identical shapes, both glazed and unglazed, occur throughout the Maghreb as a macro-region, which includes Sicily

[19] Starida 2016: 62–64. A series of 'small but comfortable' rooms set directly on the bedrock, connected to each other via narrow doors and organized around a central paved atrium were identified at this site. The layers yielding the ceramics discussed below were sealed under a distinctive stratum of destruction, on top of which a graveyard was established in the 11th century. Alongside pottery, glass, decorated bone, metal objects and 120 Islamic coins were found in these undisturbed layers of undisputed Islamic occupation of the city.

[20] Poulou 2011: 412.

[21] Example from Nishapur Fig.3a.ii: Wilkinson 1974: 231, no. 2. For more unglazed jugs displaying the same shape and similar decorations: 338, nos.16–17. Egypt and the Levant: Fehérvári 2000: 190–191. Example from Fustat Fig.3a.iv: Vogt 1997: 253, Pl.6, no. 2.

Figure 1. a. map of the Kastella excavations, after Starida 2016: 63, fig. 7; b. glazed jug, after Starida 2016: 64, fig. 9; c- j. glazed jug, glazed plate, and Palestinian amphora, after Poulou 2011: 411–413, figs. 32–34; e-i. glazed drinking pitcher, unglazed drinking pitcher, bottle, cups, and oil lamps. photo by the author (with permission of the IMK and the Ephorate of Antiquities of Heraklion).

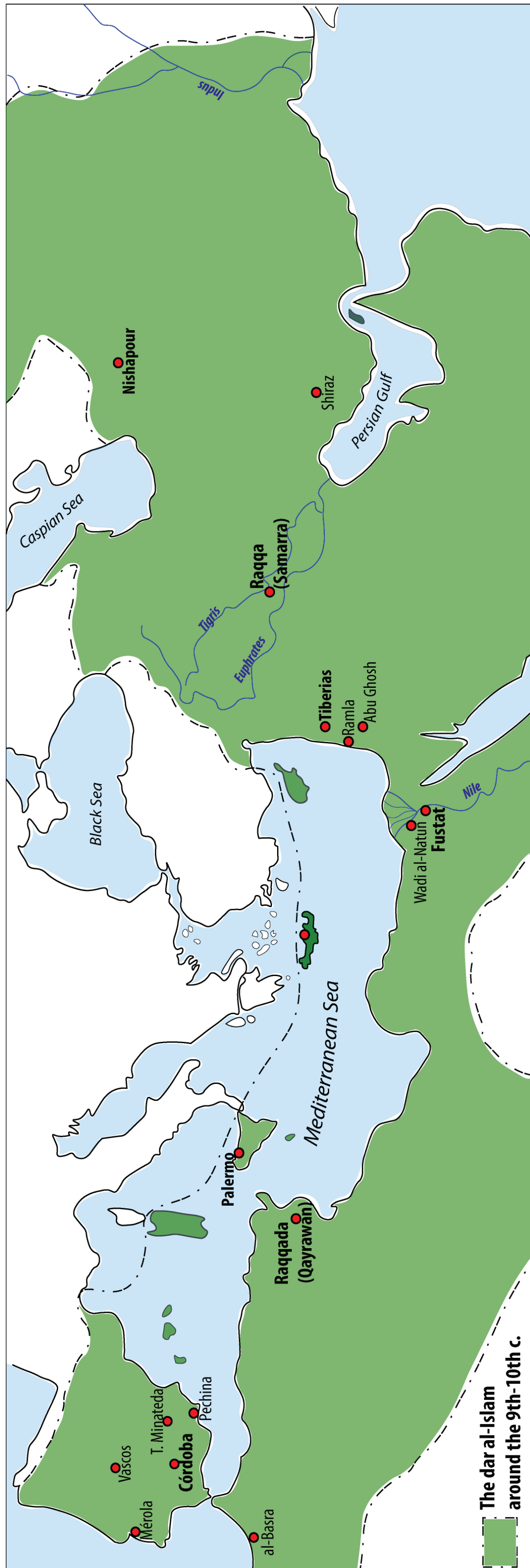

Figure 2. map with the sites mentioned in this section (map by author).

and Tunisia (Figure 3a.v).[22] However, a tenth-century green-glazed jug from Mérola in the Garb al-Andalus, at the westernmost extent of the *dar al-Islam*, is almost identical in shape to the Cretan sample (Figure 3a.iii).[23] This indicates the adoption of similar technologies and ceramic morphologies in Islamic households across the Islamic world, and highlights the pitfalls of assigning a secure provenance to our items without clay analysis.

The third item published by Poulou is a bowl with round walls, short ring-foot, and the rim slightly incurved inwards (Figure 1d and Figure 3b.i). Although this item can be confidentially assigned a Corbodan provenance according to its technical and decorative features, which show painted decorations of green and dark brown manganese under a thin layer of transparent glaze, it is worth noting the adoption of an analogous combination of this shape and of similar decorations in contemporaneous ceramic productions across the Islamic world (Figure 3b. ii-iv).[24]

With regard to the process of urban Islamisation, the corpus of remaining ceramic items displayed at the IMK offers clarity on the integration of Heraklion/*Handaq*'s material culture within that of other regions of the *dar al-Islam*, whose people shared common culinary and social habits with the Muslims of Crete. Other

[22] Bibliography on ceramics from the Maghreb is extensive, but not always systematic. For similar jugs from Tunisia and Sicily: Arcifa, Bagnera 2017: 386, fig.19.1, nos.11;14. Example from Palermo Fig.3a.v: Sacco 2018: 226, PB617.

[23] Gòmez Meartìnez, Rui Santos 2018: 148, fig.5, no. 1.

[24] For the Cordoban attribution: Poulou 2011: 412. In the table, example from Nishapur: Wilkinson 1974: 60, no. 11. Cordoba: Salinas, Montilla 2017: 444, fig.21.5, top right. Fustat: Gayraud, Treglia, Vallauri 2009: 178, fig.3, no. 5. Raqqada: Arcifa, Bagnera 2017: 386, fig.19.1, no. 9.

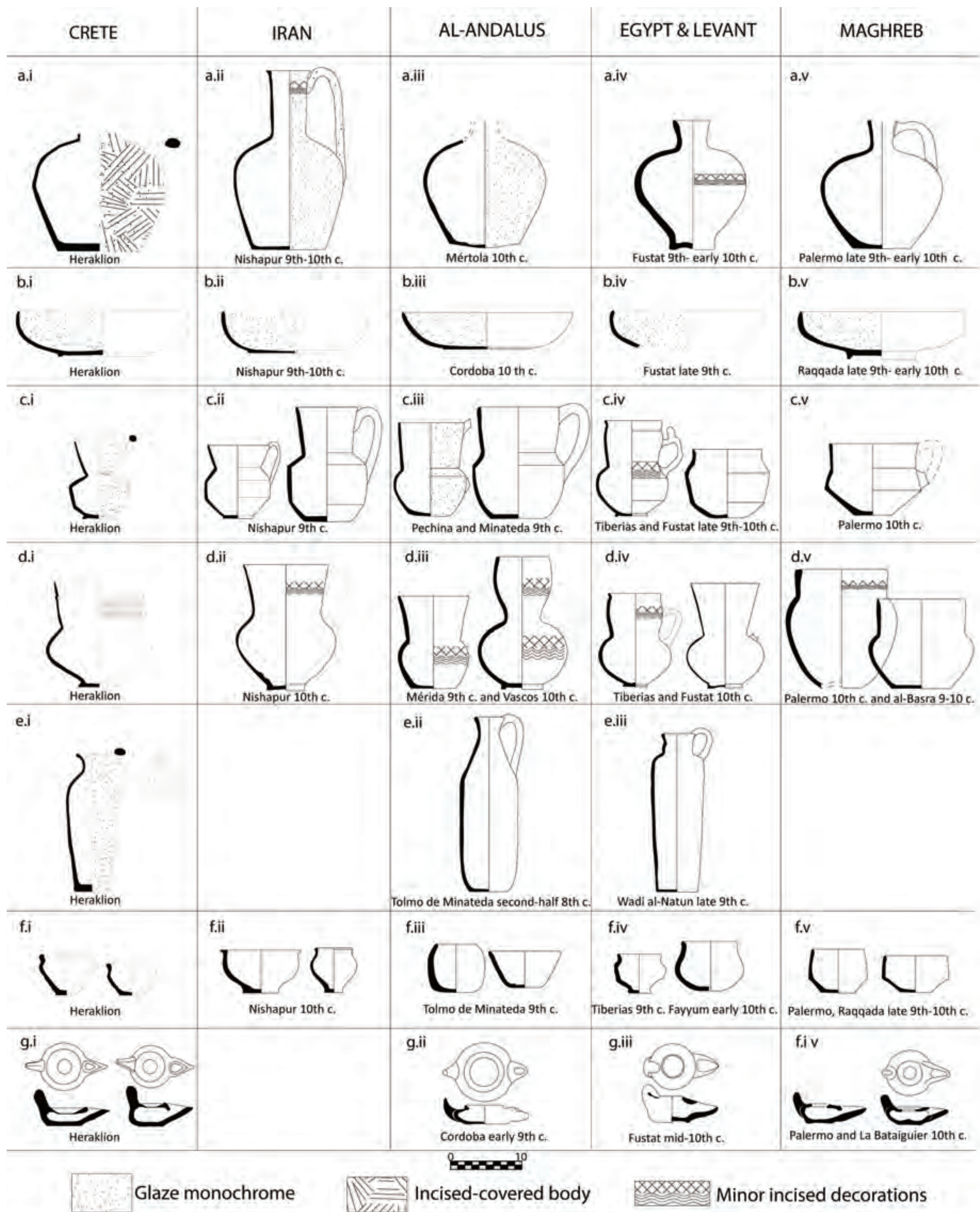

Figure 3. Ceramics from the IMK (drawings by the author) and from other territories of the *dar al-Islam* (redrawn by the author for graphic consistency); reference to individual samples in the footnotes.

