

# **‘Becoming Muslim’: A Comparative Archaeological Approach to the Material Markers of Islam in the Niger Bend, Mali, and Eastern Ethiopia**

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## **Abstract**

Archaeology is in a unique position to offer a material culture based perspective on Islamisation and conversion to Islam, particularly in regions where historical sources might be limited or absent. This is explored with reference to two archaeological areas, Gao in Mali, and Harlaa in Ethiopia to assess if similar material markers can recur archaeologically through evaluating mosques, Muslim burials and Arabic epigraphy, settlement structure and domestic architecture, animal and plant remains, ceramics, and miscellaneous artifacts potentially suggestive of Islamisation in both regions, primarily for the period between the 11<sup>th</sup>-13<sup>th</sup> centuries CE. It is concluded that the evidence from Gao and Harlaa attests the variety of interpretations of Islam that exist, but, correspondingly, through the recurrence of key markers such as mosques, Muslim burials, and Arabic epigraphy, also affirms material similarity, yet without having to make course to a unitary and erroneous concept of ‘African Islam’.

## **Keywords**

Islamisation, archaeology, Gao, Harlaa, Mali, Ethiopia

## Introduction

Archaeology is in a unique position to offer a material culture based perspective on Islamisation and conversion to Islam, particularly in regions where historical sources might be limited or absent. Such a perspective can transcend a narrative of presence/absence and instead offer insight into how Islam shaped life in different contexts, in this instance, the urban settings of Gao and Harlaa. Equally, archaeology can act to correct or rebalance historical narratives of Islamisation that might be biased or which erroneously or duplicitously equate Islamisation or conversion to Islam with civilisation or Arabisation. The research discussed here was completed under the auspices of the ERC funded *Becoming Muslim* project (ERC-2015-AdG BM694254) a core aim of which has been to assess a wide range of material and archaeological indicators of Islamisation including, for example, changes in animal (Gaastra and Insoll 2020), and plant-based (Beldados et al. submitted) components of diet, the construction of mosques (Insoll and Zekaria 2019), changes in ceramic forms (Tait and Insoll 2021), the appearance of Qur'anic and related Arabic epigraphy (Insoll et al. 2021), and the adoption of Muslim burial traditions (Pryor et al. 2020). This was completed with a view to exploring the process of Islamisation, the different trajectories involved, and to examine how Islam became embedded in particular places and groups. A further aim was to assess these indicators, processes, and impacts comparatively, and two archaeological examples will be discussed to explore this here.

Gao in eastern Mali (16°16'18.01" N, 0°02'40.99" E) is strategically positioned on the River Niger, facilitating access to riverain transport, and through its location at the mouth of the Tilemsi Valley to land caravan routes north across the Sahara to the Maghreb, Al-Andalus, and east toward Egypt (**Figure 1**). Harlaa (9°29'10.22" N, 41°54'36.96" E) in eastern Ethiopia is also a major trade centre, but unlike Gao which remains important, lies abandoned beneath the modern village of Ganda Biyo. Harlaa was similarly in a strategic location mid-way between the Somali Plateau and the lowlands of the Rift Valley (cf. Khalaf and Insoll 2019), and from where routes were directed inland, and to ports such as Zeila on the Red Sea, and hence onward into the western Indian Ocean, as well as possibly southeast to Mogadishu and the eastern African coast (**Figure 1**). As such, merchants in both Gao and Harlaa participated in different scales of trade; local, regional, and longer distance, and trade was the initial mechanism for Islamisation in both contexts via the agency of merchants and preachers arriving through trans-Saharan and Red Sea routes respectively, with the earliest material evidence for Islam from Gao dating to the late 11<sup>th</sup> century and from Harlaa, the mid-12<sup>th</sup> century (all dates are AD/CE unless otherwise specified).

## The Archaeology of Islamisation in Africa

Islamisation is not a simple concept, as Peacock (2017, 1) has noted and is a term that has been variably applied within scholarship to cover phenomena including individual conversion, conversion of societies, the impact of Islamic culture, and giving an "Islamic veneer" (Peacock 2017, 3). The discussion here is not tied to an exclusive definition drawn from these but elides all four, as the archaeological data gives insight at a variety of levels, individual (e.g., funerary epigraphy, strontium isotope data), society (e.g., faunal remains, funerary epigraphy patterning), impact (e.g., mosques, burials), and 'veneer' (e.g., miscellany).

Peterson (2011, 256) has rightly underscored how Africanist data can contribute to wider understandings of Muslim societies because of the access to recent histories and case studies

of Islamization processes long “lost from view in the Arabic-speaking heartland of the Middle East and much of Asia”. He speaks from a historical perspective but the archaeological data from Africa is similarly remarkably rich, and comparatively unexplored. This has been reviewed (cf. Insoll 2003), and the papers in this issue provide updates, including bibliography, for archaeological research on Islamisation in coastal East Africa (Anderson), North Africa (Fenwick), West Africa (Insoll, MacDonald), and the Horn of Africa (Insoll). It is difficult to succinctly summarise Islamisation in Africa, but a broad chronological pattern for the initial spread of Islam suggests a process which after the conquest of Egypt and the establishment of Fustāt in 641 begins in North Africa in the latter half of the 7<sup>th</sup> century, and on the Red Sea coast and in Nubia at approximately the same time. By the late 8<sup>th</sup> to early 9<sup>th</sup> centuries Islamisation was occurring in parts of the East African coast, and almost simultaneously in the West African Sahel. The first tangible evidence for Islamisation dates from the 11<sup>th</sup> century in the central Sudanic region and from the 12<sup>th</sup> century in the West African Sudan and forest. Finally, much later in the mid-17<sup>th</sup> century, excluding intermittent contacts with Muslim traders, the spread of Islam, generally on a small scale, occurred in parts of the East African interior and central and southern Africa (Insoll 2003: 4-5). Excluding Egypt and elsewhere in North Africa where military conquest was significant (e.g., Fenwick 2020), generally, trade appears to have been a key agent of Islamisation elsewhere in the continent (Insoll 2003).

Away from Africa, archaeological attention to Islamisation continues to be minimal, perhaps reflecting the temporal distance from events, as referred to above. To take two examples: In Indonesia, Lape (2000), has proposed an interesting model of Islamisation for the Banda Islands, primarily using faunal remains, particularly the presence/absence of pig (*Sus* sp.) to identify Muslim settlements. Constrained by a lack of data which would make the interpretations more convincing he nonetheless recognizes and explores the dynamics of Islamisation using all the available archaeological material. In contrast, for the Vega of Granada in southern Spain, Carvajal and Day (2013, 433) utilized petrography of cooking pots to examine “Islamicization”. This is less successful as it fails to engage with the wider range of evidence, presumably generated, to more fully explore Islamisation based on the archaeological data.

A recurrent feature of research in West Africa has been the use of models invoking phases or stages of Islamisation (**Table 1**), as employed by this author in Gao (e.g., Insoll 1996), and further considered below. The positives in using a ‘phased’ approach within regions very little known archaeologically, such as the Niger Bend, is that it permits moving beyond a strictly chronological framework, encourages thought about the first communities that converted and the agents of conversion, and permits a description of processes. However, allowance must be made for variability therein, i.e., such a model is not an immutable framework, and where available, historical data is not superseded and must also be integrated. Moreover, a phased approach is not applicable everywhere, and was not relevant for eastern Ethiopia as will be described.

More broadly, phased models can only ever present a generalized view, for mitigating against them are various factors. First, the variability within geographic units of analysis, for example ‘Ethiopia’ or ‘Horn of Africa’ contain much diversity - environmental, cultural, linguistic, social, economic etc. - therein, making study of anything but a well-defined region, such as the Niger Bend, unfeasible. Second, without careful consideration phased models can skim over chronology and make it appear linear when Islamisation time frames can be stuttered, and long, extending from the origins of Islam in the 7<sup>th</sup> century through to ongoing conversion today, to use Ethiopia again as an example. A third factor is the weakness of archaeological data, being

incomplete, subject to varying survival rates and recovery methods, meaning what constitutes the material markers of Islam might vary, and perhaps compounded by interpretive preference so that, for instance, mosques as tangible structures could be privileged over archaeobotanical and faunal remains. Finally, these models are all somewhat processual in removing individual agency in the conversion process which would have inevitably blurred all the phases/stages. Yet, this acknowledged, attempts must be made to map social processes, i.e., religious conversion and change, onto archaeological data, as is considered here.

## Gao and Harlaa in Arabic Historical Sources

The quality and quantity of historical references to Gao and Harlaa in Arabic sources varies significantly. Based on these, initial Muslim contacts with Gao may have been via Ibadī merchants from the Imamate of Tahert (Algeria), as suggested by a reference to a notable from Tahert, Muhammad ibn ‘Arfa visiting as ambassador the court of a King of Sudan, conceivably Gao, sometime between 823-872 (Lewicki 1971, 119). The first mention of Kawkaw (Gao) itself is by al-Khwārazmī in a list of geographical information written sometime during the first half of the 9<sup>th</sup> century (Levtzion and Hopkins 2000, 5-7). The status of Kawkaw as the “greatest” (ibid: 21) of the Kingdoms of the Bilad al-Sūdān is next referred to by Al-Ya’qūbī in his *Tārīkh* of 259/872-873. References then multiply and by c.975-85 Al-Muhallabī (as related by Yāqūt), recorded that the ruler of Gao and most of the people were Muslims and that there were twin settlements, at Sarnah and a royal town, which he placed on the opposite bank of the Nile (Niger) (Levtzion and Hopkins 2000, 174), possibly a reference to a wadi dividing the two near Gao (Insoll 1997, 27). He also states that “their king pretends before his subjects to be a Muslim and most of them pretend to be Muslims too”, and that there was a mosque in the royal town, and a *muṣallā* between the two settlements (Levtzion and Hopkins 2000, 174). Al-Bakrī, writing approximately a century later in 460/1068, observed that there were still two towns at Kawkaw, one for the king and the other for Muslims, that idols were worshipped by non-Muslims, and that the king, a Muslim, received on ascending to the throne, a copy of the Qur’an, a sword, and a signet ring (Levtzion and Hopkins 2000, 87). Subsequently, sources become increasingly derivative and repetitive (e.g., Levtzion and Hopkins 2000, 151, 181, 186, 202), as well as racist (e.g., ibid. 205, 213), reflecting their etic perspective and distance from the material considered (Insoll 1994). By 753/1352-754/1353 and Ibn Battuta’s visit to Kawkaw no reference is made to Islamic practice, deviation therefrom or lack thereof suggesting it was a routine part of life. Whilst Ibn Khaldūn in the *Muqaddima* described Kawkaw, when he was writing in 796/1393-4, as in ruins because of civil war but that Islam had been accepted there in the 13<sup>th</sup> century (Levtzion and Hopkins 2000, 300, 320-1).

