

ANCIENT PAKISTAN

Volume XXIX – 2018



Research Bulletin of the
Department of Archaeology
University of Peshawar



ANCIENT PAKISTAN

Volume XXIX – 2018

EDITOR

Ibrahim Shah, PhD

**Research Bulletin of the Department of Archaeology
University of Peshawar**

ANCIENT PAKISTAN

Research Bulletin of the
DEPARTMENT OF ARCHAEOLOGY
UNIVERSITY OF PESHAWAR
Peshawar, Khyber Pakhtunkhwa
PAKISTAN

Email: ancientpakistan@uop.edu.pk

ISSN 0066-1600

Year of Publication 2018

© Editor, *Ancient Pakistan*

All Rights Reserved

EDITOR

Professor Ibrahim Shah, PhD
Department of Archaeology
University of Peshawar

SECRETARY (Honorary)

M. Asim Amin
Field Superintendent

Printed in Pakistan by M.Z. Graphics, Peshawar

Ancient Pakistan is an internationally peer reviewed journal published annually by the Department of Archaeology, University of Peshawar, with the approval of the Competent Authority. No part of the material published in this journal should be reproduced in any form without prior permission of the editor.

BOARD OF EDITORIAL ADVISORS

Professor Dilip K. Chakrabarti, PhD
Professor Emeritus of South Asian Archaeology,
University of Cambridge, Cambridge, UK

Professor Abdur Rahman, PhD
Former Chairman, Department of Archaeology,
University of Peshawar, Peshawar, Pakistan

Professor Kenneth D. Thomas, PhD
Institute of Archaeology, University College London,
31-34 Gordon Square, London, WC1H 0PY, UK

Professor Muhammad Farooq Swati, PhD
Member, Khyber Pakhtunkhwa Public Service Commission,
2 Fort Road, Peshawar Cantt, Pakistan

Professor Adam Hardy, PhD
The Welsh School of Architecture, Cardiff University,
King Edward VII Avenue, Cardiff CF10 3NB, UK

Professor Brian E. Hemphill, PhD
Department of Anthropology, University of Alaska,
Fairbanks, Alaska 99775, USA

Professor Qasid Husain Mallah, PhD
Department of Archaeology, Shah Abdul Latif University
Khairpur Sindh, Pakistan

Pia Brancaccio, PhD
Associate Professor, Department of Art and Art History,
Drexel University, Peck Research Building 109, 101 N 33rd St.
Philadelphia, PA19104 USA

Luca Maria Olivieri, PhD
Hagelbergerstr. 47 10965 Berlin Germany
(Director, ISMEO Italian Archaeological Mission in Pakistan,
31-32 College Colony, Saidu Sharif, Swat, Pakistan)

Abdul Samad, PhD
Director, Directorate of Archaeology and Museums,
Khyber Pakhtunkhwa, Peshawar, Pakistan

CONTENTS

1. **The Quest for Harappans in Northern Balochistan, Pakistan: Initial Results and Understandings of the First Systematic Transect Survey in Tehsil Bori, District Loralai** 1
Muhammad Zahir and Muhammad Adris Khan
2. **Origins and Interactions of the Ethnic Groups of Greater Dardistan I: A Tooth Size Allocation Analysis of the Khow of Chitral District** 23
Brian E. Hemphill
3. **New Light on Ancient Gandhāra** 101
Abdur Rahman
4. **Physiology and Meaning of Pottery Deposits in Urban Contexts (Barikot, Swat): Archaeological Field Notes with an Addendum on the *lāsana/λάσανα* Pottery Forms** 123
Luca M. Olivieri
5. **Three Rare Gandharan Terracotta Plaques of Hellenistic Origin in the Lahore Museum: Were these plaques mobile models of travelling foreign artists?** 141
Rifaat Saif Dar
6. **A New Kushan Hoard from Ray Dheri, Abazai (Charsadda, Pakistan)** 161
Gul Rahim Khan and Mukhtar Ali Durrani
7. **Bhamāla Excavations 2015-16: A Preliminary Report** 171
Abdul Hameed, Shakirullah, Abdul Samad and Jonathan Mark Kenoyer
8. **Multiple-Perspective and Spatial domains of the Islamic Art** 185
Mamoona Khan
9. **The Bradlaugh Hall Building (1900): A Neglected Historical Monument in the Walled City of Lahore** 199
Ayesha Mehmood Malik, Muhammad Nasir Chaudhry and Syed Sajjad Haider

Physiology and Meaning of Pottery Deposits in Urban Contexts (Barikot, Swat):

Archaeological Field Notes with an Addendum on the *lásana*/λάσσανα Pottery Forms

Luca M. Olivieri

Abstract: The article, which is based on the Author's field notes, and on the analysis of the Early Historic/Historic ceramic data from Barikot, Swat, focuses on the nature and archaeological significance of pottery deposits at the site. The article includes a short note on a rare vessel type whose function has been often misinterpreted.

Keywords: Pottery production, Depositional processes, Post-depositional processes, “Pompeii premises”, Barikot (Bir-kot-ghwandai).



Figure 1. The Barikot hill seen from WNW. In the background, Mt. Ilam (Photo by G. Stacul/ISMEO)

An empirical preamble

What follows is based on more than 30 years' experience of digging at Barikot, Swat (Fig. 1), and on the statistic analysis of 12,000 diagnostic sherds (95% rims) selected from a total of approximately 100,000 sherds. The Barikot sherd collection comes from undisturbed archaeological deposits dated BCE 130-300 CE, excavated with a consistent stratigraphic methodology (see Olivieri 2014, 2017a).