relevant items are the following: two drinking pitchers, one glazed and handled, one unglazed and unhandled; one bottle; at least seven small cups (?); and three oil lamps.

The first two items share a common function, that of individual consumption and the serving of liquids and semi-liquids; however, due to their size, they cannot be classified as mugs or cups.

The handled sample (Figures 1e and 3c.i), with monochrome green glaze, displays a highly distinctive shape with sharp changes of angle in the profile of the body, and a flaring neck, perhaps imitating metalware. The section of the handle is round, whereas the base is a disc-foot. Close morphological parallels for this specimen can be found in samples from the Middle East and Al-Andalus (Figure 3c.ii, c.iii).[25] Similar angular samples have been found in the Levant as well, notably at Ramla, Abu Ghosh, and Tiberias (Figure 3c.iv), where they have been dated to the 8th-9th centuries.[26] Material from the Maghreb does not yield identical morphological comparisons, but does feature similar functional typologies, including glazed and unglazed cups and filter-vases, sharing angular designs (Figure 3c.v).[27] Moving on to the unhandled pitcher (Figures 1f and 3d.i), it has a globular body, thin wall sections, a tall flaring neck, and a disc-foot.[28] The colour of the outer surface is buff-cream. An incised decoration with a diamond pattern runs around the neck. Unhandled drinking pitchers are common across the Maghreb, but bases are usually domed or flat in this region, and are rarely disc-shaped (Figure 3d.v).[29] In Egypt, the Levant, al-Andalus, and the Middle East, the vast majority of drinking pitchers, glazed or plain, have handles (usually one), and unhandled specimens are only sporadically attested. Among the comparisons with handled samples, some drinking pitchers from Mérida and Vascos, dating to the 9th-10th centuries, display a similar shape and incised decorations (Figure 3d.iii).[30] Likewise, several samples dating to the 10th century found across the Levant (such as at Tiberias and Ramla) and the Middle East (Nishapur) display remarkably similar shapes and incised decoration running around the neck (Figure 3d.ii).[31] A further very close morphological parallel can be drawn with an Egyptian unhandled specimen from Fustat, also dating to the 10th century (Figure 3d.iv, right).[32]

The range of tablewares displayed at the IMK which is linked to serving liquids is complemented by a one-handled bottle with a cylindrical body, flat bottom, flanged horizontal rim bent outwards, and covered with transparent glaze (Figures 1g and 3e.i). Bottles are common in contemporary Islamic dining contexts; however, in the 9th-10th centuries, their normal shape comprises a globular body and a tall and narrow neck (with or without either one or two handles). Although a sample from el Tolmo de Minateda (Figure 3e.ii) dating to the mid to late 8th century could be interpreted as a prototype, the item from Crete finds its closest morphological and chronological parallel with samples crafted in an Egyptian monastic workshop, Wadi al-Natrun, during the late 9th century (Figure 3e.iii).[33]

With regard to tablewares in the collection, there are a number of small cups, all identical in shape (Figures 1h and 3f.i). Their functions and uses could be multiple, from small drinking cups and goblets to ramekins for dipping sauces.[34] In themselves, these little pots are not distinctive or exclusive to Islamic material culture, and similar items can be found in different geographic and chronological contexts. It is nonetheless notable that similar miniature vessels appear regularly in contemporaneous Islamic domestic contexts (Figure 3f.ii-f.v).[35]

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[25] Example from Nishapur Fig.3.cii: Wilkinson 1974: 295–96, no. 4. From Al-Andalus Fig.3c.iii (Pechina and Tolmo de Minateda): Gutiérrez 2015b, 19, fig.4, no. 10, and Alba Calzado, Gutiérrez Lloret 2008: 592, fig.4. fifth row, right.

[26] Stacey 2004: 132; 144, fig.5. The cup from Egypt (Fustat): Gayraud, Treglia, Vallauri 2009: 182, fig.5, no. 8.

[27] Example from Palermo Fig.3c.v: Sacco 2018: 218, PB968.

[28] Aside from drinking, larger examples were used to hold dried food. Reynolds 2016 suggests, on ethnographic comparisons, that this shape is particularly suitable for storing *ayran*, the cold-savoury yogurt beverage popular in the Islamic world.

[29] Example from Palermo Fig.3d.v: Sacco 2018: 277, PB294. See also Arcifa, Bagnera 2014, Tab.III, nos.14–16. Example from al-Basra Fig.3d.v: Benco *et al.* 2009: 675, fig.3A.

[30] Example from Mérida Fig.3d.iii: Alba Calzado, Gutiérrez Lloret 2008: 603, fig.10, no. 5. From Vascos: Izquierdo Benito, Ramos Benito 2015: 427, fig.3, fourth row, third from right.

[31] Example from Nishapur Fig.3d.ii: Wilkinson 1974: 300, no. 23. From Tiberias Fig.3c.iv: Stacey 2004: 144, fig.5.60, nos.1–4. From Ramla: Frenkel, Lester 2015: 170, fig.7.13.

[32] Example from Fustat Fig.3d.iv: Gayraud, Treglia, Vallauri 2009: 186, fig.8, no. 5.

[33] Example from El Tolmo de Minateda Fig.3e.ii: Amoros Ruiz *et al.* 2012, fig.4, no. 12. Example from Monastery of Saint Macarius at Wadi al-Natrun Fig.3e.iii: Konstantinidou 2015: 243 fig.10, no. 3.

[34] Apart from dining, miniature vessels could have been used for several other purposes, such as ointment and ink pots.

[35] Examples from Nishapur Fig.3f.ii: Wilkinson 1974: 317; 326, no. 133. From El Tolmo de Minateda Fig.3f.iii: Alba Calzado, Gutiérrez Lloret 2008: 592, fig.4, fourth row, centre. From Egypt, Fayyum, Fig.3f.iv: Rousset, Marchand, Foy 2001: 459, fig.47,d. From Tiberias, Fig.3f.

Apart from dining pottery, the last ceramic items dating to the Islamic period which are exhibited at the IMK are three oil lamps (Figures 1i and 3g.i), all sharing the same morphological features: a pointed long nozzle, a vertical knob, and a round filling hole (not a funnel-neck).[36] With the sole exception of the Levantine area, where, up to the 10th century, oil lamps continued to resemble Byzantine products from the 6th-7th centuries,[37] oil lamps with a long pointed nozzle became the standardised forms of lighting ware within all Islamic territories in the 9th-10th centuries, although samples with a tall funnel-neck are most widespread.[38] Regarding the examples from the IMK, the closest parallel is with one sample from the *La Bataiguier* (off Provence) shipwreck of likely North African origin (Figure 3g.iv), and also with samples from Sicily and Egypt (Figure 3g.iii).[39] In al-Andalus, an early ninth-century sample from Cordoba (Saqunda district) displays a similar handle and nozzle, but a wider filling-hole (Figure 3g.ii).[40]

Although exceptional, these ceramics are not informative about two key aspects of daily life and domestic economy. One is the cooking of food, for which evidence from the 'Arab Building' is critical. The second aspect is the transport and storage of foodstuffs in amphorae and storage containers. The lack of publication of such vessels has prevented us from placing Crete within a broader framework of interregional economic activities and patterns of circulation and consumption of goods. The only exception is a late ninth-century Palestinian bag-shaped amphora found in Heraklion and published by Poulou (Figure 1j).[41] Although divorced from its archaeological context, this artefact is among the first to indicate a connection to the trading networks across the territories of the *dar al-Islam* in this period; the systematic study of this and other ceramic assemblages is necessary in order to reveal the nature and extent of these networks.