Historical sources (Arabic and other) referring to the medieval sultanates of eastern Ethiopia, and Ethiopia generally, are sparser (e.g., Tamrat 1972; Vantini 1975). Harlaa is not referred to in the Arabic sources in the same way as Gao. According to extant local traditions, the Harla, of which Harlaa is a derivation, were a people of legendary giant status who occupied the region prior to the arrival of the contemporary Oromo population in the mid-16<sup>th</sup> century, following the upheavals associated with the *jihad* of Aḥmad Grāñ against the Christian kingdom of Ethiopia, c.1529-1543 (cf. Kapteijns 2000, 229), and were believed to have built the ruined stone towns and funerary monuments scattered across eastern Ethiopia (e.g., Azais and Chambard 1931; Wilding 1980; Chekroun et al. 2011). However, it seems that the name ‘Harlaa’ is not purely legendary, but also refers to the historical identity of a polity, the Ḥārālā sultanate. This had a tributary status to the much larger sultanate of Ifat (late 13<sup>th</sup>-early 15<sup>th</sup> centuries), and the city that has been excavated was potentially Hubāt or Hobat, the capital of

Ḥārīlā. This identification is suggested, first, etymologically by the Somali word *hoobat* and the Arabic *hubuut*, both meaning to descend a slope from an upland point (Hussein 2021, 15), i.e., exactly where Harlaa is located, at the mid-point between the highlands and lowlands. Second, by the geographical location of Harlaa/Hobat north of the Hubeta (Hubät/Hobat) pass running up to the highlands. And third, by the repeat distinction made in the first half of the 16<sup>th</sup> century between Hubat (Hobat) as a geographical entity, and Ḥārīlā as a tribe or people in the *Futūḥ al-ḥabasha*, the record of the *jihads* of Aḥmad Grāñ (cf. Stenhouse 2003, 8, 10-11, 13-15, 69, 76, 82, 85, 104, 122-125).

A narrative for Islamisation that can be drawn from these sources is non-existent for Harlaa, whilst for Gao it is limited. Hence although Gao might have historical documentation, the role of archaeology in assessing Islamisation is equally important and provides a material benchmark for Islam in both settlements.

### **Gao. An Archaeological Introduction**

Gao was first investigated by French colonial archaeologists and epigraphers in the mid-20<sup>th</sup> century (Mauny 1951; Latruffe 1953; Vire 1958). Following independence, Colin Flight (e.g., 1975, 1981) completed research in the city in the 1970s. This author (Insoll 1995, 1996, 1997, 2000) excavated at various locations in 1993 and 1996, as part of doctoral and post-doctoral fellowship research, and more recent investigation was undertaken by a Malian-Japanese team (Cissé et al. 2013; Cissé 2017; Takezawa and Cissé 2017).

Gao is located in the Sahelian semi-desert margin at an elevation of c.240 metres above sea level (masl). The ability to sustain a large urban centre in such a location is only viable through immediate proximity to the River Niger. Agriculture is possible through irrigation, via the annual Niger flood between December to February that permits the cultivation of crops such as rice, and stimulates the growth of the water weed, Borgu (*Echinochloa stagnina*), used as cattle feed. Less practical is rain-fed agriculture, with annual average rainfall of c.250 mm (cf. Pedersen and Benjaminsen 2008, 45, Fig. 2) used to grow millet, after the first rains of the mid-June to September wet season (Hodgkin 1987, 60, 72, 107). Environment has influenced economy, and was in turn linked with ethnicity, and both appear to have been connected with Islamisation. Today, most farmers in the Gao region are Songhai. Other ethnic groups are pastoralists with particularly significant the Tuareg and their vassals, the Bella, (Insoll 1996, 3-4).

Contemporary ethnicity, environment and economy are not a blueprint for the past. Some environmental fluctuation occurred with, for example, a wetter episode between c.700-1100 (McIntosh and McIntosh 1988, 145), but broadly it seems that environment and climate at Gao were akin to today (MacLean and Insoll 1999, 82). Lifeways appear also to have been similar, with an analogous division of cultivation, fishing, and pastoralism, but as faunal remains indicate (discussed below), with greater hunting undertaken. However, using analogy to understand ethnicity is more problematic for transferring the names of contemporary ethnic groups ad-hoc to the archaeological record denies the mutability and complexity of ethnicity (cf. Insoll 2015, 218-225), and where used, the prefix ‘proto’ is warranted. Songhai origin traditions, for example, essentially suggest they were formed from contact between ‘masters of the soil’ (*Gabibi Arbi* or *Kado bi*, farmers), ‘masters of the river’ (*Sorko*, fisherfolk), and ‘masters of the bush’ (*Gow*, hunters) (cf. Rouch 1954, 3, 1989, 21-24; Insoll 1996, 3), but chronologically pinpointing when they are emergent as ‘Songhai’ is impossible. This task is

also not assisted by the Arabic historical sources with, for example, Al-Bakrī, referring to the inhabitants of Kawkaw as BZRKĀNYYN (Levtzion and Hopkins 2000, 87).

Information on the pre-Islamic religious context in Gao is also limited. There is no evidence for the presence of other world religions and limited archaeological data on indigenous religion other than for burial, and, perhaps, rituals associated with hippopotamus hunting (Insoll 2015, 134-137). Archaeologically important markers of past beliefs such as ceramic figurines widely found elsewhere in the region, as, for example, south of Gao in 3<sup>rd</sup> to 11<sup>th</sup> century contexts in Bura-Asinda-Sika in Niger (e.g., Gado 1993) have not been recorded in Gao (cf. Insoll 2017a). Ethnographic research on Songhai indigenous religion has also not been focused on Gao, with emphasis placed elsewhere, particularly southwest Niger (e.g., Rouch 1954, 1989, 1997; Stoller 1992; Henley 2009). This indicates that indigenous beliefs and rituals were profoundly influenced by Islam and thus using ethnography as an analogy for indigenous religion c.1000 years earlier is problematic. This caveat acknowledged; certain key elements recurred. In addition to God the creator, there were angels (*Maleka*), Satan (*Seytan*), demons (*Iblis*), djinn (*Zin*), spirits (*Holey*), and ancestors. Islam facilitated the relationship with God, and cults were directed to the other elements, with particularly important the cults of *Zin*, *Holey*, and ancestors. Associated ritual actions and locations included animal sacrifices at *lieu protecteur* (Rouch 1954, 61) such as a mountain, tree, or rock by a river for the cult of *Zin*, and sacrifices and offerings, usually at a grave marked by a grove of trees or heap of stones, for the cult of the ancestors. Ritual objects, e.g., large hemispherical water pots (*hampi*), iron or prehistoric stone axes (*desi*), iron lances (*lolo*), iron or wooden rods (*gobu*), clothes of specific material and colours, music, and dance were an integral part of the *Holey* cult. Particularly important were dances where the participants would become possessed and function as the mount or horse of the spirit (Rouch 1954, 60-63, 1989, 159-182, 1997, 50-53). Another strand was magic. Magicians (*Sohantye*) through their superior ritual knowledge could dispense with the intermediaries of prayer, sacrifice, or dance, and address the *Zin*, ancestors, and *Holey* directly. A key element of their practice was the production of magical charms (*korte*) for various purposes (Rouch 1954: 64, 1989: 303-305), as well as the use of poisons (*dengbeli*), incantations (*tengbeli*) and magical arrows (*sambeli*) to cause sickness and death (Stoller 1992, 116-117).

Archaeological survey and local traditions indicated that Gao was formed of four identifiable components (**Figure 2**). The earliest area of occupation was probably at Koima, 4km northwest on the opposite southern bank of the Niger. Koima is prominent in oral tradition as the first location settled in the Gao area by the Sorko/proto-Songhai after their move north from the Bentyia/Kukiya region (Hunwick 1985, 5), and as the burial place of the non-Muslim Sorko chief, Koyma Amerou Mama, in c. the 4<sup>th</sup> century (Cissé 1975, 166; Cissé and Yattara Undated; Toure 1992, 11). Six non-Muslim burials, oriented with the head to the east, and the feet to the west, in contrast to the Muslim north-south burial orientation at Gao, were recorded exposed by erosion near the lower slopes of the large red sand dune that partially covers the site (Insoll 1996: 32). These were too eroded and fragmentary to infer anything about age, ancestry, pathologies, stature, or sex (L. Evis pers. comm. 11/3/22) (**Figure 3**). Although undated, ceramics found at Koima differed from those in Gao, and included two types of wares, one decorated with incised channels and twine impressions, and the other decorated with deeper incised channels and twisted cord roulette impressions analogous to wares reported from Tongo Maaré Diabel, west of Koima/Gao, dated to between 500-1150 (cf. Gestrich and MacDonald 2018, 18). It is possible that Koima was involved in regional trade and a centre for riverine transport and fishing and hippopotamus hunting.