At this site archaeologists dealt with an uninterrupted multiphase stratification of an 8 m thick urban occupational sequence. Horizontal complexity at the site is intertwined with a high degree of vertical intricacy (Fig. 2). The archaeological phenomenon, as the *summa* of all the depositional and post-depositional processes, may obviously change in a different context and with different conditions. However, some features are recurrent, as they are undetermined by local characteristics, and can parallel thus other excavators' experiences.

One of the most useful results of the Barikot archaeological project has been the analysis of the Barikot ceramic sequence¹. A final volume on the ceramics from the mature urban phases will be soon published in two volumes (Callieri and Olivieri, *forth.*). The present notes are largely taken from the first of the two (Olivieri [Conclusions], in Callieri and Olivieri, *forth.*).

Method

In the following pages only the evidence from trenches BKG 4-5, BKG 11 and BKG 12 of Barikot site are taken into account. The three trenches, as far as area and sequence are concerned, may be considered representative of the entire zone inside the city walls (lower area).

For chrono-statistics all the diagnostic sherds have been considered. For pottery census (i.e. the relation between a pot and its location = locus²) and pottery assemblages (the relation between pots within the same locus here considered as "usage spaces"), or – in one word 'the space-time systematics'³, I have taken into detailed consideration only the evidence related to residential loci, and within these, only those

related to occupation layers.

It is my impression that nor external spaces like public hallways and streets, neither extra-urban nor waste areas, should be taken into account⁴.

Two preliminary assumptions and their consequences

On the basis of the above evidence, two initial assumptions have been made (cf. David 1972):

1 - Pottery forms⁵ are basically conservative.

For example, Kushana ceramic (in agreement with Gardin 1984: 123, 124, and Husain 1993) shows rather a "slow and constant development of local traditions, than a rapid and complete change" (Schachner 1995-96:151).

2 - Pottery forms change basically because of intrusion/importation (Wood 1990:85-86 with references) or as a consequence of social changes.

These two postulates are not in contradiction, since the evolution of pottery forms at Barikot is driven by basic needs, which are conservative, and linked to the local cultural substrata, modified in time by the assimilation of specific forms linked to the elites. The model is clearly the same as the one described in Miller 1985.

Moreover, we can state that at Barikot the evolution of pottery is linked to needs that slowly change, which are rooted in the needs and uses of urban life, as long as the city lived. The first consequence or proposition of the two assumptions is the following:

1 - The evolution of pottery, therefore, is slower than the building phases.

However, there are only two recognized exceptions: the very early urban phases (*vis-à-vis* the pre-urban complex), and the post-urban phases⁶. From them, derives a second consequence:

2 - Pottery forms, therefore change quickly when the habitat and related needs/uses radically change.

Pottery's living cycle

Pottery is an active agent in the city's life even



Figure 2. BKG 11, K-105: complexity of stratigraphical features at BKG (Photo by E. Iori/ISMEO)

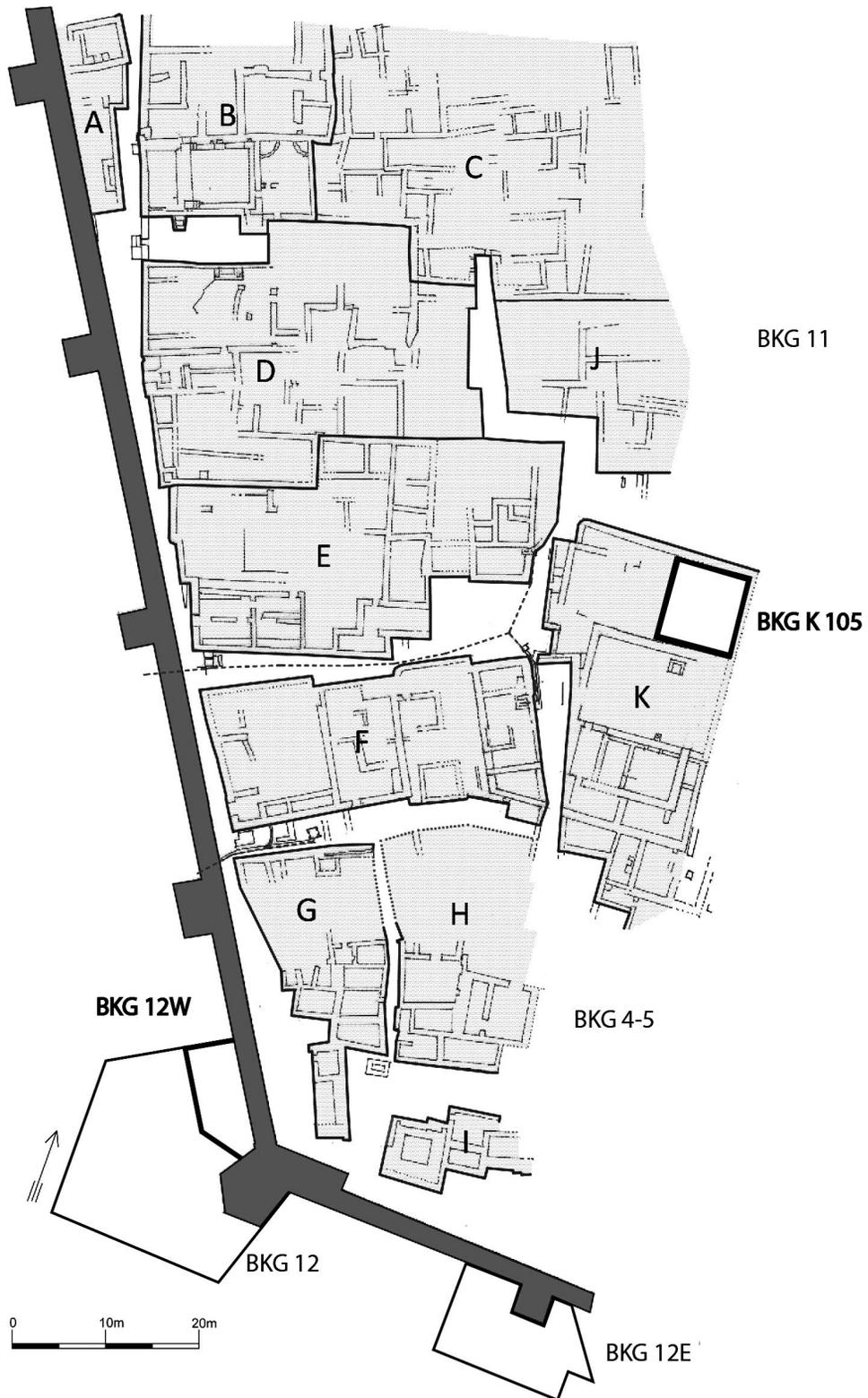
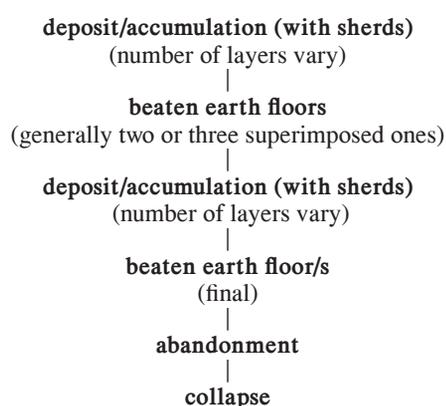