Small finds

Dress and personal accessories and economic and administrative artefacts are among the most remarkable items from the Islamic Emirate of Crete which are exhibited at the IMK. The only objects so far documented in the secondary literature are very distinctive pairs of golden earrings from a hoard in Mesonisia, in the Rethymno nome, which date to the second half of the 10th century (Figure 4a).[42] Pearls and enamelled ornaments depicting peacocks, lions, rosettes, birds, trees of life, and human figures enrich the decoration. Although the shape of these earrings is common in Byzantine workshops, the objects bear Kufic inscriptions invoking God's blessing in relation to the names 'A'isha and Zaynab, signifying their association with the Islamic cultural milieu. This artistic interaction and integration between local formal prototypes and foreign decorative fashions is highly revealing, and indicative of the development of a new symbolic language in decoration on Crete in this period, one in which pre-existing models evolved in varying ways in accordance with the tastes and demands of the new ruling class.[43]

In addition to these luxury items, more basic bone objects (Figure 4b), including one ring, one spatula, and three hair pins, survive from Islamic layers of occupation at the Kastella excavations. Similar objects can, of course, be found in archaeological contexts which are very different in date,

iv: Stacey 2004: 138, fig.5.51, no. 4. From Palermo and Raqqada Fig.3f.v: Arcifa, Bagnera 2017: 386, fig.19.1, nos.1;6.

[36] Starida 2016: 75, suggests that some of these oil lamps were produced locally.

[37] Stancey 2004: 149–165.

[38] Mason, Tugwell 2011: 335–353. Cf. for example, ninth-century al-Andalus: Salinas, Montilla 2017, figs. 21.2.

[39] Example from *La Bataiguier* shipwreck Fig.3g.iv: Rossiter, Reynolds, MacKinnon 2012: 261, fig.137. From Palermo Fig.3g.iv: Sacco 2018: 346, variante 1. From Fustat Fig.3g.iii: Kubiak 1970: 6, fig.3.

[40] Example from Cordoba Fig.3g.ii: Casal, Castro, López, Salinas 2009, fig.1, bottom row, second from left.

[41] From urban excavations in the area of the Archaeological Museum: Poulou 2011: 411, fig.32. Other Palestinian amphorae are said to come from the Odos Almirou excavations, in a context yielding 100 Islamic coins and glazed and unglazed ceramics similar to those from Kastella: Starida 2016: 66.

[42] The majority of the artefacts from this hoard are currently kept at the National Museum of Athens, while only a few are exhibited at the IMK. See: Sidiropoulos, Vasiliadou 2011: 40–46. Cf. Albani 2010, fig . 7a-b and Poulou 2011: 433–435. The *terminus post quem* for the hoard is a golden coin of Romanos II and co-emperor Constantine VII (946–959).

[43] Poulou 2011: 433–434. See also Vionis 2013 and Vionis 2017: 176. For a similar process in Sicily: Arcifa, Bagnera 2014: 172.

Figure 4. a. earrings from the Mesonisia hoard, after Sidiropoulos, Vasiliadou 2011: 147, no.72; b. bone toilette objects from Kastella excavations (photo by the author with permission of the IMK).

على يدى
الأمير
أحمد
'alà yaday/ al-amīr /Aḥmad

Figure 5. glass weight from Odos Koroneou excavations (courtesy of IMK)

or which are contemporaneous but linked to Byzantine material culture, but they nonetheless display remarkable similarities with published toilette and dress accessories from contemporaneous Islamic contexts.[44]

With regard to administrative tools, glass weights (*sanagat* in Arabic), such as the previously unpublished item illustrated above, were used in other parts of the *dar al-Islam* for converting pre-existing local currencies into Islamic metrology.[45] Study of the Cretan examples of these objects has been completely absent in the secondary literature, and the only known and documented specimens are the two samples exhibited at the IMK, of which only one is readable (Figure 5); it comes from Starida's excavations at Odos Koroneou, and dates to the first half of the 10th century according to its stratigraphical context of recovery.[46] This specimen (diam. 1.6 cm) bears an inscription of three lines: 'On the order of (lit. 'by the hand of') Emir Ahmad'.[47]

The content, design, and calligraphic style of this inscription are identical to that of no. 3467.482 in the online catalogue of the Gayer-Anderson collection at Cairo.[48] Although the authors of this catalogue assign the glass weight from Cairo to Ahmad ibn Tulun (d. 884), the founder of the Tulunid

[44] From the contemporaneous Byzantine context of Sarachane: Gill 1986, pls.349–351. See also from the Crypta Balbi: Ricci 2001: 407, II.4.816–21. For Islamic contexts at Palermo: Arcoleo, Sineo 2014: 303–304, figs.5–6. Cf. relevant items from the Levant in Shatil, Behar 2013, Farhi 2016, and relevant chapter in Ayalon 2005.
[45] Rebstok 2008*:* 2255 reminds us that the importance 'to weight with the right scale' (Qur'an 17:35) was a serious matter in Islamic law, being influenced by the Quranic injunction. Cf. De Luca 2015.
[46] In addition to unspecified Islamic coins and pottery, this glass weight was found in association with a Byzantine copper coin of Leo VI (886–912): Starida 2016: 62.
[47] I wish to thank M.A. De Luca for reading this specimen, and for her invaluable suggestions. Without her help, I would have not been able to approach this item analytically.
[48] http://www.numismatics.org/dpubs/islamic/ga/GayerAndersonPage48.html.

dynasty, a careful comparison between this specimen and others securely dated to his reign reveals profound difference between them, particularly concerning the much more complex protocol formula of Ahmad ibn Tulun.[49] I suggest that this glass weight might be more productively linked to the dynasty of the Emirs of Crete, which features three separate occurrences of the name Ahmad between 925 and 949: Ahmad ibn Umar II (ca. 925–940), Shu'ayb II ibn Ahmad (940–943), and Ali ibn Ahmad (943–949).[50] The presence of Cretan glass-weights in Egypt, or vice versa, would accord with existing evidence for the strong economic links between these two neighbouring territories of the Islamic world, but more secure parallels are needed in order to pursue this hypothesis.

A stratified rural context: the 'Arab Building' at Knossos

In 1971, rescue excavations carried out in a field located *c.* 350m northwest of the Minoan Palace of Knossos (Makryteikhos village), uncovered the remains of a small rectangular building measuring approximately 2m x 3m (Figure 6a).[51] The floor of the building was 58 cm lower than the outside ground level, and consisted of slabs of stone set into the earth; the perimeter walls preserved between two and four courses of mostly unworked rounded river boulders of limestone and *spolia*, and stood to a maximum height of approximately 1m. Traces of plaster found during the excavation suggest that the interior of the walls may have been originally plastered; a small circular pit dug into the ground level on the west side might have been a posthole. Although these structural features strongly resemble contemporaneous monocellular dwellings (*bayt*) found in other rural contexts across the Islamic world, especially in the Iberian Peninsula and North Africa,[52] this building was attributed to the period of the Emirate of Crete, more specifically to the 10th century, on the basis of nine coins found on its floor, all minted by Cretan Emirs, the latest of which dates within the early 940s.[53] A small number of ceramic sherds belonging to a minimum of eight separate vessels (Figure 6b-h) were found on the floor together with the coins, but they have been overlooked since their discovery, and only two low-quality black-and-white photos were published in 1972, hence the need for their restudy.[54]

Several iron nails and two large, flat, and circular grindstones complement the array of finds from the interior of this building. In spite of their intrinsically low economic value, these artefacts show that domestic and industrial activities were conducted when this building was in use.

The small assemblage of well-stratified domestic pottery from the building consists of one nozzle of an oil-lamp, body-walls of at least two amphorae, body-walls of at least one closed tableware (jug?), one pouring spout, one flat disc, and two olla cooking-pots.[55] Restudy of this assemblage provides an initial avenue into the nature and significance of cooking-wares in use during the Emirate of Crete.[56]

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[49] Cf. Miles 1958: 85–86, nos.198–199. Stylistic and textual reasons exclude the connection to Fatimid glass weights.

[50] For the genealogy of the Emirs of Crete: Miles 1963 and 1970.

[51] For the details of the excavation: Warren, Miles 1972.

[52] Often, *bayt* appear to be isolated within the context of rural settlements. For the Iberian Peninsula: Gutierrez-Lloret 2013: 250–52. On North Africa: Fentress 2013: 237–240, especially the ninth-century example from Utica.

[53] Warren, Miles 1972: 290.

[54] The need for a restudy of this assemblage was already pointed out in Vroom 2003: 55–56. I was able to restudy these items in July 2018 at the Stratigraphical Museum at Knossos. A few glazed sherds come from the surroundings of the buildings, but they date to later periods (11th-14th centuries): Vroom 2003: 55–56.

[55] By 'olla' I mean a cooking-pot with the opening at the mouth smaller than the overall height of the vessel, a wider belly, usually globular body, a rim vertical or bent outward, and with or without handles. This type of vessel, impeding water evaporation, is particularly suitable for cooking stews, soups, and pulses.

[56] Due to the lack of archaeological knowledge regarding Islamic cooking-wares from Crete, a brief outline of cooking-pots circulating on the island during the later phases of the First Byzantine Period, which are notably different compared to those from the 'Arab Building', enables us to highlight the innovative morphological and technological aspects of the items from Knossos. Samples from stratigraphical contexts at Gortyn, Eleutherna, and Knossos indicate that, up to the late 8th century, Crete's demand for cooking-wares was fulfilled by specialised Aegean and Constantinopolitan products, sometimes locally imitated, characterized by a distinctive shape with vertical neck and globular body, fired in reducing conditions, and with fabrics rich in brownish or silvery mica: Yangaki 2016: 213–216, especially fig.14.8. Moreover, a unique (for now) eighth or early ninth-century Palestinian bag-shaped cooking-pot was found as part of a Byzantine rural household at Phaistos: La Rosa, Portale 2004: 503, fig.30.

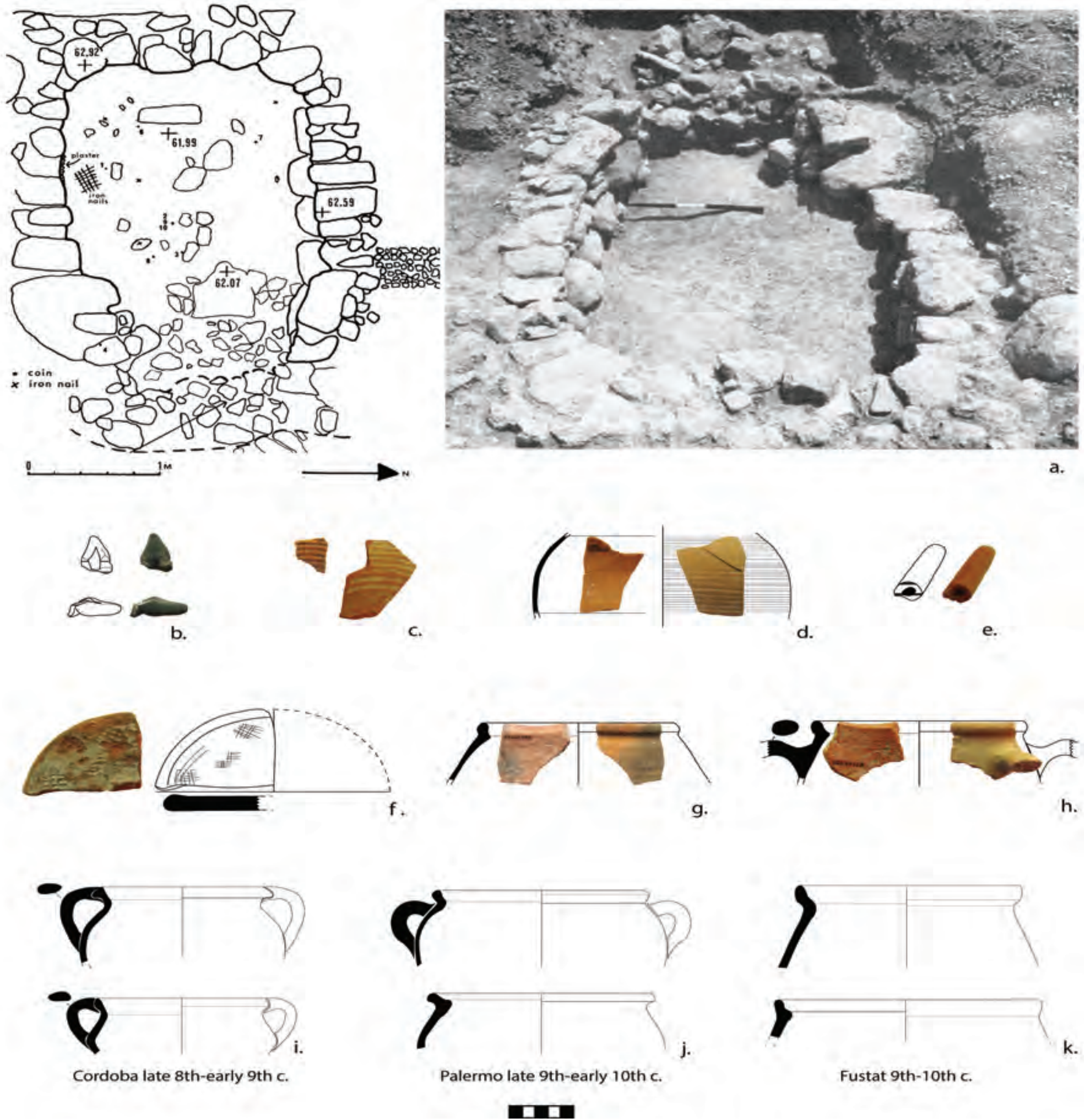

Figure 6. a. plan and photo of the 'Arab Building', after Warren, Miles 1972: 289, fig.3 and Pl. 57a; b-h ceramic assemblage from the floor of the structure (photos and drawings by the author by permission of the British School at Athens); i-k. comparison with contemporaneous Islamic cooking-pots (redrawn by author for graphic consistency); referenced to individual samples in the footnotes.

The nozzle of the oil-lamp (Figure 6b) precisely parallels the examples exhibited at the IMK, and therefore comprises the most reliable ceramic chronological evidence from the building. The body-sherds of the two samples of amphorae (Figure 6c), both featuring a corrugated surface, are not indicative in themselves; archaeometrical analyses of their fabrics will be necessary in order to establish their sources of origin. Neither the body-sherd of the closed tableware (Figure 6d), which also features a corrugated outer surface, nor the pouring-spout (Figure 6e) are diagnostic, although jugs with pouring-spouts are widely attested in Islamic contexts of the 10th century. The flat disc (Figure 6f) (diam. *c.* 18 cm), which displays a lattice incised decoration on the upper side, is most likely to be the stopper of a wide-mouthed jar, although similar items interpreted as bread-baking plates (*tabaq*) have been found in al-Andalus and in the Maghreb.[57] Finally, the two examples of olla

[57] Bread baking-plates were usually made of soft-stone. For an overview of ceramic examples from al-Andalus and the Maghreb: Reynolds 2016: 160–161, who notes that similar vessels have pre-Islamic origins and can be found, for instance, in Roman Egypt and seventh-century assemblages from Byzantine Chios.

cooking-pots from the building (Figure 6g-h) are both wheel-made and fired in oxidising conditions. Both share an identical coarse fabric, dark red in colour, with a high frequency of minuscule white inclusions, low frequency of medium-size (1–2mm) white and opalescent inclusions, round or irregular in shape, and sporadic flecks of silver mica. Morphologically, the two samples are similar, except for the fact that one bears evidence of a handle, circular in section. Rims are bent outwards with an inner groove to receive a lid; body-walls are markedly straighter than those of the globular examples. The outer surface of the unhandled example is slightly corrugated, while the other one appears smoothed. Individual examples of these morphological and technical features can be found on contemporaneous non-Islamic pots.[58] However, they appear together predominantly on pots made within Islamic regions where, despite significant regional variations, wheel-made ollas are the prevalent shapes in the broader panorama of Islamic cooking-wares. Regarding the samples from the 'Arab Building', whereas only general comparisons can be drawn with al-Andalus and the Levant (Figure 6i),[59] the closest morphological parallel is with examples from Sicily and Egypt (Figure 6j-k), which include several contemporaneous ollas with similar profiles and rims.[60]

Since other cooking-pots from Islamic Crete have not been published, these remarks remain preliminary. Recent data from early contexts of Islamisation in al-Andalus, the Maghreb, and Sicily demonstrate that olla cooking-pots were the first ceramic objects to appear during the introduction of a new ceramic repertoire in the period of transition between Islamic and pre-existing material culture; the last layers in which local ceramics are present indicate coexistence with these new arrivals.[61] Cooking-pots and pre-existing local products are therefore pivotal to a better understanding of the cultural Islamisation of Crete, and they ought to be researched in further detail in the light of their neglect in previous scholarship.