On the opposite bank of the Niger, three settlement areas were identified, Gadei, Gao Ancien, and Gao-Saney (Insoll 1996; 1997) (**Figure 2**). At Gadei recalibration of the two C14 dates obtained indicated occupation between the 5<sup>th</sup>/6<sup>th</sup> and late 15<sup>th</sup> centuries, with abandonment by the end of the 16<sup>th</sup> century (Insoll 2000, 19). It is possible that Gadei was either founded contemporary with or slightly after Koima and was also a Sorko/proto-Songhai settlement. Recent excavations at Gao Ancien “tentatively” dated the earliest occupation to the mid-1<sup>st</sup> millennium (Cissé 2017, 110). Recalibration of the six C14 dates obtained from earlier excavations in Gao Ancien concur, with the lower end of the date range pushed back from the 6<sup>th</sup>/7<sup>th</sup> to the 5<sup>th</sup> century (**Table 2**). This area of Gao developed into a mercantile centre and possibly the seat of the ruler. Initially, banco brick and then stone buildings were constructed (e.g., Takezawa and Cissé 2017; Cissé 2017, 113), with subsequently fired-brick architecture recorded including a surviving section measuring c.3m east-west by 6m north-south of a substantial palace or rich merchant’s house (late 12<sup>th</sup>-13<sup>th</sup> century) (Insoll 1996). Gao Ancien appears to be one of the two cities recorded by al-Muhallabī, the other, Sarnah, was c.3km east at Gao-Saney where the 6m of deposits in the tell were C14 dated to between c.700-1100 (Keech McIntosh et al. 2020, 3). This was possibly the original settlement of the Arab and Berber traders and which archaeology indicates was a manufacturing centre specializing in copper and iron metallurgy, and the production of stone and glass beads (Insoll 1997, 25; Keech McIntosh et al. 2020). It was also the location of a Muslim cemetery considered below.

Gao grew prosperous through trade, initially regional, with trans-Saharan commerce added from the 9<sup>th</sup> century (Insoll 2003). Slaves, and commodities such as gold and ivory, including it seems hippopotamus ivory, were exchanged for finished goods such as glazed ceramics, glass wares, and glass beads (e.g., Insoll 1995, 1998; Cissé et al. 2013; Cissé 2017) (**Table 3**). Certain trade partners appear to have been particularly significant, North Africa because of proximity, and Al-Andalus, as suggested by the small number of glazed wares which were exclusively from these two regions (Mauny 1952; Insoll 1996, 63-67) (**Table 3**), as well as other evidence considered below.

### **Harlaa. An Archaeological Introduction**

Prior to the start of research by this author in 2015, limited survey at Harlaa had been undertaken by Ethiopian, Italian, and French teams (e.g., Patassini 2006; Chekroun et al. 2011). Subsequently, six seasons of excavation were completed as part of the *Becoming Muslim* project (Insoll et al. 2021). Harlaa is cooler and wetter than Gao, located at 1700 masl with a temperature range of 16.2 to 30.4°C and annual rainfall of between 500 to 900mm. However, the archaeobotanical remains, such as *Acacia nilotica*, *Croton macrostachyus*, and drought resistant *Chenopodiaceae* indicate that during the period Harlaa was occupied (mid-6<sup>th</sup>-early 15<sup>th</sup> centuries), the environment at Harlaa was semi-arid with acacia-type woodland and more akin to Dire Dawa, located at a lower altitude (c.1200 masl) 15km to the northeast, and where annual rainfall is c.625mm (Beldados et al. submitted). Even allowing for climatic fluctuation it is unlikely that the environment at Harlaa ever resembled that of Gao, with its Saharan edge extremes. Agriculture at Harlaa appears to have been rainfed, though the presence of wells suggests irrigation may also have been used.

Whether pastoralist and agriculturalist lifeways were demarcated in a similar way to Gao is unknown. For as already noted, the dominant contemporary ethnic group, the Oromo, are disconnected from the former population at Harlaa having migrated into the region after Harlaa had been abandoned. The Oromo practice both pastoralism and agriculture but cannot be used

as an analogy for previous lifeways. There is no evidence, so far, for other world religions at Harlaa, prior to or co-existent with Islam and material indicative of pre-Islamic indigenous belief is similarly absent. This is, however, found in the Chercher Mountains southwest of Harlaa where between Harar and Abse Tafari (**Figure 1**) stone funerary monuments of two types have been recorded, chambered tombs (*Daga Kofiya*), and stone cairns (*Daga Tuli*) (Joussaume and Joussaume 1972; Joussaume 1974, 2014). East of Harar non-Muslim burials persisted even later with an AMS date from charcoal of Cal AD 1275 to 1385 (2 Sigma calibration; Beta-421104) and a TL date of AD 1224 $\pm$ 80 (W4824 TL) obtained from a burial mound excavated at Sofi, 8km from the city (Insoll, MacLean, and Engda 2016, 30) (**Figure 1**). The existence of these funerary monuments implies the deceased were considered significant, perhaps within a framework of ancestral veneration. The contents of some of these monuments also suggest this area was a potential market for material from Harlaa. At Sourré-Kabanawa, for example, c.40km from Harlaa, a group of circular chambered stone tombs were excavated. Two were C14 dated to Cal AD 980-1180 (monument 1) and Cal AD 770-950 and Cal AD 930-1080 (monument 3) (Joussaume 1974, 102). Grave goods recovered, all of which could have been imported from Harlaa, included copper and silver metalwork and glass beads, as well as *Oliva bulbosa* and *Monetaria annulus* marine shell (cf. Joussaume 1974, Pl. XII-XIV), some modified, using techniques noted in Harlaa such as the removal of the apex and dorsa (Insoll 2021, 16).

Because of the absence of historical sources and population continuity, nothing is known about the foundation traditions of Harlaa or if it was composed of, as at Gao, different named elements. Archaeological survey indicated that Harlaa was a large urban centre, with maximum dimensions of approximately 900m north to south by 500m east to west, partly walled, and with cemeteries outside the urban area on the northern, eastern, and western sides (**Figure 2**). The town had at least three mosques and a central settlement area, with manufacturing concentrated at various locations. Excavations were focused on 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 function (HAR-F), and a cluster of stone houses (HAR-G) (**Figure 2**). Like Gao, Harlaa was an indigenous foundation, pre-dating Islamic contacts. Twenty-seven AMS dates attested occupation between the 6<sup>th</sup> and 15<sup>th</sup> centuries (**Table 4**) (Insoll 2021, 1-5; Insoll et al. 2021, 488-490).

A highpoint existed between the 11<sup>th</sup> and late 13<sup>th</sup> centuries when significant wealth was generated through trade and manufacturing, enhanced, as at Gao, by participation in international networks. Manufacturing evidence attested marine shell processing, copper, and iron metalworking, and agate and possibly glass bead making. Contacts, direct and indirect, with the Red Sea, western Indian Ocean, China, South and Central Asia, Egypt, the Ethiopian Interior, East African coast, and Arabian/Persian Gulf were indicated by material found including glass beads and vessel fragments, agate and rock crystal beads, marine shell, soft stone vessel fragments, glazed ceramics, and coins (Insoll et al. 2021; Insoll 2021) (**Table 5**). Significant differences also existed in some of the types of 'exotic' artifacts being produced, imported, and consumed in Gao and Harlaa (**Tables 3 and 5**). Marine shell, for example, was much more abundant at Harlaa, with *Moneta/Cypraea* alone represented by 1771 examples compared to a single example at Gao. This was perhaps a correlate of proximity to the sea but may also reflect different tastes and market requirements. Similarities also existed for, as at Gao, certain international partners appear to have been particularly important, with Egyptian connections mediated via Yemen, and possible technological influences (hardstone bead manufacture, shell working) from western India, potentially significant, and an overall Red Sea



and eastern orientation apparent (Insoll 2021; Insoll in press). A further similarity was that international rather than regional trade was better represented archaeologically, again, conceivably, as the latter was in organic materials which did not survive or are difficult to differentiate. These may have included animals, and slaves, for example, as suggested by references in the *Nūr al-Ma'ārif*, a late 13<sup>th</sup> century manuscript describing the economic activity of the Rasulid Sultanate's main emporium, Aden, to the import of slaves, mules, tanned hides, ivory, gold, and an unidentified dye from Ethiopia (Vallet 2010, 405, 416).

## The Archaeology of Islamisation

Based on the archaeological data Harlaa and Gao thus appear very similar. Both were large urban centres with some chronological overlap in not wholly dissimilar environments. Both were involved in multiple levels of trade, local, regional, and long-distance. Neither were colonies, but both appear to have had cosmopolitan populations, composed of different ethnicities and, likely, nomadic as well as sedentary elements. Both settlements were probably also conduits for the propagation of Islam in the surrounding region. Both are historically tenuous, Harlaa completely, Gao less so, but subject to sources that are not wholly unproblematic. Moreover, if the archaeological evidence for Islamisation is considered similarities between Harlaa and Gao exist.

**1. Mosques.** Mosques are tangible indicators of Islam in both settlements. The mosque excavated at Harlaa was of a simple form with a rectangular plan, measuring approximately 9.3m east-west by 7.3m north-south and aligned east-west with the mihrab oriented slightly to the northeast. There was no indication of an entrance, which was likely through a doorway now missing, in the southern wall (Figure 4). An AMS date was obtained from a piece of charcoal embedded in the plaster floor of the mid-12<sup>th</sup> to mid-13<sup>th</sup> centuries (Table 4). The walls were built of well-shaped limestone blocks, but the semi-circular mihrab of c.80 cm maximum width differed in being constructed from blocks of travertine-type limestone. This material may have been chosen as it was easier to cut to form the rounded shape required (Figure 4). It may also have been culturally influenced in reflecting builders with awareness of Red Sea and East African architecture where cut coral blocks were used in mosque building as in the Qiblatayn mosque (possibly pre-15<sup>th</sup> century, based on a surface sherd of Chinese *qingbai* porcelain) in Zeila (Fauvelle-Aymar et al. 2011, 47), and in the first congregational mosque (pre-13<sup>th</sup> century) at Kilwa Kisiwani, Tanzania (Pradines 2009, 64-65).