Figure 3. The south-western quarters of the city: Trenches 4-5, 11, 12, 12 W and 12 E (Drawings by I. Marati, F Genchi and E. Iori)

in the form of sherds. Once pottery is broken, sherds are largely thrown outside the residential spaces (or “pottery usage spaces”), in all the public spaces (streets, external passageways, etc.), a fact that makes the level of the latter quickly raising. To avoid the inflow of rainy water inside the residential units, floors are regularly raised. How? By discharging and leveling large quantity of waste soil and sherds which top was beaten and used as new floor. The typical stratigraphy of a locus of a residential space is therefore formed by the following sequence (from earliest to latest):



Only the last floor below/before an abandonment phase may contain materials *in situ*, especially if such abandonment was caused by a sudden cause, like – at Barikot between 250 and 270 CE – by earthquakes (see the debate on the so-called “Pompeii premises” in Bindford 1981). In very rare cases then we deal with assemblages of materials, which although highly “distorted” (since they do not represent the whole reality), can be related to an original, but lost “analytical unit” (ibid.:205). Considering all the foregoing, the recovery of entire vessels *in situ* should be regarded as (or *should be considered possible only in*) a final feature of the related cultural horizon, sealed by a further ‘abandonment’ phase (Fig. 4)⁷.

The accumulation layers are largely richer in terms of sherds quantity than an occupation floor, where the broken sherds generally belong to vessels recently in use, and not yet thrown away.

In public spaces, which are in general all trampling surfaces, the waste material was regularly leveled. For a certain period (or the ‘usage phase’) the surface remained clear of additional waste. This is the phase when the surface typically

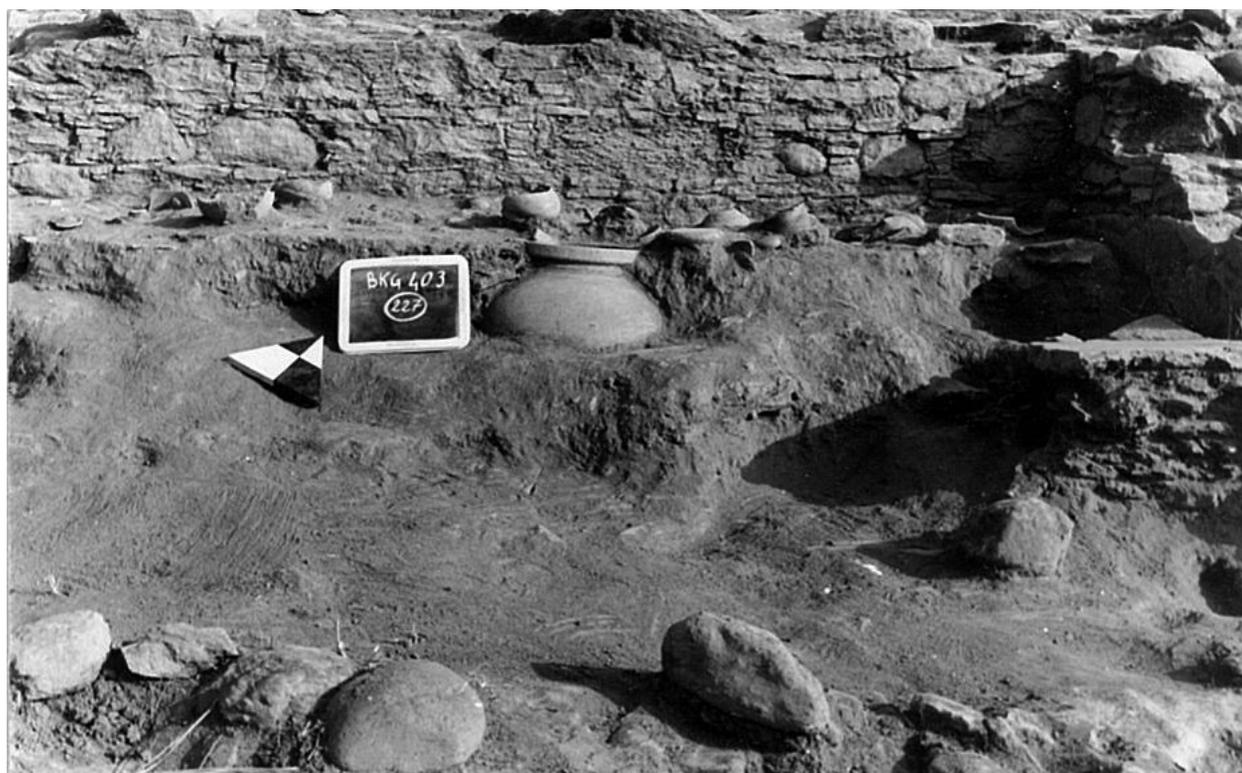


Figure 4. A typical abandonment at BKG showing a “Pompeii premise” feature (BKG 4) (Photo by P.Callieri/ISMEO)

features either broken sherds lying horizontally, or micro-sherds fixed vertically, or both.

One of the most used temporary waste spaces was both pit-wells and drains. We deduce that from the simple fact that both infrastructures are generally found clogged with this material when abandoned. Therefore, it may be inferred a similar behavior also in their living phases. The infrastructures were therefore kept functional thanks to a regular maintenance work, a job that was certainly performed by workers belonging to the lowest segment of the urban society. This activity was regularly performed until the urban society remained functional (Olivieri 2012).

Outside waste areas were extensively used especially in the later phases of the city. When the city wall was abandoned (c. 130 CE), the nearest section of the defensive ditch became the “repository” of all the waste from the S-W quarters of the city. Therefore, its level raised quickly, and, already after a few decades, a paved road was built on top of it (c. 200 CE) (see Olivieri 2015).

Considering the foregoing, in order to better define the interpretational value of pottery findings *in situ*, some further observations can be made.

Concerning the location within coherent functional spaces (e.g. kitchens) one should take into account that:

- 1 - In theory, each class (and sub-classes) of vessels is created for specialized functions;
- 2 - Pottery classes (and forms) although specialized, i.e. associated with specialized usage spaces, can be also multifunctional;
 - 2.1 – In practice, vessels are reused for purposes different from the original ones, e.g. when their status is lost (cracked vessels, broken handles);
 - 2.2 – Generally, this practice is not performed with painted vessels (luxury tableware), or with large vessels (storage jars). The first are handled with greater care by the owners, the second are rarely moved and therefore less subject to damage (see below 1); both have low formal adaptability;

As far the quantitative aspect one should take into

account also the following observations:

- 1 - Large restricted forms are more persistent (time-wise) (Cf. Wood 1990:92, with references; see also Wilson and Rodning 2002). Big vessels have a longer lifespan (less movement + bigger structure) (cf. Orton/Hughes 2013:263, with references) (see above 2.2). Thicker sherds are less in number but “survive” longer in the stratigraphy: that implies a relative higher quantitative reliability.
- 2 - Thinner un-/restricted forms and luxury vessels are more distinctive (time-wise).
- 3 - Serving/transport vessels have a shorter lifespan (more movement + thinner structure = higher rate of breakage). Cooking vessels have a shorter life span (harsh usage + medium structure = higher rate of breakage).

Some notes on technique and pottery production

Overall, the quality, quantity and features of the ceramic production at Barikot offer a clear indication that the city - already in Indo-Greek and Saka-Parthian times (BCE 150 – 50 CE) and above all in Kushana and Kushano-Sasanian phases (50 – 270 CE) - was a major pottery production centre in the region. On the whole, the data allows a “centralized production” model (Sinopoli 1988:581) to be hypothesized at Barikot. The recovery of a relatively large amount of potter’s tools (dabbers, spacers, ribs, etc.) and also kiln waste, in the excavated sectors, clearly hints at the presence of nearby specialized areas. The main production centers should have been located in specialized quarters of the city (not yet identified), or outside the urban area.

The major indications deduced from our study are the following:

- 1 - Substantial homogeneity, degree of standardization complexity and quality of pottery forms;
- 2 - Presence, throughout the entire chronological sequence, of local innovations both in technique (e.g. Golden Slip Ware, Maritan *et al.* 2018), and decoration (e.g. the Fashion Ware, see Olivieri 2017c);

3 - Persistence, throughout the entire chronological sequence, of advanced techniques, which are typical only at Barikot, such as the Golden and Red-on-Golden Slip Ware and its variations;

4 - Almost all the considered forms are locally produced (or better, using raw materials which are consistent with local geology; see Maritan, Appendix 5 to Callieri and Olivieri, *forth.*; see also Morigi/Bianchetti 2005);

5 - Advanced skills of local workshops, which are able to produce/reproduce luxury forms like NBPW, “Eastern Sigillata-like” (see Maritan, Appendix 5 to Callieri and Olivieri, *forth.*), and fish-plates, “tulip-bowls”, etc. as well and produce highly-refined finished products like Golden slips (see *ibid.*).

6 - Advanced firing skills, which are able to produce different degrees of Grey and Black Ware (including “Black Metallic Ware”, *ibid.*) (Fig. 5), as well to control color changes of slips at high temperatures (again Golden slips) (see *ibid.*).

7 - The possible separation within the chain production between those who were in charge of collecting and mixing clay mixing, and the potters. The latter might have been a separate guild, professionally very skilled (see Cuomo di Caprio, Appendix 4 to Callieri and Olivieri, *forth.*)⁸.

8 - A low number of basic shapes (= functions), but a very high number of forms

(= differentiated shapes for the same function) vis-à-vis the total number of recognized sherds (1,631 vs. 12,191). This implies an amazingly rich variability in pottery production: some forms were produced for only a short time, or for very limited production.

9 - Variations of forms imply technology variations (changes in fashion).

9.1 – In larger restricted forms (e.g. necked jars for water storage in urban mansions) rims are simple in Early Historic, tend to be rolled/clubbed in Early Kushana, and split and triangular in section, in Mature and Late Kushana assemblages. These variations are performed through a different attention to the rim performed during wheel throwing.

9.2 – Massive introduction of horizontal ribs and grooves marks the tendency to show that that such grooved/ribbed vases are produced through speed wheel throwing (branding).

9.3 – As general rule, it seems that if vessels are locally produced, variations of forms are slow, while variation within forms (e.g. rims) are common and continuous.

Originality and development

Sometimes archaeologists, when considering “pots as tools” (Braun 1983), can assume the existence of forms as reflection of needs.

At Barikot, but in general in the traditional

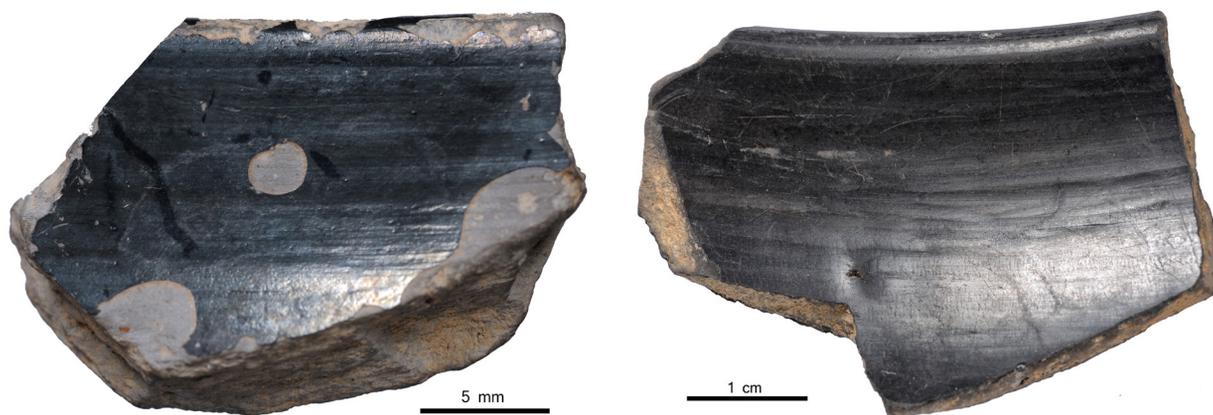


Figure 5a, b. Left: BKG “Black Metallic Ware”. Right: BKG locally produced NBPW (Photos by L. Maritan/University of Padua, Italy)

culture of the subcontinent, two basic utensils-containers exist which can respectively be schematized as a semi-sphere and a sphere, or in terms of vessels, a bowl and a pot, i.e., the rice-bowl and the water-pot (Allchin 1959, Sankalia 1974).

With reference to these two basic forms and their transformations/permutations, all the elements which are not functional for the basic needs can be considered as subsidiary to the forms: spouts, handles and lugs, feet. In fact, these elements are scarcely represented at Barikot, and present only in luxury items (tableware) showing “exotic” forms, imported or more probably locally reproduced (see above). Handles are more widely present in Saka-Parthian period (BCE 50 - 50 CE), spouts are more extensively present in Shahi period (7th-10th century CE), and feet are distinctive in Late Kushan and Kushano-Sasanian phases (200-250 CE)⁹.

A Local pottery tradition (LPT) has been identified both for the late protohistoric (pre-urban = 1300-700 BCE) and for the post-urban (c. 400-1000 CE) phases. If the pre-urban evidence suggests vaguely the existence of a *koinè* of pottery forms (Central Asia, Iran ↔ Gangetic Plain), clearly the post-urban evidence

is associated with small-scale production patterns and a village economy.

Given that pottery at Barikot was locally produced, evidence of emulation and acculturation is clearly documented since the Early Historic urban phases. The latter implied the introduction of new shapes corresponding to new functions and needs. The contemporary introduction of both Western (Iranian) luxury forms (such as tulip-bowls, and S-shaped wall bowls) (Fig. 6), and Eastern (Indic) pottery (e.g. ovoid jars and *pātri/thali* bowls) occurred first from 5th to early-3rd century BCE (Iori 2018). Further evidence of emulation/acculturation occurred with the introduction of Hellenistic tableware (e.g. fish-plates) and luxury forms (crater-like vessels) from mid-3rd to mid-1st century BCE. Later presence of Iranian shapes and decoration, along with the persistence of Hellenistic luxury forms, it is attested during the Saka-Parthian period (BCE 50 – 50 CE).

Instead, it was only during the Kushana phase (with significant exceptions in the Kushano-Sasanian phase, see Olivieri 2017c) that Barikot became integral part of the “globalized” Indic or Indo-Gangetic pottery tradition, along with shapes that appear totally local, with a widespread



Figure 6. A tulip-bowl from 5th-4th century BCE layers (BKG L) (Photo by E. Iori/ISMEO)

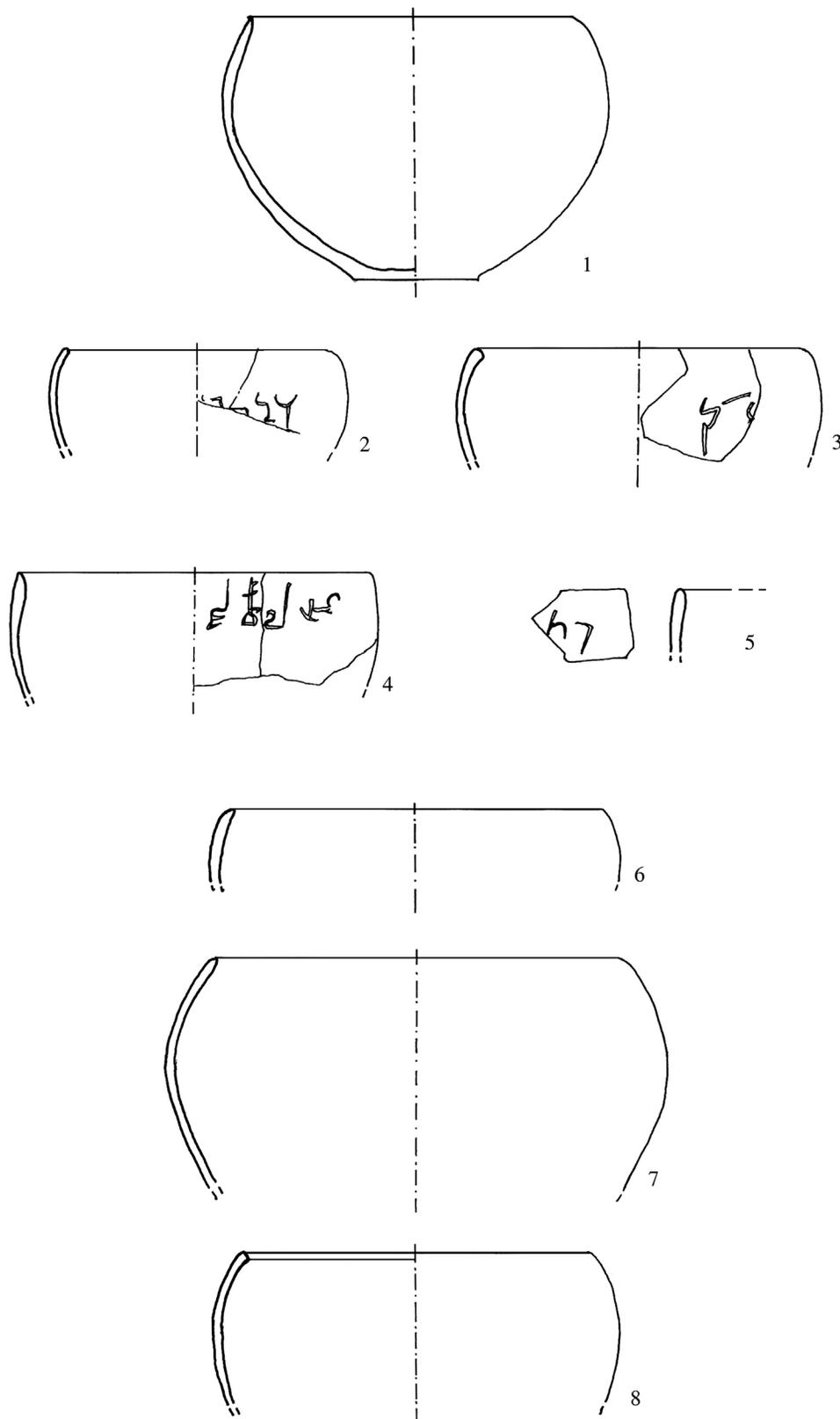


Figure 7. Thin-walled high bowls from BKG Kushana phases (average dia. 10 cm) (Drawings by F Martore/ISMEO)

diffusion of paddle-and-anvil technique.¹⁰ Interestingly, some of these forms (including pinched/spouted lamps, and the typical thin-wall high bowls and basins) might be associated partly with cultic or non-economic/utilitarian activities (many of the Kharoshthi onomastic [Buddhist] inscriptions found at Barikot are incised on such bowls) (Fig. 7). That may imply that if the Kushana system of power was held responsible for the generalized “Indianization” of pottery forms, the evolution of local forms was due to the demand of the Buddhist market. Also the overwhelming presence of Buddhism at Barikot and in its *ager* was, in the end, another consequence of the same Kushana system of power and patronage.

With the abandonment of the city, a phenomenon shared after 3rd century CE with most of the urban centres in Gandhara and North India, in the post-urban Barikot we can see how the new polarity represented by clustered villages is reflected in the household technology¹¹. A striking example of such change is the milling system. The complex rotary querns were replaced by saddle querns, a traditional single-handedly operated device, which had disappeared at Barikot since early Kushan times. In terms of production, the gritty flour produced by the saddle querns should have had implications on dietary aspects and cooking ware. We refer to the simultaneous reappearance of a long-neglected LPT shape, the large, *parath* type plate (a cooking device for kind of pancakes, which does not require refined

flour). Other changes in the post-urban pottery tradition reflect the reappearance of other local shapes, like the carinated pots (*handi*-type), which are ethnographically associated to milk and late sheep-farming (Fig. 8)¹². Finally, in post-urban Barikot, *mangai*, a typical portable water storage pot with an average capacity of 10 litres is typically associated to a village economy and to a logistic where water-sources were not directly available inside the settlement (Fig. 9)¹³.

These reflections can be summarized as follows:

- 1 - Forms are emulated and/or replicated in later periods as an indicator of social status (e.g. tulip- bowls and fish-plates in Saka-Parthian times). On the other hand, luxury forms, which are no longer recognized as cultural markers, are dismissed (e.g. crater-like vessels, which are typical of Indo-Greek and Saka-Parthian assemblages).
- 2 - Variations of forms imply variation in uses/needs. Larger restricted forms satisfy basic needs (e.g. large jars and hole-mouthed jars are typical of water and dry food storage in urban mansions). Thinner unrestricted forms answer specific needs (like inscribed bowls, tulip- bowls and fish-plates).
- 3 - Basic needs actually persist, but...specific needs change, and change forms. For example, *handi*, *parath*, and *mangai* in post-urban phases are respectively a response to changes in the dietary and social/settlement organization that

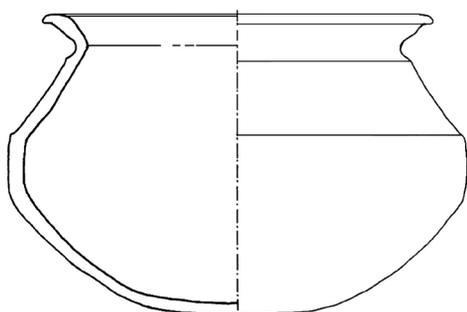


Figure 8. A Late LPT *handi*-type vessel from BKG (average diam. 17 cm) (Drawings by F. Martere/ISMEO)



Figure 9. Water-pot *mangai*-type from Late LPT BKG layers (Photo by P. Callieri/ISMEO).

follows the collapse of the urban system and related infrastructures.

Chronology-wise, pottery traditions have a great impact on social life, as attested by the excavation:

1 – Barikot pottery forms although locally produced, are generally shared with different wider cultural horizons (with important socio-historical implications):

2 – Early Historic: (a) for unrestricted forms and tableware, including drinking vessels, with Iranian and Hellenistic traditions, (b) with Indic tradition for restricted common ware, including cooking and storage vessels. This may have implied a strong division between the needs of elites and “indigènes” (e.g. drinking customs [συμπόσιον-like] and cooking tradition)¹⁴.

3 – Historic: (a) new LPT shapes for specific unrestricted classes (basins, bowls and lamps), sometimes associated with the Buddhist monk community, (b) Indic backgrounds for most part of the production (both restricted and unrestricted)¹⁵.

4 – This feature marks the rise of wealthy Buddhist elites, and implies a general horizontalization of needs and customs, which

reflects a shared culture amongst the social strata as result of the Kushana globalization (aka “Indianization” phase in Olivieri and Vidale 2006)¹⁶.

5 – Late Historic: revival of specific Early Local forms (cooking and storage vessels). This documents a change in settlement models (from town to village), social organization (based on kinship), cooking habits, and dietary practice.

Addendum: Kitchen props (*lāsana/ λάσανα*)

The analysis of the pottery census at Barikot allowed to individuate the possible function of some otherwise unknown special classes of pottery. One of these is a very interesting type of bi-conical object, with holes in the wall, sometimes with vertical lug-handles. Their frequency is rare but they are present practically in every excavated settlement site in the north of the subcontinent. These objects at Barikot, are distinctive of Saka-Parthian and Early Kushan phases, but found occasionally in later phases (Figs. 10, 11) (Olivieri *et al.* 2014)¹⁷. The paste is medium to coarse, with quartz particles and schist



Figure 10. Lāsana (Class V 3) BKG 429, Macrophase 3a (h. c. 25 cm) (Photo by G. Stacul/ISMEO)



Figure 11. Lāsana (Class V 3) from BKG 11 – BKG 2288, Macrophase 5 (h. c. 19.4 cm) (Photo by Aurangzeb Khan/ISMEO)

flakes as temper. These objects were made with superimposed coils fashioned on a potter's wheel; the color is yellow/red. Generally these objects are called "rhytons" (Marshall 1951:424; Gosh 1944-45:64, fig. 13.72) "clay rhyta" (Petrie *et al.* 2008:9-10), "torches" (Dani 1965-1966:187, figs. 17.21-22), or "tuyeres" (Kanungo 2013:34, 435)¹⁸.

The association of these strange vessels with kitchen areas and pottery assemblages in the residential units at Barikot, pushed us to investigate their function by exploring possible comparanda.

The final result of our study confirmed what was initially supposed by R. Allchin on ethnographic grounds¹⁹. Actually, these objects are yet pot-stands or props, but of pure Hellenistic origin, which were introduced in Gandhara in Parthian times (see below fn. 13). This type of props is widely used in Greece until Hellenistic

times and known as *λάσανα* (*lāsana*), kitchen props, or portable cooking tripods (Morris 1985; Papadopoulos 1992) (Fig. 12). It is extremely interesting that, while these objects disappeared in Greece after 300 BCE (ibid.:403), probably substituted by metal props, they continued to be largely used in Mesopotamia and Bactria²⁰, and then in Gandhara from Parthian to end-Kushan times (besides Barikot, see examples from Azizdheri and Shaikhan-dheri in Petrie *et al.* 2008).

Notes

1. For a focus on the 250-300 CE phase (Macrophase 6), see Olivieri *et al.* 2014:171-222; with references. For the analysis of the 600-100 BCE phases (Macrophases 2a1-3a4), see Iori 2018 (with references). For the study of the BCE 100 – 250 CE phases (Macrophases 3a3-5b, 6-7/8), see Callieri and Olivieri, *forth.* (with references).



Figure 12. *Lāsana* from Athens (after Morris 1985: pl. 105a)

In the archaeology of the NW of the subcontinent ceramics found in the excavation is only but scarcely represented. This has been due in great part to the role of pottery in the stratigraphic excavation by sections as introduced by M. Wheeler. Documentation by sections leads to the search for distinctive pottery types, often denoted by acronyms, that is, pottery types considered as significant inasmuch as they are characteristic in the chronological sequence, which are incorporated in the nomenclature of the “cultures” as though they were fossils dating an evolutionary process: PGW, RBW, SRW, NBPW, etc. (see Dittmann 2018). More generally, the urban archaeology of the historic era of the subcontinent (but not of the mediaeval period, as evidenced in the excellent work on Vijayanagara-Hampi by Carla M. Sinopoli (1988) and the preliminary work at Simraongarh (Lugli 2000), remain a field of studies in which further work remains to be done. This is particularly true for the NW region, where few well-conducted excavations have been done and only very few have been published. Even where these two requirements have been satisfied, pottery is treated in different ways in the excavation reports. Pottery was initially restricted to the presentation of selected data, whether they referred solely to complete forms, as at Sirkap (Marshall 1951) or to representative selections as at Shaikhan-dheri (Dani 1965-66) and Charsadda (Wheeler 1962). A remarkable exception is represented by the work of Javed Husain on the ceramics from Shaikhan-dheri (Husain 1980, 1992, 1993).

2. A locus (Lat. *locus*, pl. *loci*: place, room) is a coherent and undisputable topographic unit within a stratigraphically horizontal excavation. A locus is generally delimited by other loci, or clusters of loci: e.g. a room is delimited by walls, a corridor and a courtyard are delimited by rooms, a street is delimited by houses, etc.
3. The pottery indicator at Barikot has been very useful to determine the space-time systematics of several spaces. Although, space-time systematics has been approached in modern ethno-archaeological research in

the subcontinent (in addition to Miller 1985, see for instance Kramer 1994 and Sinopoli 1988) and elsewhere (e.g. Braun 1983, Wilson and Rodning 2002, etc.), they are rarely considered in settlement archaeology in Gandhara (see above fn. 1).

4. I have as well discarded all the layers, which were interpreted as fillings, deposits, accumulations, etc. These, like the waste areas, are interesting from a different point of view, which shows how important was the role played by pottery in the city's life, even when it has completed its utilitarian life's cycle. As we will see below, the taphonomic phase of a vessel's life is still processual, being it intentional.
5. In the Barikot pottery context we have used the following terminology: *genus* (Red Ware, Grey Ware, etc.) → Category (Restricted, Unrestricted, Varia, Miniature Vessels) → Classes [and sub-Classes] (Dishes, Bowls [Standard Bowls, etc.], Basins, Pots, Jars, Jugs) → Forms (individual vessel types). Forms are individually numbered and represent the key datum for the reconstruction of pottery assemblages as well as for the definition of pottery sequence. The term “shape”, sometimes used in this paper, is meant to indicate - more generally - some coherent cluster of Forms.
6. At Barikot: fortified village (1300-700 BCE) → walled city (BCE 600 – 300 CE) → tower-houses village (c. 400-1000 CE).
7. This condition can be better appreciated when dealing with religious buildings and architecture. In fact, different is yet the behavior of paved floors and paved surfaces (see Olivieri 2014:73-75), which are regularly cleaned and maintained for longer time as they are (in cultic areas, even for a century: see *ibid.*). Here materials associated in assemblages are found only in “Pompeii phases” (let us use this definition), i.e. before a sudden abandonment (see above).
8. Even when pottery forms reflect non-local pottery traditions (in the majority of the cases) these are produced/reproduced locally at Barikot. It is worth noting that it is easier and safer to locally produce rather than export a finished commodity. In the end ceramic is

- the first high-reproducibility feature in the pre-modern world, where forms, techniques, decorative patterns, travel, and vessel stay (see various contributions in Haitz and Stapfer 2017). On pottery production see the recent Meyer *et al.* 2016.
9. Exceptions to this consist of some forms from both Early and Late Local pottery tradition.
 10. See Olivieri, Vidale *et al.* 2006:136, table 1. See also Miller [H.] 2017.
 11. See Olivieri 2017b.
 12. Carinated vessels (*handi*-type) may be related to the necessity to contain overflowing when boiling fat, rich/starch rich food, like milk and rice.
 13. *Mangai*-type vessels supersede the partly interred large jars with a capacity of 200 lt., which are typical of the Kushana mansions at Barikot.
 14. Note the evidence from Ai Khanum. There, residential areas yielded only tableware and luxury forms (see Lyonnet 2013). The only restricted forms were those related to luxury/economic storage vessels, i.e. those for oil and wine. Evidently, kitchens, storerooms and related in-charge/attendants were located elsewhere, outside the secluded and reserved space of the palaces.
 15. Most of the forms that are distinctive only of Kushana phases at Barikot (e.g. restricted vessels with triangular, or 2-, 3-, multi-split vertical rims), belong to a very old and well-established tradition of shapes, details and functions in the cities of the Gangetic plain (see e.g. Gaur 1983: figs. 95, 96).
 16. The residential units of Kushana Barikot are organized as multitasking self-sufficient units, which globally include stables (= food/fuel producing zones), kitchens (= food production spaces), and common spaces with pit-wells, residential zones and cultic spaces. The spaces reflect a horizontal micro-society, and are a coherent reproduction of the traditional village spaces.
 17. Other examples come from the “Greek” period at Shaikhan-dheri (Dani 1956-66: figs. 17.21, 22), and from the “Parthian” period at Sirkap (Marshall 1951:424, fig. 126.157; Gosh 1948). A single specimen from a phase chronologically associated with Barikot (Early Kushan) comes from Udegram (stratum II). See also the unpublished notes of Colonel D.H. Gordon quoted in Husain 1980 (p. 146).
 18. The excavation in a multiphase urban site at Kopia (Uttar Pradesh) has shown these artefacts were used as props (and not as tuyeres, I believe) in glass smelting/bead-making workshops in ‘Sunga-Kushana phases’ (Kanungo 2013:34, 435).
 19. J. Husain examined and rejected the identification of these artefacts as kitchen-props proposed to him by R. Allchin. Allchin saw in Bannu these “cylindrical-shaped objects with broader base, open on either end and [...] provided with a loop-handle near the rim [...] used in a set of three [...] as a portable ‘chula’ (stove)” (Husain 1980:145-146).
 20. Outside the Mediterranean, other examples, all from the Parthian period come e.g. from Begram (Ghirshman 1946) and Seleucia on the Tigris (Debevoise 1934).

Bibliography

- Allchin, F.R.
1959. Poor men’s *thalis*. A Deccan potter’s technique, *Bulletin of the School of Oriental and African Studies* 22: 250-257.
- Binford, L.R.
1981. Behavioural archaeology and the “Pompeii premise”, *Journal of Anthropological Research* 37(3): 195-208.
- Braun, D.P.
1983. