



BRILL



brill.com/jesh

Archaeological Perspectives on Contacts between Cairo and Eastern Ethiopia in the 12th to 15th Centuries

Timothy Insoll | ORCID: 0000-0002-3072-3088

Institute of Arab and Islamic Studies, University of Exeter, Exeter, UK

T.Insoll@Exeter.ac.uk

Abstract

A sustained relationship between Cairo, Egypt more broadly, and eastern Ethiopia appears to have existed, particularly in the Ayyubid and Mamluk periods. In the general absence of historical sources, it is archaeology that provides primary insight into how and why this relationship was maintained, particularly over the twelfth to thirteenth centuries. This is considered through archaeological data from the trading entrepot of Harlaa with particular reference to coins, glass wares, ceramics, bread/textile stamps, marine shell, and jewellery moulds. The inferences that can be drawn from these regarding trade routes and markets are assessed. Finally, the Egyptian role in the decline of Harlaa and its replacement by Harar in the late fifteenth century are considered.

Keywords

Egypt – Ethiopia – trade – medieval – archaeology

Introduction

The archaeological site of Harlaa provides significant information on contacts between eastern Ethiopia and other regions including India, Yemen, and surrounding areas in the Horn of Africa in the medieval period.¹ Of particular

¹ See, for example, T. Insoll et al., “Material Cosmopolitanism: The Entrepot of Harlaa as Islamic Gateway to Eastern Ethiopia.” *Antiquity* 95 (2021): 487–507; J. Gaastra and T. Insoll,

importance, and the subject of discussion in this paper is material indicating a sustained relationship that appears to have existed between Cairo—and Egypt more broadly—and eastern Ethiopia, particularly in the Ayyubid (c.1171–1260) and Mamluk (1250–1517) periods. In the general absence of historical sources, it is archaeology that provides primary insight into how and why this relationship was maintained, especially from the twelfth to thirteenth centuries.²

The archaeological data discussed was retrieved from excavations and surface collections, and by local farmers in the abandoned medieval settlement of Harlaa, located on the Dire Dawa to Dengego road approximately 15 km south-east of Dire Dawa and 40 km north-west of Harar (Figure 1).³ Harlaa was a major centre of manufacturing and commerce, and a location for Islamisation. It was in a strategic position mid-way between the Somali Plateau and the lowlands of the Rift Valley and from this location routes were directed further

-
- “Animal Economies and Islamic Conversion in Eastern Ethiopia: Zooarchaeological Analyses from Harlaa, Harar and Ganda Harlaa.” *JAA* 18 (2020): 1–28; A. Pryor, T. Insoll and L. Evis, “Laser Ablation Strontium Isotope Analysis of Human Remains from Harlaa and Sofi, Eastern Ethiopia, and the Implications for Islamisation and Mobility.” *STAR* 6 (2020): 113–136; N. Khalaf and T. Insoll, “Monitoring Islamic Archaeological Landscapes in Ethiopia using Open Source Satellite Imagery.” *JFA* 44 (2019): 401–419.; N. Tait and T. Insoll, “Local Ceramics from the Islamic Trade Centre of Harlaa, Eastern Ethiopia: Markers of Chronology and Contacts.” *AAR* 38 (2021): 419–442; T. Insoll, “The Islamic Archaeology of Ethiopia and the Horn of Africa.” In *The Oxford Handbook of Islamic Archaeology*, ed. B. Walker, T. Insoll and C. Fenwick (Oxford: Oxford University Press, 2020): 417–445; T. Insoll, “Marine Shell Working at Harlaa, Ethiopia, and the implications for Red Sea Trade.” *JAA* 19 (2021): 1–24.
- 2 The Cairo Geniza archive, for example, though providing significant data on many aspects of industry and commerce in Cairo and connections with trading partners in North Africa and the Mediterranean, the Red Sea and India [e.g., S.D. Goitein, “The Main Industries of the Mediterranean Area as Reflected in the Records of the Cairo Geniza.” *JSEHO* 4 (1961): 168–197; S.D. Goitein, “Portrait of a Medieval India Trader: Three Letters from the Cairo Genizah.” *BSOAS* 50 (1987): 449–464; S.D. Goitein and M. Friedman, *India Traders of the Middle Ages: Documents from the Cairo Geniza: India Book*. (Leiden: Brill, 2008); E. Lambourn, *Abraham’s Luggage*. (Cambridge: Cambridge University Press, 2018)], is of less use for exploring the relationship between Cairo and eastern Ethiopia, beyond the instances referred to below, and the general reference to ivory and ivory goods, hides, and leather goods being imported from East Africa, see Goitein and Friedman, *India Traders of the Middle Ages*: 413.
 - 3 Additional artifacts referred to were found by villagers during farming activities in and around the contemporary Oromo village of Ganda Biyo which was established over the medieval settlement of Harlaa at some point after the late sixteenth century. The artifacts and provenance of these objects found by villagers were recorded as part of an inventory of all archaeological material in Ganda Biyo and to obtain objects for display in a community-run site museum that has been established by the *Becoming Muslim* project in partnership with the local authorities. It is only in Ganda Biyo (Harlaa) that this material was recorded and artifacts such as coins, glass, beads etc. were absent from surrounding villages such as Ganda Oda (excluding two Arabic inscriptions) and Ganda Ejeru.



FIGURE 1 The location of the sites discussed

inland, and to ports on the Red Sea such as Zayla', and onward into the western Indian Ocean. Merchants in Harlaa participated in different scales of trade; local, regional, and longer distance, with Cairo a significant hub for the latter. Archaeology indicates some of the exports and imports involved, such as glazed ceramics and more specialized types of unglazed ceramics, glass wares, and coins imported from Egypt, with worked marine shell and possibly

textiles exported to Egypt. These were likely supplemented with other goods and commodities not identifiable in the archaeological record, slaves notably, or commodities as yet undetermined, such as the minerals obtained from a large mining complex, possibly contemporary with, and located opposite Harlaa. The limitations of the evidence are apparent but the gap in historical understanding of Islamic history in Ethiopia and the Horn of Africa, and the relationship between Cairo and Northeast Africa are beginning to be filled.

1 Harlaa

Harlaa was a large urban centre, covering approximately 900 m north to south by 500 m east to west, partly walled, and with cemeteries outside the urban area on the northern, eastern, and western sides (Figure 2). Harlaa had at least three mosques and a central settlement area, with manufacturing concentrated at various locations. Prior to the start of the current excavations in 2015 archaeological research at Harlaa had consisted of limited survey and surface collections.⁴ Subsequently, over six field seasons excavations have been undertaken in a mosque (HAR-A), workshop complex (HAR-B), cemeteries (HAR-C and HAR-D), a house with associated industrial/kitchen facility (HAR-E), an extensive building complex, probably with a civic or administrative function (HAR-F), and a cluster of stone houses (HAR-G) (Figures 2 and 3).⁵ Twenty-seven AMS dates were obtained with a chronology encompassing the sixth and fifteenth centuries AD (Table 1).⁶

The name 'Harlaa' is derived from the appellation 'Harla', an ethonym of uncertain provenance given to funerary monuments and ruined stone-built towns in the region, whose origins are ascribed by the current Oromo inhabitants to a legendary ancient people of giant stature.⁷ According to these traditions, the Harla are believed to have occupied the region before the Oromo

4 See D.A. Patassini, "Museum for Haräla." *Iuav* 41 (2006): 6–8; A. Chekroun et al., "Les Harla: Archéologie et mémoire des géants d'Éthiopie." In *Espaces musulmans de la Corne de l'Afrique au Moyen Âge*, ed. F.-X. Fauvelle-Aymar and B. Hirsch. (Paris: De Boccard, 2011): 75–102.

5 See footnote 1 for references on the Harlaa excavations. The aim of the excavation of HAR-G was to record architecture; hence, unlike the other units, the deposits were not sieved.

6 All dates are AD or AH/AD unless otherwise specified. For further details of the chronology and stratigraphy, see Insoll et al., "Material Cosmopolitanism". An excavation monograph is also in preparation, T. Insoll ed., *Becoming Muslim: Archaeology in Harlaa and Harar, Eastern Ethiopia*. Leiden: Brill.

7 C. Tilahun, "Traces of Islamic material culture in northeastern Shoa." *JES* 23 (1990): 304; Chekroun et al., "Les Harla": 79.

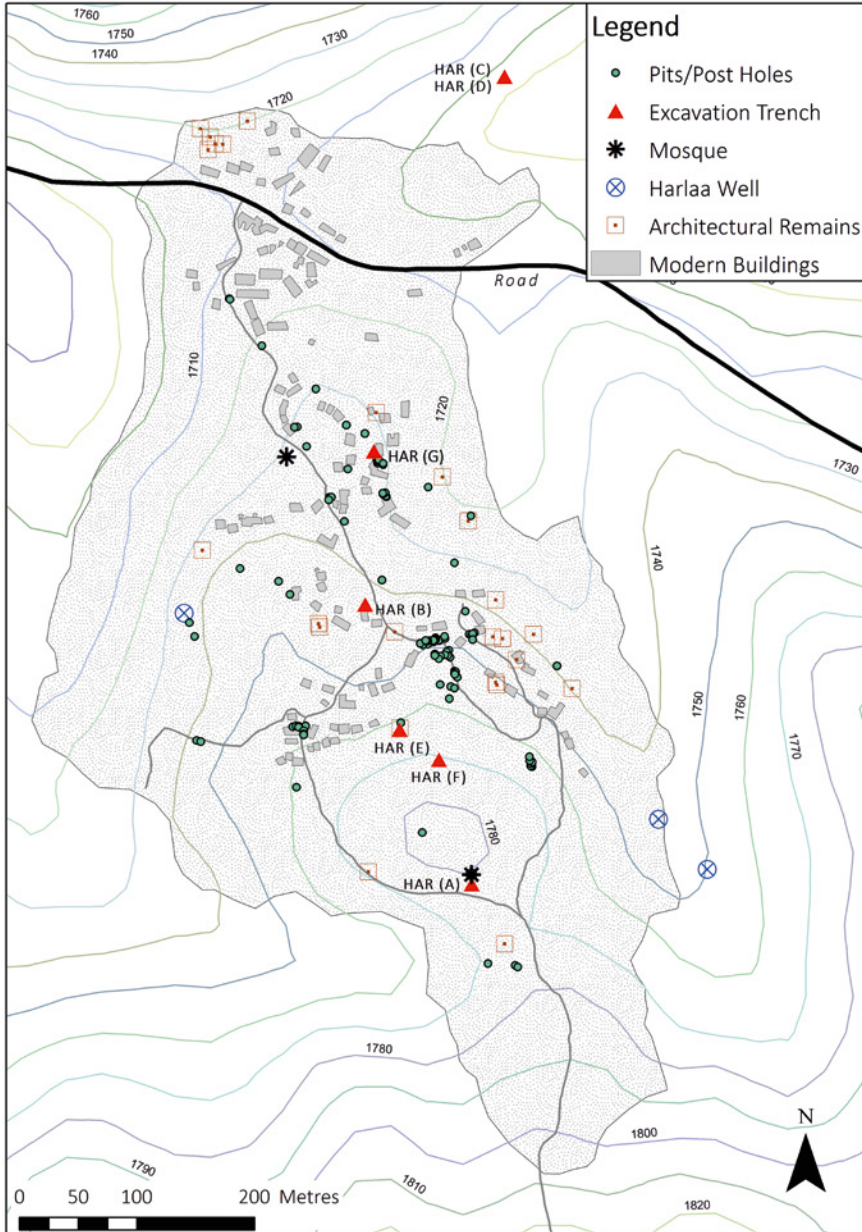


FIGURE 2 Plan of Harlaa
PREPARED BY N. KHALAF



FIGURE 3 Examples of sites excavated at Harlaa. 1. A mosque (HAR-A). 2. A workshop complex (HAR-B). 3. A civic or administrative building (HAR-F). 4. Houses (HAR-G)

PHOTOS BY THE AUTHOR

TABLE 1 Cumulative AMS radiocarbon dates from the Harlaa excavations

Context number	Laboratory number	Date (2 sigma calibration)
HAR15-A-10	Beta-419525 ¹	850+/-30 BP; Cal AD 1155-1255
HAR15-B-6	Beta-419526 ¹	840+/-30 BP; Cal AD 1155-1260
HAR15-B-10	Beta-419527 ¹	820+/-30 BP; Cal AD 1165-1265
HAR16-B-6	Beta-451581 ¹	610+/-30 BP; Cal AD 1290 to 1410
HAR16-B-7	Beta-451582 ¹	730+/-30 BP; Cal AD 1255 to 1290
HAR16-B-9	Beta-451583 ¹	800+/-30 BP; Cal AD 1190 to 1275
HAR17-B-6—Hearth	Beta-461299 ¹	760+/-30 BP; Cal AD 1220 to 1285
HAR17-B-10	Beta-461300 ¹	900+/-30 BP; Cal AD 1035 to 1215
HAR17-B-15	Beta-461301 ¹	1500+/-30 BP; Cal AD 535 to 620
HAR17-B-24—Hearth	Beta-461302 ¹	1150+/-30 BP; Cal AD 775 to 975
HAR17-B-24—Under Wall	Beta-461303 ¹	980+/-30 BP; Cal AD 1015 to 1050 and Cal AD 1080 to 1150

TABLE 1 Cumulative AMS radiocarbon dates from the Harlaa excavations (*cont.*)

Context number	Laboratory number	Date (2 sigma calibration)
HAR18-B-6	Beta-490904 ¹	710+/-30 BP; Cal AD 1256 to 1306
HAR18-B-13	Beta-490905 ¹	850+/-30 BP; Cal AD 1152 to 1260
HAR18-B-24	Beta-490906 ¹	1150+/-30 BP; Cal AD 776 to 971
HAR18-B-26	Beta-490907 ¹	1240+/-30 BP; Cal AD 684 to 780
HAR17-C Burial 1—Upper	Beta-461292 ²	520+/-30 BP; Cal AD 1330 to 1340 and Cal AD 1395 to 1440
HAR17-C Burial 2—Lower	Beta-461293 ²	760+/-30 BP; Cal AD 1220 to 1285
HAR17-D-1	Beta-461294 ²	820+/-30 BP; Cal AD 1165 to 1265
HAR18-E-8	Beta-490908 ¹	900+/-30 BP; Cal AD 1039 to 1210
HAR18-E-9	Beta-490909 ¹	840+/-30 BP; Cal AD 1154 to 1264
HAR19-E-30	Beta-522144 ¹	920+/-30 BP; Cal AD 1028 to 1184
HAR19-F-6	Beta-522142 ¹	810+/-30 BP; Cal AD 1169 to 1270
HAR19-F—(Cut Section) Below Plaster Floor (2)	Beta-522143 ¹	820+/-30 BP; Cal AD 1165 to 1265
Harlaa Valley Section 1— 10 cm	Beta-461295 ¹	980+/-30 BP; Cal AD 1015 to 1050 and Cal AD 1080 to 1150
Harlaa Valley Section 1— 110 cm	Beta-461296 ¹	1120+/-30 BP; Cal AD 780 to 785 and Cal AD 880 to 990
Harlaa Valley Section 2— 20 cm	Beta-461297 ¹	820+/-30 BP; Cal AD 1165 to 1265
Harlaa Valley Section 2— 90 cm	Beta-461298 ¹	900+/-30 BP; Cal AD 1035 to 1215

1 Dates from charcoal.

2 Dates from bone collagen. Calibration by BetaCal 3.21. HPD method: INTCAL13.

arrived, beginning in the mid-sixteenth century.⁸ The prosperity evident was generated through trade and manufacturing, the latter including copper and iron metalworking, agate bead manufacture, marine shell processing, and possibly glass bead manufacture. Contacts, direct and indirect, with the Red Sea, western Indian Ocean, China, South and Central Asia, Egypt, the Ethiopian

8 H. Joussaume and R. Joussaume, "Anciennes villes dans le Tchercher". *Annales d'Éthiopie* 9 (1972): 22.

Interior, the East African coast, and the Arabian/Persian Gulf were indicated by material found, such as glass beads and vessel fragments, agate and rock crystal beads, soft stone vessel fragments, glazed ceramics, and coins. The existence of a Muslim community at Harlaa by the mid-twelfth century was attested by C14 dates from burials (HAR-C and HAR-D) and a mosque (HAR-A) (Table 1).⁹ Additional correlation was provided by dated Arabic inscriptions.¹⁰

'Harlaa' seems not only to be a legendary name, but additionally a reference to the historical identity of the polity that controlled the city and surrounding region. This was the Hārālā sultanate, which had a tributary status to the much larger sultanate of Ifat (late thirteenth-early fifteenth centuries).¹¹ The city itself was most likely Hubät or Hobat, the capital of Hārālā.¹² Survey of an alternative location, the village of Hubeta on the highlands six km to the southeast of Harlaa, found no material of significance, only a few unglazed potsherds of types not present at Harlaa, suggesting chronological differences, and what may have been the remains of a stone burial mound or *Daga Tuli*.¹³ The Harlaa and Hubät/Hobat connection was further strengthened by the identification

9 Insoll et al., "Material Cosmopolitanism".

10 Two dated Arabic inscriptions have been reported from Harlaa. One with a date of 657 AH (1259–1260 AD) by F. Bauden, "Inscriptions arabes d'Éthiopie." *Annales Islamologiques* 45 (2011): 296, and another with the partial date of 44x AH by M. Schneider, "Stèles funéraires de la région de Harar et Dahlak (Éthiopie)." *REI* 37 (1969): 340. The latter was calculated as 1048–1057 AD by Chekroun et al., "Les Harla": 79.

11 P. Stenhouse, *Futūḥ al-Ḥabaša. The Conquest of Abyssinia (16th Century)*. (Hollywood: Tsehai Publishers & Distributors, 2003): 69.

12 Previously, Hubät/Hobat, or Dakar the capital of the Adal Sultanate before Harar, were suggested as possible candidates for the historical identity of Harlaa, but the cautionary point was added that Harlaa remained "for the present, linked only with the legendary ethnonym of 'Harla', rather than rooted in historical identity", Insoll, First Footsteps 210. The identification with Hubät/Hobat was made convincing by Hussein, pers. comm. 11/3/20, based on his analysis of the Somali word *hoobat* and the Arabic *hubuut*, both meaning to descend a slope from an upland point, i.e., where Harlaa is, at the mid-point between the highland and the lowland, at a height of 1700 m ASL.

