

Ceramics in Transition

Production and Exchange of
Late Byzantine – Early Islamic Pottery
in Southern Transjordan and the Negev

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Preface

This book is based on my PhD thesis entitled *Ceramics in Transition: A Comparative Analytical Study of Late Byzantine–Early Islamic Pottery in Southern Transjordan and the Negev*, completed in November 2010 at the Institute of Archaeology, University College London. Publishing this book was a lengthy process largely due to my post-doctoral research projects spiraling towards Scandinavian archaeology and my teaching commitments at the University of Helsinki. This book contains previously unpublished archaeological evidence and materials, especially ceramic data from the fascinating late Byzantine–early Islamic transitional period contexts in Jordan and Israel. Hence, it has been my desire for years to make this complete data set available for other researchers in the field, and I wish to thank David Davison at Archaeopress for his patience.

The regions of southern Jordan and Israel were closely culturally and politically connected in the Byzantine and Islamic times, however, it is not that often that archaeological assemblages from both sides of the modern political border are included in one research project. There are, of course, self-explanatory benefits for such research design. Furthermore, the application of archaeological science to ceramic studies in classical archaeology is still astonishingly rare. In my view, there is so much more in ceramics than chronological and stylistic attributes. The craft technologies, the choices made by the potters, the reasons behind those choices, the requests of their customers...there really is a plethora of evidence beyond the typo-chronological characteristics of pottery that we can try and reach via multi-disciplinary ceramic analysis. Even the most ordinary ceramics, cooking pots, plain domestic containers, can contribute to our knowledge of socio-economic structures and developments on communal and inter-communal levels, there is a chance that the pots were not ‘just local production’ without wider economic and cultural implications. Craft traditions

can be surprisingly complex and multi-valued, and I hope this book can offer some insights to these topics.

I wish to express my sincerest gratitude to my PhD advisors Marcos Martín-Torres, Thilo Rehren and Steven A. Rosen, who were always extremely supportive of me and my research. I also want to thank the examiners of my thesis, Alan Walmsley and Piotr Bienkowski for their criticism and advice, which greatly enhanced this work. Special thanks are due to Simon Groom, Kevin Reeves, Philip Connolly and Stuart Laidlaw on technical support in the IoA laboratory, and Margot Stout Whiting and Sarianna Silvonen for the English-editing. I also wish to acknowledge the archaeologists who permitted me to work on their excavation materials, Jaakko Frösén, Zbigniew Fiema, Mika Lavento, S. Thomas Parker, François Villeneuve, Zeidoun al-Muheisen, Steven A. Rosen, Isaac Gilead, Haim Goldfus and Peter Fabian. I wish to express warm thanks to the entire Finnish Jabal Harûn project team for their friendship. Thanks are due also to my research assistants Emmi Karvinen and Taika-Tuuli Kaivo.

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Chapter 1

Introduction

This book examines domestic and utilitarian coarse ware ceramic production and distribution patterns during the transitional, late Byzantine–early Islamic phase and the formative centuries of the Islamic culture, c. 6th–9th centuries CE in southern Transjordan and the Negev.¹ This book builds on ceramic data to examine the continuity, survival mechanisms, innovation and change in the southern economies and their ceramic craft traditions in particular during the transitional period. The geographical focus of this research covers the area of the Byzantine province of *Palaestina Tertia*, the southern areas of modern Israel and Jordan.² The areas were under the same administrative unit in the Byzantine period, but were separated in the early Islamic period administrative structure, the Negev being part of the provincial region of *jund Filastin* and southern Transjordan part of *jund Dimasq* (later *jund al-Sharah*; Aila possibly being part of *Misir*, the area of Egypt; see Haldon 1995: 389, 392, 407; Le Strange 1890: 25–36; Walmsley 2016; Walmsley 2008: 498–499; Walmsley 2007a: 75). Today, southern Transjordan and the Negev are divided by a modern political border, which has also largely segregated the archaeological research of the areas.

After the Muslim expansion into the regions in c. 630 CE, southern Transjordan and the Negev have very sparse references in the historical records (Avni 2014; King 1997: 271; King 1992; Schick 1998: 75; Schick 1994: 133–134; Walmsley 2007a). Recent historical and archaeological research, however, clearly demonstrates socio-cultural continuation and a peaceful transition under Islamic rule. Thus, the traditional view of dramatic decline and recession brought to the area by the Islamic invasion no longer holds (Avni 2014; Bessard 2018; Donner 2018; Donner 1981; Humphreys 2010; Kennedy 1999: 220; Kennet 2005; MacAdam 1994: 91; Magness 2010; Magness 2003; Petersen 2005b; Rosen 2000; Schick 1991; Taxel 2019; Walmsley 2016; Walmsley 2008: 495; Walmsley 2007a: 15–30; Whitcomb 2004; Whitcomb 2001b; among others; see Chapter 2 for historical background). It appears that the new ruling class of the Umayyad period was tolerant towards Christians and Jews living in its territories and the life of these communities continued uninterrupted in the first centuries of Muslim rule. In general, the socio-political

transformation was gradual, but multidimensional: a new ruling class, administration, official language and dominant religion were introduced, and the Muslim expansion also brought new people and customs into the area. It appears, however, that no immediate changes were introduced to the material culture traditions – at least not very radical ones – directly after the socio-political transition. This is particularly apparent in the case of the utilitarian and domestic pottery under scrutiny here. It has been suggested that innovations in the ceramic culture appear only a couple of centuries later, related to the established Islamic rule (Avni 2014; Gawlikowski 1986: 118; Kennedy 1999: 235; Walmsley 2008; Walmsley 1995b; Walmsley 1992b: 257; Watson 1992: 244).

Southern Transjordan and the Negev are located some distance from the new administrative centres of the Umayyad and ‘Abbasid period, situated in Damascus and Baghdad, respectively, which were the main sources of socio-cultural innovations in the Umayyad and ‘Abbasid periods (see Whitcomb 2001b: 505). In this sense, the economic role and importance of the southern areas, and particularly rural contexts, has sometimes been questioned (see, e.g., Avni 2014; Schick 1994, for discussion). The areas, located between Syria and Egypt, and serving as the initial bridgehead for the coming of Islam from the Arabian Peninsula, and the sites included in this project have, however, a strategically crucial position regarding the movement of people, goods and influences in the formative stages of Islamic culture.

This book focuses on ceramic artefacts from well-stratified Byzantine–Islamic deposits recovered at five archaeological sites and unique socio-economic contexts: the monastery and pilgrimage site of Jabal Harûn near Petra, the port of ‘Aqaba/Aila on the Red Sea coast, the village of Khirbet edh-Dharih near the Dead Sea, the town and administrative centre of Elusa and the farmstead of Abu Matar in Beersheva (Figure 1.1; see Chapter 3 for more details; and Bertaud *et al.* 2015; Fiema *et al.* 2016; Fiema and Frösén 2008; Gilead *et al.* 1993; Goldfus and Fabian 2000; Lenoble *et al.* 2001; Parker and Smith 2016; Parker 2013; Villeneuve 2011; Villeneuve 1990 for excavation reports). Khirbet edh-Dharih, Jabal Harûn and ‘Aqaba/Aila/Ayla are located on the Hajj, pilgrimage, route and the main north–south road of southern Transjordan, connecting them, for instance, with Amman, Jerash, Pella and Damascus, and the Red Sea, Fustat, al-Hijaz, the Arabian Peninsula and beyond.

¹ The term ‘late Byzantine’ is used in this book to refer to the pre-Islamic, 6th–7th centuries. Alternative concepts, such as ‘Byzantine’ or ‘late Antiquity’ can be seen as equally ambiguous in terms of chronology. All dates CE unless otherwise noted.

² Henceforth, ‘southern areas’ refers to this geographical region.

The Negev sites, Elusa and Abu Matar in Beersheva, are connected by various routes continuing to Syria, Sinai, Egypt, Jerusalem, Gaza and the Mediterranean coast, the Dead Sea region, and across the Wadi 'Arabah to southern Transjordan, al-Hijaz, and further (Al-Shorman *et al.* 2017; Avni 2014; Avner and Magness 1998: 39, 50; Frenkel 1996: 185–187; Taxel 2019; Walmsley 2009; Walmsley 2000: 300–305; Walmsley 1992a; Whitcomb *et al.* 2016; Whitcomb 1995; Whitcomb 1994). Jabal Harûn and Khirbet edh-Dharih are both associated with ancient holy sites, Jabal Harûn near Petra being one of the main holy sites in the region in the Islamic period. Khirbet edh-Dharih is also located in the vicinity of the macroeconomies of the Dead Sea and Karak areas (see Chapter 3 and e.g., Johns 1994; Tomber 2004; Walmsley 2016; Walmsley 2009; Walmsley 2008; Whitcomb 1989a; Zarins 1989).

This book aims to demonstrate that the ceramic traditions of the southern areas were not marginalised or regional by character (naturally, regional 'micro-traditions' also existed, see Sodini and Villeneuve 1992; Walmsley 2007a: 59; Walmsley and Grey 2001; Watson 1992: 246; for discussion), but instead form an analogy with the ceramic cultures in the regions of northern Jordan and Israel in the early Islamic period. The caravans and the Hajj pilgrims contributed to the movement of people and goods across the regions, provided direct flow of influence from the newly established Islamic centres to the southern regions, and benefitted local market systems and economies in the southern regions.

In the analytical section of this book (Chapter 6), selected ceramic artefacts from the five sites are subjected to geochemical, micro-structural and technological characterisation by energy dispersive X-ray fluorescence spectrometry with energy dispersive spectrometry (ED-XRF) and scanning electron microscopy with energy-dispersive spectrometry (SEM-EDS) (for recent applications of these methods in archeological ceramic studies, see Angeli *et al.* 2019; Bland *et al.* 2017; Beltrame *et al.* 2019; Holmqvist *et al.* 2018; Holmqvist 2017; Santacreu and Cau Ontiveros 2017; VanValkenburgh *et al.* 2017, among others). The aim of the ceramic analyses was to identify geochemical groups indicative of production clusters among the sampled assemblages, and to investigate inter-site and inter-regional patterns of ceramic transport, organisation of production, and adaptation of ceramic traditions according to the new Islamic influences.

In the sampling process, altogether 141 ceramic finds were selected from the five archaeological sites. An attempt was made to include ceramic artefacts representing typical ceramic forms and types in the assemblages (Bishop *et al.* 1982: 278–279; Rands and

Bargielski-Weimer 1992: 34; Tite 1999: 197; see Chapter 6 for the sampling strategy). The sampled ceramics represent coarse wares of domestic and utilitarian nature, kitchen utensils and food and liquid containers. Different container forms, jars and amphorae, were sampled to examine their possible transportation and distribution networks. Additionally, examples of more exotic ceramic artefacts, macroscopically identified as possible imports, were sampled from each site. These examples included atypical container finds in the assemblages and glazed vessels. In addition, some architectural ceramics, and ceramic wasters from the Elusa workshop were sampled. The sampling was focused on loci associated with the 6th–9th centuries, the majority of the samples dating to the 8th–9th centuries.

There are no known ceramic production centres in southern Transjordan and the Negev that operated in the post-Byzantine period (excluding the 'Aqaba kilns, see Melkawi *et al.* 1994; Whitcomb 2001a). The currently known ceramic workshops in the Byzantine period are also rare in the southern areas, and the identified workshops seem not to have been operating after the 6th century (see, for example, 'Amr and al-Momani 1999). Further north, in Bet Shean and Jerash, ceramic workshops were established in the city centres in the early Islamic period, marking new industrial development and capital investments in the former Byzantine centres (Bar-Nathan and Atrash 2011; Bar-Nathan and Mazor 1993; Duerden and Watson 1988; Foote 2000: 33–34; Schaefer 1986; Walmsley 1992b: 256; Watson 1989). Similar evidence, however, is currently lacking from the south, and it is to this picture that this book aims to contribute.

The ceramic data presented in this book demonstrate that the communities mainly utilised local ceramic supplies. There were also regional and inter-regional exchange networks of ceramic products. The results show that mundane cooking and utilitarian pottery can offer valuable economic evidence of past societies. The cooking pots were not 'just local products', but also inter-regionally exchanged objects. Pots probably served as containers for other products or personal utensils of travelers, however, it appears that good-quality cooking pots were also exchanged as primary products. Economic activities of the communities and the characteristics of the locally available clay resources also affected the production profile and created specialised manufacture. Calcareous clays were used to make durable amphorae, whereas cooking pots were acquired from regions where non-calcareous clays were available. Aqaba-amphorae were transported to Jabal Harûn near Petra, Elusa in the Negev, and Khirbet edh-Dharih by the Dead Sea, thus for nearly 200 kilometers along the caravan routes. In turn, Petra

cooking pots were transported in vast quantities to Aqaba. Amphorae-borne products were also carried between the Negev and southern Transjordan sites. The Negev sites Elusa and Abu Matar acquired cooking pots from the same regional supplier, unrelated to Elusa's industrial amphora production.

The ceramic data speak for wealthy rural economies in the southern regions during the transitional and early Islamic periods. The local ceramic traditions demonstrate a high-level of cross-regional assimilation and interaction, which underlines the importance of archaeological data and material comparison across the modern political border dividing these regions today. The potters adapted their practices and added new stylistic characteristics and vessel forms, possibly relating to changed dietary customs, to the local ceramic repertoires. For instance, paint-decorated, later 8th–9th century ceramics arrived to the southern regions as northern imports (e.g. from Jerash), but were also found in the 'local' Khirbet edh-Dharih and Jabal Harûn geochemical groups, providing evidence that this Islamic ceramic tradition was imitated by the southern potters. Imported Islamic cream wares and glazed wares, possibly of Baghdad origin, are also present in the assemblages.

Apart from the new forms and decorative patterns, only minimal changes took place in the operational chains of the potters and the ceramic recipes over these centuries and political alterations. The strong pattern of continuity of the material culture traditions into the early Islamic period has led to one of the key problems of current research: early Islamic material remains have been misinterpreted as Byzantine, or 'Abbasid period evidence as Umayyad, resulting in 'false gaps' in the settlement history of the regions, particularly in the southern areas. Misdated ceramic evidence has led to problematic interpretations of archaeological contexts and entire sites, ultimately affecting the picture of the settlement patterns of wider regions (Avni 2014; Avner and Magness 1998: 39; Falkner 1993–94; Haiman 1995a: 39–41, 45; Johns 1994: 8–9; Magness 2003: 1–2; Magness 1997: 485; Walmsley 2016; Walmsley 2008; Walmsley 2007a: 55).

The historical background, focusing on aspects affecting local industries and exchange networks, is discussed in Chapter 2. The archaeological sites are presented in further detail in Chapter 3. In Chapter 4, the key concepts of this book, ceramic traditions, technologies, style, provenance and exchange, and aspects such as technological variation, change and operational chains of the potters are reviewed. Chapter 5 presents the ceramic catalogue, typo-chronological categorisation of the ceramic samples, given with a comparative typological discussion including published ceramics from other relevant sites. The

catalogue aims to view shared stylistic traits between the ceramics from the sampled sites and those from a broader regional context, and, where possible, suggest refined chronologies. The reader should follow the catalogue using the illustrations of Appendix I, which includes drawings and photographs of each ceramic find sampled for analysis.

Chapter 6 presents the compositional and technological ceramic data obtained from the ED-XRF and SEM-EDS analysis, with the aim to geochemically and mineralogically 'fingerprint' the sampled pottery, and to distinguish compositional patterns and groups in the sampled assemblages from each site. An 'integrated' analytical approach will be employed: bulk chemical compositional categorisation of the ceramics based on their major, minor and trace elemental patterns by ED-XRF analysis will be supplemented by microstructural and mineralogical examination by scanning electron microscopy (SEM-EDS) (for integrated approach, see Arnold 1981: 33–34; Beltrame *et al.* 2019; Blackman 1992: 113; Buxeda i Garrigós *et al.* 2003: 14–15; Carvajal López *et al.* 2018; Day *et al.* 1999; Holmqvist *et al.* 2018; Montana 2017: 89–90; Tite *et al.* 2018; Tite 1999: 201; Stoltman *et al.* 1992; Tschegg *et al.* 2009).

In the ceramic analysis, ceramic provenance and local ceramic production at the environs of each site will be investigated by the so-called 'reference group' strategy, in which the largest compositional group in each assemblage can be considered local to the site in question (for reference group strategy, see, e.g., Baklouti *et al.* 2014; Bishop *et al.* 1982: 301; Montana *et al.*, 2018). The assignments of the samples to compositional groupings are based on statistical processing, cluster and principal component analysis of the bulk chemical ED-XRF results, supplemented by microstructural analytical results from the SEM analysis.

Furthermore, patterns of material exchange, e.g., shared ceramic production or ceramic trade between the sites, and distribution of ceramic products associated with a particular workshop will be examined by comparative data analysis. SEM-EDS was also used to examine the ceramic manufacturing techniques, surface treatments and other technological factors such as firing temperature (see, e.g., Beltrame *et al.* 2019; Bland *et al.* 2017, for similar approach). These analytical data were then investigated in comparison with the macroscopic examination of the ceramics and in light of the typo-chronological information available. In Chapter 7, the compositional groups and technological ceramic data are discussed particularly in correlation with the archaeological, typo-chronological evidence. Finally, Chapter 8 presents the conclusions of this research project and discusses the results in wider socio-economic and historical contexts.

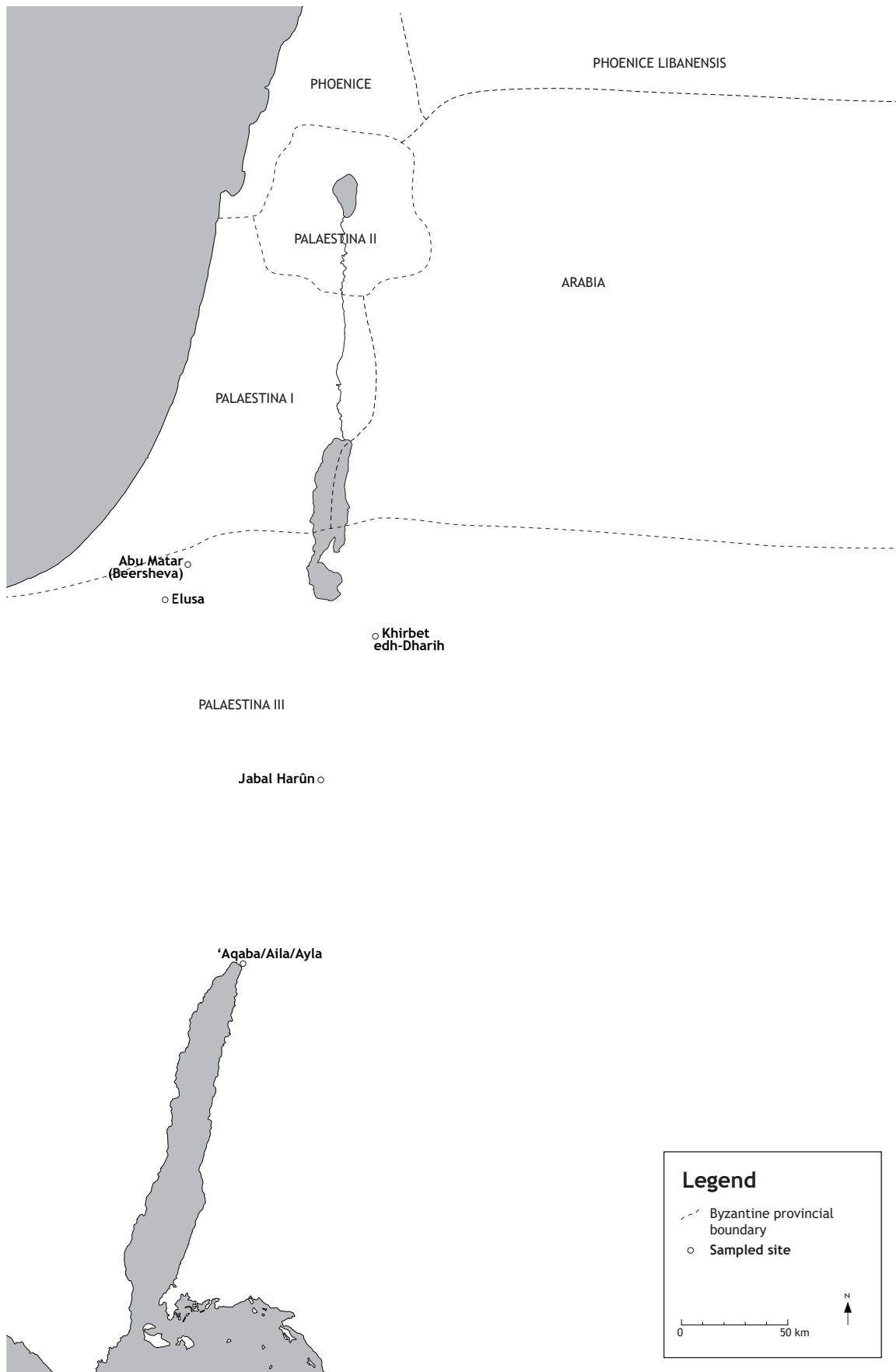


Figure 1.1: Locations of the archaeological sites included in this study. The Byzantine borders are approximate. For an illustration of the Islamic provincial divisions, see, e.g., Walmsley 2007a: 75, Fig. 7.

Ceramic analysis can serve as a starting point for further discussion on economic systems and relations. Evidence of ceramic exchange on local, regional or inter-regional levels can attest to shared economic structures, trade, transport and communication between different communities and locations. Domestic pottery in particular is often considered of limited economic value, although there is evidence of regional and inter-regional exchange systems of cooking vessels (see Adan-Bayewitz *et al.* 2009; Adan-Bayewitz 1993 for evidence from Roman Galilee), and cooking pot manufacture frequently required adaptations to specific demands, such as thermal shock resistance

and cooking habits (see, *i.a.*, Sillar 2000; Sillar and Tite 2000; Tite and Kilikoglou 2002). In particular, ceramic exchange can link to the existence of rural markets, places where farmers, pastoralists and craftsmen exchanged their products, such as pottery, metal and other common goods, although it is difficult to find evidence for open-air markets by means of archaeology (Graf 2001: 230–232; Laiou and Morrison 2007: 37, 40, 81–82; see, e.g., Binggeli 2006–7; al-Muqaddasi 1994; Ibn Battuta 1956; for historical evidence). Comparative analytical ceramic studies can aid the study of these matters by offering material evidence of links and contacts between communities.