Compared to ceramic and structural evidence from Heraklion, which is located less than 6 km to the northwest, both the context and the *instrumentum domesticum* of the 'Arab Building' suggest that the character of this structure and its occupants was distinctively rural, although the identity of those occupants remains obscure. Moreover, the lack of other published archaeological evidence from the area of Knossos from the Islamic Period prevents us from reconstructing long-term patterns of occupation at this site, and specifically whether settlement was permanent or sporadic, scattered or nucleated, and whether this was an isolated building, or one of many in the agricultural hinterland of the capital of the Emirate.[62]

Settlement patterns and administration: first remarks

Revaluating the distribution patterns of coins and their association with ceramic and other available material evidence, this section offers a revised interpretation of settlement patterns on

[58] For example, from Byzantine Southern Italy (Apulia): Leo Imperiale 2004: 334–35, fig.4. From Crete: Yangaki 2016: 214, fig.14.6.

[59] For a synthesis from al-Andalus: Alba Calzado, Gutiérrez Lloret 2008: 600, fig.8, nos.6–14. For the examples in Fig.6i: Casal, Castro, López, Salinas 2009, fig.1. Cf. the Levant, Tiberias: Stacey 2004: 123, fig.5.32.

[60] For Sicily, Palermo: Pezzini, Sacco 2018 and Ardizzone, Agrò 2014: 267, fig. 2, in particular no. 116 (example in Fig.6j., below) and Sacco 2018: 284–354, in particular, 294, variante 12, PB713 (example in Fig.6j., above). Examples from Fustat in Fig.6k: Vogt 1997: 255, Pl. 9, nos.9–14 (in the table, nos.9–10). See also Gayraud, Treglia, Vallauri 2009: 182, fig.5, no. 6, and Rousset, Marchand, Foy 2001: 450, fig. 34, k-o.

[61] For general considerations: Reynolds 2016: 158–168. See also: Arcifa, Bagnera 2014: 168–69.

[62] The site of Knossos was certainly occupied during the 7th century, cf. Hayes 2001. However, its existence into the 8th century is still controversial. On the one hand, two mid/late-eighth-century Byzantine lead seals found at this site, one belonging to the *protonotarios of the Treasury*, an important civil officer, the other to a bishop, would suggest that the site had retained some of its importance as a civil and religious centre during this period: Dunn 2004 and Tsigonaki 2007: 285; with this regard, see the appearance (honorific?) of Knossos as a Bishopric in the Notitiae Episcopatuum 3 and 7, both listing the bishops attending the Second Council of Nicaea in 787: Tsougarakis 1988: 388.; cf. Zuckerman 2006. On the other hand, ceramic evidence dating to the 8th century is almost completely absent, both within the site and in its surroundings: see discussion in Whitelaw, Bredaki, Vasilakis 2007. This would indicate a significant contraction of the settlement during this period, perhaps limited to some form of squatter occupation. For examples of eighth-century pottery from the site, see the material from level 3c of the Knossos Sanatorium Basilica: Frend, Johnston 1962: 222, fig.15, especially nos.30–31 (two globular amphorae, but the drawings are inaccurate) and no. 33 (an Aegean cooking-pot). This context had already been stratigraphically dated to the 8th century, but ceramics were not identified in the 1960s. I was able to restudy this material in July 2018, confirming the dating of this context to the 8th century in the light of present knowledge of eighth-century Byzantine pottery.

Crete during the Islamic Period. Furthermore, it presents some initial remarks on specific economic and administrative characteristics which were fundamental to the formation of this short-lived yet relatively successful Emirate, with a specific focus on systems of landholding and taxation. In brief, I will argue that it was in the interest of the new Islamic rulers to sustain the pre-existing Christian population settled in the Cretan countryside, which formed an indispensable source of taxpayers and food creators.

In ancient states with monetised economies, including the territories of the *dar al-Islam*, the naming of rulers on coins was a widespread political practice through which sovereign power was demonstrated.[63] Bronze coins (*fulus*), bearing the name of the Emir and of his descendants were minted from the reign of Abu Hafs (*c.* 820s-855), the founder of the Emirate of Crete; golden coins (*dinars*) appeared as early as the rein of Shu'ayb I (*c.* 855–880), the son and first successor of Abu Hafs.[64] There is no evidence for the presence of a mint in Heraklion during the First Byzantine Period, but the corpus of hundreds of Islamic coins found in this city suggests that one existed during the Islamic Period.[65]

As shown by Miles' extensive corpus of numismatic evidence (the only study to offer a precise chronological breakdown for the finds), central Crete (modern nomoi of Heraklion and Rethymno) appears to have been highly monetised even outside the capital, and especially in the long period when Shu'ayb I and his successor, Abu Abdallha ibn Shu'ayb (*c.* 880–895), were ruling (Figures 7 and 8).[66]

Besides noting the economic investment made by the Emirs of Crete, the exponential increase in the circulation of coins across the island at the time of Shu'ayb I, with evidence growing from a handful to hundreds, might attest to the effort made by this Emir to consolidate the political and economic authority of the Emirate after the more turbulent initial decades of military conquest.[67] However, current hypotheses are limited by the unscientific recovery of a large proportion of the extant material, which implies a lack of insight into their specific contexts of provenance.[68]

Within these limits, the presence of Islamic coins at a considerable number of sites across central Crete allows for preliminary interpretations of settlement patterns in this area of the island. On the assumption that *a certain proportion* of these coins may indicate economic and broader human

[63] In the political language of Islam, the word for this right is *sikka*: Johns 2003, and Lewis 1988: 127, footnote 51. Cf. De Luca 2014 and Foss 2008.

[64] Miles 1970: 22. Formally, the Emirate recognised Abbasid power as coins bear the name of the Caliph in Baghdad. The metrology of Cretan *dinars* is in conformity to the rest of the *dar al-Islam* (*c.* 4 gr.), but a study of the metrology of bronze issues is needed. A few silver *dirhams* were minted in the 10th century: Miles 1970: 7.

[65] Starida 2016: 63–75 mentions that at least 250 Islamic coins, plus 'several dozens', have been found during the 1990s and 2000s urban excavations in Heraklion; however, their chronological breakdown is not published. In addition, *c.* 80 specimens from this city are published in Miles 1970 (see next footnote).

[66] Miles 1970: 14–17. Excluding the 250+ coins from recent excavations in Heraklion (see previous footnote), whose chronological breakdown is unavailable, Miles' corpus accounted for 268 coins, to which the 9 specimens from the Arab Building should be added. 206 of these 268 coins were found on Crete, but the exact place of recovery is known for only 126 of them, of which 108 were minted under Shu'ayb. Among the samples found on Crete that have been excluded here because their precise provenance is unknown, there are 3 coins from Chania nome and 7 from Rethymno nome. In addition to Islamic coins, 21 Byzantine specimens dating between the 810s and 910s are known in secondary literature to have been found on Crete. Seven date to the decades preceding the conquest, but the location of recovery is known for only five of them: two of Michael I (811–813), one from Gortyn and one from Panormos, and three of Leo V (813–820), all from Gortyn: Rizza, Scrinari 1968, fig.152 c, 87; 91 and Sanders 1982: 110;162. Of the remaining 14 coins, three are of Michael II (820–829), but the location of recovery is known for two of them, one from Gergeri and one from Gortyn: Tsougarakis 1988: 319, Poulou 2011: 385, and Baldini *et al.* 2013. Four coins date to the reign of Theophilos (829–842), two from Heraklion, one from Maskla, south of Chania, and one solidus, out of context, from the mid-tenth-century Mesonisia hoard. Heraklion: Starida 2016: 75 and Poulou 2008; Maskla: Sanders 1982: 168–69; Mesonisia: Poulou 2011: 433–34. Finally, seven coins date to the reign of Leo VI (886–912), but the provenance is known for only five of them: two from *Panormos*, in the filling of a cistern within the Basilica: Sanders 1982: 118; and three from Heraklion: Andrianakis 2013 and Starida 2016: 62; 75. For the evidence of Islamic coins of the Emirate of Crete found in other territories within and outside the *dar al-Islam,* including al-Andalus, Egypt, Spain, and the Byzantine Greek mainland, especially Athens and Corinth: Miles 1970.

[67] The Taktikon Uspenskij and other textual evidence indicate that Byzantium was still claiming the overlordship of Crete in the 840s: Tsougarakis 1988: 174.

[68] See anecdotal accounts in Miles 1970: 45 and 65, footnotes 28 and 30. Since Miles' publication, little has changed in our knowledge of Cretan Islamic coins: Mazarakis 2011 and D'Ottone 2019: 393–396. However, new archaeological insights have become available regarding Byzantine Crete in the period immediately prior to the Islamic conquest, for which see the next footnote.

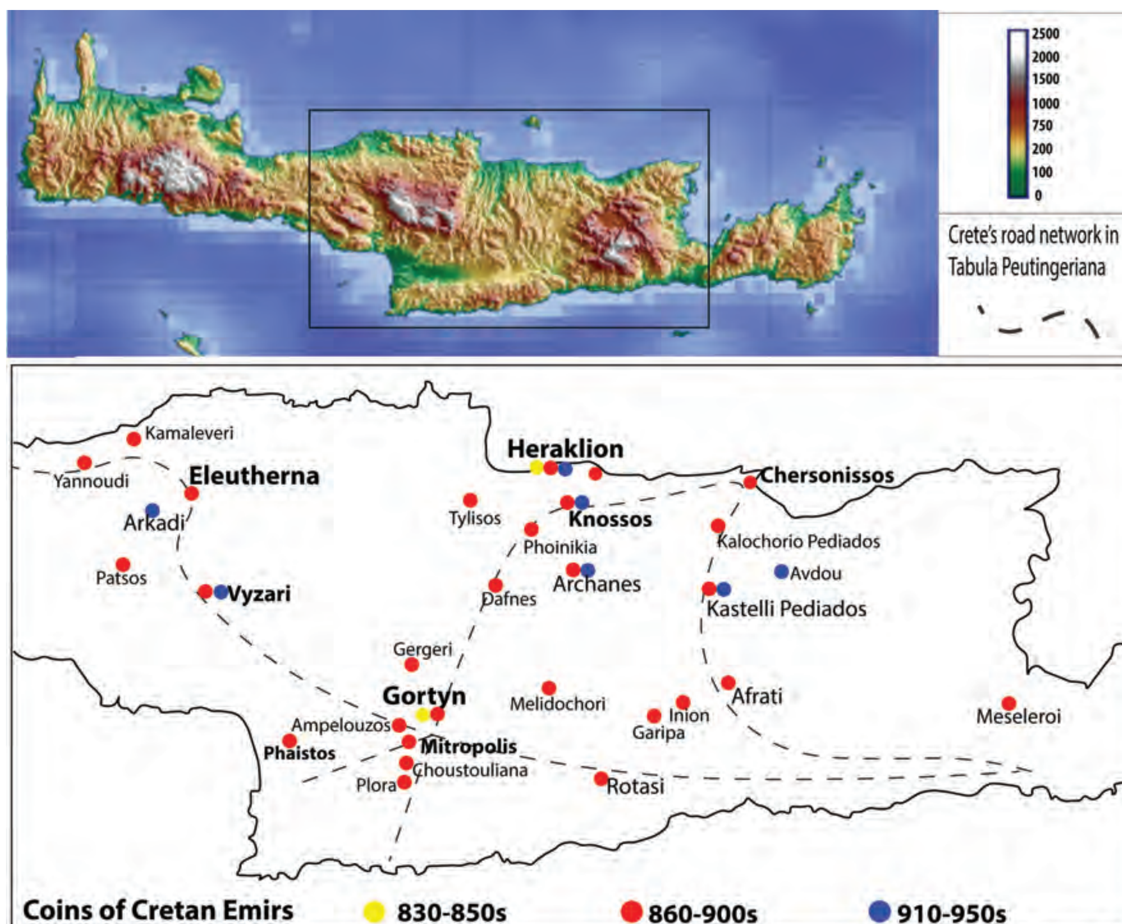

Figure 7. Map of Islamic coins on Crete and their relation to road network and topographic setting (by the author).

source: Miles 1970	c. 830-850s (class A) Abu Hafs	c. 860-900s (classes B-K) Shu'ayb I & Abu Abdallha ibn Shu'ayb	c. 910s-961 (classes L-V) esp. Ahmad ibn Umar II, Shu'ayb II & Ali ibn Ahmad	Sub Tot
Heraklion & suburbs	1	55	7	63
Knossos		13	3	16
Phaistos (or Ag. Triada)		6		6
Gortyn	1	3		4
Archanes		3	1	4
Kastelli Pediados (and Xyda Ped.)		2	2	4
Mitropolis		3		3
Melindochori		3		3
Phoinikia		3		3
Vyzari		1	1	2
Afrati		1		1
Ampelouzos		1		1
Avdou			1	1
Arkadi			1	1
Chersonissos		1		1
Dafnes		1		1
Eleutherna		1		1
Garipa		1		1
Gergeri		1		1
Inion		1		1
Kalochorio Ped.		1		1
Khamalevri		1		1
Meseleroi		1		1
Patsos		1		1
Plora		1		1
Rotasi		1		1
Tylisos		1		1
Yannoudi		1		1
	2	**108**	**16**	**126**

Figure 8. coins of the Cretan Emirs found on Crete whose exact chronology and location of recovery are known (*c.*126 out of 500+). All from Miles 1970, except for Knossos, supplemented with Warren, Miles 1972: 290, and the coin of Abu Hafs from Gortyn. Rizza, Scinari 1968: 93, fig.163. All coins are copper; golden and silver coins have either been found outside Crete, or their exact location of recovery is unknown.

activities at their sites of recovery, their distribution is concentrated in strategic areas of the island as follows:

1. Archaeologically or textually attested Byzantine urban and rural centres which were occupied just before the Islamic conquest, such as Gortyn, Mitropolis, Phaistos, Gergeri, Eleutherna, Knossos, Chersonissos, and Heraklion.[69]
2. Agricultural catchment-areas, such as: the hinterland of Heraklion/*Handaq* (Knossos, Tylisos, Phoinikia, Dafnes, and Archanes); the fertile Messarà Plain of Gortyn (Mitropolis, Ampelouzos, Phaistos, Choustouliana, Plora, and Melindochori); the rich surroundings of Eleutherna (Kamalevri, Yannoudi, Patsos, and Arkadi); and the settlements on the Bonifacius and Pediados plains (respectively Rotasi, Garipa, Inion, and Afrati, and Avdou, Kalochorio Pediatos, and Kastelli Pediados, the latter in the proximity of Byzantine Lyttos).[70]
3. Nodes in inland road networks. Although the exact routes on Crete during the Islamic Period are unknown, documents such as the *Tabula Peutingeriana* (4th century CE) could suggest the possible continuing existence of four main axes of inland connectivity, as follows.[71] A) The axis joining Heraklion and Gortyn, probably the two most important settlements on Crete during the Islamic Period, perhaps via Phoinikia, Dafnes, and Gergeri. B) The road linking Gortyn to Eleutherna and Western Crete via the Amari Valley and Vyzari. C) The axis from Gortyn to the east of the island and the Mirabello Gulf, perhaps via Rotasi (ancient Rhytion) and Meseleoroi. D) The road from eastern Crete to Knossos/Heraklion via Afrati, the Pediados plain, and Chersonissos.

The clustered distribution of a remarkable quantity of coins in fertile rural areas of Crete may reasonably suggest that intensive agricultural activities were conducted in these areas. However, the surviving archaeological data are not sufficient to qualify this numismatic evidence as being indicative of settlements, or to indicate the nature of these settlements, which could have ranged from scattered farms and hamlets to villages or towns. Moreover, even if *all* extant coins were assumed to be indicative of settlements, in many cases it remains unknown whether those settlements were newly established during the Islamic Period, or whether they were already existing and, at that point, simply continuing or even undergoing economic expansion. Therefore, the evidence of coins does not directly reveal any demographic revival of the island in comparison to the previous period; settlements may have existed in the same form in the First Byzantine Period, only to become archaeologically visible at a later date due to the appearance of this numismatic material.[72]

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[69] For eighth-century archaeological evidence from Gortyn and Mitropolis: Di Vita 2010, Zanini 2013: 182–84, and Baldini et al 2013. Phaistos: La Rosa, Portale 2004: 493–514. Gergeri: Tsougarakis 1988: 319. Eleutherna: Yangaki 2016 and Tsigonaki 2007. Knossos: Dunn 2004. Archaeological finds from Heraklion suggest the existence of a settlement from the late 7th-early 8th centuries: Poulou 2008 and Andrianakis 2013. According to textual evidence in the life of St. Stephen the Younger (mid-8th century), Cosentino 2019 argues that Heraklion had become the seat of secular power in Crete as early as this date. For textual evidence mentioning Crete's bishoprics in the late 8th century, including Chersonissos, see Notitiae Episcopatuum 3 and 7: Tsougarakis 1988: 388.

[70] According to linguistic analysis, it seems that the modern names of nine villages in the Bonifacius plain, (Garipa, Voutoufou, Atsipades, Aposelemi, Gassi, Tefeli, Chandras, Chandrou, and Zabres) have an Arab origin: Aletras 2016: 325.

[71] According to archaeological and textual evidence, there is good ground to assume that, in its general lines, Crete's road network described in the *Tabula Peutingeriana* was fundamentally unmodified up to the 8th century: Pazarli, Livieratos, Boutoura 2007.

[72] The demographic decline that hit Crete in the 8th century resulted in the contraction of urban life and rural settlement patterns; Islamic raids, disturbance of economic sea-routes, endemic diseases such as the reappearance of the Justinianic Plague in the 720s-740s, and a series of earthquakes, the last of which occurred in 796, have all been adduced to explain this phenomenon: Tsougarakis 1988: 148, and, for a more gradual approach, Zanini 2013: 186. Sanders 1982: 134, already challenged this catastrophic perspective, arguing that the lack of archaeological evidence for the century preceding the Islamic conquest was '*probably misleading, and revealing only of the present ignorance of the material, especially pottery, rather than a decline in occupation*', cf. Randall 2013. Recently, Zanini 2016, Poulou 2011: 383, and Tsigonaki 2007, have reconsidered the question of the nature and intensity of this crisis and decline. It has been argued that the urban fabrics of cities such as Gortyn, Eleutherna, and Chania contracted and became impoverished, but these centres were certainly occupied up to the period of the Islamic conquest. For a recent revaluation of the significance of Byzantine cities in the so-called Dark Ages (8th-9th centuries): Curta 2016. With regard to rural settlement patterns, for which archaeological evidence is more fragmentary, the general distancing of small rural units from the coasts, and their decline in number in comparison to the 7th century, are securely attested, although the estimation in Triolo, Costa 2015 of a 75% decline of rural units from the 7th to the 8th centuries seems exaggerated. A more careful analysis and mapping of archaeological evidence (globular amphorae, glazed ware, coins and lead seals) dating to the 8th-

The possible continuity of human activities at settlements known during the preceding Byzantine Period calls into question the identity of their inhabitants, and raises the possibility that pre-existing local communities survived after the Islamic conquest.[73] But how can these local communities be identified in the archaeological record? Sites with stratigraphical evidence of material culture from the Islamic Period, such as Priniatikos Pyrgos, a small but significant settlement on the Mirabello Gulf, feature ceramics from the Byzantine world, notably Constantinopolitan Glazed White Ware II and ninth and tenth-century amphorae.[74] Although these ceramics might suggest the persistence at this site of communities who were economically and culturally bonded to Byzantium during the Islamic Period, this model cannot be readily applied to other settlements across the island. In fact, nothing is known with regard to the range of domestic pottery produced and used by these local communities in the 9th and 10th centuries, which makes it impossible to satisfactorily see them archaeologically.

On the other hand, the potential recovery of highly distinctive Islamic ceramics, such as those from Heraklion, at those sites where Islamic coins are found could be an indication of Islamic settlers. However, with all the biases of patchy archaeological research, almost no Islamic pottery has been recognised at Cretan sites. The only exceptions of any significance with a verifiable association between Islamic coins and pottery are at Heraklion and, to a lesser extent, Knossos and Vyzari. At this latter site, which is located in the Amari valley, excavations in the late 1950s unearthed coins of the Emirs of Crete in association with distinctive Islamic pottery in layers of abandonment of a church of the First Byzantine Period (Figure 9a-c).[75] Although these ceramics lack a scientific study, and illustrations available are of poor-quality, the selection of pottery published in 1959 includes: an oil lamp that is identical to the samples from Heraklion (Figure 3c.i), a one-handled mug (Figure 9c.ii), cooking-pots (Figure 9c.iii), and two handles of amphorae bearing a peculiar central groove (Figure 9c.iv), a feature this that finds a precise match with amphorae produced in Sicily between the 8th and 10th centuries.[76]

Although possibly a consequence of the lack of focused archaeological research, the pattern of the absence of Islamic pottery outside Heraklion also extends to sites which have undergone extensive excavations for several decades, such as Gortyn, Eleutherna, Phaistos, Mitropolis, and Priniatikos Pyrgos.[77] Notwithstanding archaeologists' lack of interest in Islamic-period layers, highly distinctive ceramics like those from Heraklion would probably have been recognised and documented if they in fact existed at those excavation sites.[78]

Arguments *ex silentio* are notoriously problematic, but the lack of association between Islamic coins attested at several sites and broader evidence of Islamic material culture seems to indicate the survival of pre-existing local communities who likely continued to inhabit Crete during the

early 9th centuries reveals the existence of numbers of rural sites across the island, including Vafe, Vyzari, Phaistos, Agia Galini, Mires, Gergeri, Papadio Kampos, Pseira, and Mochlos, some of which are coastal and situated in relation to road networks and the agricultural hinterland of surviving 'cities'. This matter is extensively treated in my PhD research.

[73] For example, in wording his 'History' (ca. 960), Leo Deacon makes a clear semantic distinction between 'Arab Cretans' and 'native-born barbarians', both of which refer to the Muslim population, and 'native-born man', the latter indicating Christian descendants of Greek natives of Crete according to Talbot, Sullivan 2005: 58, 70, footnotes 24 and 2. Cf. Christides 1984: 8 and Tsougarakis 1988: 58–73.

[74] Klontza-Jaklovaa 2014. Excavations at this site revealed continuous occupation and rebuilding activities throughout the 8th century. Finds include globular amphorae, one *solidus* of Leo III, and a lead seal of an officer of the Opiskodos.

[75] Kalokyris 1959.

[76] For examples of Sicilian amphorae with grooved handles dating to the 8th and early 9th centuries: Arcifa 2010: 115, fig.10. For a sample produced in Islamic Palermo in the late 9th-early 10th centuries: Sacco 2014: 229, fig.2a.

[77] Although extensive, the areas of excavations represent small percentages of the whole sites, therefore some sort of archaeological bias remains. With regard to Gortyn, in the 1960s the Italian School conducted the only excavation to have explored medieval monuments on the acropolis: Rizza, Scinari 1968. Apart from one coin dating to the first Emir of Crete, glazed pottery sherds were noted and attributed to Islamic material culture: Rizza, Scinari 1968: 93, fig.164; however, this attribution appears questionable according to the photos provided in the publication.

[78] For example, when in the 1950s the Roman Villa del Casale (Piazza Armerina, Sicily) was excavated, archaeologists were not concerned about the Islamic village established on the remains of the villa. Nevertheless, because Islamic layers and artefacts were found so copiously during excavations, references in reports are common and archives full of selected material, ceramic and otherwise: Gentili 1999.

Figure 9. a. plan of the early Byzantine basilica at Vyzari, after Kalokyris 1959: 16, Fig.1; b-c. Islamic-period coins and pottery from Vyzari, after Kalokyris 1959: 32–35, Tabs.1A and 1B, no. 4–5; d. vista of the Amari Valley (photo by the author).

period of Islamic rule, retaining aspects of Byzantine culture. The exceptions from Heraklion and Vyzari accord with the tenth-century textual accounts of Genesios, Leo Deacon, and Theodosius Deacon.[79] Notwithstanding their rhetorical and literary nature, these texts indicate that the bulk of the Muslim population resided in 'the town of the Cretans', and report the existence of scattered communities of native-born Muslims inhabiting 'dense mountain thickets and clefts' in inland areas of the island, a description that fits the Amari Valley (Figure 9d) and many other areas on Crete.[80]

This possible survival of pre-existing local communities and the role of Heraklion as the epicentre of the Muslim population of Crete raise the question of the nature and significance of the economic and administrative policies of the new ruling class, especially with regard to systems of taxation, landholding, and land tenure.[81]

Although, at the current stage, only working hypotheses can be advanced, the fact that a considerable proportion of the Muslim population appears to have been urban-dwelling implies, by definition, that they had to rely on the countryside to achieve stable agriculturally self-

[79] Respectively: Kaldellis 2006, Talbot, Sullivan 2005, and Criscuolo 1979.
[80] For the in-text citations: Talbot, Sullivan 2005: 62–63. The fact that Leo only refers to *one* 'town of the Cretans' strengthen the consideration that Heraklion/*Handaq* was indeed the main and perhaps sole urban centre for the Muslim population of the island. Genesios, referring to the Islamic conquest in the 820s, writes that 'Apochaps [Abu Hafs] built a city and, from there, ruled over the entire island': Kaldellis 2006: 40. Finally, see Theodosius Deacon's mention of Muslims 'descending from inland mountainous districts': Criscuolo 1979, xiv. For the critical review of these texts in the Cretan context: Kaldellis 2015.
[81] This, however, is a very complex and extensive topic, of which I will only provide an outline here.

sufficiency.[82] The evidence of a strong monetised economy and the distribution patterns of coins in fertile rural areas across Crete might be explained through an economic model according to which coinage from the Capital was put into circulation by the central authority in the form of exchange for agricultural produce from the countryside; individuals were thus able to meet their fiscal obligations, with coins flowing back to the Capital in the form of taxes and revenues imposed upon the agrarian population.[83] As indicated by examples from neighbouring Islamic regions, such as Egypt and Sicily, it is possible that local landholders were employed as the principal agents and interlocutors responsible for tax collection, and that the *chorion* (village) was the basic fiscal unit of reference for taxation, a system which could explain the nucleation of coins in rural areas.[84]

In practical terms, of course, Muslim economic and political interaction with pre-existing Christian communities varied in time and space, and according to the particularities of the local social order in individual territories. However, the long-lasting attitude of Muslim city-dwellers to interfere as minimally as possible in the social order of pre-existing local communities was very common in other regions of the Islamic world, such as al-Andalus, Egypt, and Ifriqiya.[85] It was imperative that indigenous communities continued to be agriculturally productive, as any decline in this respect would have been economically self-damaging. They were subject to the payment of taxes (such as the land-tax and poll-tax through which Christians were able to maintain their belief), in return for which they obtained guarantees of safety, self-governance, and religious freedom.[86] The principal concern of the Muslim rulers on Crete was to maintain a regular flow of agricultural revenues and taxation; the trade of this island with other Islamic states, for example known through the Geniza documents, was based on this continuous agricultural production.[87] A booty economy and the sea raids launched in the Aegean, which have long shaped the way in which the Emirate of Crete was seen by traditional scholarship, were parallel sources of revenues, especially targeted to valuable objects and slaves.[88]

Concluding remarks

The richness of Crete's overwhelming Prehistoric, Classical, and Roman heritage has long been a major obstacle to the development of a (conceived as a less profitable) Medieval archaeology of the island.[89] However, over the last decades archaeological research in Crete has increasingly focused

[82] Tsougarakis 2011: 293–94, also shares this opinion.

[83] Vionis 2017: 175, assumes that this model was exercised on Naxos when this island was under the administrative control of the Emirate of Crete. The same economic model was employed within the Byzantine Empire: Laiou, Morrisson 2007: 32. The economy of most contemporaneous territories in the Islamic world was based upon copper coins as well. For instance, all 69 early Islamic coins (late-7th to early-9th centuries) found in the Egyptian city of Antinoupolis are copper: Castrizio 2010; cf. Legendre 2016: 12. In the Cretan case, as Tsougarakis 1988 pointed out, this abundance of coins meant a low pressure of taxation on pre-existing communities, for whom no trace of rebellion survives in the textual evidence of the period.

[84] Egypt: Prigent 2014: 207, footnote 117. But also seminal works of Legendre 2019 and Sijpesteijn 2009. For (Fatimid) Sicily: Nef, Prigent 2019: 333–334. For general studies on landholding in the early Islamic Period: Kennedy 2014 and essays in Delattre, Legendre, Sijpesteijn 2019.

[85] The Andalusi and Egyptian case-studies are most revealing. In al-Andalus, a treaty dating 713 between Muslim conquerors and the local Visigoth duke, Theodimer, states that, in return for the surrender of key towns and for payment of taxes 'there will not be any changes in the situation of his people and that his right of sovereignty will not be contested': Reynolds 2016: 149. It would appear that, as late as two centuries later, the pre-existing order had only marginally changed in rural areas, with the descendants of Visigoth aristocracy still pivotal in the organisation of rural settlement patterns: Salinas, Montillas 2017: 433. Egyptian evidence is even more detailed. Legendre 2016 and 2019, and Sijpesteijn 2009, demonstrate that, during the initial 60 to 80 years after the conquest, the occupation of the countryside by Muslims was either forbidden (under Umar I, d. 644), or limited to the Delta. During this period, the conquerors' elite claiming territorial leadership administered the Egyptian countryside from their capital Fustat, employing local agents, the dukes (an office attested during pre-Islamic times), for tax collection at the village level. The earliest documents reporting small numbers of Arab settlers and landowners in the countryside date to the early 8th century, but it seems that local Muslim communities in the countryside remained a minority as late as the 14th century: Legendre 2019: 408. For a glimpse from Ifriquya: Fenwick 2013: 19; 27–28.

[86] In addition to examples in the previous footnote, see: Bernheimer, Rippin 2013: 102, and discussion in Dridi 2015. Archaeological knowledge of Christian communities on Crete during the Islamic period is meagre, but narrative sources are more abundant: Christodoulakis 2011.

[87] Goitein 1973: 19. Also Tsougarakis 2011: 293–94 and Tsougarakis 1988: 286–90.

[88] Christides 1981. For a critical approach to this matter: Miles 1964 and Makrypoulias 2000. For contemporaneous examples of the Islamic booty economy launched from Sicily: Metcalfe 2009: 29, and Nef, Prigent 2013: 17–18.

[89] Zanini 2013: 174–175.

on the Byzantine Periods, including the so called 'Dark Ages', and on the early Venetian phase.[90] Yet, an intervening one and a half centuries of history and archaeology of the island have been almost entirely neglected.

Although archaeological research into the Emirate of Crete is still in its infancy, this article has attempted to demonstrate the great potential and the necessity of the pursuit of an Islamic archaeology of Crete as a sub-discipline, emphasising the opportunity to situate this important Emirate within a broader Mediterranean debate. This is particularly applicable to Heraklion/ *Handaq* and the diverse range of material culture from this city which, albeit largely unstudied, places the capital of the Cretan Emirate at the same level of prominence as other contemporaneous capital cities across the Islamic world. The excuse that the Islamic period has left no trace in the archaeological record is no longer valid.

While coins indicate that Crete was almost entirely economically and politically bound to the authority of the Emirate, it would seem that, subject to further verification, the cultural Islamisation of Crete never occurred to any significant extent outside Heraklion and, to a lesser degree, in its hinterland (e.g. Knossos), and in some inland mountainous districts of the island, of which Vyzari in the Amari Valley is the only archaeologically visible site at the present time.

Further research should explore the question of whether this apparent 'incomplete' process of Islamisation was the result of the tenacity and ability of pre-existing communities to adapt and to maintain a distinctive form of material culture, or a consequence of the Muslim attitude to intervene as little as possible in the existing social order in rural areas, as long as authority was acknowledged and taxes and revenues were paid.[91]

Improving the archaeological knowledge of local ceramic products, and particularly of domestic pottery belonging to the Early Byzantine communities who were settled on Crete prior to the Islamic conquest, could provide valuable insights into these groups, and into their cultural and socioeconomic interactions with the new Muslim rulers. Moreover, the scientific study and publication of ceramic assemblages from urban excavations in Heraklion has the potential to contribute considerably to our understanding. In particular, Starida notes that ceramics similar to those from Kastella, including glazed and unglazed jugs, pitchers, cups, bowls, and oil lamps, have been recovered in other undisturbed urban contexts at Heraklion, such as Almirou, Capt. Marinelli, and Byron Thalita Streets.[92]

Since all these urban excavations were conducted and recorded according to modern stratigraphical methodology, the systematic study of these artefacts could be fundamental in defining a stratified sequence covering the gap of 200 years in the current archaeological knowledge of Crete from *c.* 800 to 1000, a period which remains the least understood in the history of the island. As well as yielding further insights into the material culture of this Islamic capital, the study of these assemblages could lead to the recognition of new archaeological markers, especially among domestic pottery in both introduced and local traditions, which could then be sought across the island as a whole. In this regard, apart from central Crete, such research ought to target the nomes of Chania and Lasithi, both of which remain largely excluded from current discussion.[93]

[90] The focus for these periods, however, has been predominantly on prominent archaeological sites such as Heraklion, Gortyn and Eleutherna. For short articles discussing the potential of an archaeology of Venetian Crete: Gratziou 2015, Lorenzon 2018.

[91] For the artistic and cultural effects resulting from the presence of Muslims on Cyprus and Naxos see Vionis 2013 and 2017, where the author argues that rather than cultural barriers, these two island had become zones of cross-imperial interactions, negotiations, cohabitation and compromise between the Islamic and Byzantine worlds.

[92] Starida 2016. In addition to this glazed pottery, coarse wares and cooking pots are noted from these layers.

[93] Beside the three coins 'presumably' from the Chania nome in Miles 1970, a supposed Islamic oil lamp was noted in Sanders 1982 from Palaiokastro, at the easternmost tip of the island, but it still remains unpublished.

If today Crete is a cultural crossroad and a unique example of a Mediterranean melting-pot, this is due to its past and to its heritage. In light of the omissions in previous approaches, a new and targeted focus on the archaeology of the Islamic Period is therefore essential to adjust and rectify the balance of this long-standing disciplinary marginalisation. Moreover, such an endeavour would attempt to advance the current understanding of the long-term cultural and political development of this island during the first millennium CE.

As well as fostering cross-disciplinary dialogue around the diverse historical and material heritage of this island, this line of research holds extensive potential impact, with a view to complementing and enriching the Cretan public's perception of an understudied aspect of their past. An archaeology of the Emirate of Crete can only exist if the general perception of this period is improved, a goal that can be achieved by providing the knowledge to better understand it.

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