13 Eleven potsherds were collected, and the possible burial mound recorded in Hubeta at location co-ordinates N09.49367° E041.99070°. Both the ceramic decoration and vessel forms differ to those from Harlaa with burnishing absent, and the presence of a rim sherd from a large flat plate and the use of appliqué decoration on another sherd further indicating differences in the assemblages, N. Tait, *Archaeological Ceramics as Chronological Markers on Islamic Sites in Eastern Ethiopia*. (Unpublished PhD dissertation, University of Exeter, 2020): 332–333. This is suggestive that Hubeta was occupied after Harlaa was abandoned.

of the Hubeta pass running south from Harlaa up to the highlands, a possible major communication route.¹⁴

Historical sources on the medieval sultanates of eastern Ethiopia, and Ethiopia generally, are sparse.¹⁵ This absence limits historical inferences about Harlaa. There is no reference to Hārlā or Hubāt/Hobat in al-'Umarī's *Masālik al-abṣār*, written c.1340, for example, or in the late thirteenth-century *Nūr al-Ma'ārif*, a manuscript archive describing the resources of the Rasulid Sultanate (c.1229–1454), which also considers Ethiopia.¹⁶ Hobat is however mentioned in an Arabic manuscript that was recorded by Cerulli in Harar.¹⁷ This mentions that the Hobat region was raided by Sultan Walasma' of Ifat after the fall of Shoa in late 1288.¹⁸ Later in the first half of the sixteenth century, Hubat (Hobat) is mentioned several times in the *Futūḥ al-ḥabasha*, the narrative of the jihads of Aḥmad Grāñ against the Christian kingdom of Ethiopia.¹⁹ Hārlā is also mentioned, and an interesting distinction exists, in that all references to Hārlā, except one, are to a tribe or people, whereas all the references to Hubat, again with just one exception, are to a geographical location.²⁰

The historical identification of Harlaa with Hobat may become clearer following further research. Yet it is evident that the linear succession of polities

-
- 14 The pass and its potential relationship with Harlaa were identified by Abubaker, pers. comm. 17/10/20. It is feasible, pending survey of its accessibility, that it was a significant route used to access the Somali Plateau and the Chercher Mountains from Harlaa.
- 15 E.g., G. Vantini, *Oriental Sources Concerning Nubia*. (Warsaw: Polish Academy of Sciences, 1975); M. Kropp, *La Corne orientale de l'Afrique chez les géographes arabes. BÉA de l'INALCO* 9 (1992): 161–197; F.-X. Fauvelle, B. Hirsch and A. Chekroun, “Le Sultanat d'Awfāt, sa capitale et la nécropole des Walasma'. Quinze années d'enquêtes archéologiques et historiques sur l'Islam médiéval éthiopien.” *Annales Islamologiques* 51 (2017): 239–295; E. Vallet, *L'Arabie marchande. État et commerce sous les sultans rasūlides du Yémen (626–858/1229–1454)*. Ibid. (Paris: Publications de la Sorbonne, 2010); E. Cerulli, *Islam. Yesterday and Today* (Waber, E.M. trans.). (Rome: Istituto per l'Oriente, 2013); T. Baba, “Notes on migration between Yemen and Northeast Africa during the 13–15th Centuries.” *Chroniques du Manuscrit au Yémen Special Issue* 1 (2017–2018): 69–86.
- 16 al-'Omari, *Masālik el Abṣār fi Mamālik el Amṣar*. 1. L'Afrique, Moins l'Égypte. Gaudefroy-Demombynes (trans.). (Paris: P. Geuthner, 1927); Vallet, *L'Arabie*: 32.
- 17 Cerulli, *Islam*: 232.
- 18 Ibid.: 265.
- 19 This was written about 1557 by the Yemeni, Shihāb al-Dīn, and chronicles events up to 1535; H. Ahmed, “The historiography of Islam in Ethiopia.” *JIS* 3 (1992): 23; Stenhouse, *Futūḥ*: xx.
- 20 Hubat is described five times as a country, in one instance with reference to in geographical features, and another in reference to the Governor of Hubat, i.e., again a place. The exception is a single mention of the people of Hubat, cf. Stenhouse, *Futūḥ* 8: 10, 11, 13, 14, 15, 124, 125. In contrast, the tribe, tribes, or people of Hārlā are referred to six times, and only once is the region of Hārlā referred to, cf. Stenhouse, *Futūḥ* 69, 76, 82, 85, 104, 122, 123.

proposed, based on the limited available historical sources, a narrative where Shoa emerges in 896, and gives way to Ifat in 1280–1285 or 1295 depending upon interpreter, and in turn is succeeded by Adal in 1420, masks the reality of their overlapping complexity.²¹ Equally they might be defined by an entity that was in fact in control only for part of the period their name defines historically. This means that, in reality, the conventional conceptualization of three chronologically distinct neatly sequential polities—Shoa, Ifat and Adal—may misrepresent the reality. This is certainly suggested by the existence of an entity such as Harlaa/Hobat which flourished through all three sultanates, at least from the eleventh to fifteenth centuries, but has remained, until now, historically undefined. This would not be unique to medieval Islamic Ethiopia. A similar historical ‘messiness’ exists in the medieval Western Sahel where the polities of Ghana, Mali, and Songhai are not as clearly defined as the linear historical narrative implies. At Gao, the capital of the Songhai empire, for example, archaeology has yet to identify occupation linked with the fifteenth and sixteenth centuries, despite extensive excavations.²²

2 The Archaeology of Harlaa—Cairo/Egyptian Connections

The insight into potential connections between Harlaa and Cairo is only partial and dictated by archaeological preservation. The evidence is composed of imports—coins, ceramics, glass wares—and exports, notably worked marine shell, and possibly textiles. It is likely that there were furthermore other, less tangible exports from Harlaa, particularly slaves to supply the domestic market in the Near and Middle East, including Egypt.²³ A trade in Abyssinian slaves was referred to, for example, by al-Muqaddasī in the late tenth century, with

21 For the alternative dates for Ifat cf. G.W.B. Huntingford, “Arabic inscriptions in southern Ethiopia.” *Antiquity* 29 (1955): 230; L. Kapteijns, “Ethiopia and the Horn of Africa.” In *The History of Islam in Africa*, ed. N. Levtzion and R.L. Pouwels. (Oxford: James Currey Ltd, 2000): 228. For a linear historical narrative of these sultanates, cf. Kapteijns, “Ethiopia”: 228–229; Insoll, “Islamic Archaeology of Ethiopia”: 422.

22 T. Insoll, *Islam, Archaeology and History. Gao Region (Mali) ca. AD 900–1250*. (BAR S647. Oxford: BAR, 1996): 35–36; T. Insoll, *Urbanism, archaeology and trade. Further observations on the Gao region (Mali). The 1996 fieldseason results*. BAR S829. (Oxford: John and Erica Hedges, 2000): 11–18; M. Cissé, “Chapitre 3. Fouilles archéologiques à Gao Sanèye.” In *Sur les traces des grands empires*, ed. S. Takezawa and M. Cissé. (Paris: L’Harmattan, 2017): 126; S. Takezawa, M. Cissé and M. Dembélé, “Chapitre 4. Fouilles archéologiques à Gao ancien.” In *Sur les traces des grands empires*, ed. S. Takezawa and M. Cissé. (Paris: L’Harmattan, 2017): 178.

23 T. Tamrat, *Church and State in Ethiopia 1270–1527*. (Oxford: Clarendon Press, 1972): 86.

reference to their export to Aden.²⁴ According to Ibn Sa'īd (1214–1274) Hadya in southern Ethiopia was particularly connected with the slave trade and from there slaves were sent to Zayla', which was also the main Red Sea port connected to Harlaa.²⁵ Similarly, in the *Nūr al-Ma'ārif* slaves—including eunuchs—are identified as one of the imports into Rasulid Yemen from Ethiopia, others being mules, ivory, gold, tanned hides, and an unidentified dye substance.²⁶ The Aden port records indicate an increase in Ethiopian slaves (male, female, and eunuchs) being imported between the thirteenth and fifteenth centuries.²⁷ Later, Duarte Barbosa, who was in the service of the Portuguese Government in India between c.1500 to 1516/17, also described Ethiopian slaves being brought from the Red Sea ports to various places such as Khambhat in Gujarat.²⁸

2.1 Coins

Coins are a tangible indicator of contacts with Cairo. Twenty-seven coins with surviving inscriptions and eleven coin clippings have been recorded at Harlaa. Twenty-four of the coins and the coin clippings were found by villagers, and three coins were recovered from the excavation of HAR-E (Table 2). Three of the coins were unidentifiable. The single Byzantine and Fatimid coins are considered below. Eight coins were Ayyubid in date (six copper fals, two silver dirhams), and three fals were possibly Ayyubid in date. Of the firmly identified Ayyubid coins, four fals were minted in Cairo (Figure 4), and two other fals at an unspecified Egyptian mint. Two of four Mamluk coins, both dirhams, were also struck in Cairo (Figure 4), the other two dirhams being struck in Damascus. The recovery of three fals during the excavation of a house (HAR-E), comprising two of the Ayyubid Cairo issues, and a third probable Ayyubid issue from an unknown mint, suggests they may have been used as currency in Harlaa, but this remains unproven.²⁹ It is also conceivable that copper coins were being melted down for re-use. This, however, may have been

24 B. Collins, *Al-Muqaddasī. The Best Divisions for Knowledge of the Regions*. (Reading: Garnet Publishing, 2001): 83.

25 Tamrat, *Church*: 86–87.

26 Vallet, *L'Arabie*: 405, 416.

27 Baba, "Notes": 79.

28 V.A. Janaki, *The Commerce of Cambay from the Earliest Period to the Nineteenth Century*. (Baroda: Dept. of Geography, Maharaja Sayajirao University of Baroda, 1980): 31; M.L. Dames, *The Book of Duarte Barbosa*. (London: Hakluyt Society, 1918): 55–56.

29 The *Nūr al-ma'ārif* refers to the use of non-precious metal coins, as well as silver coins, silver, and barter, all being used in transactions in Ethiopia, Vallet, *L'Arabie*: 406.

TABLE 2 Imported coins from Harlaa

Context number	Identification	Reign and mint	Date
1. Harlaa VF-2015.1	Ayyubid/early Mamluk AE fals	Possibly an issue of al-Salih Ayyub (1240–1249) from one of the Syrian mints.	Unidentified
2. Harlaa VF-2015.2	Ayyubid AE fals	Al-Kāmil Muhammad (615–35/1218–38), Al-Qāhira (Cairo)	Undated but from 623–635/1226–38
3. Harlaa VF-2015.3	Mamluk AR dirham	Qala'un (1279–1290), Al-Qāhira	Without date
4. Harlaa VF-2015.4	Ilkhanid AR 2 dirham	Sultan Abu Sa'id	Year 33 of the Khani era, 734/1333–34
5. Harlaa VF-2015.5	Ten Ayyubid and early Mamluk AR dirham clippings	Al-Kāmil Muhammad. Al-Salih Ayyub. Dimashq visible on two coins.	Unidentified
6. Harlaa VF-2015.6	Chinese Cash	Tang dynasty. Has inscription "Kaiyuan tonbao" on it, meaning, "circulating treasure of the new beginning".	Issued from 621 AD
7. Harlaa VF-2017.1	Possibly Ayyubid, AE fals	Possibly either al-'Adil I or al-Kāmil Muhammad. Al-Qāhira	Unidentified
8. Harlaa VF-2017.2	Byzantine AE trachy	Emperor Theodore Komnenos Doukas (1224–1230), Thessalonike	1224 (no later than 1226)
9. Harlaa VF-2017.3	Mamluk AR dirham	Baybars I, mint not shown but of Cairo type	Not shown, likely early 660s/1260s
10. Harlaa VF-2017.4	Unidentified		
11. Harlaa VF-2015.5	Chinese Cash	Huang Song <i>tong bao</i> . Northern Song Dynasty (960–1127). Emperor Ren Zong (1022–1063)	1032 to 1054
12. Harlaa VF-2018.1	Ayyubid AE fals	Al-Kāmil Muhammad, Al-Qāhira	Undated but from 623–635/1226–38

TABLE 2 Imported coins from Harlaa (*cont.*)

Context number	Identification	Reign and mint	Date
13. Harlaa VF-2018.2	Fatimid (or imitation thereof) AE fals	Possibly al-Mustansir (1036–1094), possibly a Syrian or Palestinian mint	Unidentified
14. Harlaa VF-2020.1	Mamluk AR dirham	Qala'un (1279–1290), Dimashq (Damascus)	6xx (only century remains)
15. Harlaa VF-2020.2	Unidentified		
16. Harlaa VF-2020.3	Ayyubid AR dirham	Salah al-Din (564–89/1169–93), either Mardin or Mayafariqin	Date not visible, likely 580s/1184–94
17. Harlaa VF-2020.4	Ayyubid AE fals	Al-Kāmil Muhammad, Egyptian issue, mint not shown	Undated
18. Harlaa VF-2020.5	Unidentified		
19. Harlaa VF-2020.6	Ayyubid AR dirham	Al-Salah Isma'il (2nd reign 637–43/1239–45), Dimashq	638/1240–41
20. Harlaa VF-2020.A	Mamluk AR dirham	Qala'un, Dimashq	6xx
21. Harlaa VF-2020.B	Umayyad or Abbasid AE fals	Unidentified	Unidentified
22. Harlaa VF-2020.C	Ayyubid AE fals	Al-Kāmil Muhammad and caliph al-Nasir, no mint but struck in Egypt	Undated but from 623+
23. Harlaa VF-2020.D	Ayyubid AR dirham fraction	al-Nasir Yusuf II, Dimashq	No date visible
24. Harlaa VF-2020.E	Probably Mamluk AE fals	Unidentified	Unidentified
25. Harlaa VF-2020.F	Armenian AR tram	Cilician kingdom of Armenia (1199–1375)	Unidentified
26. HAR19-E-14	Ayyubid AE fals	Al-Kāmil Muhammad, Al-Qāhira	Undated but from 623–635/1226–38
27. HAR19-E-26	Ayyubid AE fals	Al-Kāmil Muhammad, Al-Qāhira	Undated but from 623–635/1226–38

TABLE 2 Imported coins from Harlaa (cont.)

Context number	Identification	Reign and mint	Date
28. HAR19-E-28	Damaged possibly Ayyubid AE fals	Unidentified	

VF = villager find. AR = silver. AE = copper. NK = not known.

ALL IDENTIFICATIONS EXCEPT NUMBER 6, 8, AND 11 ARE COURTESY OF DOUG NICOL, 6 COURTESY OF HELEN WANG, 7 COURTESY OF JULIAN BAKER, 11 COURTESY OF JOSEPH LANG

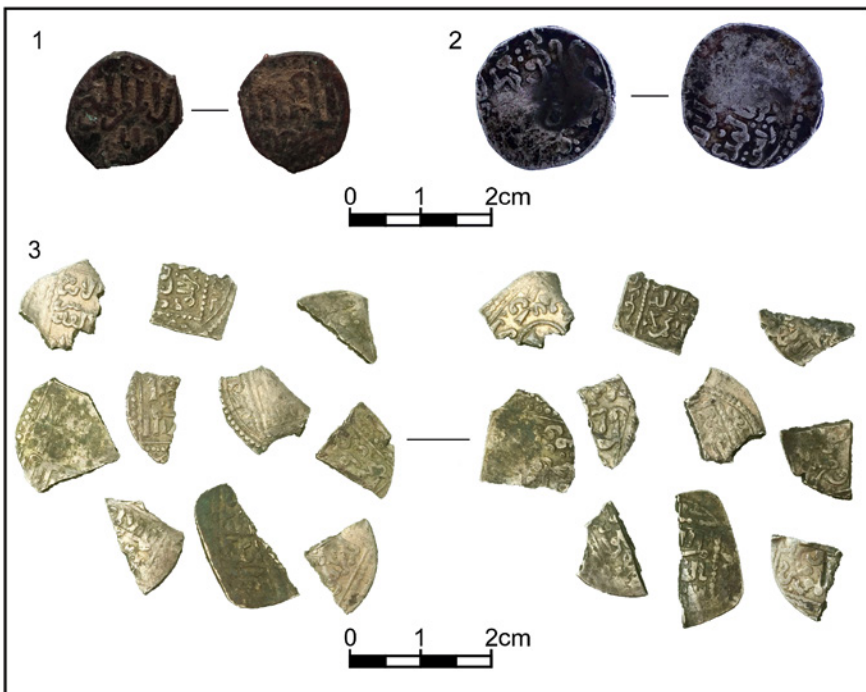


FIGURE 4 Selected examples of coins recorded at Harlaa. 1. Ayyubid—al-Kāmil Muḥammad, 623–635/1226–38, Cairo, AE fals. 2. Harlaa VF-2017.3. Mamluk—Baybars I AR dirham Cairo mint type usually dated to the early 660s AH/1260s AD. 3. Harlaa VF-2015.5. Ayyubid and early Mamluk Dirham cuttings
PHOTOS BY THE AUTHOR

restricted to Chinese bronze cash rather than Islamic copper coins. The trade in bronze cash in the Islamic World was extensive as the metal was known to be of good quality.³⁰ A Northern Song Dynasty Huang Song *tong bao* produced from 1032 to 1054 and an earlier Tang Dynasty Kaiyuan *tong bao* issued after 621 both found by villagers during farming, were among the coins recorded at Harlaa (Table 2).³¹ These are unlikely to have been used as currency, and it is likely that most cash were destined to be melted down.³²

Archaeological context for the dirhams is lacking, as they were also found by villagers in locations that are unrecorded, but the presence of the Ayyubid and early Mamluk dirham cuttings suggests they might also have been used as a raw material, potentially for remelting to produce silver jewellery, as considered further below (Figure 4). Alternatively, the silver cuttings may have been used for small payments.³³ The presence of an Ilkhānid two-dirham coin alongside the three Mamluk single dirhams is explicable by the existence of relations between the Ilkhānid and the Mamluk states after the peace accord of 1323, a date which agrees with the Harlaa Ilkhānid coin which was minted in 734/1333–34.³⁴ The heavier two-dirham weight of the coin may also have

30 Cash have been found archaeologically at various Islamic trade centres. Sixty-nine complete cash or fragments of cash of Tang (618–907) and Northern (960–1127) and Southern Song (1127–1279) date, were found at Siraf, Iran, the important Arabian Gulf port, for instance, N.M. Lowick, *Siraf xv. The coins and monumental inscriptions*. (London: British Institute of Persian Studies, 1985): 57–63. Other archaeological cash finds in Arabia and on the East African coast are reviewed by J. Cribb and D. Potts, “Chinese coin finds from Arabia and the Arabian Gulf.” *Arabian Archaeology and Epigraphy* 7 (1996): 108–118.

