Pottery Classification and Activities in a City Centre: First Results from Pottery Analysis of Mughal to Modern Period Excavations at Gor Khuttree, Peshawar, Pakistan

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As every archaeologist knows, discarded pottery provides a broad range of information about the past. We use it to establish chronologies, identify groups of people, learn about ancient trading connections, and discover what activities took place in particular locations (Sinopoli 1991; Miller 2006). This is true of all time periods, the historic as well as the prehistoric, and in 2005, the first author, Miller, began to examine the Late Historic pottery from the site of Gor Khuttree to address such questions.

From 2003-2007. the Directorate of Archaeology and Museums (Government of Khyber Pakhtunkhwa) carried out excavations in the northeastern corner of the Gor Khuttree (Gor Khatri) complex in the walled old city of Peshawar (Ali et al. 2005). These excavations carried on the work ably begun by Professor Durrani of the University of Peshawar and National Heritage Foundation, Peshawar (Durrani et al. 1997), including the continued participation of the Department of Archaeology, University of Peshawar, at the site as part of student field studies. The excavations from 2003-2007 have provided a wealth of material dating back to the Indo-Greek period (ca. 2nd century BCE – 1st century CE), and deposits continue down into earlier periods as more recent excavations have shown.

Analysis has begun on the pottery from the upper layers, from the Sher Shah Suri layers (ca. 1540-1554 CE/AD) to the modern

'Pakistani' period. Both continuities and changes are present in the pottery throughout the shifting political regimes of this time period. The pottery assemblages are also providing initial information on activities taking place within this area of the city, although not necessarily within the serai itself, from professionalized food service to glazed pottery production.

This paper will examine what we can tell from analysis of archaeological materials, especially pottery, about the activities that were taking place within this space throughout the Mughal and subsequent periods, both immediately before and especially after the original imperialstyle Mughal caravanserai of Serai Jahanabad was built. Do these activities change with the building of this serai, and with subsequent reuse of this space for different purposes in later periods? We would think they should, based on what we know from textual accounts and local tradition about the massive re-organization and re-dedication of this space from the 1500s until the 1900s CE/AD (Table 1). This space has been the site of a Hindu religious complex; an imperially-endowed Muslim caravanserai, primarily used as a way-station for merchants and other travelers; the seat of government functions, including a Sikh Governor's palace and British and Pakistani fire, police, and tax offices; and even an Christian (Anglican) Mission and hospital (Jaffar 1945; Durrani et al. 1997; Ali et al. 2005; Campbell 2009, in press, in preparation).

However, in spite of the great changes in the official uses of this space, there were likely some similarities in some of the everyday activities taking place here, at least since the building of the Serai. Based archaeological evidence, particularly the initial analysis of the pottery, only some of which is discussed here, there is consistent evidence for the use of this area as institutional and partially public space, including the consumption of publicly prepared and distributed food, in some leisure activities such as smoking (albeit with different smoking techniques), and in the use of small lamps for either lighting or worship activities.

Historical and Archaeological Overview

In AH 1050 (1640 CE/AD), Jahan Ara Begum, also known as Fatima Zaman Begum, the eldest daughter of Shah Jahan, founded a large caravanserai in the center of the city of Peshawar, the Serai Jahanabad (Jaffar 1945:104-108). The serai was single-storied, built of baked bricks, and formed of many cells ("houses" in Jaffar 1945:104). The two main gates, on the east and the west, opened at the time of its establishment into two bazaars with shops on either side. It was bounded on the north by private land and on the south by Crown land. Within the serai itself was constructed a Jami Masjid mosque, for general Friday prayers, a hummam (bath) and two wells (Jaffar 1945:104,108). Raferty reported that the Serai complex was some 700 ft square (Raferty in Jaffar; ca. 230 meters on a side), but modern measurements of the remains indicate that the complex was rectangular in shape, measuring 153 to 193 meters east-west and 162-164 meters north-south (Ali et al 2005:228). construction details are more fully described in

Jennifer Campbell's work (in press, in preparation).

The serai and associated buildings of the Mughal period can be referred to as the Serai Jahanabad, but the complex is better known as Gor Khuttree or Gor Khatri (there are various spellings), a name given to this part of the old city of Peshawar since at least the early 1500s CE/AD, prior to the building of the serai. Babar referred to this area as the Hindu holy place of Gurh-Khatri in his visits to Peshawar in 1518 and 1519 CE/AD (Jaffar 1945:76-77), and the name used in recent times for this complex is Gor Khuttree or Gor Khatri (Jaffar 1945; Durrani et al. 1997; T. Ali 2002; I. Ali et al. 2005). Modern people also frequently refer to the complex as Purana Tehsil, based on its role as a centre for government offices in the British Pakistani post-independence (Durrani et al. 1997; personal observation).

The building of Serai Jahanabad, with the clearing of previously existing buildings across a large area on one of the two highest points of the Old City of Peshawar, forms a pivot point in our understanding of this space at the heart of the city. The building of this serai is pivotal in the spatial history of Peshawar because it established the basic outlines of this core city space, outlines which have been maintained up to the modern period. Subsequent users of the area did change the use of space within the interior of the Serai, along with changes in the activities taking place there, but always kept the basic structure of the Serai itself as a boundary marker. The new occupants accommodated themselves to basic outlines of the space as dedicated by the building of Serai Jahanabad. and largely remodeled the Serai cells and gates for new purposes rather than removing them (Campbell 2009, in press, in preparation).

Excavations have been carried out at Gor Khuttree since the early 1990s. In 1992-1993, Professor Farzand A. Durrani and members of the Department of Archaeology, University of Peshawar, excavated in the western half of the complex, just south of the modern mosque, reaching to Mauryan layers and a depth of some 48 feet (about 13.5 m) (Durrani et al. 1997). In 1995-96 they moved to a larger excavation (some 30 x 30 m) in the northeastern corner of the complex, just north of the Eastern Gate. All subsequent excavations by the Directorate of Archaeology and Museums (Government of Khyber Pakhtunkhwa) have taken place in this northeastern portion of the Serai, and by 2006 had reached Kushan levels, far beneath the layers discussed here.

This paper will discuss pottery from the excavations carried out in 2003 to 2005 by the Directorate of Archaeology and Museums (Government of Khyber Pakhtunkhwa), under the directorship of Prof. Ihsan Ali (Ali et al. 2005). Excavation practices were to sieve most contexts, and to save almost all rims and bases, as well as the more unusual body sherds. The 2003-2005 excavations reached down to Hindu Shahi layers (Table 1), but pottery has only been recorded to date for the early Mughal and later layers, corresponding to the Khyber Pakhtunkhwa layers 1 through 7 from the 2003-2004 excavations (Ali et al. 2005: 230-234, 239; note that correspondences with the layers from Durrani's excavations are given on p. 233-234). Miller has also examined a small amount of pottery from layer 8, the Suri Dynasty, and scattered remains from lower layers. She has also recorded a sampling of glazed ware from all of the periods excavated in 2003-2005.

Pottery Analysis

Miller did not participate in these excavations, but began work on the pottery long after these upper layers had been excavated. Her pottery analysis, conducted for short periods during visits to Peshawar in 2005, 2006, and 2007, is one part of the larger Caravanserai Networks Project, investigating Mughal and earlier period caravanserai networks across the northwestern South Asian subcontinent and into Central Asia. Most of the questions addressed by the Caravanserai Networks Project focus on issues of continuity and change, so it has been essential to develop a single pottery typology that can be used for all time periods from the modern period to as far back in time as possible. This has proven a very difficult task, to make a considerable understatement.

There are three main pottery typology systems used in South Asia: diagnostic-type systems, morphological typologies, and paste-based typologies. All three systems of pottery classification are useful for the pottery from Gor Khuttree, as they are helpful for different situations and different questions. Given the highly mixed nature of the deposits at this intensely occupied urban location, as many lines of evidence as possible are needed to securely date archaeological deposits, as discussed below.

Diagnostic-type systems are by far the most common for South Asia, especially for the relatively few studies done for the historic period. These systems are based on the presence or absence of particular, diagnostic types, vessels of notable appearance that are known to date to particular time periods. Diagnostic types typically have distinctive decorations or unusual shapes, allowing them to be easily identified. A good example would be Professor Taj Ali's

(2002) discussion of the unglazed vessels with moulded decorations and Kufic script from Gor Khuttree (Gor Khatri), in which he describes in detail the general appearance and decorative variations of these vessels, and specifies the time periods and locations where vessels of this type have been found. In contrast, the small pinched lamps shown in Figure 1, while distinctive in shape, would not make very useful diagnostic types because they are found in a wide range of time periods and contexts, although they can provide other kinds of information about the past. In general, diagnostic typologies are useful for constructing chronologies, especially quick chronologies in initial excavations. With a welldefined diagnostic type, the archaeological contexts in which diagnostic type vessels are found can be dated to the time periods assigned to these vessels, if there are no other factors of stratigraphy complicating deposition. We might also be able to deduce other things from these sherds, such as the level of wealth, the religion, or the ethnicity of the people who used the vessels, based on what is known about use or function of the vessel type from other contexts.

The second system, morphological typologies, is based on the classification of vessels by shape, as derived from measurements and calculations of a large number of vessels or sherds. Morphological typologies focus on plain wares and coarse pottery as well as fine wares and decorated vessels. A classic example of a morphological approach for a medieval South Asian pottery assemblage is Professor Carla Sinopoli's (1993) work on the pottery from the site of Vijayanagara in southern India. A well-known example for Pakistan is Professor George Dales and J. Mark Kenoyer's (1986) study of the Harappan-period pottery from Mohenjo-daro, which forms the basis for the

classification system used by Miller at Gor Khuttree. Professor Cameron Petrie's (2002) analysis of the pottery from excavations at Akra in the Northwest Frontier Province are of interest for this study, although relating to earlier periods than the Mughal-period focus of this paper. All of these studies measured many sherds, including plain wares, and used simple statistical analysis to group the sherds and vessels into morphological types (that is, types based on shape). Morphological typologies can be used to establish chronologies, usually involving a more complex, statistically based, assemblage-oriented approach rather than the simple presence/absence criteria usually used for diagnostic type vessels. As with diagnostic types, morphological typologies can tell us about the cultural affiliation of the potters and pottery user; about cultural change continuity over time, as expressed through material culture; and about intended vessel use or function, although residue analysis may be more helpful for information about the actual (last) use of the vessel. (See Sinopoli 1991 and the cases cited above.)

Finally, paste-based typologies are especially helpful for providing information about trade in ceramics or its contents. The pottery 'paste', the clay body (clay plus temper) used to make the vessel, can often be identified to regional clay sources employed by specific potters/industries at specific times. Paste-based typologies can be more difficult to produce without specialized petrographic analysis, and only one extensive petrographic pottery study has been done in Pakistan to date, for prehistoric pottery from the Khyber Pakhtunkhwa (Chandler 2001). However, the paste-based work on glazed ware pottery across the early Islamic world (e.g., Mason 2004) is of considerable use for the glazed wares from Gor Khuttree, and a pastebased approach will be used in future to answer some specific questions about trade in and local manufacturing of glazed wares.

Miller's work to date on the pottery from Gor Khuttree has focused on morphological studies, due to the lack of medieval-period typologies for this region; the large numbers of vessels, especially plain wares; and the usefulness of morphological typologies for a great range of questions. Most of the material saved from excavations are rims and bases, handles and spouts, although some body sherds of glazed ware and other unusual types were saved. Miller's initial tabulations of these sherds have been done using a system based on Dales and Kenoyer's (1986) work, with basic divisions into jar/pot, bowl/dish shape categories (Table 2, tabulation sheet). She has also recorded major surface treatments for each sherd: coloured slips, sandy slips, glazing, molding (designs), etc. (Table 3, codes for Table 2). Even at this early stage, a few clear types have morphological also been systematically noted, chiefly small pinched lamps (Figure 1) and bottles (jars with very constricted necks, such as those shown in Figure 2). Finer recording is in progress on (Table glazed wares 4), also morphological system based on the Dales and Kenoyer (1986) typology system from Mohenjo-daro, which allows rim and base variations to be tabulated in systematic way separate from body shape. Work has not yet begun on stylistic analysis of the patterns painted on glazed ware, but the great majority of shapes for glazed ware, through all the periods examined to date, are deep open bowls with decorated glazed interiors and largely unglazed exteriors (e.g., Figure 3).

In March and April of 2007, Miller took the opportunity graciously granted by the Khyber Pakhtunkhwa Directorate, specifically the

Director, Mr. Muhammad Saleh, and the Gor Khuttree Curator, Ihsanullah Khan, organized entire pottery store of the Directorate at Gor Khuttree. These materials primarily consisted of the pottery from the Gor Khuttree excavations from 1994 to the present, which were placed in storage cabinets purchased courtesy of the Social Science and Humanities Research Council of Canada. Other materials from Directorate surveys throughout the Khyber Pakhtunkhwa and Harappan period excavations in the Gomal plain were also moved to more secure storage on the second floor and arranged as neatly as possible for future analysis by others.

Context Complications

Before discussing some of the activities that took place in or near this serai complex, as seen through this initial pottery analysis, a few points about the excavation contexts should be made. The complex at Gor Khuttree is and was in the center of a crowded city; it is an archetypal urban site. As an urban site, there are significant horizontal and vertical disturbances of archaeological deposits and artifacts which can significantly affect the archaeological contexts.

For example, large-scale rubbish removal and construction foundation fill both contribute to a great deal of horizontal movement of artifacts. Because construction fill was almost certainly brought into the complex during building episodes, it is likely that much of the pottery and other material from excavation layers related to construction and fill are not necessarily from activities within the serai itself. However, likely only clean fill was brought from outside the city. Even at the current time the narrow streets make transport of fill by donkey the easiest for these old-city locations, so most fill containing cultural

material was likely brought from nearby areas. Large sherds or other artifacts are likely from the complex or close neighborhood, with fill from farther away being better sorted, with larger objects removed prior to transport. We need to keep this phenomenon in mind, especially in times of major construction or partial abandonment, that the archaeological remains give us a picture of what is going on across the neighborhood, not just within the serai itself. This larger picture can be both an advantage and a disadvantage. On the one hand, we can collect information about a larger area of the city within a relatively small excavation area, but on the other hand, we cannot always assume that an activity (whether eating or manufacturing) took place at the particular excavation location, even if we find relevant ceramics there.

Vertical disruption is also a problem typical of urban sites. Besides normal upheaval from daily life, larger scale and deeper disruptions occur with the constant rebuilding of buildings in the same small area. House foundations can be quite deep if underground rooms were constructed to escape from heat, as was typical of some historic houses in Peshawar such as the Setti houses. The construction of drains, both for water and sewage, area especially a problem for the excavations at Gor Khuttree with the massive Mughal drain cutting through the excavation unit. Pits were also dug from multiple periods deep into earlier periods, so that much later objects can be found mixed into much earlier layers, as the excavators at Gor Khuttree have found. For example, sherds from sgraffito-style glazed ware bowls were found in the Kushan (Buddhist period) levels in Gor Khuttree in one particular location, a location which was recognized as the base of a deep pit (for a drain? a disposal pit? a sump pit?) extending up to Hindu Shahi or Ghaznavid

periods, the periods to which this ware more properly belonged. Similarly, 11 Shah Jahan coins were found in the Sultanate period (layer 10 in Table 1), far below layer 6 which is firmly dated to the Shah Jahan period by not only a coin but by construction debris from the creation of the Serai Jahanabad, as also recorded in written government documents authorizing the creation of the Serai (Jaffar 1945). Coins are notoriously problematic for dating purposes in urban contexts, frequently buried, dropped into drains or pits and not recovered, or slipping down with construction debris as foundations are dug. Numismatic data must thus be tied to other artifacts, looking at an entire assemblage to work out the most probable date of an archaeological layer or deposit.

Activities seen in Pottery Assemblages

In spite of these problems, which plague urban archaeologists everywhere, there is much that can be said about the past using the pottery from Gor Khuttree, even with these preliminary investigations. The continuities and changes present in the pottery throughout the Mughal to modern periods can be seen through bulk tabulation of total pottery assemblages based on both morphological and surface-treatment characteristics, as well as more detailed studies of the glazed wares. In this paper, however, the focus is on activities taking place within this area of the city, as seen through the pottery assemblages. Such activities include a wide range of things, including both professionally and individually prepared food, smoking, light production and/or worship, sanitation, trade, and manufacturing.

Food serving vessels are frequent finds in the pottery from the Late Historic periods, particularly bowl-type open vessels in the

"bowl/dish" category. Shapes in this category include the deep open bowl shape with a disc or ring base seen in Figure 3; the great majority of the glazed vessels are of this shape. There are also a range of plainware open vessels, quickly and carelessly wheel thrown, most of which are rather thin walled. Some of these are rather shallow open bowls, and some more constricted but tall shapes that are nearly cup-like. These plainwares seem typical of 'throwaway' dishes of the type known from historic accounts, used for serving professionally prepared and served food. As such, they deserve further study, to tell us more about the food services available in the area, and whether we can sort out professionally prepared and sold food, from food individually prepared by travelers or local residents using their own serving dishes. This difference might give us insights into the social and economic standing of those visiting, living, and working in this complex. The serving vessels are particularly important for information about food preparation and consumption because, while some small pottery cooking pot sherds are found in the assemblages, many of the larger cooking pots for this period would have been made of metal, especially for professionally prepared foods.

Vessels for water and other liquids are found in the pottery, in the form of constricted-mouth jars and pots. These have not been studied as yet, but could have been used for transport, storage, and service by water, oil, and wine sellers, or brought or bought for personal use by travelers, office workers, or local inhabitants. The presence of water vessels for drinking water is frequently mentioned in offices of the British and later periods, and were certainly used in public and office spaces in earlier periods as well. No large storage jars have been identified as yet, although at least one historic photograph in the British Museum shows their

use in the complex for storage of grain (J. Campbell, personal communication).

One of the most interesting finds in the Gor Khuttree pottery assemblages relates to the presence of constricted-mouth jars. A large number of "jar necks" in the Mughal period assemblages were covered with a thick black deposit on the interior surface of the jar, but not above the neck or on the exterior (Figure 2, A and B). After finding the first few examples, Miller wondered if these were residue from oil or wine, but the examination of a Sikh period hookah pot from Gor Khuttree with similar black deposits (Figure 2, C) suggested that these are pieces of hookahs or a similar smoking Future residue analyses apparatus. determine the nature of these deposits, but if these are from vessels used in smoking, they will be excellent contributions to the very poorly known history of smoking. Along these lines, the stem of a European-style pipe was recognized by Jennifer Campbell among the 'beads' of the British period finds, so that Gor Khuttree offers potential for illustrating several traditions of smoke consumption.

Another vessel type involved burning, although traces of burning and residue are not often preserved on the Gor Khuttree examples. Nevertheless, the small oil lamps shown in Figure 1A are easily identified by their distinctive shape. These are found in a wide range of periods, and apparently a range of contexts as well, although the latter needs further study. Such lamps could be used for dim lighting, but are commonly used for religious dedications by both Hindus and Muslims in the past and present (Figure 1B). A similar dilemma faces interpretation of small terracotta animals found at the site, which could have been children's toys sold at fairs, near Hindu temples, or near Muslim saints' tombs, or religious dedications made to accompany requests at the same locations. (Human figurines are more clearly Hindu in nature.) Thus, finds of oil lamps or of terracotta animals can be secular or religious in nature, although large quantities of both found together points to a religious context. Careful study is required to determine the religion(s) involved, but these humble objects can say a great deal about the types of religious rituals, both public and private, taking place in this important city space. They might also tell us about more everyday lives, of children playing and people lighting the dark, given the context of the archaeological finds.

The Gor Khuttree pottery assemblages also tell about long-distance trade and production of pottery. Most of the work done on trade and production to date is on the glazed ware, with plainwares to be studied in the future. A fortunate find places glazed ware production near Peshawar during the Mughal period. Several tri-armed setters (Figure 4) were found in the Mughal layers, mostly layer 6. Such setters are used for separating glazed vessels in the kiln so they do not stick to each other. These setters perfectly match the setter's marks found on some of the glazed ware bowls at the site (Figure 4). This is good evidence for production, but the case is complicated by the fact that these setters could have been used to separate the glazed wares during transport, to prevent breakage. The setters would then be unloaded and discarded at the point of redistribution or sale, such as this major caravanserai. More research on the shipment of pottery during this period is therefore necessary, but it is not unreasonable to posit a local production site until proper petrographic and sourcing work can be done on these glazed wares. Such studies will be ground-breaking, given the large gap in our knowledge for

production of and trade in glazed wares in historic South Asia. There has been sourcing work to the west in Central and Western Asia, and to the east in East and Southeast Asia, but almost none in the sub-continent (Mason 2004, Map 1).

Based on very preliminary examinations of only a sample of the excavated material, the glazed ware from the Mughal periods at Gor Khuttree is almost all, if not all, terracotta (red ware), with very little or no white ware. The use of terracotta rather than white clays lends support to the suspicion that much of this pottery is locally produced. The vessels are usually coated with a white (probably tin-oxide) "slip" (engobe), on the interior and rim for the bowls which form almost all the Mughal glazed assemblage (Figure 3). They are then slippainted and glazed in brown-black, blues, greens, and yellows in floral or abstract designs. These colours are probably from manganese, iron, copper, antimony, with little or no cobalt glaze, based solely on the colours; no analysis has been done to date, and formal statements of the glazes should wait for such studies (Mason 2004; Golombek, Mason and Bailey 1996: 48-55, 121).

Formal design analysis has not been done. However, Miller's examinations of the few publications on glazed materials from this time period (1500s-1600s AD/CE) have found no designs similar to the Gor Khuttree Mughal period pottery on pottery from Central Asia and Western Asia, except just possibly a few sherds from Seistan (Golombek, Mason and Bailey, 1996: 177). Particularly of note on the glazed wares of this period at Gor Khuttree are the "bird-headed" strokes (well-named by Ashfaq Ahmad, draftsman and archaeologist for the site), such as those seen on the bowl in Figure 3. This painting style seems to be very

characteristic of pottery from Gor Khuttree, but not found at sites to west; other assemblages from this time period in South Asia would be helpful.

Overall, there is surprisingly little evidence for imported elite pottery at the site during the Mughal period. If the use of red wares and the distinctive painting style and motifs are indeed signs of local production, the glazed wares appear to be mostly of local manufacture. These vessels are of good but not the highest quality, all made with terracotta paste, and many 'seconds' or imperfect pieces with sticking marks poorer-quality from production. Although the style of Serai Jahanabad is "imperial", the artifacts show no indication that this is where royal visitors typically stayed; indeed, they probably stayed in the more secure location of Bala Hissar Fort, as textual accounts note for royal visits before the serai was built (Jaffar 1945: 98-99), especially given the constantly shifting political control of Peshawar in the period after Serai Jahanabad was built (Jaffar 1945, 100-101). Instead, the serai was likely used by middle to wealthy merchants and similar classes, as there are a fairly significant percentage of glazed ware bowls and dishes with fairly well-executed designs, and of 'disposable' bowls/cups indicating bought food.

As for glazed ware in other time periods, there is a fair amount of "sgraffito"-type glazed ware in the Gor Khuttree assemblage throughout the Late Historic layers, although the dating of these wares are problematic at present. At Gor Khuttree, they consist of white slipped terracottas that are painted and glazed in single colours or more often with somewhat abstract coloured designs, and then incised with spiraling lines ("sgraffito"). For later periods, based on the sample examined, some white ware is found in late Mughal/Durrani and

subsequent period assemblages, most of it probably British-made heavy dishes for institutional use (or at least in that style, if not actually imported). No porcelain has been identified at the site until the Durrani/Sikh/British periods, and then only a few pieces of British make.

Finally, although the assemblages in the earliest periods have not been studied as yet, Miller found in re-organization of the collections in 2007 that there are considerable quantities of glazed ware in layer 14, the Hindu Shahi period, possibly more than in later periods. This reminds us that glazed wares are not used only by Muslim populations in South Asia, and we may not use the presence of glazed wares, at least in the Khyber Pakhtunkhwa, as an indicator of the "Muslim" or "Islamic" period here, even if so tied in the west. South Asians in the pre-Ghaznavid periods likely traded with Iran and Egypt for glazed ware long before the movement of Muslim armies and populations into the region. This possible trade is an exciting future aspect of study for the Gor Khuttree materials; a find of local production of glazed wares for this early period would be even more exciting. Future petrographic and sourcing studies should be very informative.

In conclusion, the Gor Khuttree pottery assemblages, although mixed and stratigraphically difficult due to their urban context, are extremely useful for addressing questions about the past, as these few examples show. It is an especially important collection as the pottery sequence here is one of the longest sequences from one site in any part of South Asia, and is from one of the few excavations crossing the entire Late Historic period (very roughly, from 1000 to 1700 CE/AD). A great deal can be done with this collection, to learn much about a time period under-studied by

archaeologists. Any information on related materials or corrections to statements in this paper would be gratefully received by Dr. Miller at heather.miller@utoronto.ca or by letter to her department.

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Table and Figure Captions

Table 1. Layers from Gor Khuttree Project (GKP) Excavations 2003-2004 (after Ali *et al.* 2005: 239, 230-235; plus historic events from Jaffar 1945 and Campbell 2010)

Layer Number	Period	Historically Known Buildings; Findings to Note	Average Depth of Layer (cm)
1-2	Post- Independence	Government Offices – Fire, Police, Taxes	60
3	British	Government Offices; Anglican Mission and Hospital	28
4	Sikh	Sikh Governor's Seat	22
5	Durrani / Late Mughal		15
6	Mughal (ca. 1640 AD)	Building of Serai Jahanabad; Finds of plaster working areas & floors, 1 Shah Jahan coin	20
7	Early Mughal (Kings)	Hindu religious complex	15
8	Suri Dynasty		25
9	Sultanate Period		50
10	Sultanate Period	Finds of 23 coins, including 11 Shah Jahan silver coins; moulded Kufic inscription pottery	35
11	Ghaznavid	Finds of moulded Kufic inscription pottery (see T. Ali 2002)	20
early12	Ghaznavid		20
13	Ghaznavid		20
14	Hindu Shahi		unfinished in 2003-4

Notes: All layers have glazed and unglazed pottery; terracotta figurines; oil lamps. All layers have coins (high number of coins recovered due to sieving of ALL material). Layers 1-7 and 12-14 have structures in the excavated units; Layers 8-11 do not.

Table 2. Tabulation Sheet for Gor Khuttree pottery. (Example, Heather M.-L. Miller 2006-2007.)

COMMENTS			Many conjoining pieces of 1 globular pot	TOTALS Total Sherds = 3	Some body sher stand leg looks the holding round-by chemistry tripod	7 body are fineware	1 unkn. body with small flower/star stamp		1 pot rim has incised line	1 bowl rim finewear, highly polished interior; 1 bowl base polished & incised		1 body unkn. has thick applied white paste (lime?) on very flat sherd			3 body unkn. probably all pots		1 body unkn. very thick; 1 base other is straw-tempered lid-like object with incised edge design	rims very thick (thick lamps'? CHECK)	TOTALS Total Sherds = 113		2 globular pot bodies have rough incised wide lines/grooves in pattern over body.	TOTALS Total Sherds = 4
OTHER	SHERDS				1 lid knob; 1 ring-stand leg														2			
	Other			0															0			0
	Unkn Other			0	53	7	-		1			1	2	2	ო		-		02	1		-
				0															0			0
BODY	Bow Dish			0	-											4			5			0
11	Pot			0				4											4		2	2
	Jar			0	_														1			0
	Other			0													1		1			0
	Unkn. Other			0	en en														က			0
				0															0			0
BA	Bow Dish			0	LC.					1						2			8			0
	Pot	-	-	2															0			0
	Jar			0	-														-			0
	Other			0															0			0
	Unkn Other			0															0			0
				0	-			-			1								ဗ			0
RIM	Bow Dish			0	(C	-				1						3		2	13	1		-
1 1	Pot		1	1		1			1										2			0
	Jar			0															0			0
Paste	Type	<u>~</u>	 				œ	œ	8	a c	<u>ac</u>	ж	ж	æ	œ	œ	Œ	<u>~</u>		В	<u>~</u>	
1	Size	Σ	Σ	/	2			M			M	M	M	M	Σ	W	M	S	/	M	M	
8	Treatments			/			16 M		18 M	25 M								thick "lamp"?				
1 Surface	Weight Treatment	-	19		_	-	1	2	2	2	3	7	11	12	13	26	28	28		19	32	/
Total	Weight	_	Z			\mathbb{Z}	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	/			/	Z	
Layer Trench No.		I - 1/15 & 1/20 BAULK	I - I/15 & I/20 BAULK	I - I/15 & I/20 BAULK	I - 1/20 & 1/25 BAULK	I - I/20 & 1/25 BAULK	I - I/20 & 1/25 4 BAULK	I - I/20 & 1/25 BAULK	I - I/20 & 1/25 4 BAULK	I - I/20 & 1/25 4 BAULK	I - I/20 & 1/25 4 BAULK	I - I/20 & 1/25 4 BAULK	I - I/20 & 1/25 4 BAULK	I - I/20 & 1/25 4 BAULK	I - I/20 & 1/25 BAULK	I - I/20 & 1/25 BAULK	I - I/20 & 1/25 BAULK	I - I/20 & 1/25 4 BAULK	I - I/20 & 1/25 BAULK	I - 1/24 BAULK	I - I/24 BAULK	I - I/24 BAULK
Layer	٩	4	4	4	4	4	4	4	4	4	4	4	4		4	4	4	4	4	4	4	4
Г	Year	2003	2003	2003	2004	2004	2004	2004	2004	2004	2004	2004	2004	2004	2004	2004	2004	2004	2004	2004	2004	2004

Table 3. Categories and Abbreviations for Pottery Recording Sheet for Gor Khuttree pottery. (Heather M.-L. Miller 2007)

CHDEVCE	TDEATMENT	TYPES (note 1)	
JUDEAUE	IDEALMENT	TIPESTHOR D	

	SUNFACE TREATMENT TIPES (HOLE I)
	Plain
2	Red-Slip (or painted band/design, if secondary)
3	Red-Slip, Black Band
4	Red-Slip, Black Band &/or Design
5	Black Slip (or painted band/design, if secondary)
	Yellow Surface/Slip
	White Surface/Slip
	Other Colour Slip or Paint (specify in Notes)
9	Polychrome Painted (3 or more colours, specify in Notes)
10	Gold-dust Surface
	Sandy Surface/Slip
	Sandy Surface/Slip with Scraped Bands
13	Slurried Surface/Slip (applied wet slurry)
<u> </u>	Pressed Surface/Slip (wrinkled, as in mould; always
14	pressed exterior base of vessel, unless otherwise noted)
	Mould Impressed Design
	Stamped Design
	Cord Impressed (usually secondary treatment)
	(,
	Incised bands (straight & wavy lines; usually secondary)
	Incised pattern (often secondary treatment)
	Punctated bands (usually secondary treatment)
	Perforated/Cutware
	Ridged/grooved bands
	Honeycomb/finger impressed pattern
	'Wetware' pattern
25	Polished
26	Glazed
27	
	Handmade
	Cut design (often V-shaped) into rim or ridge/ledge, but not
29	perforated design (only partial cutting of vessel wall)
30	Applied clay pattern
	Modelled (shaped) clay pattern (e.g., wavy rim)
	Impressed wide line segments/grooves in random pattern
32	over body

VECCEI OIZ	
VESSEL SIZ	-

S	Small
M	Medium
L	Large

	PASTE TYPE
R	Redware
W	Whiteware
	Porcelain
T	Tanware*
Y	Yellow sandy
G	Greyware**
	Mineral/Grog Temper
V	Vitrified (melted, bubbled)
S	Coarse, sandy fabric
YP	Yellow-pink, Ig inlusions

^{*}Tanware = unoxidized/low-fired redware?

^{**}Greyware = somewhat reduced-fired, but not truly black

	<u>PERIODS</u>	LAYERS
BRS	British	3
SKH	Sikh	4
DUR	Durrani	5 (DUR, Late MGL)
		6 (MGL-1640 AD);
MGL	Mughal	7 (Early MGL-Kings)
SUR	Suri	8
SLT	Sultanate	9. 10
GHD	Ghorid	
GHZ	Ghaznavid	11, 12, 13
SHA	Hindu Shai	 14
LKS		1 1 1 1 1 1 1 1 1 1
	White Huns	
	Kushana	
	Scytho-Parthians	
	Indo-Greeks	
???	Unknown	

Note 1 re Surface Treatments: Primary (1°) Surface Treatment refers to treatments which cover at least half of the sherd or vessel (mostly slips, but sometimes incised, stamped, or other treatments).

Other Surface Treatments refers to additional treatments -- incised bands on a red slipped vessel, for example. If surface treatments cover only a portion of a sherd or vessel, the Primary Surface Treatment is marked as "Plain" (1), and any other treatment (red paint, stamped designs, etc.) are listed under "Other Surface Treatments".

Notes re Forms (shapes) of Vessels: "Jar" includes bottles. "Pot" includes "cooking pot" and "water vessel types. There is a gradient between bowls and dishes (shallow bowls, for example), so division is arbitrary.

Table 4. Recording Sheet for Gor Khuttree Glazed Ware pottery.

(Example, Heather M.-L. Miller 2005)

HERD/VESSEL INFORMATION HMLM No.	<u>MFP Dir. Archaeology Excavations</u> 1 (refer to as "2005- HMLM no."; e.g. 2005-1)				
Date Recorded 16.June.05 Recorded by					
All measurements in cm.					
Sherd Type Rim	Surface Type Glazed				
Vessel Form Open; bowl	Fabric Group Redware				
	Notes for Fabric Description				
Max Preserved Ext. Height (Note 1) 3 Body Thickness (Note 2) 0.5	fine paste; few inclusions (sand?)				
RIMS SHAPE TYPOLOGY (see Note 3)	DIMENSIONS				
Rim Type Numeral I. (Simple)	Rim Diameter (Note 1) 19				
Rim Type Letter A. (Everted)	Extant Rim Percentage 10				
n. (Lyonda)	Rim Regularity (Degree of Confidence) very (med-good)				
Rim Variation	Thickness of Rim (Note 2) 0.5				
2. (Rounded) (a first drawing)	Other Rim Measurements? (Note 2)				
	-				
Other Rim Shape Notes					
BASES SHAPE TYPOLOGY (see Note 3)	DIMENSIONS				
Base Type Numeral -	Base Diameter (Note 1) -				
Base Type Letter	Extant Base Percentage -				
-	Base Regularity (Degree of Confidence)				
Base Variation	Thickness of Entire Base at Vessel Centre (Note 2) -				
-	Ring/Disc Base: Height/Thickness of Ring/Disc (Note 2) -				
Other Base Shape Notes	Ring/Disc Base: Ext. Thickness of Vessel Base at Edge of Ring/Disc (Note 2) -				
	Ring base: width of ring at bottom (Note 2) - Other base measurements? (Note 2)				
External Surface Decoration Bright green glaze overall; clear, slightly iridescent glaze overall.	Internal Surface Decoration Bright green glaze overall; clear, iridescent surface, especially				
	where green glaze is missing/obscured				
External Surface Manufacturing Traces, etc. Circular ridges wheel-made, glaze has raised bubbles(?),	Internal Surface Manufacturing Traces, etc. Circular ridge below rim wheel-made; glaze has raised bubbles(?)				
areas of clouding/separation of clear glaze.	areas of clouding/ separation of clear glaze.				
Additional Notes -					
Comparative -					
References					

Figure 1. Small pinched lamps. Left (A), archaeological examples from Gor Khuttree, from various upper layers of excavations (Mughal to modern). Right (B), modern use of similar lamps at saint's tomb in the Potwar Plateau, Punjab, Pakistan (2007).

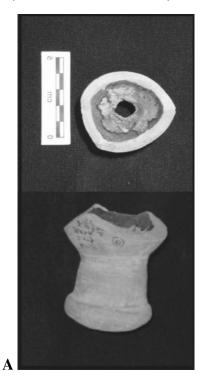


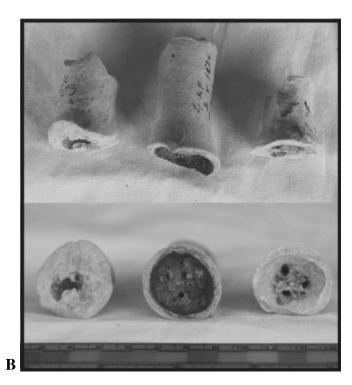


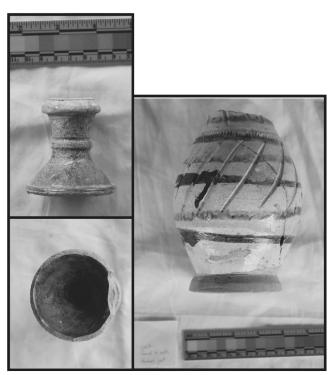
B

Figure 2. Archaeological evidence for hookahs? Above, Left (A) and Right (B), Mughal period vessel rim and pierced neck (layer 6) and Sultanate-period vessel(?) necks with triple piercing (layer 9) from Gor Khuttree excavations. Note burning and black deposits.

Below (C), Sikh-period-type glazed hookah pot found by construction workers in cell at Gor Khuttree (exact find location unknown).







 \mathbf{C}

Figure 3. Glazed ware bowl. Found in Gor Khuttree excavations (layer 6). (Background drawings by Ashfaq Ahmed.) "Bird-headed strokes" are seen at the top center.

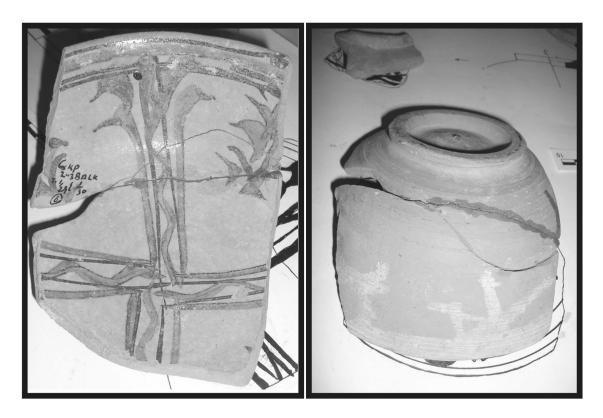


Figure 4. Glazed ware manufacturing debris. Evidence for this activity in the city near Gor Khuttree during the Mughal period (Layer 6 in Table 1).