At Gao, the only identified mosque was excavated in Gao Ancien. This had a 2.5m diameter fired brick mihrab set into a banco qibla wall of 39m length that was reinforced with ten buttresses at intervals of 125cm, and with an overall mosque width of 26m (cf. Mauny 1951, 842-844) (Figure 4). Although undated it was likely from the same 12<sup>th</sup>-13<sup>th</sup> c. horizon as the other fired brick buildings (Insoll 1996, 16). As at Harlaa the choice of materials used in the mosque may have been significant. Fired-brick was selectively utilised, in the mihrab, and for floors and a column in the merchant's house/palace and a floor in the putative mosque aisle. The closest parallels for the size of the bricks used in the latter, 28-32cm (l) x 16cm (w) x 7cm (d), were with precinct 2 of the alcazaba at Almería in southern Spain (Insoll 1996, 51, 2000, 24-25) at 28cm (l) x 14cm (w) x 6cm (d) (cf. Cara Barrioneuvo 1990, 240) and is one element that is suggestive of close contacts between the two regions. The existence of two other tentative mosques in Gao Ancien has also been proposed. Part of a possible mosque aisle of similar date was identified, oriented north-south, built with banco and unfired mould-formed mud brick walls and a fired-brick floor, and measuring 5.6m north-south by 4m east-west

(Insoll 2000, 14) (Figure 4), but confirmation that the aisle was part of a mosque would require more excavation. However, a second structure found in Gao is possibly a mosque. This, the ‘pillar house’, was oriented north-south, and constructed from schist slabs. It had two small southern rooms giving access to a larger room of approximately 7m length by 4m width with eight stone pillars inside and was described as built c.900 (Figure 4). Regardless of the conjectural assertion that “pillared architecture of this date in northern Africa is associated exclusively with mosques” (cf., Cissé 2017, 113), the absence of a mihrab is slightly problematic but may be linked with an Ibadi identity, as Pradines (2022: 58) has recently suggested.

## 2. Muslim Burials and Arabic Epigraphy.

Muslim burials and Arabic funerary epigraphy constitute a second category of evidence indicating Islamisation at both Gao and Harlaa. Funerary epigraphy is an important chronological marker. Two quartzite gravestones from Gao-Saney dated 481/1088 (nos. 33a and 33b) supply the earliest material evidence for Islam at Gao (Moraes Farias 2003, 33-36) (Table 6). These predate five relief-carved marble gravestones from Gao-Saney, three of which were dated to 494/1100 (no. 1), 502/1108 (no. 3a), and 503/1110 (no. 4) (Sauvaget 1950; Vire 1958; Moraes Farias 2003, 1-9) (Table 6). Two chlorite schist gravestones were also recorded in the Gao-Saney cemetery dated 514/1120 (nos. 13a and 13b). From Gao itself, the earliest in-situ gravestone was in the Gorongobo cemetery and dated 524/1130 (no. 77) (Figure 5, Table 6). Another inscription from the same cemetery was dated 607/1210 (no. 78) (Moraes Farias 2003, 65-67) (Figure 5, Table 6).

However, treating these gravestones as solely chronological markers masks significant complexity. The five relief-carved marble gravestones from Gao-Saney, for example, were, based on the provenance of the marble and style of Kufic epigraphy, imported ready-carved from Almería (Sauvaget 1950; Vire 1958; Moraes Farias 2003), probably from the quarries at Macael, 58km northeast. These gravestones appear to reflect high-level Almoravid exchange with Gao, perhaps at diplomatic or state level. Their very presence in Gao meant that the Almoravid dynasty had overcome its scruples about using commemorative funerary stelae by providing these items for export (Insoll 2003: 235), for in their home territories of the western Sahara there was a complete absence of funerary inscriptions (Moraes Farias 2003, cxxvi).

Two of the imported gravestones commemorated male royalty, inscription number 1 *Malik* (King) ‘Abū ‘Abdu ‘Llāh Muḥammad b. ‘Abdu ‘Llāh b. Zāghī, and number 4, King ‘Abū Bakr ibn ‘Abū Quḥāfa, and a third, the female royal, *al-Malika* (Queen) S.wā or Suwā. The two locally made chlorite schist gravestones (13a and 13b), also carved in Kufic script, commemorated a king, Yāmā b. Kumā b. Zāghī, also known as ‘Umar b. al-Khattāb (Table 5). The African identity of at least two of these individuals was indicated through the reference to their ancestor Zāghī, of unknown ethnicity, maybe Songhai, perhaps Berber/Tuareg (Moraes Farias 2003, cliii, clvii). A more concrete indicator of ethnicity was provided by gravestone 78 from Gorongobo which was inscribed with either the female Songhai name Buyi or Waybiya/Waybuya, dependent on reading (Moraes Farias 2003, 67) and attesting local Islamic conversion. Also, potentially significant were the choice of names on three of the Gao-Saney gravestones, Muḥammad, ‘Abū Bakr, and Umar in referring to the Prophet, and the first two caliphs (Sauvaget 1950). These suggest they were recent converts to Islam (Insoll 2003, 235) but may instead reflect ‘reconversion’ or ‘re-Islamisation’ perhaps in line with Almoravid tenets of strict Māliki interpretation (Hunwick 1980, 428), rather than initial acceptance of Islam, which predated this, as sources such as Al-Muhallabī imply, and the earlier gravestones

from Gao-Saney attest. Although hypothetical, it can be suggested that this might have occurred as the initial Islamic conversion in Gao was to Kharijite Ibadī beliefs, possibly a consequence of the contacts referred to previously. However, no archaeological evidence for an Ibadī presence has been recovered in Gao, excluding the possible ‘pillar house’ mosque, if that is its function.

At Harlaa Arabic inscriptions were less common. Two dated inscriptions are known, one double-sided example of 657/1251 (**Figure 5**), and another with the partial date of 44x, reconstructed as 1048-1075 (Chekroun et al. 2011: 79), but they provide no additional information on Islamisation (**Table 6**). Nine undated inscriptions were also recorded during the recent research (Insoll et al. 2021: 498). Eight appear to be funerary inscriptions, as indicated by the choice of Qur’anic verses cited on some examples, which are commonly found in funerary settings, e.g., part of Qur’an 55: 26-27, “Everyone on earth perishes; all that remains is the Face of your Lord, full of majesty, bestowing honour” found on one stele (J. Loiseau *pers. comm.* 21/11/20) (**Table 6, Figure 5**). The ninth Arabic inscription, as yet undecipherable, was incised into a soft-stone jewellery mould.

Muslim human remains were not excavated at Gao but were at Harlaa as burials had been damaged by animal traffic or were threatened by erosion (Pryor et al. 2020, 117). A double (HAR-C) and a single burial (HAR-D) were excavated. No grave goods were present. The double burial was of the *Shiqq* or *Shaqq* type (cf. Petersen 2013, 246) with the individual interred beneath a series of angled stone slabs, six for the upper, and seven for the lower burial (**Figure 6**). Both individuals were children, the upper 2.5-3.5 years old, the lower 4.5-6.5 years old, and were dated via two AMS samples to between the mid-14<sup>th</sup> to mid-15<sup>th</sup> and mid to late 13<sup>th</sup> centuries respectively (**Table 4**). They were buried lying on their sides, oriented northeast to southwest with heads to the northeast and their faces to the northwest (**Figure 6**). Uninscribed and unworked stone slabs marked the head and foot and the burials were demarcated with rectangular stone enclosures. The single burial was damaged and lacked a marker and grave superstructure but was also Muslim. The individual, also a child between 2.5-6.5 years old, was oriented east-west with head to the east and face to the *qibla*, i.e., north (Pryor et al. 2020, 117-119), and AMS dated to between the mid-12<sup>th</sup> and mid-13<sup>th</sup> centuries (**Table 4, Figure 6**).

**3. Settlement Structure and Domestic Architecture.** Whereas Muslim burial functioned as a clear marker of Islamisation, settlement structure and domestic architecture did not. Harlaa had Muslim cemeteries to the north (**Figure 2**), and probably to the west, where further human remains were seen. However, the rationale for the location of the mosques, workshops, administrative building, and houses appears to have been structured by topography and (unknown) local requirements, and the Islamic settlement grew out of an earlier foundation. Similarly, Gao Ancien had a mosque and the Gorongobo cemetery with its Muslim burials to the north but also developed from an earlier settlement. Yet at Gao the intra-settlement structure (**Figure 2**) may have been significant in reflecting the initial stages of Islamisation through the dual cities referred to by al-Muhallabī (and confirmed archaeologically), but not exclusively, as their existence may also have been linked with ethnicity and industrial activity.

Domestic architecture could not be linked with Islamisation. At Harlaa the construction techniques used may have developed in an indigenous context. Buildings were constructed with regular well-cut limestone blocks laid without mortar. Gaps between blocks were packed with stone chips produced during the shaping of the blocks. Pits were utilised for storage and rubbish disposal, as well as, potentially, manufacturing, and industrial applications. Plaster,

gravel, earth, and stone slab floors were laid, and some internal walls plastered (Insoll et al. 2021, 491-494). Spatial use also reflected local requirements, the three rooms in the excavated cluster of stone houses (HAR-G) functioned as kitchen (1), work room (2), and living room (3) (Figure 7). The interior of the latter had a rear raised platform with a hearth on it, a bench or shelf, and two wall niches (Figure 7) and though connected with daily life could not be linked with religion.

A more diverse range of construction techniques and building materials were used in Gao. Fired-brick technology may have been imported from Al-Andalus, and thus an explicit connection with the Islamic World north of the Sahara was apparent but it was restricted to elite contexts and for a specific period (12<sup>th</sup>-13<sup>th</sup> centuries). The quotidian domestic architecture indicated this connection was not universal. At Gadei, part of a roundhouse constructed on a banco platform composed of debris from multiple re-buildings and dated, based on its stratigraphic position, to between the early 11<sup>th</sup> and late 14<sup>th</sup> centuries was excavated (Insoll 2000, 18). The use of a circular plan for the house, of c. 350-400cm diameter (Figure 7), suggested a strong indigenous character, for comparable clay roundhouses were associated with Songhai populations below Ansongo, south of Gao (Rouch 1954, 31), the area from which the Sorko/proto-Songhai originally migrated to Gao (Rouch 1953, 172; 1997, 59).

**4. Animal and Plant Remains.** In contrast, faunal and archaeobotanical remains were potentially useful material markers for exploring Islamisation. At Harlaa faunal remains were suggestive of Muslim diet (Gaastra and Insoll 2020). The majority came from domestic species with the most common sheep/goat (52.4%), followed by cattle (23.9%), and transport livestock, particularly horse/donkey (7.9%), but also camel (3.6%). Remains of domestic chicken and guinea fowl were also present (11.4%). The proportions of the goat, cattle, and sheep, and butchery evidence concurred with that found across multiple Islamic period sites in the Levant, Mesopotamia, and Al-Andalus (cf. Gaastra and Insoll 2020, 203 for detail) and suggested that some of the population was following an orthodox Muslim diet in Harlaa. However, the presence of 15 elements from warthog (*Phacochoerus sp.*), bushpig (*Potamochoerus sp.*), and indeterminate pig (Suid), in contexts largely dating from after Islam was established in Harlaa intimated either a mixed religious community, religious non-observance, or just that Muslims continued to eat traditional foods, but still considered themselves perfectly good Muslims. These were confined to Phases 2 (11<sup>th</sup>-mid-13<sup>th</sup> centuries, 8 elements), 4 (mid/late 13<sup>th</sup> to early 14<sup>th</sup> c., 2 elements), and 5 (late 13<sup>th</sup>-early 15<sup>th</sup> centuries, 1 element) in the workshop complex (HAR-B) and to the house with associated industrial/kitchen facility (HAR-E, mid-11<sup>th</sup> to mid-13<sup>th</sup> centuries, 4 elements) (Gaastra and Insoll 2020, 187). An alternative interpretation based on these contexts is that they were connected with an unidentified craft or manufacturing activity. Butchery marks were comparatively rare (311 elements, 3.9%) but eight of 25 hyoid bones recovered had cut marks, three of which were linked with slicing the throat, from Phases 2 and 5 in HAR-B, and HAR-E (Gaastra and Insoll 2020, 193, 201). It is possible this is an indicator of *halal* slaughter (cf. Insoll 1999, 96-99; Francesca 2014). However, as Ethiopian Orthodox Christians use similar slaughter practices (Zellelew 2015, 57) this would not be a valid interpretation without the other chronologically similar markers of Islam, notably mosques, burials, and Arabic funerary inscriptions at Harlaa.

At Gao, assessing indicators of *halal* slaughter was not one of the zooarchaeological research aims of over 25 years ago. In the absence of this data, assemblage composition and species presence or absence were considered as potential markers of Islamisation. Faunal assemblage composition varied across Gao. Wild species such as waterbuck (*Kobus ellipsiprymnus*), red-fronted gazelle (*Gazella rufifrons*), crocodile (*Crocodylus niloticus*), and hippopotamus

(*Hippopotamus amphibius*) were recorded at Gao Ancien, unidentified antelope species at Gadei, and kob (*Kobus kob*) and reedbuck (*Redunca redunca*) at Gao-Saney. Cattle remains were much more common (37.6%) than sheep/goat (11.7%) at Gadei. Whilst comparable percentages of cattle (7%) and sheep/goat (7%) were recorded at Gao Ancien, and sheep/goat were significantly more abundant (33.1%) at Gao-Saney than cattle (7.3%) (cf. Hutton MacDonald and Macdonald 1996; Barrett-Jolley 2000; Stangroome 2000). The closest proportional pattern to Harlaa was manifest by the Gao-Saney assemblage in the higher percentage of sheep/goat and may suggest a comparable level of Islamisation but would require the butchery evidence for confirmation.

Presences and absences of species at Gao were also informative. Pigs were absent from all the assemblages, but dogs were represented by ten elements of *Canis familiaris* at Gadei that appeared to be food refuse as they were associated with other food remains (Stangroome 2000, 56). Two dog elements (*Canis* sp.) were also recorded at Gao Ancien where it was unclear if they were food refuse (Hutton MacDonald and MacDonald 1996, 125-126), and another two elements, either *Canis familiaris* or jackal (*Canis aureus* or *Canis adustus*) were found at Gao-Saney where, based on context, these appeared not to be food refuse (Hutton MacDonald and MacDonald 1996, 124). Although a small sample, this suggests differences are apparent and the dog remains at Gadei, for example, were all recovered from levels dated to between the early/mid-11<sup>th</sup> and late 16<sup>th</sup> centuries, i.e., after other indicators of Islam were present in Gao, suggesting the same three interpretive hypotheses as Harlaa.

Archaeobotanical remains were revealing in different ways. Fifty-eight contexts were sampled for archaeobotanical material at Harlaa (Beldados et al. submitted). Missing were indigenous Ethiopian crops such as teff (*Eragrostis tef*) and finger millet (*Eleusine coracana*). Whilst the presence of barley (*Hordeum*), emmer wheat (*Triticum monoccocum*), lentils (*Lens culinaris*), and chickpeas (*Cicer arietinum*), which all originated from the Middle East (cf. Beldados et al. submitted), indicated that foodways were influenced from that region. The presence of wheat and lentils prior to the mid-12<sup>th</sup> century, however, suggests that this pattern cannot be wholly connected with sustained contacts with the Middle East linked with conversion to Islam, the presence of Muslims, or Islamisation. Instead, earlier influences from the Middle East are apparent, and, potentially indicative of contacts with northern Ethiopia where the agricultural system over the last 4000 years has also been dominated by the cultivation of wheat, barley, legumes, and oil crops of Middle Eastern origin (D'Andrea et al. 2011; Beldados 2015; Beldados et al. submitted). An exception to the lack of a linkage with religion may be the absence of remains of cereal and legume crops, and oil plants in the mosque which might concur with it functioning as a clean space for prayer and learning, not food preparation and consumption.

At Gao, archaeobotanical samples were not systematically collected except for the charred contents of a ceramic vessel from Gadei (Fuller 2000, 28), dated, based on the recalibrated C14 dates, and stratigraphy (Insoll 2000, 18-19), to between the late 13<sup>th</sup> and late 16<sup>th</sup> centuries. Of interest in assessing material markers of Islamisation were one complete and 22 fragmentary cotton seeds (*Gossypium* sp.) and a small fragment of wool or hair cloth of c.2mm x 5mm with Z-spun threads recovered from this deposit (Fuller 2000, 29, 32-35). These attested the possession and likely wearing of fabrics, with cotton weaving generally regarded as diffused from east to west Africa probably from the 8<sup>th</sup> to 9<sup>th</sup> centuries (Magnavita 2008, 252). Correlation for textiles was provided by 15 excavated clay spindle whorls, five from Gao-Saney, three from Gao Ancien, and seven from Gadei (Insoll 1996, 80-81, 2000, 128-130). All the Gao-Saney examples were discs made from re-used potsherds, the remainder were purpose



made in conical (3), biconical (1), spherical (1), pot vessel (3), dome (1) and disc (1) forms (**Figure 8**). Five of the spindle whorls from Gadei post-dated the late 13<sup>th</sup> century, two were of early 11<sup>th</sup> to late 14<sup>th</sup> century date, one of the Gao Ancien spindle whorls was post-10<sup>th</sup> century, the other two post-13<sup>th</sup> century, and the Gao-Saney examples post-dated the early 8<sup>th</sup> century. This chronology implies a link between textiles and Islamisation at Gao.

Textiles were also suggested archaeologically at Harlaa. One macro remain from common flax/linseed (*Linum usitatissimum*) was recovered from HAR-B and dated to the late 13<sup>th</sup> to early 15<sup>th</sup> centuries. This may have been used for oil and/or for textile production (Beldados et al. submitted). Wool was also implied by the sheep, goat, and camel remains found in the faunal assemblage (Gaastra and Insoll 2020). Nineteen spindle whorls were also recorded, eight steatite, one talc, nine clay, and one basalt, predominantly in disc (12), but also in square (one), cone (three), flattened spherical (two), and dome (one) shapes (**Figure 8**). All post-dated the 11<sup>th</sup> century with nine recovered from HAR-B, two from HAR-E, two from HAR-F and six from HAR-G. It is also conceivable that some of the pits and postholes recorded (HAR-B, HAR-G) may represent the former existence of pit-treadle looms, and their wooden frames, where the weaver sat on the pit edge and operated the loom treadles in the pit using their feet (cf., Gervers 1990, 18). As at Gao, a link with Islamisation and the production (and wearing) of textiles at Harlaa can be proposed. Historical references for clothing at Harlaa are absent but for Gao a partial timeline can be reconstructed for al-Muhallabī described, c.975-85, the “king and his chief companions” wearing shirts and turbans of unspecified material (Levtzion and Hopkins 2000, 174), and Al-Idrīsī later noted in “The Book of Roger” (548/1154) that the common people of Kawkaw wore skins, merchants wore chemises and mantles of unspecified material and woollen headbands, and nobles, waist wrappers, again of unknown material (ibid, 113). The cotton seeds and cloth fragment from Gadei would continue such a chronology and indicate the wider diffusion of textiles through the population.

Both at Harlaa and Gao some aspects of faunal remains (assemblage composition, species, butchery techniques) may function as material markers of Islamisation but this was variable and effective only in-so-far as other markers of Islam were present. Otherwise, they were reflective of factors such as local tastes, foodways, environment, and lifeways. Archaeobotanical remains similarly reflected these factors but excluding textiles, overall, were less clear markers of Islamisation at both sites.

**5. Ceramics.** Assessing changes in locally made ceramic assemblages may also provide a material marker of Islamisation, perhaps through the adoption of new vessel forms. At Harlaa ware types stayed essentially stable throughout the sequence with two main wares recorded, Earthenware/Plainwares (80%) and Burnished wares (19.7%) (Tait and Insoll 2021, 424) (**Figure 9**). Only minor changes were noted as, for example, with the appearance of a light brown slipped Earthenware/Plainware, probably after the Oromo migration, and post-dating primary occupation. When change occurred between the 11<sup>th</sup>-13<sup>th</sup> centuries it was in relation to the appearance of new features such as carination, conical lids, ring bases, and pierced lug handles (Tait and Insoll 2021, 424, 432). Although the fragmentary nature of the assemblage and the absence of complete pots limited reconstructing vessel forms, those identified included open and carinated bowls, globular and large storage jars, cooking pots, and conical and simple lids (**Figure 9**). Not found were what might be described as Islamic influenced ceramic forms, such as bottles, ewers, and shallow bowls (Tait and Insoll 2021, 424), and like the archaeobotanical remains, the vessels seem to have been linked with a porridge/soup/boiling-based food culture (Tait and Insoll 2021, 439).



Some similarities between the local ceramics recovered from the Chercher Mountain sites and Harlaa were also observed, manifest by, for example, appliqué decoration consisting of ridges on the neck join or under the rim on Earthenware/Plainware (e.g., Joussaume and Joussaume 1972, Plate X-1/3), common forms such as bowls with stand bases (Joussaume and Joussaume 1972: Plate II-b; Joussaume 2014, 102), and the use of tall annular ring bases (e.g., Joussaume and Joussaume 1972, Plate II-d/f, Plate X-4; Joussaume 2014, 142) (Tait and Insoll 2021, 429, 432) (**Figure 9**). These similarities were possibly a result of trade in ceramics, perhaps along with foodstuffs, as well as suggesting a local population using ceramic types that they were familiar with (Tait and Insoll 2021, 433-434; Insoll et al. 2021, 502). Overall, ceramic preferences strongly favoured local wares with imported glazed wares from Southeast Asia/China (160 sherds or 1.25%) and the Middle East (171 sherds or 1.33%) represented in very small quantities compared to the local ceramics (12,506 sherds or 97.42%). Thus, the Harlaa ceramics assemblage was not indicative of Islamic influences (Tait and Insoll 2021, 432).

At Gao, different sampling strategies were employed in the 1993 (100% at Gao Ancien, 50% at Gao-Saney) and 1996 (50% at Gao Ancien and Gadei) seasons (Insoll 1996, 111; MacLean 2000, 62) making comparable evaluation of the total assemblage impossible. The most comprehensively recorded ceramics (from the merchant's house/palace [MM93-A]) contained eight main ware types: Red Slipped (RS), Channelled (Chan), Geometric Decorated (GD), Black Burnished Geometric Decorated (BBGD), Brown Burnished (BrB), Black Burnished (BB), Cord and Twine roulette decorated (CT), and Painted (P). Three rim types dominated: Simple (60.7%), divided into four sub-categories, Thickened (23.2%), divided into six sub-categories, and Everted (13.8%), divided into three sub-categories, also found were smaller quantities (2.2%) of other rims including flat and ledged (Insoll 1996, 111-114) (**Figure 10**). A similar range of vessels with Thickened, Simple, and Everted rims were present throughout the sequence with RS wares most common (38%) followed by CT (37.4%), C (11.9%), and P wares (6.7%). Good quality wares (RS, GD, BrB, BBGD, and BB) formed a significant proportion (48.3%) of the assemblage reflecting the mercantile and high-status character of Gao Ancien (**Figure 10**).

As at Harlaa, vessel forms were difficult to reconstruct in the absence of complete pots, but most were from bowls of various sizes, for serving, consumption and storage, as well as basins, large storage jars, cooking pots, and bottles or flasks with either long straight or squat necks (**Figure 10**). None of these forms, including the bottles or flasks which appeared at the base of the sequence in Gao Ancien (MM93-A-32) and thus dated to between the 5<sup>th</sup> to 8<sup>th</sup> centuries, could be linked with Islamic influence, and instead appeared to have been associated with a cuisine focused on pounding, boiling, and steaming, the latter also represented by *couscouisière* (steamer) fragments (MacLean and Insoll 1999, 88). Decoration was similarly derived from an indigenous repertoire: burnishing, slipping, cord and twine impression, channelling, painting, and comb incision. A distinct preference for local ceramic wares and forms was also apparent and again, as at Harlaa, the percentage of imported glazed wares (30 sherds or 0.37%) in Gao in comparison to the locally manufactured pottery (8083 sherds or 99.63%) was minute. In neither context were the local ceramics useful indicators of Islamisation, but they did permit inferences on foodways in relation to a similar “wet kitchen technology” (MacLean and Insoll 1999, 89) at both sites, with a comparable absence of evidence for baking and grilling.

**6. Miscellany.** A final category of evidence potentially suggestive of Islamisation were small personal items. The occupation deposits contemporary with the roundhouse at Gadei, for example, yielded a wooden bead (GAD96-A-20) of 40mm length and 7mm maximum width

that was drilled at one end and decorated at the other with three incised lines spanning the circumference of the bead (Roy 2000: 106) (Figure 11). This appeared to be a spacer used to separate the ‘tail’ of beads attached to the main circle of 99 beads from a set of Muslim prayer beads (*misbaha*). Also recovered from a subsequent occupation phase (1) were the remains of a copper casing from an amulet cover or *higab*, measuring 20mm x 14mm x 8mm depth (GAD96-A-5). Hollow at the centre, this contained remnants of a fibrous material, perhaps paper, and had possibly once held an Islamic, or less likely, other text (Insoll 2000, 135) (Figure 11).

Another relevant find from Gao was an undated small jar inscribed in Arabic and found buried under a house during building work in the Gao Ancien area. This was undecorated except for a band of red slip on the exterior running from the top of the rim to below a strip of cord/twine roulette impressed decoration on the shoulder (Figure 11). Written in black ink on the inside of the simple open rim were two invocations translated by Alessandro Gori (pers. comm. 11/3/22). An upper, composite, text, formed of a Qur’anic quotation, “It is You we worship and You we ask for help” (1:6) and the *Hawqala*, “There is no power nor strength except by God the Lofty, the Great”, and a lower text from hadith, “The messenger of Allah (may the peace and blessings of Allah be upon him) said: He who says in the morning and the evening of each day: ‘In the name of Allah, by whose name nothing can cause harm neither on earth nor in the heaven and He is The All-Hearing, The All-Knowing.’ (three times) Nothing shall harm him” (Figure 11). This “prophetic apotropaic invocation” had been transferred into written form probably to protect the house (A. Gori pers. comm. 11/3/22).

Absent from Gao were Arabic inscribed seals, though a shaped block of quartz (20mm x 17mm x 9mm) cut square on four faces, (Figure 11) which appeared to have been shaped to fit within a ring (Insoll 2000, 131) was recovered from a packing layer (MM96-C-8) beneath the fired brick floor in the putative mosque aisle. At Harlaa two Arabic inscribed seals were found by farmers during agricultural activities. One was made of carnelian, oval, 14mm x 12mm, and incised with an indecipherable inscription (F. Bauden and L. Kalus pers. comm. 22/6/20) (Figure 11). The other was made of an unidentified blue stone, rectangular, 13mm x 10mm, and incised “Oh, Hidden (bestower) of kindnesses, we profit from what I fear” (S. Almahari and J. Cooper pers. comm. 19/5/20) (Figure 11). Although all these artifacts have either explicit or potential links with Islam they cannot, per se, be interpreted as indicative of Islamisation, but when considered along with the mosques, Arabic epigraphy, Muslim burials etc., are suggestive of this.

## Discussion. Reconstructing Islamisation Patterns

Similar material markers - mosques, funerary inscriptions, burials, potentially some aspects of animal and plant remains, miscellaneous artifacts - appear to attest the presence of Islam in Gao and Harlaa. However, both settlements are very different when archaeological evidence is interpreted to try and reconstruct Islamisation processes. In the Gao region gravestone patterning allows inferences. Although crude as not all Muslims were commemorated with funerary epigraphy, and not all stelae would have survived or have been recorded, it is evident that the earliest stelae were in the north at, for example, Essouk-Tadmekka (no. 106, 404/1013 [Moraes Farias 2003, 89]) later examples in the south, as at Egef-n-tāwāqqast in the Bentyia region (no. 188, 578/1182 or 598/1201 [Moraes Farias 2003, 160]), and Gao, chronologically and geographically in the middle (nos. 33a and 33b, 481/1088 [Moraes Farias 2003, 33-36]) (Figure 1). An Islamisation model can be proposed (with the caveats previously outlined

acknowledged), to explain the patterning of this epigraphic data. There may have been three phases of Islamisation, albeit over-lapping and blurred, but linked, initially, with nomads, i.e., those inhabiting regions such as the environs of Essouk-Tadmekka, then some of the townspeople and their rulers, as in Gao, and finally, over a long-drawn out period, the sedentary agriculturalist populations, extending down the Niger to Bentyia (Insoll 1996, 88-94, 2017b, 254-260). The reason for the comparative longevity of the third phase was perhaps due to a need to incorporate indigenous beliefs of the types described earlier, and reflective of Eaton's (1993, 269) concepts of "inclusion" and "identification" with Islam gradually occurring, (**Table 1**), but with "displacement" perhaps more subjective and variable. Moreover, it is also apparent based on the possible Songhai and/or Berber/Tuareg names engraved on some of the funerary stelae and the persistence of local traditions in both ceramics and architecture that Islamisation was not cognate with Arabization.

In eastern Ethiopia, archaeology also suggests Islamisation was drawn out, but cannot be 'phased' in the same way as the Western Sahel. This reflected the different ethnic, economic, and religious background, but probably also environmental differences and difficulty in accessing the highlands due to terrain, topography, and vegetation cover, i.e., the effect of an altitudinal mosaic as opposed to the more linear environments in which Gao is situated. As such it may, in some ways, be compared with the environmental constraints which conspired to produce a 'lag effect' on Islamisation in the West African forest where factors such as the impact of the tsetse fly on pack animals perhaps affected the progress of missionaries and merchants, as well as Muslim pastoralists and their animals (cf., Green 2004). Additionally, the degree of road penetration in rural areas may also have been a factor, as it was in the colonial period to economic and political integration and control, leading to what Peterson (2011, 9) has termed "enormous differences" in "the corresponding regional cultural gradients".

The paucity of funerary epigraphy in eastern Ethiopia also does not permit chronological or ethnic inferences on Islamisation in the same way as in the Gao region. However, where the epigraphic corpus is larger, as in the highlands of Tigray in Ethiopia, or the Dahlak Islands in Eritrea, the absence of local names and the presence of *nisba* such as Yamāmī, Makkī, and Maṭrānī from the Arabian Peninsula, Baṣrī and Bagdādī from Iraq, and Ša'mī from Syria in the Dahlak corpus (Schneider 1983, 5-6) and again Yamāmī, as well as Damāmīlī from Upper Egypt at Bilet cemetery in Tigray (Loiseau 2020, 78, 90) suggests, if not direct Arab origins, that Arabisation was more significant in these regions, but in the absence of epigraphic data this cannot be transposed to Harlaa where, equally, evidence such as the continuity in local ceramic forms suggests a more complex scenario.

Differences in Islamisation processes in eastern Ethiopia were also indicated by the results of strontium isotope (Sr) analysis of teeth from the three Harlaa Muslim child burials (Pryor et al. 2020). These attested a mixed rural and urban Muslim population and movement between Harlaa and the surrounding area with the isotopic ratio of the upper burial from HAR-C indicating birth and death in Harlaa, the lower burial, mobility between Harlaa and the nearby hills, and the single burial (HAR-D), life in the hills, and eventual burial in Harlaa. This suggested a Muslim community not solely resident in Harlaa, but integrated into the surrounding indigenous rural population, either as immigrants or through local conversion (Pryor et al. 2020, 131). This differed to the Gao region where the initial patterning of Islamisation, as described, appears to have been more fixed in the urban (and nomadic) context.

Sr analysis of another tooth sample from the near contemporary non-Muslim burial mound at Sofī (**Figure 1**), revealed further complexity. The individual, an adult, but whose remains were

too fragmentary to permit further osteological analysis had been buried beneath a stone mound, c. 1.5m height, 14.2m northeast to southwest and 13m southeast to northwest. This had an outer layer of smaller stone cobbles and pebbles and inner core of larger boulders. The burial was oriented north-south next to an upright stone slab (**Figure 3**) and located approximately 4m from the mound centre near the northern edge. It was unclear if grave goods had been present, as only a few potsherds were recovered (Insoll, MacLean and Engda 2016, 29-30). Their isotopic range indicated that this individual had either grown up near the burial site or further west in the Somali Plateau or Ahmar foothills and was distinct from the Muslim burials but correlated with the five animal tooth samples from Harlaa also Sr analysed. These, three cattle and two goats, had spent all or part of the period represented by their tooth growth in an area with less radiogenic geology than Harlaa (Pryor et al. 2020, 130-131). The isotopic similarities suggest that it was possible that this non-Muslim individual buried at Sofi was a pastoralist/shepherd involved in supplying animals to Harlaa. Significantly, this undermines the hypothesis that pastoralists were always among the first Muslim converts because of their early exposure to Islam through acting as guides for Muslims or because their mobile lifestyle matched well with the ease of worship Islam requires (e.g., Trimingham 1959, 1968). Thus, though pastoralism might link with initial conversion in the Gao region, no such connection was apparent in the Harlaa region. Overall, the Sr analysis infers that some of the rural population, some of the urban population, and some pastoralists were Muslim, but some were not, and it intimates that both Muslims and non-Muslims co-existed in the region, as they continue to (Pryor et al. 2020, 131). The impetus to initial conversion appears, however, to be similar in both contexts, i.e., commerce and merchants, with agents from African and external groups - potentially, Berber/Tuareg and Arab in Gao, and Somali, unknown African, and Arab in Harlaa.

The results of these processes were not the creation of imitation Arab Islamic societies (varied as these were in themselves). From the outset, Islam in Gao and Harlaa appears to have been, to adapt a point made by Fani (2016, 114), subject to “original intellectual elaboration”, which led to the gradual embedding of the religion within two different cosmopolitan contexts, each influenced by varying historical and environmental circumstances. Islam was adapted to local needs, and this was reflected in later Islamisation processes, with less emphasis on mercantile agency and greater links with urbanism and saints in eastern Ethiopia developing, as particularly disseminated from Harar, the town of the saints, *madīnat al-awliyā* (cf. Insoll 2017c; Insoll and Zekaria 2019), and in the western Sahel, an important connection with Islamic scholarship emerging, and associated with centres such as Timbuktu. Also important was the growth in Sufism in both areas, following the introduction of the Qadiriyya tariqa to Harar, in the 15<sup>th</sup> century (Lewis 1994, 141), and the Tijaniyya and Qadiriyya tariqa to Timbuktu in the 16<sup>th</sup> century (e.g., Saad 1983, 72-73).

## Conclusions

Archaeology gives partial insights into the complex processes of Islamisation and it is evident that mosques, and Muslim burials with inscribed tombstones, are the critical indicators of Islamisation in both Gao and Harlaa. More difficult to assess is why people converted but must have included varied factors such as genuine belief, economic imperatives such as better trading conditions with co-religionists, social pressure, and social status. Absent in both contexts was evidence for destruction and *jihad*. Forced conversion appears not to have been a significant factor in Ethiopia until the religious wars of Ahmad Gragn in the mid-16<sup>th</sup> century (Stenhouse 2003), and in the Western Sahel until the wave of Fulani reform movements of the

late 18<sup>th</sup> through mid-19<sup>th</sup> centuries (e.g., Robinson 2000). Archaeology offers a mechanism to assess Islamisation, conversion to Islam, and the development of Islamic practices and beliefs and their impact in different cultural contexts in sub-Saharan Africa, through a range of material markers that can allow new insight and challenge established narratives, if the archaeological record is fully interrogated. It reflects the “living organic culturally contextualised” character of Islam and foregrounds how this can “change with place and time” (Mandel et al. 2015, 363). The evidence from Gao and Harlaa attests the variety of interpretations of Islam that exist, but, correspondingly, through the recurrence of key markers such as mosques, Muslim burials, and Arabic epigraphy, also affirms material similarity, yet without having to make course to a unitary and erroneous concept of ‘African Islam’ (cf. Insoll 2003, 34-35).

The comparisons drawn in this paper indicate that although similar material markers can recur archaeologically, Islamisation is contextually specific, as extensive anthropological literature also attests (e.g., Birchok 2015; Özyürek 2015; Lücking and Eliyanah 2017; Khan 2018). Attempting to generalize a universal model of Islamisation does not work as factors such as differences in environment, lifeways, ethnicities, historical circumstances, and pre-Islamic backgrounds differ, and they reflect local outcomes and agency. The western Sahel is not eastern Ethiopia, in as much as Indonesia is not the Arabian Gulf, for instance, and each consideration of Islamisation needs to be developed for and from its specific context, as the archaeological evidence emphasizes. Moreover, Islamisation is not teleological, as continuity of varied religious beliefs disclose, and can be reversed or staggered. Re-Islamisation can also occur dependent on exigency, politics, fashion, or doctrinal change for example. Revealing this complexity archaeologically is subjective, based on the survival of often ephemeral data, but approaching Islamisation should not be precluded for this reason as the record might exist, albeit in fragmentary and partial form as the material from Gao and Harlaa shows.

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## Tables

1. Stages or phases in explanatory models of Islamic conversion applied to or developed from African material (adapted from Insoll 2017b: 246).

2. Cumulative recalibrated AMS radiocarbon dates from the Gao excavations. <sup>1</sup>Dates from charcoal. <sup>2</sup>Dates from wood. Calibration by OxCal 4.4. HPD method: INTCAL13.

3. Examples of imported luxury materials at Gao (**Notes.** <sup>1</sup>Glass and agate beads were both imported and locally made. Glass beads were manufactured at Gao-Saney [Keech McIntosh et al. 2020] and source analysis suggests some agate beads were also made in the region [Insoll et al. 2004]. <sup>2</sup>S/C = surface collection. <sup>3</sup>These shells were leached and broken precluding precise identification [Milner 2000: 37-38]).

4. Cumulative AMS radiocarbon dates from the Harlaa excavations. <sup>1</sup>Dates from charcoal. <sup>2</sup>Dates from bone collagen. Calibration by BetaCal 3.21. HPD method: INTCAL13.

5. Examples of imported luxury materials from excavated contexts at Harlaa (**Notes.** <sup>1</sup>HAR-D and HAR-G are excluded. HAR-D lacked relevant material, and the aim of the excavation of HAR-G was to record architecture, hence, unlike the other units, the deposits were not sieved. <sup>2</sup>Agate, quartz/rock crystal, and glass beads were both locally made and imported. <sup>3</sup>Also includes sherds of probable Yemeni origin. <sup>4</sup>Unidentified cowry species. Most are probably *M. annulus* and *M. moneta* but are predominantly represented only by the dorsa making further identification impossible [cf. Insoll 2021: 5]. <sup>5</sup>Compound Entrance Excavation. A small test unit adjacent to HAR-G completed to recover two sherds).

6. Examples of gravestones from Gao and Harlaa (**Notes.** <sup>1</sup>Dimensions are only provided for the gravestones recorded by the author).

<b>Conversion Stage or Phase</b>	<b>Description</b>	<b>Reference</b>
Germination	Preparatory contacts. Indigenous religions little disturbed. Items of Islamic material culture such as dress and amulets adopted	Trimingham (1968)
Crisis	Assimilation of elements of Muslim practice, e.g., dietary prohibitions and prayer, alongside continuation of indigenous religious practices	Trimingham (1968)
Reorientation	Reorientation to Islam and indigenous religious elements decline	Trimingham (1968)
Quarantine	Islam confined to a specific group such as traders	Fisher (1973, 1985)
Mixing	Conversion to Islam occurs and Islam syncretized with indigenous beliefs and practices	Fisher (1973, 1985)
Reform	Wave of Islamic reform occurs	Fisher (1973, 1985)
Inclusion	“Islamic superhuman agencies” are embedded in local cosmologies	Eaton (1993: 269)
Identification	Islamic superhuman agencies merged with local divinities	Eaton (1993)
Displacement	Islam replaces local divinities	Eaton (1993)

Table 1. Stages or phases in explanatory models of Islamic conversion applied to or developed from African material (adapted from Insoll 2017b: 246).

<b>Context Number</b>	<b>Laboratory Number</b>	<b>Date (2 sigma calibration)</b>
GAD96-A-5	GX-22810 <sup>1</sup>	515+/-70 BP; Cal AD 1288-1495
GAD96-A-23	GX-22812 <sup>1</sup>	1195+/-205; Cal AD 428-1220
MM93-A-21	GX-21656 <sup>1</sup>	1160+/-75 BP; Cal AD 760-1051
MM93-A-28	GX-20623 <sup>2</sup>	1105+/-165 BP; Cal AD 642-1247
MM93-A-32	GX-21657 <sup>1</sup>	1430+/-90 BP; Cal AD 418-770
MM96-B-7	GX-22808 <sup>1</sup>	1395+/-75 BP; Cal AD 585-885
MM96-C-11	GX-22806 <sup>1</sup>	1005+/-75 BP; Cal AD 885-1213
MM96-C-20	GX-22807 <sup>1</sup>	1470+/-250 BP; Cal 3 BC - AD 1035

Table 2. Cumulative recalibrated AMS radiocarbon dates from the Gao excavations. <sup>1</sup>Dates from charcoal. <sup>2</sup>Dates from wood. Calibration by OxCal 4.4. HPD method: INTCAL13.



Unit <sup>1</sup>	Glass Beads <sup>1</sup>	Agate Beads <sup>1</sup>	North African <i>Cuerda Seca</i> Sherds	North African Sherds	Spanish or North African Lustre Sherds	Chinese Ceramic Sherds	Carved Alabaster Fragments	Glass Vessel Fragments	Marine Shell ( <i>M. moneta</i> )	Marine Shell ( <i>Ovulidae</i> or <i>Olividae</i> ) <sup>3</sup>	Brass Ingots and Metalwork
MM93-A	241	8	2	12	11		5	149	1		4
MM96-B	91	3						16			
MM96-C	74	2						25			
GAD96-A	353	6						16		14	
SA-93	83			1		1		17			
SA-96 S/C <sup>2</sup>								29			
<b>Total</b>	842	19	2	13	11	1	5	252	1	14	4

Table 3. Examples of imported luxury materials at Gao (**Notes.** <sup>1</sup>Glass and agate beads were both imported and locally made. Glass beads were manufactured at Gao-Saney [Keech McIntosh et al. 2020] and source analysis suggests some agate beads were also made in the region [Insoll et al. 2004]. <sup>2</sup>S/C = surface collection. <sup>3</sup>These shells were leached and broken precluding precise identification [Milner 2000: 37-38]).

<b>Context Number</b>	<b>Laboratory Number</b>	<b>Date (2 sigma calibration)</b>
HAR15-A-10	Beta-419525 <sup>1</sup>	850+/-30 BP; Cal AD 1155-1255
HAR15-B-6	Beta-419526 <sup>1</sup>	840+/-30 BP; Cal AD 1155-1260
HAR15-B-10	Beta-419527 <sup>1</sup>	820+/-30 BP; Cal AD 1165-1265
HAR16-B-6	Beta-451581 <sup>1</sup>	610+/- 30 BP; Cal AD 1290 to 1410
HAR16-B-7	Beta-451582 <sup>1</sup>	730+/-30 BP; Cal AD 1255 to 1290
HAR16-B-9	Beta-451583 <sup>1</sup>	800+/-30 BP; Cal AD 1190 to 1275
HAR17-B-6 – Hearth	Beta-461299 <sup>1</sup>	760+/-30 BP; Cal AD 1220 to 1285
HAR17-B-10	Beta-461300 <sup>1</sup>	900+/-30 BP; Cal AD 1035 to 1215
HAR17-B-15	Beta-461301 <sup>1</sup>	1500+/-30 BP; Cal AD 535 to 620
HAR17-B-24 – Hearth	Beta-461302 <sup>1</sup>	1150+/-30 BP; Cal AD 775 to 975
HAR17-B-24 – Under Wall	Beta-461303 <sup>1</sup>	980+/-30 BP; Cal AD 1015 to 1050 and Cal AD 1080 to 1150
HAR18-B-6	Beta-490904 <sup>1</sup>	710+/-30 BP; Cal AD 1256 to 1306
HAR18-B-13	Beta-490905 <sup>1</sup>	850+/-30 BP; Cal AD 1152 to 1260
HAR18-B-24	Beta-490906 <sup>1</sup>	1150+/-30 BP; Cal AD 776 to 971
HAR18-B-26	Beta-490907 <sup>1</sup>	1240+/-30 BP; Cal AD 684 to 780

HAR17-C Burial 1 – Upper	Beta-461292 <sup>2</sup>	520+/-30 BP; Cal AD 1330 to 1340 and Cal AD 1395 to 1440
HAR17-C Burial 2 – Lower	Beta-461293 <sup>2</sup>	760+/-30 BP; Cal AD 1220 to 1285
HAR17-D-1	Beta-461294 <sup>2</sup>	820+/-30 BP; Cal AD 1165 to 1265
HAR18-E-8	Beta-490908 <sup>1</sup>	900+/-30 BP; Cal AD 1039 to 1210
HAR18-E-9	Beta-490909 <sup>1</sup>	840+/-30 BP; Cal AD 1154 to 1264
HAR19-E-30	Beta-522144 <sup>1</sup>	920+/-30 BP; Cal AD 1028 to 1184
HAR19-F-6	Beta-522142 <sup>1</sup>	810+/-30 BP; Cal AD 1169 to 1270
HAR19-F – (Cut Section) Below Plaster Floor (2)	Beta-522143 <sup>1</sup>	820+/-30 BP; Cal AD 1165 to 1265
Harlaa Valley Section 1 – 10 cm	Beta-461295 <sup>1</sup>	980+/-30 BP; Cal AD 1015 to 1050 and Cal AD 1080 to 1150
Harlaa Valley Section 1 – 110 cm	Beta-461296 <sup>1</sup>	1120+/-30 BP; Cal AD 780 to 785 and Cal AD 880 to 990
Harlaa Valley Section 2 – 20 cm	Beta-461297 <sup>1</sup>	820+/-30 BP; Cal AD 1165 to 1265
Harlaa Valley Section 2 – 90 cm	Beta-461298 <sup>1</sup>	900+/-30 BP; Cal AD 1035 to 1215

Table 4. Cumulative AMS radiocarbon dates from the Harlaa excavations. <sup>1</sup>Dates from charcoal. <sup>2</sup>Dates from bone collagen. Calibration by BetaCal 3.21. HPD method: INTCAL13.

Unit <sup>1</sup>	Glass Beads <sup>2</sup>	Agate Beads <sup>2</sup>	Yemeni Ceramic Sherds <sup>3</sup>	Egyptian Ceramic Sherds	Iranian Ceramic Sherds	Indian Ceramic Sherds	Iraqi Ceramic Sherds	Chinese Ceramic Sherds	SE Asian or Chinese Storage Jar Sherds	Glass Vessel Fragments	Marine Shell ( <i>M. annulus</i> )	Marine Shell ( <i>M. moneta</i> )	Marine Shell ( <i>Cypraea</i> ) <sup>4</sup>
HAR-A	3	1									2		
HAR-B	1376	118	83	1	4	3	1	88	6	353	74	29	1341
HAR-C	1												1
HAR-E	269	12	23	1	4	2		13	51	207	12	5	299
HAR-F	145	1	2	1				2		38	2		6
HAR-CEE <sup>5</sup>				2									
<b>Total</b>	1794	132	108	5	8	5	1	103	57	598	90	34	1647

Table 5. Examples of imported luxury materials from excavated contexts at Harlaa (**Notes.** <sup>1</sup>HAR-D and HAR-G are excluded. HAR-D lacked relevant material, and the aim of the excavation of HAR-G was to record architecture, hence, unlike the other units, the deposits were not sieved. <sup>2</sup>Agate, quartz/rock crystal, and glass beads were both locally made and imported. <sup>3</sup>Also includes sherds of probable Yemeni origin. <sup>4</sup>Unidentified cowry species. Most are probably *M. annulus* and *M. moneta* but are predominantly represented only by the dorsa making further identification impossible [cf. Insoll 2021: 5]. <sup>5</sup>Compound Entrance Excavation. A small test unit adjacent to HAR-G completed to recover two sherds).



Site and Reference No.	Material	Provenance	Script	Date	Dimensions <sup>1</sup>	Person Commemorated	Reference
Gao-Saney (1)	Marble	Macael (Almería), Spain	Kufic	494/1100		<i>Malik</i> 'Abū 'Abdu 'Llāh Muḥammad b. 'Abdu 'Llāh b. Zāghī	Moraes Farias (2003: 3-4)
Gao-Saney (3a and 3b)	Marble	Macael (Almería), Spain	Kufic	502/1108		<i>Al-Malika</i> S.wā	Moraes Farias (2003: 5-7)
Gao-Saney (4)	Marble	Macael (Almería), Spain	Kufic	503/1110		<i>Malik</i> 'Abū Bakr ibn 'Abū Quḥāfa	Moraes Farias (2003: 7-8)
Gao-Saney (13a and 13b)	Chlorite schist	Gao?	Kufic	514/1120		Yāmā b. Kumā b. Zāghī <i>aka</i> 'Umar b. al-Khaṭṭāb	Moraes Farias (2003: clii, 15-16)
Gao-Saney (33a and 33b)	Quartzite	Gao?	Kufic	481/1088		Makkiyā daughter of Ḥasan al-Ḥājj	Moraes Farias (2003: 33-36)
Gao (Gorongobo) (77)	Quartzite	Gao?	<i>naskhī</i>	524/1130	70cm (height) x 45cm (width)	H.w.b. son of F.l.hā (Ṭahā?)	Moraes Farias (2003: 65-66) <b>(Figure 5)</b>
Gao (Gorongobo) (78)	Chlorite schist	Gao?	<i>naskhī</i>	607/1210	34cm (h) x 27cm (w)	W.y.b.y. (Waybiya?) daughter of K.y.b.w. (Kaybū?)	Moraes Farias (2003: 67) <b>(Figure 5)</b>
Harlaa (4)	Sandstone	Harlaa?	<i>naskhī</i>	657/1251	60cm (h) x 45cm (w)	Not known	Bauden (2011: 296-297) <b>(Figure 5)</b>
Harlaa	Sandstone?	Harlaa?	Kufic	44x/1048-1057		Not known	Schneider (1969: 340) Chekroun et al. (2011: 79)

Harlaa (9)	Sandstone	Harlaa?	<i>naskhī</i>	Undated	20cm (h) x 45cm (w)	Not known	Insoll et al. (2021: 500) <b>(Figure 5)</b>
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Table 6. Examples of gravestones from Gao and Harlaa (**Notes.** <sup>1</sup>Dimensions are only provided for the gravestones recorded by the author).