31 The Northern Song coin was kindly identified by Joseph Lang, and the Tang coin by Helen Wang.

32 This is discussed by M.C. Horton and T.R. Blurton, “Indian Metalwork in East Africa: The bronze lion statuette from Shanga.” *Antiquity* 62(1988): 20, who plausibly argue that the bronze lion statuette from Shanga in the Lamu Archipelago in northern Kenya was possibly made of melted down cash. The results of X-ray fluorescence analysis indicated that the metal used was a close match to the alloy in Northern Song cash, but with a slightly higher zinc content.

33 The use of silver cuttings for payments, although denounced by Muslim jurists, was an accepted tradition in the Islamic World (e.g., R. Kool, “The Medieval Coins of Ashkelon (1985–2015).” In *Ashkelon 8: The Islamic and Crusader Periods*, ed. T. Hoffman. (Winona Lake: Eisenbrauns, 2019): 523–574, and their use is recorded in the Geniza documents where they are referred to in contracts (S.D. Goitein, 1967. *A Mediterranean Society. Volume 1*. (Berkeley: University of California Press, 1967): 385).

34 The point about the peace agreement is made by A. Berman and G. Bijovsky, “Chapter 2. The coins.” In *Panreas. Volume 2.*, ed. V. Tzaferis and S. Israeli. (Jerusalem: Israel Antiquities Authority, 2008): 17, in relation to the Ilkhānid and Mamluk coins found at Baniyas in Israel, but the date given is incorrectly cited as 1333. The Ilkhānid coin differs from the

been important if these coins were being smelted. At Harlaa it is possible that the Arabic inscriptions were kept on the mixed clipped dirham pieces to guarantee their authenticity and the purity and value of the silver as may have occurred in the Viking lands in northern Europe where similar cuttings from Arabic inscribed dirhams have been found.³⁵ It is also a possibility that intact dirhams and dirham fractions were used as weights and currency, as both uses in Ifat are referred to by al-'Umārī, and in the *Nūr al-ma'ārif*.³⁶ The presence of an Armenian Tram may also be attributable to a trade in silver, but it was a type of coin known to have circulated in Mamluk lands where it was sometimes overstruck with Mamluk designs.³⁷ The total absence of gold at Harlaa may be linked to its general scarcity in the later Ayyubid period.³⁸

2.2 Glass Wares

An assemblage of 598 glass vessel fragments was recovered from Harlaa (353 from HAR-B, 207 from HAR-E, 38 from HAR-F). These were generally small, and

-
- Harlaa example being an issue of Abū Sa'īd, but issues of both Baybars I and Qalāwūn are also represented in the Baniyas Mamluk coin assemblage, as they are at Harlaa, cf. *ibid*.
- 35 See R. Hodges and D. Whitehouse, *Mohammed, Charlemagne and the Origins of Europe*. (London: Duckworth, 1983): 116–120, and fig. 46 for clipped dirhams from Paviken, Gotland, Sweden. D.M. Metcalf, 1997. "The President's Address. Viking Age Numismatics 3. What Happened to Islamic Dirhams after their Arrival in the Northern Lands?" *The Numismatic Chronicle* 157 (1997): 303, indicates that dirhams could be both broken or cut and in the Islamic World were generally broken "perhaps for juridical reasons". The mix of clean and ragged edges to the Harlaa dirham fragments suggests some were cut and some broken.
- 36 Al-'Umārī refers to an ounce of 10 dirhams weight based on the Egyptian standard, and Egyptian dinars that were used for exchange and were imported by merchants, al-'Omari, *Masālik*: 10, 14. Al-'Umārī's further reference to the use of dinars, which would be gold, is not yet archaeologically substantiated at Harlaa or anywhere else in Ethiopia, *ibid*. 14. The *Nūr al-ma'ārif* describes the dirham and its subdivisions being used in Ifat and Kalḡūr, the latter on the edge of Shoa and, specifically, Egyptian silver coins being used in "limited commercial transactions" in Wālāsma' territory, Vallet, *L'Arabie*: 412. Unlike al-'Umārī, gold currency is not mentioned, but the use of silver debris such as broken bracelets and rings in taking the place of the dirham was also a monetary practice, *ibid*.: 409, 412.
- 37 W.C. Schultz, "Mamluk Monetary History: A review essay." *Mamluk Studies Review* 3 (1999): 184.
- 38 L. Guo, "Gold Dinars and Silver Dirhams in the Red Sea Trade: The Evidence of the Quseir documents." In *Trade and Travel in the Red Sea region*, ed. P. Lunde and A. Porter. (Oxford: Archaeopress, 2004): 118 describes this shortage and how the monetary policy under al-Kāmil Muḥammad reflected this after 622/1225 when copper fals "attained the status of official currency in addition to silver dirham". Both the identifiable fals from HAR-E date from 623–635/1226–1238. Although gold dinar re-use re-started in the early Mamluk period in Egypt, the continued absence of gold at Harlaa could be due to it not being valued, easily recycled, or its comparative rarity.

undecorated, and either clear or in monochrome colours; green, blue, purple, brown, and yellow. Preliminary LA-ICP-MS analysis of a sample of five of these fragments from HAR-B, all dated to between the eleventh to mid-thirteenth centuries, indicates they were made from glass that was possibly Central Asian in origin.³⁹ This reveals, again, the wide-ranging networks that the people of Harlaa were connected to. It is not known based on glass chemistry whether other glass vessel fragments were of Egyptian provenance. Stylistic parallels, however, suggest this is possible. Undecorated blown glass vessel fragments are common, probably from forms such as bottles, beakers, bowls, and cups, and these were produced at all the main centres of glass production in the central Islamic lands including Egypt, with the Geniza documents referring to the manufacture of 'local' glass in Cairo suggestive of production of lower quality, mass-market glasswares of the types represented in Harlaa (Figure 5).⁴⁰ Decorated glass fragments are rare in the Harlaa assemblage, but a body fragment from a ribbed bottle is similar to a vessel from Fustāt (Figure 5).⁴¹ There are also 28 fragments from vessels with white marvered decoration. Most are discoloured, one is of light green glass (Figure 5). Marvered glass was also widely produced, including in Egypt, in the twelfth to thirteenth centuries.⁴²

A total of 1794 glass beads were also found (3 from HAR-A, 1376 from HAR-B, 1 from HAR-C, 269 from HAR-E, 145 from HAR-F). The results of the LA-ICPMS analysis of an exploratory sample of five beads also from the workshop complex, HAR-B, two dated to between the mid/late thirteenth to early fourteenth century and three to the eleventh to mid-thirteenth century indicate that one of the latter, a glass bead of uncertain colour, was imported from the Middle East and was possibly of Mamluk Egyptian origin, with one other yellow glass drawn bead of Central Asian and another opaque red drawn glass bead of Sri Lankan/South Indian provenance, and the remaining two of unidentified glass composition.⁴³

39 The possible Central Asian provenance was based on their v-Na-Al, high alumina soda plant ash glass composition, Dussubieux, LA-ICP-MS 10; Insoll et al., "Material Cosmopolitanism": 496.

40 Goitein, "Main": 187–188, and see D. Whitehouse, *Islamic glass in the Corning Museum of Glass. Volume Two*. (Corning: Corning Museum of Glass, 2014): 23; cf. *ibid.*: 23–75 for the types of undecorated blown glass forms likely in the Harlaa assemblage.

41 HAR16-A-8.2, cf. Whitehouse, *Islamic Glass Volume Two*: 110.

42 S. Carboni, *Glass from Islamic lands*. (London: Thames and Hudson, 2001): 304–305.

43 L. Dussubieux, *LA-ICP-MS analysis of Artefacts from Ethiopia*. Unpublished report. (Chicago: Field Museum, 2018): 9.

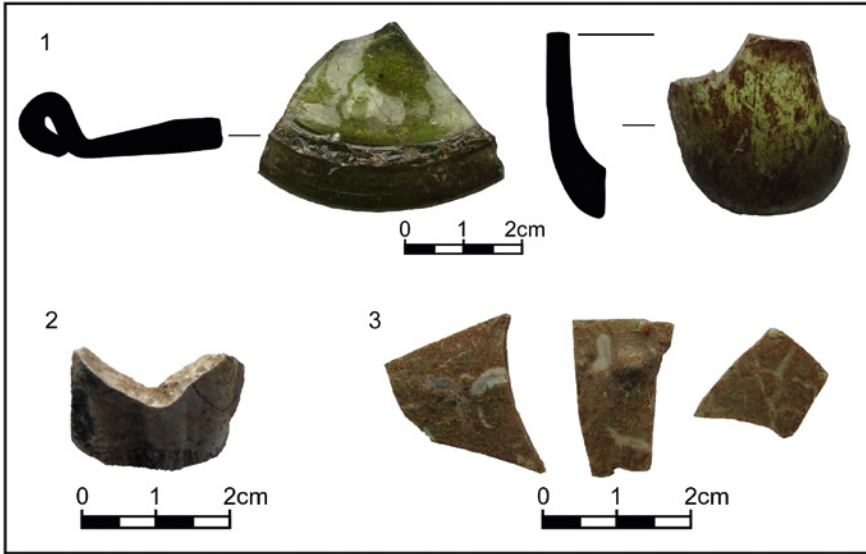


FIGURE 5 Examples of glass wares from Harlaa. 1. Undecorated blown glass vessel fragments. Left. HAR15-B-6.2. Olive green glass folded base. Right. HAR15-B-6.2. Olive green glass rounded base from a small flask or bottle. 2. HAR16-A-8.2. Discoloured glass ribbed body fragment from a small bottle. 3. HAR19-E-26.1. Discoloured glass body fragments with marvered decoration
PHOTOS BY THE AUTHOR

2.3 Ceramics

Overall, ceramic preferences strongly favoured local wares, with imported glazed wares from Southeast Asia/China (160 sherds or 1.25%) and the Middle East/South Asia (171 sherds or 1.33%) represented in very small quantities compared to the local ceramics (12,506 sherds or 97.42%).⁴⁴ The identifiable Middle Eastern ceramics from Harlaa were of varied origin and dated to between the eleventh/twelfth to fourteenth/fifteenth centuries with 108 sherds (83 from HAR-B, 23 from HAR-E, two from HAR-F), from the Yemen/southern Red Sea area. These were predominantly Black-on-yellow (26 sherds) and Trackwares, or probable Trackwares (77 sherds)⁴⁵ Eight sherds of ceramics of Iranian

44 Tait and Insoll, *Local Ceramics*: 432.

45 Initial observations on these ceramics, courtesy Priestman, pers. comm. 14/6/19. Trackware was defined by C. Ciuk and E. Keall, *Zabid Project Pottery Manual*. (Oxford: BAR, 1996): 46–51. This has incised and comb decoration with a cream to red fabric, commonly white slipped and found in medium to large gourd-shaped jug and pitcher forms, cf. Tait, *Archaeological Ceramics*: 354–355 for a useful summary of this ware. Comparable Black-on-yellow wares to the Harlaa material are also illustrated by Ciuk and Keall, *Zabid*: Plates 94/45 to 95/47.

origin (Fritware, four each from HAR-B and HAR-F), and one of Iraqi origin (Turquoise glazed ware from HAR-B) were also recorded. South Asian wares were represented by five sherds (three from HAR-B, two from HAR-E) of Indian origin ceramics, four Indian Red Polished Ware, and one Khavda-type Gujarati ware.⁴⁶

The number of Egyptian sherds (eight) was also small and restricted overwhelmingly to one specialised category, sphero-conical vessels. Six sherds from these vessels have been recorded, three from excavations, one collected during surface survey, and two found by villagers (Table 3). Sphero-conical vessels are between 10–30 cm in length, heart shaped, with a thick non-porous fabric containing small non-plastic inclusions, and a nipple-like narrow opening. They were particularly common in the twelfth to thirteenth centuries.⁴⁷ Their function has been the subject of debates, with theories including that they were used as grenades, fire starters, or for industrial purposes, for example.⁴⁸ Five of the six sphero-conical vessel sherds from Harlaa were made of the hard brownish clay denoting an Egyptian product.⁴⁹ The sixth (HAR17-B-5.2) was manufactured from a hard lighter grey clay and was from the base of one of these vessels, whereas the others were all from the upper section, and decorated with the characteristic scale pattern found on Egyptian products. The vessel fragments were exclusively Ayyubid-Mamluk or Mamluk in date (Table 3).

Why these vessels were transported from Egypt to Harlaa is not known, but it can be suggested that they were linked with industrial activity rather than a military or domestic function. A sphero-conical vessel was found containing mercury inside an Umayyad-period goldsmith's shop at Bet She'an in Palestine, and jewellery manufacture was undertaken in HAR-B, but with no evidence so far found for gold-working.⁵⁰ A stamped Arabic inscription on one of the two conjoining sphero-conical vessel sherds from a test excavation, HAR20-CEE, completed in the entrance to a compound near HAR-G,

46 Insoll et al., *Material Cosmopolitanism*.

47 H. Barnard et al., "Chemical insights into the function of four sphero-conical vessels from Medieval Dvin, Armenia." *Muqarnas* 33 (2016): 409; S. Pradines, "The Sphero-Conical Vessel: A Difficult Interpretation between Historical Sources and Archaeology." *JIA* 3 (2016): 153–154, 161.

48 D. Nicolle, "Medieval Islamic Fire Grenades: Further Evidence from a Military Context." *JIA* 3 (2016): 163–177.; D. Whitcomb, "A Note on 'Grenades' as Fire-Starter Flasks." *JIA* 3 (2016): 185; M. Avissar and E.J. Stern, *Pottery of the Crusader, Ayyubid, and Mamluk periods in Israel*. (Jerusalem: Israel Antiquities Authority, 2005): 119.

49 For the identification criteria for Egyptian sphero-conical vessels see J. Sharvit, "Chapter 3. The sphero-conical vessels." In *Paneaas. Volume 2*, ed. V. Tzaferis and S. Israeli. (Jerusalem: Israel Antiquities Authority, 2008): 101.

50 For the Umayyad jewellery workshop see Avissar and Stern, *Pottery*: 119.

TABLE 3 Imported ceramics of Egyptian origin from Harlaa

Context number	Description	Date	Origin
1. HAR17-B-5.2	Sphero-conical vessel base sherd with vertical ribbing	Mamluk. Phase 5	Egypt
2. HAR19-S/C-2	Sphero-conical vessel upper body sherd with scale decoration	Ayyubid- Mamluk	Egypt
3. and 4. HAR20-CEE	Two conjoining sphero-conical vessel upper body sherds. Both with scale decoration and vertical ribbing. One has part of the neck present. The other has a stamped Arabic inscription possibly with the words “a share” on it	Ayyubid- Mamluk	Egypt
5. Harlaa VF-2020.7	Sphero-conical vessel upper body sherd with scale decoration	Ayyubid- Mamluk	Egypt
6. Harlaa VF-2020.8	Sphero-conical vessel upper body sherd with part of neck and scale decoration	Ayyubid- Mamluk	Egypt
7. HAR19-F-11.1	Incised under glaze ware	Ayyubid	Egypt
8. HAR19-22	Rim sherd in fine white fabric	Ayyubid- Mamluk	Egypt

possibly can be read as “a share”, and thus may also imply the storage of substances, perhaps for a commercial purpose (Figure 6).⁵¹ It is also possible that the vessels were imported to be filled with an as yet unidentified substance in Harlaa and then re-exported with their contents. Opposite Harlaa on the Gara Harfattu Mountain extensive networks of mining galleries have been recorded. The nature of the substance(s) being mined is unclear, as is the chronology, but the mines may have been connected with the location of Harlaa, which would provide a reason for its wealth, and an explanation for the presence of material culture such as the sphero-conical vessels, as potentially utilised in a mining-related activity.⁵²

A single small sherd of what appears to be Ayyubid incised under glaze ware was also recovered from HAR-F, a site radiocarbon dated to between the mid-twelfth and mid-thirteenth centuries (Figure 6 and Table 3). Exactly the same

51 Reading of the inscription, courtesy Bauden, pers. comm. 22/6/20.

52 Surface collected sherds suggest similar twelfth to thirteenth century activity in the mines, but this awaits confirmation pending safe exploration of the mine shafts and galleries.

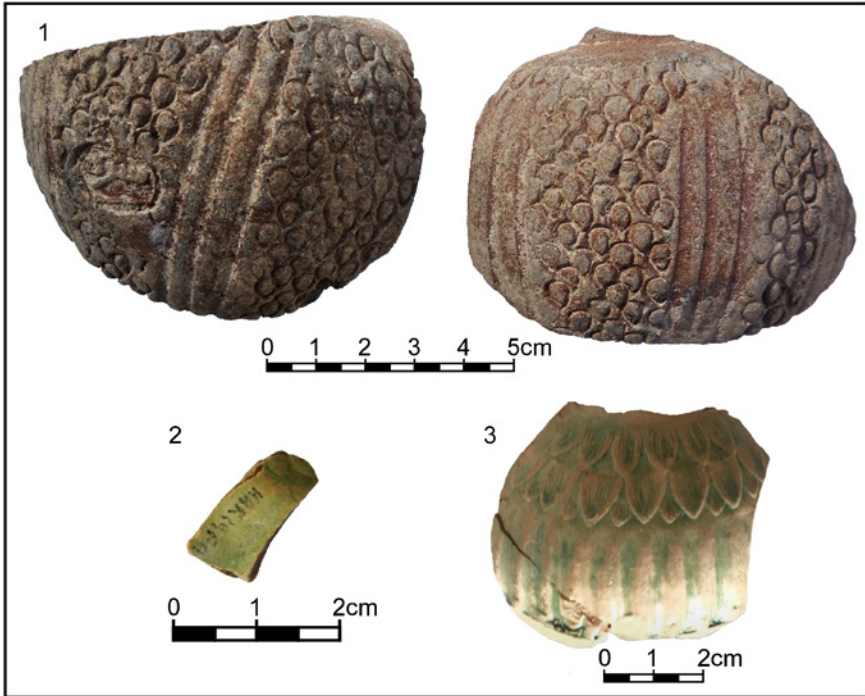


FIGURE 6 Examples of ceramics of Egyptian origin. 1. HAR20-CEE1 and 2. Conjoining sphero-conical vessel sherds. Arabic inscription on sherd on left. 2. HAR19-F-11.1. Ayyubid incised under glaze ware (photos by the author). 3. Tumbatu Island, Zanzibar. Ayyubid incised under glaze ware
PHOTO. COURTESY H. PARSONS-MORGAN

type of ware with a transparent light green glaze, incised decoration, and sandy coloured fabric, was found in excavations of the walls of Cairo.⁵³ The presence of part of a moulded or carved floral motif on the base of the exterior of the sherd suggests it may have been intended as a copy of a small Chinese bowl, but it does not resemble the copies of celadons made between c.1300 to 1450 by potters in Fustāt and found at Kom el-Dikka in Alexandria.⁵⁴ A parallel for the carved or moulded floral decoration and glaze colour does, however, exist with a sherd from Tumbatu island off the northwest coast of Zanzibar

53 J. Monchamp, *Céramiques des murailles du Caire (fin x^e-début xvi^e s.)*. (Cairo: Institut français d'archéologie orientale, 2018): 136–7, figure 265 (181j).

54 See M. Redlak, "Egyptian imitations of Chinese Celadon from the fourteenth to fifteenth centuries found at Kom el-Dikka in Alexandria." *Polish Archaeology in the Mediterranean* 26 (2018): 59–84.

(Figure 6).⁵⁵ A sherd of fine unglazed common ware from Harlaa appears also to be of Egyptian origin (Table 3). This has a fine white fabric visually similar to that used in wares recorded in Ayyubid and Mamluk contexts in the Cairo Walls excavations.⁵⁶

2.4 Bread/Textile Stamps

Five other ceramic objects from Harlaa may also provide evidence for Cairo/Egyptian contacts (Table 4). These are decorated clay discs of between 60 mm and 90 mm diameter with handles on their reverse. The usual interpretation of these artifacts is that they were bread stamps used to impress a maker's mark onto a loaf.⁵⁷ Four of the Harlaa examples were found by villagers and the fifth was recovered from HAR20-G-11.1 in a context C14 dated to Cal AD 1025 to 1160 (Figure 7). Parallels for these objects exist. The British Museum has at least four in its collections. These are all given a Fustât provenance and described as purchased in 1921. One is dated to the Mamluk period, another to the Fatimid period, and the other two, more broadly, to the Islamic era.⁵⁸ The lack of proper context limits interpretation but an Egyptian provenance for some of the Harlaa stamps is possible. The Mamluk stamp in the British Museum decorated with a star (1921,0301.1.n) is very similar to a Harlaa stamp (Harlaa VF-2020.10) with the same use of an incised pattern of lines and dots, possibly also representing a star (Figure 7). Not all similarities are with Egyptian stamps, however. The pattern formed of geometric shapes incised with a dot on the excavated stamp from Harlaa is almost identical to a damaged undated stamp lacking contextual information from al-Shuna, Jordan, that has a matching geometric shape and dot design, in this instance forming a swastika.⁵⁹

Near/Middle Eastern influence on foodways, as indicated by the bread stamps, is also suggested by some of the archaeobotanical remains from Harlaa. Although there is not a specific Egyptian association, the identified

55 The sherd, reference number TU6 555, is unpublished, but was found during excavation by Professor Mark Horton, and recorded by Hannah Parsons-Morgan as part of her PhD research at the University of Exeter.

56 See Monchamp, *Céramiques*: 111, 176.

57 R. Kakish, "Ancient bread stamps from Jordan". *MAA* 14 (2014): 19; A. Payne, "Bread matters: Of Loaves and Damps." *Historische Sprachforschung/Historical Linguistics* 130 (2017): 83–84.

58 The Mamluk stamp is catalogued at https://www.britishmuseum.org/collection/object/W_1921-0301-1-n_1. The Fatimid stamp at https://www.britishmuseum.org/collection/object/W_1921-0301-1-a, and the two others at https://www.britishmuseum.org/collection/object/W_1921-0301-1-007 and https://www.britishmuseum.org/collection/object/W_1921-0301-1-aa (all last accessed 21 December 2020).

59 Cf. Kakish, "Ancient Bread": 21, fig. 3.

TABLE 4 Textile or bread stamps from Harlaa

Context number	Description	Date	Origin
1. Harlaa VF-2020.9	Dark brown medium clay, 55 mm length (l) × 59 mm width (w) × 38 mm depth (d). Slightly domed decorated surface. Broken handle attachment on reverse. Decorated with an incised pattern of concentric circles of dots, 2 small, one large, surrounding a central large dot.	Ayyubid/ Mamluk?	Egypt?
2. Harlaa VF-2020.10	Light grey brown medium clay, 80 mm (l) × 89 mm (w) × 54 mm (d). Flat decorated surface. Pierced rounded handle on reverse. Decorated with an incised pattern of lines and dots, possibly representing a star.	Ayyubid/ Mamluk?	Egypt?
3. Harlaa VF-2020.11	Dark grey brown medium clay, dimensions not recorded. Flat decorated surface. Pierced rounded handle on reverse. Decorated with incised outer border and an inner pattern formed of a concentric circle of 21 incised dots, and another of eight dashes, surrounding a central dot.	Ayyubid/ Mamluk?	Egypt?
4. Harlaa VF-2020.12	Dark grey brown medium clay, 87 mm diameter. Flat decorated surface. Broken rounded handle on reverse. Decorated with incised concentric dot and line pattern.	Ayyubid/ Mamluk?	Egypt?
5. HAR20-G-11 Central Room	Orange medium clay. Fragment. 67 mm (l) × 60 mm (w) × 41 mm (d). Flat decorated surface. Pierced lug-type handle on reverse. Decorated with incised pattern formed of geometric shapes incised with a dot.	Fatimid	Egypt?

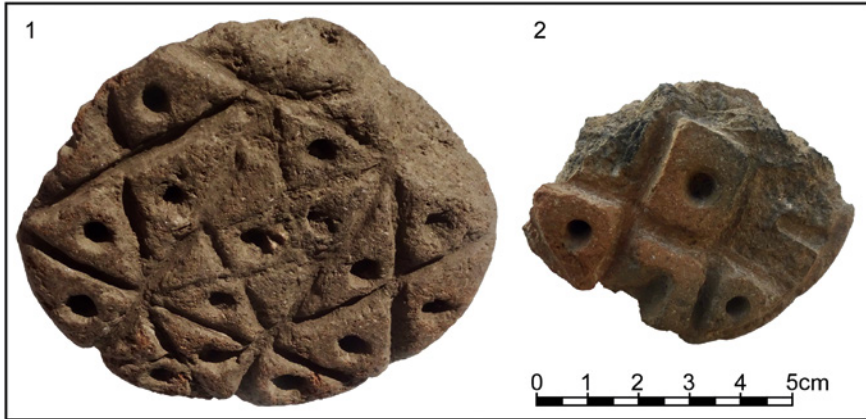


FIGURE 7 Clay bread/textile stamps. 1. HAR20-G-11.1. Excavated stamp from Harlaa dated to between the early eleventh and mid-twelfth centuries. 2. Harlaa VF-2020.10. Stamp with star design similar to Mamluk example from Fustât in the British Museum

PHOTOS BY THE AUTHOR

edible grains such as emmer wheat (*Triticum dicoccum*), barley (*Hordeum vulgare*), legumes such as lentils (*Lens culinaris*), and chickpea (*Cicer arietinum*), and oil crops such as common flax/linseed (*Linum usitatissimum*) are all of Near/Middle Eastern origin. Missing from the archaeobotanical data from Harlaa are edible crop remains indigenous to Ethiopia such as teff (*Eragrostis tef*) and finger millet (*Eleusine coracana*).⁶⁰ The presence of the bread stamps, if that is what they are, would fit within an agricultural tradition where wheat was locally grown and supplemented with other crops cultivated at Harlaa, but of Near/Middle Eastern origin.

The alternative interpretation that these were textile stamps used to print designs onto cotton or linen textiles is less convincing as the designs on surviving textiles differ. Resist-dyed textile fragments were recovered from the so-called ‘Sheikh’s House’ in contemporary Late Ayyubid contexts at Quseir al-Qadim on the Egyptian Red Sea coast, for example.⁶¹ This was a site that was important in Egyptian Red Sea trade being strategically located at the terminus

60 A short summary of the archaeobotanical remains is provided in Insoll et al., *Material Cosmopolitanism*. A detailed description is given in A. Beldados, E. Zewdu and T. Insoll, 2019. Report on the archaeobotanical study of soil samples from Harar and Harlaa (Dire Dawa). (Unpublished report: Addis Ababa University, 2019.)

61 K. Strange Burke and D. Whitcomb, “Quseir Al-Qadim in the Thirteenth Century: A Community and its Textiles.” *Ars Orientalis* 34 (2004): 87.

of the Wadi Hammamat and providing the shortest route to the cities of Upper Egypt.⁶² Here, as the Geniza documents indicate, textiles were consumed and produced on a vast scale.⁶³ The block-printed textiles from Quseir al-Qadim had patterns utilizing squares of natural coloured cotton framing printed blue tree of life, rosette, or elephant designs, which differ from the Harlaa stamp designs with their concentric circle, dot, and geometric patterns. The Quseir al-Qadim block-printed textiles have been ascribed a probable Indian origin.⁶⁴ It is likely that they were produced using carved wooden blocks, rather than ceramic stamps, as with the *Ajarkh* textiles of Gujarat.⁶⁵ A similar resist-dyed textile fragment of Indian origin was also found at Fustāt in an eleventh century context.⁶⁶

Although the stamps were probably for marking bread not printing fabric, this is not to deny either textiles production at Harlaa or a trade in textiles between Ethiopia and Egypt. Also found in the ‘Sheikh’s House’ at Quseir al-Qadim were approximately five hundred fragments of paper documents, written mostly in Arabic, and composed of account records, shipping notes and, more rarely, business letters. These related to the business of Abū Mufarrij, who with his son Ibrāhīm had been engaged in long distance grain trade in the first four decades of the thirteenth century, probably as government agents responsible for distributing grain both on the Indian Ocean and Red Sea trade routes, and to pilgrims.⁶⁷ Documents referred to the types of grain they dealt

62 D. Whitcomb and J. Johnson, “Introduction.” In *Quseir Al-Qadim 1980*, ed. D. Whitcomb, D. and J. Johnson. (Malibu: Undena Publications, 1982): 1.

63 Goitein, “Main Industries”: 172–183.

64 G. Eastwood, “Textiles.” In *Quseir Al-Qadim 1980*, ed. D. Whitcomb and J. Johnson. (Malibu: Undena Publications, 1982): 292.

65 A. Karolia and H. Buch, “*Ajarkh*, the resist printed fabric of Gujarat.” *Indian Journal of Traditional Knowledge* 7 (2008): 94.

66 This formed part of a collection of about 3000 textile fragments excavated from a refuse heap in Fustāt-C, L.W. MacKie, “Textiles.” In *In Fustāt Expedition Final Report. Vol. 2: Fustāt—C*, ed. W. Kubiak and G.T. Scanlon. (Winona Lake: Eisenbrauns: 1989): 81, 89. A much larger holding of 1226 block printed textile fragments from Egypt, including Indian fabrics, is also kept in the Newberry Collection in the Ashmolean Museum, Oxford, R. Barnes, “Indian trade cloth in Egypt: The Newberry Collection.” *Textiles in trade. Textile Society of America symposium proceedings*, ed. Anon. (Washington: Textile Society of America: 1990): 178. This lacks provenance having been bought from antiquities dealers in Cairo but has been extensively catalogued, R. Barnes, *Indian-Block Printed Textiles in Egypt: The Newberry Collection in the Ashmolean Museum, Oxford*. (Oxford: Clarendon Press, 1997), and is available online, cf. <http://jameelcentre.ashmolean.org/collection/710236/10319>, accessed 2/1/21. Of the sixteen C14 dates obtained, six cluster in the fifteenth century, and four in the sixteenth century.

67 L. Guo, “Arabic Documents from the Red Sea Port of Quseir in the Seventh/Thirteenth Century, Part 1: Business Letters.” *JNES* 58 (1999): 161–163, 166.

in—rice, wheat, barley, as well as flour, and chickpeas—and the quantities involved, camel loads, sacks, bags, containers, or weight, by the *ratl* or pound. Additional goods were also sometimes mentioned, and one document is particularly interesting in referring to “Abyssinian garments” being imported.⁶⁸ The source of these textiles is not known, and it is not being suggested here that it was Harlaa. However, yarn was being spun in Harlaa with nineteen spindle whorls recovered made from soft stone, basalt, and clay.⁶⁹ Two possibilities exist for what was being spun. Cotton has not yet been recorded in the archaeobotanical remains, but common flax/linseed (*Linum usitatissimum*) was present in HAR-B, and wool is suggested by the sheep, goat, and/or camel remains found in the faunal assemblage.⁷⁰ It is also conceivable that some of the pits may represent the former existence of the pit-treadle loom, where the weaver sat on the pit edge and operated the loom treadles in the pit using their feet.⁷¹ Equally the association of postholes and pits sometimes recorded (HAR-B, HAR-G) might also denote the former wooden posts of the weaving loom frames.⁷²

2.5 Marine Shell

Whereas textiles may or may not have been an export from Harlaa, marine shell was a significant trade commodity. Twelve species of marine shell were obtained from the Red sea and transported to Harlaa, a distance of c.120 km from the coast (Figures 1 and 8, Table 5).⁷³ All the species, including the

-
- 68 L. Guo, “Arabic Documents from the Red Sea Port of Quseir in the Seventh/Thirteenth Century, Part 2: Shipping Notes and Account Records.” *JNES* 60 (2001): 93.
- 69 These were recovered from different units indicating spinning was a cross site activity with nine from HAR-B, two from HAR-E, two from HAR-F, and six from HAR-G.
- 70 Beldados et al., Report; Gastra and Insoll, “Animal Economies”: 186.
- 71 M. Gervers, “Cotton and Cotton Weaving in Meroitic Nubia and Medieval Ethiopia.” *Textile History* 21 (1990): 18. Based on images kindly supplied by Michael Gervers it is evident that the pits for contemporary Ethiopian treadle looms are of irregular shape and comparable size to some of the Harlaa examples. Rare mentions of archaeological discovery of relevant loom pits exist. For example, pits with spaces for loom treadles were found in an excavated monastery of sixth century date near Thebes in Egypt, H.E. Wulff, *The Traditional Crafts of Persia*. (Cambridge (MA): M.I.T. Press, 1966): 202. Unfortunately, the mention of this interesting find is not linked to any references or further details.
- 72 An Indian influence on textiles production at Harlaa and elsewhere in Ethiopia cannot be entirely excluded either. The *Nūr al-ma’arīf* refers to printed cottons, often indigo dyed, being imported into Ethiopia from India which were used in barter, Vallet, *L’Arabie*: 413.
- 73 The identified species were *Anadara antiquata* (Linnaeus 1758), *Conus erythraeensis* (Reeve 1843), *Conus nussatella* (Linnaeus 1758), *Cypraea erythraeensis* (G.B. Sowerby 1, 1837), *Engina mendicaria* (Linnaeus 1758), *Marginella monilis* (Linnaeus 1758), *Monetaria annulus* (Linnaeus 1758), *Monetaria moneta* (Linnaeus 1758), *Oliva ancillarioides* (Reeve

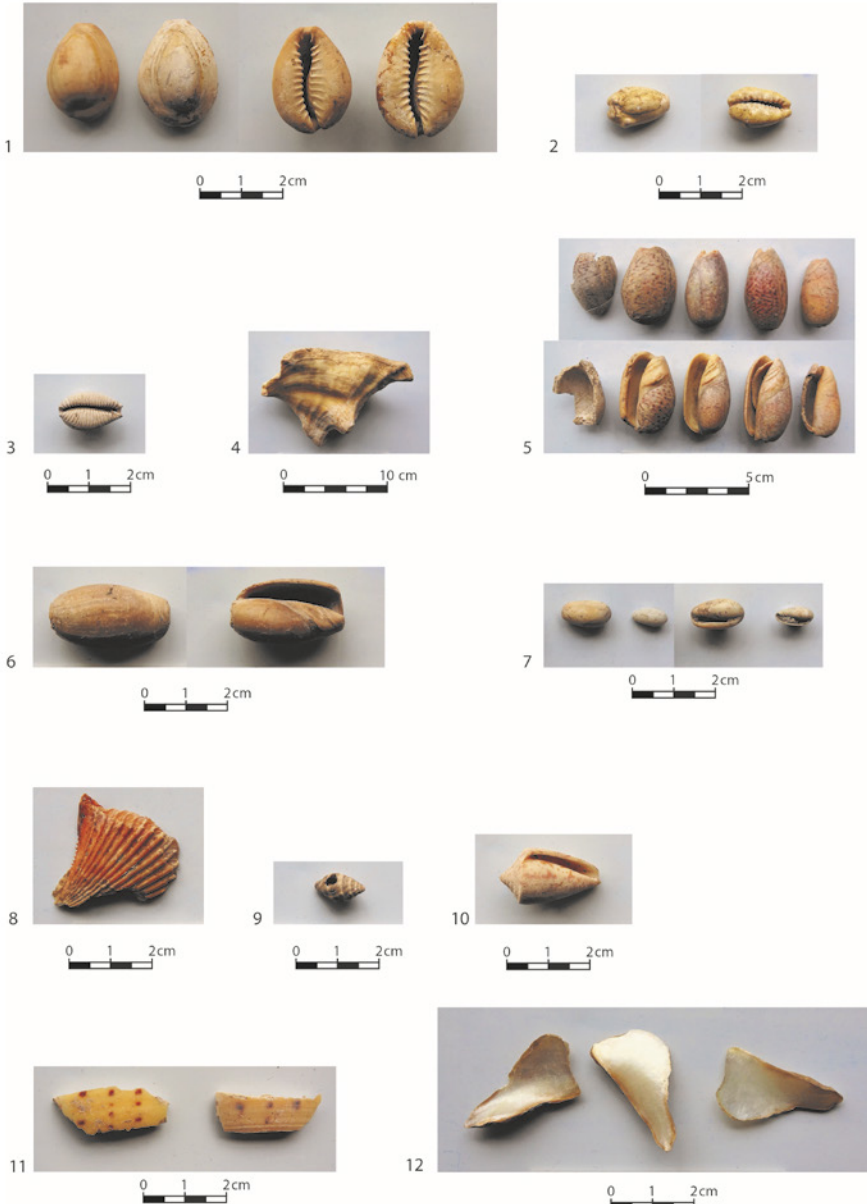


FIGURE 8 The marine shell species from Harlaa. (1) *Monetaria annulus* (HAR18-B-14). (2) *Monetaria moneta* (HAR18-B-11). (3) *Cypraea erythraeensis* (HAR18-B-10). (4) *Strombus tricornis* (HAR16-B-11). (5) *Oliva bulbosa* (HAR16-B-7). (6) *Oliva ancillarioides* (HAR19-E-14). (7) *Marginella monilis* (HAR16-A-4). (8) *Anadara antiquata* (HAR17-B-11). (9) *Engina mendicaria* (HAR18-B-8). (10) *Conus erythraeensis* (HAR16-B-8). (11) *Conus nussatella* (HAR19-F-6). (12) *Pteriidae* sp. (HAR15-B-6)

PHOTOS BY THE AUTHOR

TABLE 5 The marine shell species from the Harlaa sites (the six beads are included in the unidentified category)

Shell species	HAR-A	HAR-B	HAR-C	HAR-E	HAR-F	Total
Unidentified		61		25	5	91
<i>Cypraea</i> —dorsa		1082		269	1	1352
<i>Cypraea</i> —dorsal ring		4			1	5
<i>Cypraea</i>		255	1	30	4	290
<i>Monetaria annulus</i>	2	74		12	2	90
<i>Monetaria moneta</i>		29		5		34
<i>Cypraea erythraeensis</i>		1				1
<i>Strombus tricornis</i>		138		165	74	377
<i>Oliva bulbosa</i>		53	1	12	8	74
<i>Oliva ancillarioides</i>		7		4		11
<i>Marginella monilis</i>		26		7		33
<i>Anadara antiquata</i>		2		1		3
<i>Engina mendicaria</i>		1		1		2
<i>Conus erythraeensis</i>		4		1	1	6
<i>Conus nussatella</i>					2	2
<i>Pteriidae</i> sp.		11		3		14
Total	2	1748	2	535	98	2385

cowries, *Monetaria moneta*, often considered to be primarily obtained from the Maldive Islands, and *Monetaria annulus*, usually given an East African coast provenance, were available in the Red Sea and the Gulf of Aden, where they are indigenous.⁷⁴ This suggests that a hitherto unrecognised source was supplying markets in the Horn of Africa, and elsewhere in the Red Sea, potentially including Egypt, and from there North Africa and, via Trans-Saharan routes, as far as West Africa.⁷⁵ Except for a single fragment, marine shell was absent

1850), *Oliva bulbosa* (Röding 1798), *Pteriidae* sp., and *Strombus tricornis* (Lightfoot 1786), Insoll, "Marine Shell."

74 Initial observations on these marine shells, courtesy Salvatore, pers. comm. 9/4/19. For the Maldives cowry trade, see J. Hogendorn and M. Johnson, *The Shell Money of the Slave Trade*. (Cambridge: Cambridge University Press, 1986); and for the East Africa Coast, A.C. Christie, A. Grant and A. Haour, "Cataloguing Cowries: A Standardized Strategy to Record Six Key Species of Cowry Shell from the West African Archaeological Record." *AAR* 36 (2019): 499. The distribution of species in the Red Sea is discussed by D. Sharabati, *Red Sea shells*. (London: KPI, 1984.)

75 Insoll, "Marine Shell."

prior to the eleventh century. Thereafter, 2385 worked and unworked marine shells and shell fragments, and six shell beads were recorded (Table 5).⁷⁶ The majority of the marine shell came from the workshop complex (HAR-B) from which 1748 worked and unworked marine shells and shell fragments, and four shell beads, were recovered.

Several types of modification recurred in the shell assemblage: as adornment or possibly strung as currency when pierced (*Engina mendicaria*, *Marginella monilis*, *M. moneta*, *M. annulus*, *Oliva ancillarioides*); for suspension when the apex was removed (*Conus erythraeensis*, *Oliva ancillarioides*, *Oliva bulbosa*); to produce carved beads (*Strombus tricornis*); cut into sections as currency or possibly as ornament applied to other materials (*Anadara anti-quata*, *Conus erythraeensis*, *Conus nussatella*, *M. moneta*, *M. annulus*, *Oliva ancillarioides*, *Oliva bulbosa*, *Pteriidae*); and possibly to produce bangles when cut into sections (*Strombus tricornis*). Marine shell was probably supplied to Harlaa from one or more of the ports on the Somaliland Red Sea Coast, and it appears not to have been a commodity of particular value at the coast itself. Within entrepôts such as Zayla' and Berbera, marine shell was not reported, with the sole exception of Bandar 'Abbas (tenth–twelfth centuries) where an unspecified number of perforated *M. annulus* have been found.⁷⁷ This is a pattern generally replicated, with a few exceptions, at settlements dotted along the trade routes between the Red Sea ports and Harlaa.⁷⁸ Marine shell appears to have passed through the coastal hinterland as a trade commodity to Harlaa, where some of it was worked, and from there was distributed to other interior sites where it had value.⁷⁹ Comparative data for these sites in Ethiopia is rare, but the Chercher Mountains to the southwest was probably a key market.⁸⁰

76 These were recovered from HAR-A, HAR-B, HAR-C, HAR-E, and HAR-F. An additional 76 marine shells and two shell beads were collected from HAR-G.

77 F.-X. Fauvelle-Aymar et al., "Le Port de Zeyla et son arrière-pays au Moyen Âge." In *Espaces musulmans de la Corne de l'Afrique au Moyen Âge*, ed. F.-X. Fauvelle-Aymar and B. Hirsch. (Paris: De Boccard: 2011): 27–74; A. González-Ruibal et al., "Exploring long distance trade in Somaliland (AD 1000–1900): Preliminary results from the 2015–2016 field seasons." *Azania* 52 (2017): 135–172.

78 A.T. Curle, "The Ruined Towns of Somaliland." *Antiquity* 11 (1937): 323; Fauvelle-Aymar et al., "Le Port": 40; González-Ruibal et al., "Exploring": 155, 159.

79 Insoll, "Marine Shell".

80 Exploration of some sites in the Chercher Mountains has been completed. A group of circular chambered stone cairn tombs were excavated at Sourré-Kabanawa, c.40 km from Harlaa. Two were C14 dated to Cal AD 980–1180 (monument 1) and Cal AD 770–950 and Cal AD 930–1080 (monument 3). Thirty-five *M. annulus*, some with their dorsa removed, and forty *Oliva bulbosa*, some with their apex removed, were amongst the grave goods recovered, along with silver and copper metalwork and glass beads, cf. R. Joussaume, *Le mégalithisme en Ethiopie. Monuments funéraires protohistoriques du Harar*. (Paris:

It is also possible that some of the marine shell was exported back into Red Sea markets once it had been worked in Harlaa, and could have included Egypt as a destination. At Quseir al-Qadim, nineteen species of marine shell have been recorded in contexts dated to between the thirteenth to fifteenth centuries. Most abundant was a species not represented at Harlaa, *Nerita* sp. with 45 examples found, but also recovered were eleven *Conus* sp., some with their apex removed as at Harlaa.⁸¹ Much closer parallels exist between aspects of the Harlaa marine shell assemblage and material recovered from a workshop at Fustāt—Iṣṭabl ‘Antar.⁸² These include four *M. moneta* with their dorsa removed in the same way as at Harlaa, and an *O. bulbosa* with the apex removed and the surface below ground, again mirroring modification techniques found at Harlaa.⁸³ Based on its archaeological ubiquity the market for marine shell in Fustāt/Cairo appears to have been minimal. However, documents in the Cairo Geniza archive suggest that the city acted as a transit point for shell, particularly cowries, being sent west.⁸⁴ It is conceivable that Harlaa derived marine shell fed into this trade.

2.6 Carved Stone Jewellery Moulds

A final category of archaeological material potentially indicative of the relationship between eastern Ethiopia and Cairo are carved stone jewellery moulds. Twenty-five carved stone jewellery moulds have been recorded at Harlaa including one engraved with an as-yet indecipherable Arabic inscription (Figure 9).⁸⁵ All these moulds were found by villagers during farming but are supplemented by a further five simpler moulds that were recovered from

Boccard, 1974):102, Pl. XII–XIV. It is plausible that Harlaa was source of the marine shells and other items.

- 81 D.S. Reese, “Marine invertebrates”. In *Quseir Al-Qadim 1980*, ed. D. Whitcomb and J. Johnson. (Malibu : Undena Publications, 1982): 379–81.
- 82 The chronology of the Fustāt—Iṣṭabl ‘Antar workshop material is imprecise as the area was burnt in 750 and re-used in the Abbasid and Fatimid periods. E. Rodziewicz, *Bone carvings from Fustat—Iṣṭabl ‘Antar*. (Cairo: Institut Français d’Archéologie Orientale, 2012): xxxix.
- 83 Rodziewicz, *Bone Carvings*: 265–6, 473; Insoll, Marine Shell.
- 84 These documents are reviewed in Insoll, Marine Shell, and include a reference in a court document dated 19th August 1101 that mentions two bales of cowries to be delivered to Tripoli in Libya, shell which was avidly “sought after in the Mediterranean area, especially in Spain”, Goitein and Friedman, *India Traders*: 224.
- 85 Seven carved stone jewellery moulds from Harlaa were also published by Fauvelle-Aymar and Mensan, *Moules*. Of these, three were recorded again during the current research in Harlaa and are included in the total of 25, the other four were not located. It is not yet possible to provide a table of these moulds as the dimensions of five examples still need recording, and three need re-photographing, pending the resumption of negotiations



FIGURE 9 Carved soft stone jewellery moulds. (1) Fragment of one part of carved two-part jewellery mould from Harlaa. Arabic text carved in reverse. Upper text possibly includes “Muhammad” “ﷺ”, bottom text possibly includes a date, otherwise illegible (Dr S. Almahari pers. comm.) (Harlaa VF-2020.24). (2 and 3) One part of carved two-part jewellery mould from Harlaa. Four faces carved. The upper face is carved with a raised circular dome, possibly as a fixing point for another mould. It also has three peg holes and traces of a fourth on a broken corner. Two flow channels cross over on one side to form an elongated splayed T-shape at one end. The bottom face is carved with a single cavity for a jewellery part decorated with five raised circles and with a splayed flow channel leading to it, and one peg hole. There are also some linear scratches suggesting initial marking out for further casting cavities or flow channels that were never completed. (Harlaa VF-2020.16). (4 and 5) Fragment of one part of carved two-part jewellery mould from Harlaa. One face is carved with two circular roundels connected to a bar. The opposite face is engraved with two complete and one partial circles suggesting initial sketching out of designs that were never carved (Harlaa VF-2020.23). (6) One part of carved two-part jewellery mould, probably from Fustât, Museum of Islamic Art, Cairo

PHOTOS BY THE AUTHOR

with their owners once the security situation stabilises in the region as the Tigray conflict abates, and post-pandemic travel conditions normalise.

the excavations and used to cast ingots and possibly, coin blanks.⁸⁶ Parallels for these exist. At Soba, the former capital of the Christian kingdom of Alwa on the Blue Nile, one part of a two-part rectangular slate mould finely carved in reverse on one face with a medallion around a central Arabic inscription containing part of Qur'anic Sura 25 (*Al-Furqān*) was found. On the other face were two deeply carved cavities for casting finger-rings. The mould was ascribed a Fatimid date on stylistic grounds, but it was also stressed that comparative examples with dated provenance were unavailable.⁸⁷ The parallels between the Soba mould and some of the Harlaa stone moulds are striking. These parallels include the material used—'slate', in reality possibly a schist, also used for seven of the Harlaa moulds—as well as the well-executed carving and engraving, the use of metal pegs to join the two parts of the mould, the presence of lead residues in the peg holes—presumably from the use of lead as a sealant, as also found on one of the Harlaa moulds—, and the flow channels cut into the moulds for pouring the molten metal. Further resemblances exist in the multi-functionality of the mould blocks, with two faces carved with moulding cavities on the Soba example. In the Harlaa stone mould assemblage, four moulds have two faces carved with moulding cavities, and one has cavities carved in three faces. That some, if not all the moulds from Harlaa were made in the settlement is indicated by two examples which have incised sketched-out designs on them that were not ultimately finished by being further engraved or carved (**Figure 9**). The carved and engraved stone jewellery moulds would seem to form another component of the stone-working and lapidary traditions manifest at Harlaa, notably in relation to agate bead manufacture.⁸⁸

Although publication of comparable carved stone moulds is rare, it would appear that the Harlaa assemblage is the largest yet recorded. Other examples are scattered, one part of a two-part carved slate mould dated to comparable twelfth to thirteenth century contexts was reported from near Pias in Portugal.⁸⁹ Made of slate, the mould is less finely carved than the Harlaa or Soba examples and engraved in Kufic script with a somewhat confused version of Sura 112, *al-Ikhlāṣ* on one face.⁹⁰ This, like the Soba example, and the Arabic inscribed

86 All five of the simpler excavated moulds were recovered from the workshop complex (HAR-B), with two dated to the 11th to mid-13th century and the other three to between the late 13th to early 15th centuries. Four of the moulds were made in clay and two appear to have been for casting ingots and the other two for coin blanks. The fifth mould was made of carved sandstone and was probably used for casting large ingots.

87 L. Allason-Jones, "The finds." In *Soba*, ed. D.A. Welsby and C.M. Daniels. (London: British Institute in Eastern Africa, 1991): 145–147.

88 Insoll et al., "Material Cosmopolitanism".

89 C. Torres and S. Macías, *In the Lands of the Enchanted Moorish Maiden*. (Vienna: Museum With No Frontiers, 2001): 119.

90 Almahari, pers. comm. 11/6/19.

mould from Harlaa, may have been used to cast jewellery with an apotropaic function.⁹¹ The opposite face was engraved with four different sized crescents, attest to, again, multiple uses of the same mould block. The flow channel and lead-filled peg hole provide further parallels. A similar schist mould was also recovered from the alcazaba in Almería on the coast of southern Spain.⁹² Also from southern Spain, a similar slate mould was recorded at San Esteban (Murcia) in a thirteenth-century context. The mould is engraved with a roundel containing Arabic text on one face and cavities for casting hoop earrings or pendants on the other face.⁹³

Two other two-faced moulds from Volubilis and Dchîra in Morocco have also been published.⁹⁴ These are described as made of fired clay, but based on the sole use of softstone for the other moulds it is possible that this is a mis-identification, and they are in fact slate or steatite of a fine texture. Face B of the Volubilis mould with its multiple casting cavities to produce spherical beads, a square pendant, and drop earrings has affinities with some of the Harlaa moulds.⁹⁵ Two stone jewellery moulds were also found at Tegdaoust in Mauritania, a site where the main period of occupation was dated to between the late ninth to early fourteenth centuries.⁹⁶ As with the Harlaa example, and to a lesser extent the mould from Pias, the inscriptions engraved on the Tegdaoust moulds are described as not coherent.⁹⁷ The form of the illustrated mould is again similar to some of the Harlaa examples with the same use of peg holes, flow channels, and well-executed engraving.⁹⁸ These carved stone moulds form part of a widely distributed technology of metal-casting that is also found in non-Islamic medieval European and pre-Islamic contexts.⁹⁹ It

91 It was suggested that the mould from Soba had been used “to produce phylacteries or talismans for young women”, Allason-Jones, *Finds 145*.

92 This is displayed in the Almería Archaeological Museum and is described as for casting earrings (personal observation). No date was given but based upon the main phase of use of the alcazaba it likely also dates from the twelfth to thirteenth centuries.

93 Cf. J.A. Eiroa Rodríguez and M. Gómez Ródenas, *Rey Lobo. El Lagado de Ibn Mardaniš. 1147–1172*. (Murcia: Comunidad Autónoma de la Región de Murcia, 2019): 329.

94 A. Ruhlmann, “Moules à bijoux d’origine musulmane.” *Hespéris 21* (1935): 141–148.

95 Both are from the Islamic period and suggested, intriguingly, as resembling in their designs, Fatimid Egyptian styles. Ruhlmann, “Moules”: 146.

96 Cf. C. Vanacker, *Tegdaoust II*. (Nouakchott: Institut Mauritanien de la Recherche Scientifique, 1979); D. Robert-Chaleix, *Tegdaoust V*. (Paris: Editions recherche sur les civilisations, 1989).

97 D.S. Robert, “Les fouilles de Tegdaoust.” *JAH 11* (1970): 491.

98 Cf. Robert, “Fouilles”: Fig. 10.

99 The collections of the British Museum indicate the ubiquity of this technology, including other similar Islamic moulds with no or uncertain provenance, e.g., OA+1191 a–b, https://www.britishmuseum.org/collection/object/W_OA-1191-a-b, accessed 17/1/21, as

is conceivable that Cairo was a centre through which this technology passed in the Fatimid, Ayyubid and Mamluk periods, being the terminus linking the Mediterranean and Indian Ocean networks, as the Geniza documents record in detail, as well as networks linking it with West Africa and the Horn of Africa. However, the extent to which these carved stone moulds were made and used in Cairo itself is unknown, though they are represented by an example in the Museum of Islamic Art in Cairo that according to the catalogue entry was retrieved from Fatimid period deposits in Fustât (Figure 9).¹⁰⁰ Moreover, it might not be a coincidence that the predominantly western distribution of these jewellery moulds—that is to say, in Portugal, Spain, Morocco and Mauritania—also reflects the potential market for commodities such as worked marine shell sent from Harlaa, via Cairo.

3 Reconstructing a Relationship

Harlaa was involved in long distance trade before the twelfth century but the absence of Fatimid material—excluding a single copper fals probably minted in al-Mustanşir's reign (1036–1094) and from either Palestine or Syria, and the bread stamp of Fatimid date—suggests that Harlaa was not much involved in Fatimid-period Red Sea trade with Egypt.¹⁰¹ Alternatively, relevant material awaits discovery in future excavation, and/or trade was in commodities not identifiable as of Fatimid/Egyptian origin. The absence of Harlaa in the *Book of Curiosities*, an illustrated cartographic volume probably completed in Cairo between 1020–1050, would also suggest it was not known in the Fatimid capital. Other centres, both in the Gulf of Aden and down the Somali coast, are shown, and, moving west to east, include Zayla', Hays (Heis/Xiis), Mayt,

well as a Neo-Assyrian (800–612 BC) example from Nineveh, Iraq, 91904, https://www.britishmuseum.org/collection/object/W_N-1670, accessed 17/1/21, and an early or middle Byzantine (sixth to eleventh centuries) carved stone jewellery mould, 1879.0522.103, https://www.britishmuseum.org/collection/object/H_1879-0522-103, accessed 17/1/21.

100 Catalogue entry courtesy of Mr Adel Helal, Curator, Museum of Islamic Art, Cairo.

101 This is in contrast to the western highlands where architectural material is suggestive of Fatimid contacts, notably part of an inscription found in the monastery church of Wuqro Cherqos in Tigray. This was carved on sandstone in Kufic script with the probable word *al-mulk* (divine sovereignty), and although the inscription was ascribed local origins was interpreted as denoting a link to a “Fatimid-aligned trading colony in Tigray” by M. Muehlbauer, “From Stone to Dust: The Life of the Kufic-Inscribed Frieze of Wuqro Cherqos in Tigray, Ethiopia.” *Muqarnas* 38 (2021): 15, and had been used in a mosque before ending up in the church.

Candala, Ras Alula, Ras Jardafun and Ras Hafun.¹⁰² The modern editors of this work suggest that descriptions of such places were “based on first-hand knowledge”.¹⁰³ These are all coastal locations or ports, implying that information on the interior was less detailed, possibly explaining the absence of Harlaa and other inland settlements.¹⁰⁴ Alternatively, it may have been omitted as the inland centres were seen as unimportant and the focus was on coastal settlements, as is also apparent in the Geniza documents with their references to locations such as Aden, Badi, Aidhab, and the Dahlak Islands, and shipping routes between the latter two.¹⁰⁵

It is in the Ayyubid period that archaeological evidence for contacts with Egypt expands. Such contacts were probably indirect and filtered through Aden, particularly after parts of Yemen were occupied by the Ayyubids after its conquest under an army led by Tūrānshāh b. Ayyūb in 569/1173. Harlaa-Yemen contacts may have been even more pronounced after the last Ayyubid ruler in Yemen, al-Mas‘ūd, left in 628/1229, following his appointment of ‘Umar b. ‘Alī, the Rasulid amir, as deputy, and who in 632/1235 gave himself the name al-Malik al-Manṣūr, thus establishing the independent Rasulid state.¹⁰⁶ At Harlaa the dominance of glazed and unglazed ceramics from Yemen/the southern Red Sea area has already been noted. There are also affinities between some of the locally produced ceramics from Harlaa and wares in the assemblages from al-Quraiyat, 6 km east of Zinjibar, near Aden, and further to the northeast at Sharma on the Hadramawt coast.¹⁰⁷ From Yemen, travelling north, there were a variety of places that could have served as stop-overs. On the Arabian Red

102 Y. Rapoport and E. Savage-Smith, *Lost Maps of the Caliphs. Drawing the World in Eleventh-Century Cairo*. (London: The University of Chicago Press, 2018): 217.

103 Rapoport and Savage-Smith, *Lost Maps*: 218.

104 *Ibid.*: 223.

105 E.g., Goitein and Friedman, “India”: 177, 190, 261.

106 G.R. Smith, *The Ayyūbids and early Rasūlids in the Yemen*. (London: Luzac for the Trustees of the ‘E.J.W. Gibb Memorial, 1978): ix; The extent of these transactions is clear from the *Nūr al-ma‘ārif*, cf. Vallet, *L’Arabie*. Migration, in the form of forced, free movement, and exile, and in both directions across the Red Sea between Yemen and Ethiopia was also significant in the 13th to 15th centuries, Baba, “Notes”: 69.

107 The Al-Quraiyat assemblage includes vessels with horizontal lug handles of types found at Harlaa. Similarly, some of the burnished wares may be similar to Harlaa vessels, cf. G. Lankester Harding, *Archaeology in the Aden Protectorates*. (London: H.M.S.O., 1964): 19, plate v, numbers 32, 33, 34. Approximately 50 carinated bowls were also found amongst the wares recovered from Sharma, A. Rougeulle, A. Collinet and N. Martin. 2015. “Les céramiques non glaçurées.” In *Sharma. Un entrepôt de commerce médiéval sur la côte du Hadramawt*, ed. A. Rougeulle. (Oxford: Archaeopress Publishing Ltd, 2015): 224–225. The style of the simple carinated bowl type is similar to examples from Harlaa, Tait, *Archaeological Ceramics*: 363.

Sea coast, for example, further ceramics described as African have been identified in contexts dated to the thirteenth to fifteenth centuries at al-Sharja in the Tihama coastal plain in Saudi Arabia.¹⁰⁸ Meanwhile at Quseir al-Qadim, some of the ceramics such as roulette and incised decorated wares also suggest it had population from, or connections with, regions further south such as the Sudan, Ethiopia, and perhaps the East African coast.¹⁰⁹ Yemeni ceramics also occur at Quseir al-Qadim, attesting to strong connections.¹¹⁰ On the African Red Sea coast, and offshore, the Dahlak Islands were an important stopping point, as were Badi, Suakin and Aidhab (Figure 1).¹¹¹

A second route to Egypt from Harlaa, albeit empirically more tenuous, may have been overland and indirect, along the foothills of the Chercher Mountains, across the Rift Valley, through Shoa, to the heart of the Christian kingdom in the Lalibela area, down into the Sudan, through the Takkaze/Atbara river route to the Nile and then across the desert between Abu Hamed and Korosko and up to Aswan. Alternatively, the Nile may have been reached through the Sennar region to Soba (Figure 1). Starting at Harlaa, the possible connections between it and the Chercher Mountains communities have already been noted. Harlaa may also have been a source of the silver used to make the spiral bracelets found in sites associated with the so-called Shay culture, on the opposite side of the Rift Valley.¹¹² It may additionally have been the source of the bracelets themselves, and some or all of the monochrome glass seed beads, glass eye

-
- 108 These are described as “paddle-stamped”, J. Zarins and H. Al-Badr, “Archaeological investigation in the southern Tihama plain II 1405/1985,” *Atlat* 10 (1986): 56. More precise parallels can be suggested for earlier ninth to mid-eleventh century ceramics from Athar, also in the Saudi Tihama, where a carinated black burnished ware could be of Ethiopian origin, cf. J. Zarins and A. Zahrani, “Recent archaeological investigations in the southern Tihama plain. The Sites of Athar and Sihi.” *Atlat* 9 (1985): 81, Tait, *Archaeological Ceramics*: 358.
- 109 D. Whitcomb, “Islamic ceramics.” In *Quseir Al-Qadim 1980*, ed. D. Whitcomb and J. Johnson. (Malibu: Undena Publications, 1982): 151, 171.
- 110 The Yemeni wares were also identified as Tihama products and included black on yellow wares. See R. Bridgman, “From the Tihamah Plain to Thailand and Beyond: Preliminary Analysis of Selected Ceramics from Quseir al-Qadim.” In *Connected Hinterlands BAR S2052*, ed. L. Blue, J. Cooper, R. Thomas and J. Whitewright. (Oxford: BAR: 2009): 137.
- 111 Vallet, *L’Arabie*: 421. The archaeology of the Dahlaks, Suakin, and Aidhab is reviewed in T. Insoll, *The Archaeology of Islam in Sub-Saharan Africa*. (Cambridge: Cambridge University Press 2003): 49–56, 94–97.
- 112 The idea of a homogenous Shay ‘culture’ remains somewhat tentative as it was dated by only four published C14 dates to between the ninth and fourteenth centuries, but is described as associated with approximately 100 sites, predominantly funerary monuments, distributed on the eastern margin of the western highlands in southwest Wollo and Shoa, F.-X. Fauvelle and B. Poissonnier, “The Shay Culture of Ethiopia (Tenth to Fourteenth Century AD): ‘Pagans’ in the Time of Christians and Muslims.” *AAR* 33 (2016): 63–65.

beads, and banded agate beads found, for example, inside the tumulus of Tātār Gur.¹¹³ Suggesting Harlaa as a supplier of imported material at sites such as Tātār Gur is not, however, to rule out other sources or imply that tastes were dictated by a distant Islamized entrepôt. Differences emerge in the materials being consumed with, for example, marine shell apparently absent in the Shay sites, but abundantly represented, as previously described, in the Chercher tumuli. Equally, there are contrasts in bead assemblages with the segmented glass beads found in Tātār Gur, Sourré-Kabanawa, and Raré being very rare at Harlaa, possibly because they were cut up to produce small monochrome single beads.¹¹⁴

Elsewhere in the western Highlands, archaeological indications of imported materials from the Islamic World are uncommon (or possibly unpublished), but attest to Egyptian connections. These likely varied over time, sometimes direct, as attested by Christian diplomatic missions, at other times indirect, and may have encompassed both commercial trade, as the *Nūr al-ma'ārif* records, and gift exchange, as described below.¹¹⁵ At Lalibela, a cast bronze mortar, feasibly of Ayyubid date and Egyptian origin, and part of a bronze Mamluk salver stand, again probably Egyptian, were recovered from a baptismal pool adjacent to the Church of Mary, along with two fifteenth-century Yemeni salvers; two other copper alloy salvers were also recorded in the treasury of the Church of George, one Ayyubid and the other Mamluk.¹¹⁶ Another piece of Ayyubid metalwork, a silver inlaid bronze incense burner, suggested as possibly of northern Syrian origin, was also found in an illicitly excavated hoard from Ketetiya, south Wollo.¹¹⁷ Where this metalwork was sourced from is unknown, but in

113 Precise figures for the quantities of beads found are not provided, but the illustrations indicate perhaps one thousand monochrome blue glass beads and a couple hundred each of yellow, green, and red beads. Glass eye beads and agate beads seem less numerous, again based on the illustration provided, cf. Fauvelle and Poissonnier, “Shay Culture”: figures 8 and 9, and B. Poissonnier, “Le tumulus de Tātār Gur (Mänz): un dolmen à couloir.” In *La culture Shay d'Éthiopie (x^e-xiv^e siècles)*, ed. F.-X. Fauvelle-Aymar and B. Poissonnier. (Paris: Centre français des études éthiopiennes, 2012): 97–99. These patterns match the Harlaa beads assemblage, where of the approximately 2000 glass beads recorded (see note 40), monochrome glass beads vastly outnumber eye beads, and banded agate beads were uncommon in comparison to red or yellow agate beads.

114 For the segmented beads see Fauvelle and Poissonnier, “Shay Culture”: 70; Joussaume, *Le Mégalithisme*: plates 11 and 12; R. Joussaume, *Mégalithisme dans le Chercher en Éthiopie*. (Paris: Boccard, 2014): 115.

115 Vallet, *L'Arabie*; Tamrat, *Church*.

116 J. Mercier and J. Lepage, *Lalibela: Wonder of Ethiopia*. (London: Paul Holberton, 2012): 317–321. They further note that in the fourteenth and fifteenth centuries Ethiopian clergy were very fond of salvers which were “imported from the Islamic world”, *ibid.*: 319.

117 F.-X. Fauvelle-Aymar et al., “Découvertes archéologiques aux environs de Dessié (Éthiopie).” *Annales d'Éthiopie* 25 (2010): 262–264. Earlier Umayyad and Abbasid period coin and

the general absence of other Middle Eastern/Red Sea/Indian Ocean imports in the western highlands, Harlaa, particularly considering the Ayyubid and Mamluk chronology, is as plausible a source as a northern directed trade route from Tigray to the Massawa/Dahlak Islands area.¹¹⁸

At Nora in northeastern Shoa, one of the few Islamic sites west of the Rift Valley to have been excavated, little imported material has been found, comprising an unspecified number of cowries and beads.¹¹⁹ This is surprising considering the size of the site, the substantial stone architecture recorded—including a large congregational mosque, areas of housing, and a large cemetery—and the fourteenth to fifteenth-century chronology, which is contemporary with the latter part of the occupation at Harlaa.¹²⁰ Similarly at Awfāt, identified as the capital of the Sultanate of Ifat on the basis of funerary epigraphy, imports are not reported.¹²¹ Here this could be due to an absence of excavation, and imports perhaps await discovery. Alternatively, Nora was an Islamic settlement not involved in manufacturing, or the storage of imported goods and instead, may have been a transit point for merchants from the eastern highlands, or the chronology may be primarily sixteenth-century, and it was thus affected by events in the Red Sea, described below.

Contacts between Harlaa and Shoa are also suggested architecturally. Whereas the mosque at Nora differs from the earliest extant mosque at Harlaa, HAR-A, with differences in the mihrab form, stonework, and circular stone pillars used to support the roof, absent in Harlaa, another mosque at Fäqi Däbbis

textile finds in Ethiopia are reviewed in Insoll, "Islamic Archaeology of Ethiopia": 423.

- 118 F.-X. Fauvelle-Aymar and B. Hirsch, "Muslim Historical Spaces in Ethiopia and the Horn of Africa: A Reassessment." *Northeast African Studies* 1 (2010): 45, have proposed two phases of coast to interior trade routes used by Muslims: a Phase 1 northern route from the Dahlak Islands to Shoa operating in the tenth to thirteenth centuries, and a Phase 2 eastern route from Shoa to Zeila between the thirteenth and sixteenth-centuries. This can be refined with Phase 2 suggested as operating from the twelfth century.
- 119 Fauvelle, Hirsch and Chekroun, "Le Sultanat": 256. The excavations are reported in more detail in F.-X. Fauvelle-Aymar et al., A topographic survey and some soundings at Nora, an ancient Muslim town of Ethiopia. *JES* 39 (2006): 1–11.
- 120 Fauvelle, Hirsch and Chekroun, "Le Sultanat": 256. The earliest radiocarbon date is described as from the twelfth to thirteenth centuries, suggesting further chronological equivalence with Harlaa.
- 121 The area west of the mosque in the citadel (Sector B) was described as where the spread of ceramics was particularly abundant, and in the town (Sector C) ceramics were again abundantly strewn and a mould fragment found interpreted as suggesting the former presence of a jewellery workshop, Fauvelle, Hirsch and Chekroun, "Le Sultanat": 263–264. Presumably, glazed ceramics, glass, beads etc. were absent. An earlier exception to this absence of imported material is provided by a single green and brown glazed Fatimid potsherd from a cemetery context at Bilet in Tigray, J. Loiseau et al., "Bilet and the wider world. New insights into the archaeology of Islam in Tigray (Ethiopia)." *Antiquity* 95 (2021): 508–529.

north of Shoa Robit is comparable.¹²² Excavations have indicated two phases to the mosque, an earlier one surviving only in outline and dated to between the late thirteenth and late fourteenth centuries, and a later extant building dated to the first half of the fifteenth century.¹²³ Parallels exist in the use of regularly cut stone blocks, and in the form of the mihrab, though HAR-A lacks its upper part so it is not known if it was of the same pointed type.¹²⁴ Elements of the unglazed ceramics assemblage from Fäqi Däbbis also suggest connections with Harlaa, specifically the presence of wares with punctate decorated rims, also found in the Chercher Mountains at Molé, and these ceramics appear to be related to links with wider Islamic trade networks connecting all three areas.¹²⁵ What was potentially supplied from Shoa to Harlaa is not known, perhaps slaves and ivory, possibly gold, whereas from Chercher, ceramics, foodstuffs, livestock, and slaves are all possible.

Moving north from Shoa, the routes to Harlaa become more archaeologically opaque, but suggestions can be made. The close connections between the Ethiopian Christian kingdom and Egypt are well-known historically, as the *History of the Patriarchs of Alexandria* (c.mid to late tenth-century) indicates, and as exemplified by al-‘Umari’s reference to the Ethiopian Metropolitan being chosen by the Coptic Patriarch in Cairo.¹²⁶ Egyptian bishops were also sent to Ethiopia, and Ethiopian delegations travelled to Cairo, reflecting contacts that have been described by Tadesse Tamrat as “close and regular”.¹²⁷ This appears to have been particularly so under the Zagwe Dynasty (c.930–1270), and in the twelfth to thirteenth centuries when longer distance contacts seem to have expanded and interaction with Muslim neighbours increased.¹²⁸ Muslim-Christian interaction may explain the presence in Harlaa

122 Personal observation of the Nora mosque, 25/2/17.

123 The C14 dates are reported as 630+/-30 BP or 1293–1399 AD and 490+/-30 BP or 1407–1444 AD by Fauvelle-Aymar and Hirsch, “Muslim Historical”: 36.

124 See B. Poissonnier et al., “Les mosquées médiévales de Goze et Fäqi Däbbis (Ifät).” In *Espaces musulmans de la Corne de l’Afrique au Moyen Âge*, ed. F.-X. Fauvelle-Aymar and B. Hirsch. (Paris: Centre français des études éthiopiennes, 2011): fig. 4.25 and 4.34.

125 Poissonnier et al., “Les Mosquées”: 135, drew the Chercher parallel, Tait, *Archaeological Ceramics*: 99, the Fäqi Däbbis to Harlaa connections.

126 S.B. Al-Muqaffa, *History of the Patriarchs of Alexandria: The Copts of Egypt Before and After the Early Islamic Conquests*. (London: I.B. Tauris & Co. Ltd., 2017): 53, al-‘Omari, *Masālik*: 30.

127 Tamrat, *Church*: 59, who also describes how an Ethiopian delegation sent to Caliph al-‘Adil (1160–1171) was also received by Salah al-Din in 1173, who was impressed by the presents they had brought, *ibid.*: 57.

128 Cf. T. Insoll, The Archaeology of Complexity and Cosmopolitanism in Medieval Ethiopia. An Introduction. *Antiquity* 95 (2021b): 450–466. Until recently the Zagwe have remained little understood historically possibly as they were, originally at least, Cushitic and not Semitic language speakers, D.W. Phillipson, *Foundations of an African Civilisation. Aksum*

of a Byzantine copper trachy minted during the reign of Emperor Theodore Komnenos Doukas (1224–1230) in Thessaloniki (**Figure 10**).¹²⁹ Outside the primary area of distribution in the southern Balkans and Greece, examples of these trachys have been recorded in southern Italy and western Anatolia, but not elsewhere, and it has been suggested that it travelled to Egypt as part of increasing links between the Aegean and Egypt at that time.¹³⁰ From there, Christian agency is possibly why it ended up in Ethiopia, perhaps because of the cross imagery it is struck with on both faces (**Figure 10**). Alternatively, it may have been brought back by a Muslim trader to Ethiopia from Egypt or the Greek-speaking part of Byzantium.¹³¹

The available historical evidence suggests that the two Ethiopian embassies that travelled to Cairo in the 1270s crossed the Red Sea twice, first to Aden, then to Aydhab, before proceeding down the Nile to Cairo.¹³² Alternatively, if delegations and merchants had travelled from the Christian kingdom to Egypt by land the route must, logically, have entered the Sudan, possibly, based on modern routes, around Humera in north-west Tigray or, perhaps more plausibly, around Metema in the Simien Gondar zone of central Amhara. Presumably, travellers would then have crossed to the Nile, via the Takkaze Atbara River, as previously described, or in the vicinity of Sennar (which itself did not assume prominence until it became capital of the Funj Sultanate in the sixteenth century), and north through Nubia, as indicated by the reference in the fourteenth century manuscript of *Gadla Ewōṣtātēwōs* that the route followed by this monk and saint on his pilgrimage to Jerusalem c.1330 went through Nubia.¹³³ Archaeologically, it is not yet possible to trace Ethiopian material culture in medieval Sudanese and Nubian contexts, due to absences in research coverage and incomplete documentation. However, there are hints that this would be a

and the Northern Horn 1000 BC–AD 1300. (Woodbridge: James Currey, 2012): 227. This has meant that “in the dominant traditions of their political enemies” they have been obscured or caricatured, Tamrat, *Church*: 57. However, recent studies have begun to address this, notably M-L. Derat, *L'Énigme d'une dynastie sainte et usurpatrice dans le royaume chrétien d'Éthiopie du XI^e au XIII^e siècle*. (Turnhout: Brepols, 2018b).

129 Baker pers. comm. 22/5/18.

130 Baker pers. comm. 22/5/18.

131 An intriguing later, fourteenth-century Christian hagiographical tradition, *Gädlä Zēna-Marqos*, cited by Tamrat, *Church*: 88, specifically refers to “Muslim merchants doing business in India, Egypt, and among the people of Greece with the money of the king”, the latter a reference to the Christian king.

132 This is discussed by J. Loiseau, *The Ḥaṭī and the Sultan. Letters and Embassies from Abyssinia to the Mamluk Court*. In *Mamluk Cairo, a Crossroads for Embassies. Studies on Diplomacy and Diplomatics*, ed. F. Bauden and M. Dekkiche (Leiden: Brill, 2019): 638–657.

133 Vantini, *Oriental*: 516.



FIGURE 10 Byzantine copper trachy of Emperor Theodore Komnenos Doukas (1224–1230) minted in Thessaloniki no later than 1226
PHOTOS BY THE AUTHOR

useful area for future investigation, as the jewellery mould parallels from Soba, previously discussed, suggest.

Conclusions

Occupation at Harlaa ended in the fifteenth century and, potentially, this was also, in part, a consequence of a less beneficial aspect of the relationship with Egypt, the introduction of plague, *Yersinia pestis*. Plague had a massive impact in Egypt with an estimated fifty-five outbreaks between 1347–1517, with twenty of these being major.¹³⁴ Quantitative analysis has indicated that in just two of these outbreaks, broadly contemporary with the decline of Harlaa, 46% of the population of Cairo died in 833/1430 and 40% in 864/1460.¹³⁵ The accompanying impact upon the infrastructure of both Cairo and the rural environment was

134 R. Irwin, *The Middle East in the Middle Ages: The Early Mamluk sultanate, 1250–1382*. (Carbondale: Southern Illinois University Press 1986): 136.

135 The total deaths were reconstructed at 91,330 in 833/1430 and 80,951 in 864/1460, both from a population of 200,000. S. Borsch and T. Sabraa, “Plague Mortality in Late Medieval Cairo: Quantifying the Plague Outbreaks 833/1430 and 864/1460 CE.” *Mamluk Studies Review* 14 (2016): 135.

also significant.¹³⁶ The role of Egyptians in spreading plague in Ethiopia could have been through two fronts—via the connections maintained between the Ethiopian Church and the Coptic Patriarch in Cairo, as previously described, and in the Islamic context through connections maintained at multiple levels, and likely mediated through Yemen, as previously described, and where plague was recorded in Aden in 1435–36 by al-Maqrīzī, for instance.¹³⁷ This and the third wave of epidemics that occurred in the fifteenth century in Christian Ethiopia are chronologically relevant to the situation in Harlaa.¹³⁸ Direct evidence for plague is so far lacking at Harlaa, a situation commonly encountered archaeologically.¹³⁹ The usual vector for *Y. Pestis* is infected fleas moving from rodent reservoirs, and rats have not yet been recorded in the faunal assemblage from Harlaa.¹⁴⁰ However recent research has indicated that human ectoparasites such as body lice and human fleas can also be vectors for *Y. Pestis* and appear, for example, to have been instrumental in the spread of the so-called ‘Black Death’ (1346–1353) in Europe.¹⁴¹

Besides the possibility that plague played an instrumental role in the decline of Harlaa, other factors that may have contributed could be water stress, warfare, and population migration. The latter may have been linked with increasing Islamisation making the need for a defended settlement between the highlands and lowlands less necessary. This would appear to be correlated by the archaeological chronology for the foundation of Harar in the highlands where radiocarbon dates from excavation in six mosques indicates

-
- 136 S. Borsch, “Plague Depopulation and Irrigation Decay in Medieval Egypt.” In *Pandemic Disease in the Medieval World: Rethinking the Black Death*, ed. M. Green. (Kalamazoo: Arc Medieval Press, 2014): 125–126; J. Loiseau, *Reconstruire la maison du Sultan. Ruine et reconstruction de l’ordre urbain au Caire (1350–1450)*. (Cairo: Institut français d’archéologie orientale du Caire, 2010): 114–115, 140.
- 137 M.L. Derat, “Du lexique aux talismans: occurrences de la peste dans la Corne de l’Afrique du XIII^e au XV^e siècle.” *Afriques* 9 (2018): 26, 37, 39, considers the agency of Ethiopian-Egyptian connections in the spread of plague and discusses the relevant historical sources in detail.
- 138 These epidemics were in 1403, the 1430s, and between 1454 and 1468, as recorded, for example, in the biographies of Saints Yoḥānnes (c.1371–1449) and Marḥa Krestos (c.1408–1497), Derat, “Du Lexique”: 37.
- 139 The difficulties in identifying *Y. Pestis* archaeologically and some of the methods that can redress this are discussed by Antoine, “Archaeology”.
- 140 C.E. Demeure et al., “*Yersinia pestis* and plague: An updated view on evolution, virulence determinants, immune subversion, vaccination, and diagnostics.” *Genes and Immunity* 20 (2019): 357.
- 141 K.R. Dean et al., “Human ectoparasites and the spread of plague in Europe during the second pandemic.” *PNAS* 115 (2018): 1304.

that these all post-dated the late fifteenth century.¹⁴² Similar dates of the fifteenth century, and mid-seventeenth to mid-nineteenth century have been obtained, respectively, from excavation in a palace site and a shrine.¹⁴³ Harar may have been the successor to Harlaa, but it was not a facsimile. The evidence for imported items from long distance trade is almost wholly absent comprising four sherds of glazed Middle Eastern ceramics, one possibly Syrian, two others possibly Yemeni or Egyptian, a single sherd of Chinese blue and white ware, and one glass bottle or flask neck.¹⁴⁴

Linked with the cessation of imports evident at Harar must have been the shifts that occurred in Red Sea and Indian Ocean trade following the rounding of the Cape of Good Hope by Vasco da Gama in 1498. Although the Portuguese never established a permanent base in the Red Sea, two major expeditions did travel north up the Red Sea, under Alfonso d'Albuquerque in 1513 and Dom Juan de Castro in 1541, and these were to have lasting effects on Red Sea commerce.¹⁴⁵ A further factor that affected the economic situation in eastern Ethiopia in the sixteenth century vis-à-vis the absence of imports in Harar was the subsequent Ottoman domination of the Red Sea which began with the creation of the eyalet (province) of Habeş (Habash) in 1555 with the capital at Suakin, and continued with the Ottoman conquest of the Red Sea coast as far as the Bal al-Mandeb straits between 1555 and 1557.¹⁴⁶ James Bruce, for instance, described in the narrative of his travels in northeast Africa between 1768 to 1773 how Zayla' had been occupied by the "Turks of Arabia" (i.e., the Ottomans) because they "were sensible of the great influx of trade into the opposite kingdom" (i.e., Adal), and thus heavily taxed the India trade to Adal.¹⁴⁷ This was a

142 T. Insoll and A. Zekaria, "The Mosques of Harar. An Archaeological and Historical Study." *Journal of Islamic Archaeology* 6 (2019): 104.

143 T. Insoll, "First Footsteps in the Archaeology of Harar." *Journal of Islamic Archaeology* 4 (2017): 196, 201.

144 Ibid.: 207; Insoll and Zekaria, "The Mosques": 99.

145 C. Le Quesne, *Quseir: An Ottoman and Napoleonic Fortress on the Red Sea Coast of Egypt*. (Cairo: The American University in Cairo Press, 2007): 29. Dames, *The Book*: lxii, argues that the Portuguese incursion did not stop Red Sea trade altogether but served to "check and restrict it to such an extent that it gradually dwindled away".

146 A.C.S. Peacock, "Suakin: A Northeast African Port in the Ottoman Empire." *Northeast African Studies* 12 (2012): 34; M. Tuchscherer, "Trade and Port Cities in the Red Sea—Gulf of Aden region in the Sixteenth and Seventeenth Century." In *Modernity and Culture. From the Mediterranean to the Indian Ocean*, ed. L. Fawaz and C. Bayly. (New York: Columbia University Press, 2002): 34.

147 J. Bruce, *Travels to Discover the Source of the Nile. Volume 2*. (London, 1790). (Egypt: Gregg Publishing, 1972): 129.

factor which must also have contributed to the absence of imports in Harar, and, indeed, their contemporary paucity in the chain of settlements that linked Harar to the Red Sea Coast.¹⁴⁸

The highpoint of contacts between eastern Ethiopia and Cairo may have been the period of Harlaa's existence that coincided with the Ayyubid, Rasulid in particular, and Mamluk periods, but connections were maintained, albeit in a different form, after the disappearance of Harlaa. In Harar, for a short period the relationship shifted to a colonial one, with the city occupied by the Egyptians between 1874 and 1884, after it was taken by Rauf Pasha following the conquest of Zayla' and Berbera in 1870.¹⁴⁹ The impact of the Egyptian occupation, though short, was also profound in the countryside surrounding Harar, in spreading Islam amongst the Oromo, forcing them to pay taxes, and shift from pastoralism to cultivating the land.¹⁵⁰ Thus, in conclusion, it can be seen that the association between Cairo and what it might periodically have perceived as its northeast African hinterland was both complex and changeable over time, and one which archaeology is beginning to make significant contributions to understanding.

Acknowledgements

The author is grateful to Professor Dionisius Agius and Dr Jo Van Steenberg for providing references on plague in Egypt, Professor Michael Gervers for information on looms and cotton in Ethiopia, and Ms Hannah Parsons-Morgan

148 Although the chronology of many of the sites linking Zayla' and other Somaliland Red Sea ports with eastern Ethiopia still needs adequately reconstructing, it appears that the imported ceramics, glass wares, glass bracelets etc. predominantly date to between the twelfth to sixteenth centuries, and then largely disappear, González-Ruibal et al., "Exploring": 159. An interesting example of Ottoman period imports is, however, provided by a hoard of 67 silver coins, Ottoman issues minted in Zabid, Yemen during the reign of Sultan Sulaymān ibn Salīm (926–974/1520/1566), C. Juvin, "Trésor monétaire dans une ciste dolménique du Chercher." In *Mégalithisme dans le Chercher en Éthiopie*, ed. R. Joussaume. (Paris: Boccard, 2014): 73. These were found inside a locally made carinated ceramic vessel that had been placed within an antechamber of tomb C2 at Sourré-Kabanawa, Joussaume, *Mégalithisme dans le Chercher*: 72. Presumably this occurred at least a couple of centuries after these monuments had ceased to be used for funerary purposes.

149 S. Santelli, "Harar: The Fourth Holy City of Islam." In *The City in the Islamic World. Volume 1*, ed. S.K. Jayyusi. (Leiden: Brill 2008): 628.

150 R.A. Caulk, "Harär Town and its Neighbours in the Nineteenth Century." *Journal of African History* 18 (1977):381–382.

and Mr Temesgen Leta for providing images of some of the objects discussed. He is also grateful to Dr Doug Nicol, Dr Julian Baker, Mr Joseph Lang and Dr Helen Wang for identifying the coins (as indicated in Table 2), Professor Frédéric Bauden for translating an inscription on a sphero-conical vessel, Dr Salman Almahari for translating an inscription on a stone mould, Dr Seth Priestman and Dr Stéphane Pradines for initial comments on the Middle Eastern ceramics, Dr Andreia Salvador for initial comments on the marine shell, Dr Laure Dussubieux for completing the LA-ICP-MS analysis of glass and carnelian, Mr Adel Helal for providing the catalogue details of a jewellery mould in the Museum of Islamic Art, Cairo, Dr Said Shihad Hussein for sharing his observation on the historical identity of Harlaa, and to Mr Meftuh S. Abubaker for his observations on the Hubeta pass. The author also thanks the Authority for Research and Conservation of Cultural Heritage, Addis Ababa, the authorities in Dire Dawa, and the administrators and community in Ganda Biyo for approving the research, the ERC for funding the project under the *Becoming Muslim* grant (ERC-2015-AdG BM694254), Dr Rachel MacLean and three anonymous reviewers for commenting on the paper, and Dr Nicholas Tait and Dr Nadia Khalaf for preparing the illustrations.

Bibliography

- Ahmed, H. 1992. The historiography of Islam in Ethiopia. *Journal of Islamic Studies* 3: 15–46.
- Ahmed, H., O’Fahey, R.S., and Wagner, E. 2003. The Islamic and related writings of Ethiopia. In *The Writings of the Muslim Peoples of Northeastern Africa*, ed. R.S. O’Fahey. Leiden: Brill: 18–68.
- Allason-Jones, L. 1991. The finds. In *Soba*, ed. D.A. Welsby and C.M. Daniels. London: British Institute in Eastern Africa: 126–162.
- Antoine, D. 2008. The archaeology of “plague”. *Medical History Supplement* 27: 101–114.
- Avissar, M. and E.J. Stern. 2005. *Pottery of the Crusader, Ayyubid, and Mamluk periods in Israel*. Jerusalem: Israel Antiquities Authority.
- Baba, T. 2018. Notes on migration between Yemen and Northeast Africa during the 13–15th Centuries. *Chroniques du manuscrit au Yémen Special Issue 1* (2017–2018): 69–86.
- Barnard, H., S. Shah, G.E. Areshian and K.F. Faull. 2016. Chemical insights into the function of four sphero-conical vessels from Medieval Dvin, Armenia. *Muqarnas* 33: 409–419.

- Barnes, R. 1990. Indian trade cloth in Egypt: The Newberry Collection. *Textiles in trade. Textile Society of America symposium proceedings*, ed. Anon. Washington: Textile Society of America: 178–187.
- Barnes, R. 1997. *Indian-block Printed Textiles in Egypt: The Newberry Collection in the Ashmolean Museum*, Oxford: Clarendon Press.
- Bauden, F. 2011. Inscriptions arabes d'Éthiopie. *Annales Islamologiques* 45: 285–306.
- Beldados, A., E. Zewdu and T. Insoll. 2019. Report on the archaeobotanical study of soil samples from Harar and Harlaa (Dire Dawa). Unpublished report: Addis Ababa University.
- Berman, A. and G. Bijovsky. 2008. Chapter 2. The coins. In *Paneas. Volume 2.*, ed. V. Tzaferis and S. Israeli. Jerusalem: Israel Antiquities Authority: 11–99.
- Borsch, S. 2014. Plague Depopulation and Irrigation Decay in Medieval Egypt. In *Pandemic Disease in the Medieval World: Rethinking the Black Death*, ed. M. Green. Kalamazoo: Arc Medieval Press: 125–126.
- Borsch, S. and T. Sabraa. 2016. Plague Mortality in Late Medieval Cairo: Quantifying the Plague Outbreaks 833/1430 and 864/1460 CE. *Mamluk Studies Review* 14: 115–148.
- Bridgman, R. 2009. From the Tihamah Plain to Thailand and Beyond: Preliminary Analysis of Selected Ceramics from Quseir al-Qadim. In *Connected Hinterlands BAR S2052*, ed. L. Blue, J. Cooper, R. Thomas and J. Whitewright. Oxford: BAR: 133–140.
- Bruce, J. 1972. *Travels to Discover the Source of the Nile. Volume 2.* (London, 1790). Egypt: Gregg Publishing.
- Carboni, S. 2001. *Glass from Islamic lands*. London: Thames and Hudson.
- Caulk, R.A. 1977. Harär Town and its Neighbours in the Nineteenth Century. *Journal of African History* 18: 369–386.
- Cerulli, E. 2013. *Islam. Yesterday and Today* (Waber, E.M. trans.). Rome: Istituto per l'Oriente.
- Chekroun, A., F.-X. Fauvelle-Aymar, B. Hirsch, D. Ayenachew, H. Zeleke, O. Onezime and A. Shewangizaw. 2011. Les Harla: Archéologie et mémoire des géants d'Éthiopie. In *Espaces musulmans de la Corne de l'Afrique au Moyen Âge*, ed. F.-X. Fauvelle-Aymar and B. Hirsch. Paris: De Boccard: 75–102.
- Christie, A.C., A. Grant and A. Haour. 2019. Cataloguing Cowries: A Standardized Strategy to Record Six Key Species of Cowry Shell from the West African Archaeological Record. *African Archaeological Review* 36: 479–505.
- Cissé, M. 2017. Chapitre 3. Fouilles archéologiques à Gao Sanèye. In *Sur les traces des grands empires*, ed. S. Takezawa and M. Cissé. Paris: L'Harmattan: 115–145.
- Collins, B. (trans.). 2001. *Al-Muqaddasi. The Best Divisions for Knowledge of the Regions*. Reading: Garnet Publishing.
- Cribb, J. and D. Potts. 1996. Chinese coin finds from Arabia and the Arabian Gulf. *Arabian Archaeology and Epigraphy* 7: 108–118.

- Cuik, C. and E. Keall. 1996. *Zabid Project Pottery Manual*. Oxford: BAR.
- Curle, A.T. 1937. The Ruined Towns of Somaliland. *Antiquity* 11: 315–327.
- Dames, M.L. 1918. *The Book of Duarte Barbosa*. London: Hakluyt Society.
- Dean, K.R., F. Krauer, L. Walløe, O.C. Lingjaerde, B. Bramanti, N.C. Stenseth, and B.V. Schmid. 2018. Human ectoparasites and the spread of plague in Europe during the second pandemic. *PNAS* 115: 1304–1309.
- Demeure, C.E., O. Dussurget, G. Mas Fiol, A-S. Le-Guern, C. Savin and J. Pizarro-Cerdá. 2019. *Yersinia pestis* and plague: An updated view on evolution, virulence determinants, immune subversion, vaccination, and diagnostics. *Genes and Immunity* 20: 357–370.
- Derat, M-L. 2018a. Du lexique aux talismans: occurrences de la peste dans la Corne de l'Afrique du XIII^e au XV^e siècle. *Afriques* 9: <https://doi.org/10.4000/afriques.2090>. Accessed 29/12/20.
- Derat, M-L. 2018b. *L'Énigme d'une dynastie sainte et usurpatrice dans le royaume chrétien d'Éthiopie du XI^e au XIII^e siècle*. Turnhout: Brepols.
- Dussubieux, L. 2018. LA-ICP-MS analysis of Artefacts from Ethiopia. Unpublished report. Chicago: Field Museum.
- Eastwood, G. 1982. Textiles. In *Quseir Al-Qadim 1980*, ed. D. Whitcomb and J. Johnson. Malibu: Undena Publications: 285–326.
- Eiroa Rodriguez, J.A. and M. Gómez Ródenas, ed. 2019. *Rey Lobo. El Lagado de Ibn Mardaniš. 1147–1172*. Murcia: Comunidad Autónoma de la Región de Murcia.
- Fauvelle, F.-X., B. Hirsch and A. Chekroun. 2017. Le Sultanat d'Awfāt, sa capitale et la nécropole des Walasma'. Quinze années d'enquêtes archéologiques et historiques sur l'Islam médiéval éthiopien. *Annales Islamologiques* 51: 239–295.
- Fauvelle, F.-X. and B. Poissonnier. 2016. The Shay Culture of Ethiopia (Tenth to Fourteenth Century AD): "Pagans" in the Time of Christians and Muslims. *African Archaeological Review* 33: 61–74.
- Fauvelle-Aymar, F.-X., L. Bruxelles, A. Chekroun, R. Mensan, O. Onézime, A. Wubete, A. Ayenatchew, H. Zeleke, B. Hirsch and A. Mohamed. 2006. A Topographic Survey and some Soundings at Nora, an Ancient Muslim Town of Ethiopia. *Journal of Ethiopian Studies* 39: 1–11.
- Fauvelle-Aymar, F.-X. and B. Hirsch. 2010. Muslim Historical Spaces in Ethiopia and the Horn of Africa: A Reassessment. *Northeast African Studies* 11: 25–53.
- Fauvelle-Aymar, F.-X., B. Hirsch, R. Bernard and F. Champagne. 2011. Le Port de Zeyla et son arrière-pays au Moyen Âge. In *Espaces musulmans de la Corne de l'Afrique au Moyen Âge*, ed. F.-X. Fauvelle-Aymar and B. Hirsch. Paris: De Boccard: 27–74.
- Fauvelle-Aymar, F.-X. and R. Mensan. 2011. Moules de coulée en pierre trouvés à Harlaa. In *Espaces musulmans de la Corne de l'Afrique au Moyen Âge*, ed. F.-X. Fauvelle-Aymar and B. Hirsch. Paris: De Boccard: 99–102.
- Fauvelle-Aymar, F.-X., B. Poissonnier, A. Letricot and H. Tesfaye. 2010. Découvertes archéologiques aux environs de Dessié (Éthiopie). *Annales d'Éthiopie* 25: 261–268.

- Gaastra, J. and T. Insoll. 2020. Animal Economies and Islamic Conversion in Eastern Ethiopia: Zooarchaeological Analyses from Harlaa, Harar and Ganda Harla. *Journal of African Archaeology* 18: 1–28.
- Gervers, M. 1990. Cotton and Cotton Weaving in Meroitic Nubia and Medieval Ethiopia. *Textile History* 21: 13–30.
- Goitein, S.D. 1961. The Main Industries of the Mediterranean Area as Reflected in the Records of the Cairo Geniza. *Journal of the Social and Economic History of the Orient* 4: 168–197.
- Goitein, S.D. 1967. *A Mediterranean Society. Volume 1*. Berkeley: University of California Press.
- Goitein, S.D. 1987. Portrait of a Medieval India Trader: Three Letters from the Cairo Genizah. *Bulletin of the School of Oriental and African Studies* 50: 449–464.
- Goitein, S.D. and M. Friedman. 2008. *India Traders of the Middle Ages: Documents from the Cairo Geniza: India Book*. Leiden: Brill.
- González-Ruibal, A., J. de Torres, M.A. Franco, M.A. Ali, .A.M. Shabelle, C.M. Barrio and K.A. Aideded. 2017. Exploring long distance trade in Somaliland (AD 1000–1900): Preliminary results from the 2015–2016 field seasons. *Azania* 52: 135–172.
- Guo, L. 1999. Arabic Documents from the Red Sea Port of Quseir in the Seventh/Thirteenth Century, Part 1: Business Letters. *Journal of Near Eastern Studies* 58: 161–190.
- Guo, L. 2001. Arabic Documents from the Red Sea Port of Quseir in the Seventh/Thirteenth Century, Part 2: Shipping Notes and Account Records. *Journal of Near Eastern Studies* 60: 81–116.
- Guo, L. 2004. Gold dinars and silver dirhams in the Red Sea trade: The evidence of the Quseir documents. In *Trade and Travel in the Red Sea region*, ed. P. Lunde and A. Porter. Oxford: Archaeopress: 117–122.
- Hodges, R. and D. Whitehouse. 1983. *Mohammed, Charlemagne and the Origins of Europe*. London: Duckworth.
- Hogendorn, J. and M. Johnson. 1986. *The Shell Money of the Slave Trade*. Cambridge: Cambridge University Press.
- Horton, M.C. and T.R. Blurton. 1988. 'Indian' Metalwork in East Africa: The bronze lion statuette from Shanga. *Antiquity* 62/234: 11–23.
- Huntingford, G.W.B. 1955. Arabic inscriptions in southern Ethiopia. *Antiquity* 29: 230–233.
- Insoll, T. 1996. *Islam, Archaeology and History. Gao Region (Mali) ca. AD 900–1250*. BAR S647. Oxford: BAR.
- Insoll, T. (with other contributions). 2000. *Urbanism, Archaeology and Trade. Further Observations on the Gao region (Mali). The 1996 Fieldseason Results*. BAR S829. Oxford: John and Erica Hedges.
- Insoll, T. 2003. *The Archaeology of Islam in Sub-Saharan Africa*. Cambridge: Cambridge University Press.

- Insoll, T. 2017. First footsteps in the archaeology of Harar. *Journal of Islamic Archaeology* 4: 189–215.
- Insoll, T. 2021a. Marine Shell Working at Harlaa, Ethiopia, and the Implications for Red Sea Trade. *Journal of African Archaeology* 19: 1–24.
- Insoll, T. 2021b. The Archaeology of Complexity and Cosmopolitanism in Medieval Ethiopia. An Introduction. *Antiquity* 95: 450–466.
- Insoll, T. 2020. The Islamic Archaeology of Ethiopia and the Horn of Africa. In *The Oxford Handbook of Islamic Archaeology*, ed. B. Walker, T. Insoll and C. Fenwick. Oxford: Oxford University Press: 417–445.
- Insoll, T., ed. In preparation. *Becoming Muslim: Archaeology in Harlaa and Harar, Eastern Ethiopia*. Leiden: Brill.
- Insoll, T., N. Khalaf, R. MacLean, H. Parsons-Morgan, N. Tait, J. Gastra, A. Beldados, A.J.E. Pryor, L. Evis and L. Dussubieux. 2021. Material Cosmopolitanism: The Entrepot of Harlaa as Islamic Gateway to Eastern Ethiopia. *Antiquity* 95: 487–507.
- Insoll, T. and A. Zekaria. 2019. The Mosques of Harar. An Archaeological and Historical Study. *Journal of Islamic Archaeology* 6: 81–107.
- Irwin, R. 1986. *The Middle East in the Middle Ages: The Early Mamluk Sultanate, 1250–1382*. Carbondale: Southern Illinois University Press.
- Janaki, V.A. 1980. *The Commerce of Cambay from the Earliest Period to the Nineteenth Century*. Baroda: Dept. of Geography, Maharaja Sayajirao University of Baroda.
- Joussaume, H. and R. Joussaume. 1972. Anciennes villes dans le Tchetcher. *Annales d'Éthiopie* 9: 21–44.
- Joussaume, R. 1974. *Le mégalithisme en Éthiopie. Monuments funéraires protohistoriques du Harar*. Paris: Boccard.
- Joussaume, R. 2014. *Mégalithisme dans le Chercher en Éthiopie*. Paris: Boccard.
- Juvin, C. 2014. Trésor monétaire dans une ciste dolménique du Chercher. In *Mégalithisme dans le Chercher en Éthiopie*, ed. R. Joussaume. Paris: Boccard: 73–74.
- Kakish, R. 2014. Ancient bread stamps from Jordan. *Mediterranean Archaeology and Archaeometry* 14: 19–31.
- Kaptein, L. 2000. Ethiopia and the Horn of Africa. In *The History of Islam in Africa*, ed. N. Levtzion and R.L. Pouwels. Oxford: James Currey Ltd: 227–50.
- Karolia, A. and H. Buch. 2008. *Ajarkh*, the resist printed fabric of Gujarat. *Indian Journal of Traditional Knowledge* 7: 93–97.
- Khalaf, N. and T. Insoll. 2019. Monitoring Islamic Archaeological Landscapes in Ethiopia using Open Source Satellite Imagery. *Journal of Field Archaeology* 44: 401–419.
- Kool, R. 2019. The Medieval Coins of Ashkelon (1985–2015). In *Ashkelon 8: The Islamic and Crusader Periods*, ed. T. Hoffman. Winona Lake: Eisenbrauns: 523–574.
- Kropp, M. 1992. La Corne orientale de l'Afrique chez les géographes arabes. *Bulletin des études africaines de l'INALCO* 9: 161–197.
- Lambourn, E. 2018. *Abraham's Luggage*. Cambridge: Cambridge University Press.

- Lankester Harding, G. 1964. *Archaeology in the Aden Protectorates*. London: H.M.S.O.
- Le Quesne, C. 2007. *Quseir: An Ottoman and Napoleonic Fortress on the Red Sea Coast of Egypt*. Cairo: The American University in Cairo Press.
- Loiseau, J. 2010. *Reconstruire la maison du Sultan. Ruine et reconstruction de l'ordre urbain au Caire (1350–1450)*. Cairo: Institut français d'archéologie orientale du Caire.
- Loiseau, J. 2019. The *Ḥaṭī* and the Sultan. Letters and Embassies from Abyssinia to the Mamluk Court. In *Mamluk Cairo, a Crossroads for Embassies. Studies on Diplomacy and Diplomatics*, ed. F. Bauden and M. Dekkiche: Leiden: Brill: 638–657.
- Loiseau, J., S. Dorso, Y. Gleize, D. Ollivier, D. Ayenachew, H. Berhe, A. Chekroun, A. and B. Hirsch. 2021. Bilet and the wider world. New insights into the archaeology of Islam in Tigray (Ethiopia). *Antiquity* 95: 508–529.
- Lowick, N.M. 1985. *Siraf xv. The coins and monumental inscriptions*. London: British Institute of Persian Studies.
- MacKie, L.W. 1989. Textiles. In *Fuṣṭāṭ Expedition Final Report. Vol. 2: Fuṣṭāṭ—C*, ed. W. Kubiak and G.T. Scanlon. Winona Lake: Eisenbrauns: 81–97.
- Mercier, J. and J. Lepage. 2012. *Lalibela: Wonder of Ethiopia*. London: Paul Holberton.
- Metcalf, D.M. 1997. The President's Address. Viking Age Numismatics 3. What Happened to Islamic Dirhams after their Arrival in the Northern Lands? *The Numismatic Chronicle* 157: 295–335.
- Monchamp, J. 2018. *Céramiques des murailles du Caire (fin x^e–début xvi^e s.)*. Cairo: Institut français d'archéologie orientale.
- Muehlbauer, M. 2021. From Stone to Dust: The Life of the Kufic-Inscribed Frieze of Wuqro Cherqos in Tigray, Ethiopia. *Muqarnas* 38: 1–34.
- Al-Muqaffa, S.B. 2017. *History of the Patriarchs of Alexandria: The Copts of Egypt Before and After the Early Islamic Conquests*. London: I.B. Tauris & Co. Ltd.
- Nicolle, D. 2016. Medieval Islamic Fire Grenades: Further Evidence from a Military Context. *Journal of Islamic Archaeology* 3: 163–177.
- al-ʿOmarī, Ibn Faḍl Allah. 1927. *Masālik el Aḥṣār fi Mamālik el Amṣar*. 1. L'Afrique, Moins l'Égypte. Gaudefroy-Demombynes (trans.). Paris: P. Geuthner.
- Patassini, D. A 2006. Museum for Harāla. *Iuav* 41: 6–8.
- Payne, A. 2017. Bread matters: Of Loaves and Stamps. *Historische Sprachforschung/ Historical Linguistics* 130: 73–89.
- Peacock, A.C.S. 2012. Suakin: A Northeast African Port in the Ottoman Empire. *Northeast African Studies* 12: 29–50.
- Phillipson, D.W. 2012. *Foundations of an African Civilisation. Aksum and the Northern Horn 1000 BC–AD 1300*. Woodbridge: James Currey.
- Poissonnier, B. 2012. Le tumulus de Tātār Gur (Mänz): un dolmen à couloir. In *La culture Shay d'Éthiopie (x^e–xiv^e siècles)*, ed. F.-X. Fauvelle-Aymar and B. Poissonnier. Paris: Centre français des études éthiopiennes: 75–103.
- Poissonnier, B., D. Ayenachew, R. Bernard, and B. Hirsch. 2011. Les mosquées médiévales de Goze et Fäqī Däbbis (Ifāt). In *Espaces musulmans de la Corne de l'Afrique au*

- Moyen Âge*, ed. F.-X. Fauvelle-Aymar and B. Hirsch. Paris: Centre français des études éthiopiennes: 103–139.
- Pradines, S. 2016. The Sphero-Conical Vessel: A Difficult Interpretation between Historical Sources and Archaeology. *Journal of Islamic Archaeology* 3: 153–162.
- Pryor, A., T. Insoll and L. Evis. 2020. Laser Ablation Strontium Isotope Analysis of Human Remains from Harlaa and Sofi, Eastern Ethiopia, and the Implications for Islamisation and Mobility. *STAR—Science and Technology of Archaeological Research* 6: 113–136.
- Rapoport, Y. and E. Savage-Smith. 2018. *Lost Maps of the Caliphs. Drawing the World in Eleventh-Century Cairo*. London: The University of Chicago Press.
- Redlak, M. 2018. Egyptian imitations of Chinese Celadon from the 14th–15th centuries found at Kom el-Dikka in Alexandria. *Polish Archaeology in the Mediterranean* 26: 59–84.
- Reese, D.S. 1982. Marine invertebrates. In *Quseir Al-Qadim 1980*, ed. D. Whitcomb and J. Johnson. Malibu: Undena Publications: 379–384.
- Robert, D.S. 1970. Les fouilles de Tegdaoust. *Journal of African History* 11: 471–493.
- Robert-Chaleix, D. 1989. *Tegdaoust v*. Paris: Editions recherche sur les civilisations.
- Rodziewicz, E. 2012. *Bone carvings from Fustat—Istabl 'Antar*. Cairo: Institut Français d'Archéologie Orientale.
- Rougeulle, A., A. Collinet and N. Martin. 2015. Les céramiques non glaçurées. In *Sharma. Un entrepôt de commerce médiéval sur la côte du Hadramawt*, ed. A. Rougeulle. Oxford: Archaeopress Publishing Ltd: 157–236.
- Ruffini, G.R. 2019. Monetization across the Nubian border. In *The Archaeology of Medieval Islamic Frontiers*, ed. A.A. Eger. Louisville: University Press of Colorado: 105–118.
- Ruhlmann, A. 1935. Moules à bijoux d'origine musulmane. *Hespéris* 21: 141–148.
- Santelli, S. 2008. Harar: The Fourth Holy City of Islam. In *The City in the Islamic World. Volume 1*, ed. S.K. Jayyusi. Leiden: Brill: 625–641.
- Schneider, M. 1969. Stèles funéraires de la région de Harar et Dahlak (Éthiopie). *Revue des études islamiques* 37: 339–43.
- Schultz, W.C. 1999. Mamluk Monetary History: A Review Essay. *Mamluk Studies Review* 3: 183–205.
- Sharabati, D. 1984. *Red Sea shells*. London: KPI.
- Sharvit, J. 2008. Chapter 3. The sphero-conical vessels. In *Paneas. Volume 2*, ed. V. Tzaferis and S. Israeli. Jerusalem: Israel Antiquities Authority: 101–112.
- Smith, G.R. 1978. *The Ayyūbids and early Rasūlids in the Yemen*. London: Luzac for the Trustees of the 'E.J.W. Gibb Memorial'.
- Stenhouse, P. (trans.). 2003. *Futūḥ al-Habaša. The Conquest of Abyssinia (16th Century)*. Hollywood: Tsehail Publishers & Distributors.

- Strange Burke, K. and D. Whitcomb. 2004. Quseir Al-Qadim in the Thirteenth Century: A Community and its Textiles. *Ars Orientalis* 34: 82–97.
- Tait, N. 2020. *Archaeological Ceramics as Chronological Markers on Islamic Sites in Eastern Ethiopia*. Unpublished PhD dissertation, University of Exeter.
- Tait, N. and T. Insoll. 2021. Local Ceramics from the Islamic Trade Centre of Harlaa, Eastern Ethiopia: Markers of Chronology and Contacts. *African Archaeological Review* 38: 419–442.
- Takezawa, S., M. Cissé and M. Dembélé. 2017. Chapitre 4. Fouilles archéologiques à Gao ancien. In *Sur les traces des grands empires*, ed. S. Takezawa and M. Cissé. Paris: L'Harmattan: 147–219.
- Tamrat, T. 1972. *Church and State in Ethiopia 1270–1527*. Oxford: Clarendon Press.
- Tilahun, C. 1990. Traces of Islamic material culture in northeastern Shoa. *Journal of Ethiopian Studies* 23: 303–20.
- Torres, C. and S. Macías. 2001. *In the Lands of the Enchanted Moorish Maiden*. Vienna: Museum With No Frontiers.
- Tuchscherer, M. 2002. Trade and Port Cities in the Red Sea—Gulf of Aden Region in the Sixteenth and Seventeenth century. In *Modernity and Culture. From the Mediterranean to the Indian Ocean*, ed. L. Fawaz and C. Bayly. New York: Columbia University Press: 28–45.
- Vallet, É. 2010. *L'Arabie marchande. État et commerce sous les sultans rasūlides du Yémen (626–858/1229–1454)*. Paris: Publications de la Sorbonne.
- Vanacker, C. 1979. *Tegdaoust II*. Nouakchott: Institut Mauritanien de la Recherche Scientifique.
- Vantini, G. 1975. *Oriental Sources Concerning Nubia*. Warsaw: Polish Academy of Sciences.
- Whitcomb, D. 1982. Islamic ceramics. In *Quseir Al-Qadim 1980*, ed. D. Whitcomb and J. Johnson. Malibu: Undena Publications: 133–192.
- Whitcomb, D. 2016. A Note on “Grenades” as Fire-Starter Flasks. *Journal of Islamic Archaeology* 3: 179–186.
- Whitcomb, D. and J. Johnson. 1982. Introduction. In *Quseir Al-Qadim 1980*, ed. D. Whitcomb, D and J. Johnson. Malibu: Undena Publications: 1–20.
- Whitehouse, D. 2014. *Islamic Glass in the Corning Museum of Glass. Volume Two*. Corning: Corning Museum of Glass.
- Wulff, H.E. 1966. *The Traditional Crafts of Persia*. Cambridge (MA): M.I.T. Press.
- Zarins, J. and H. Al-Badr. 1986. Archaeological investigation in the southern Tihama plain II 1405/1985. *Atlat* 10: 36–57.
- Zarins, J. and A. Zahrani. 1985. Recent archaeological investigations in the southern Tihama plain. The Sites of Athar and Sihi. *Atlat* 9: 65–107.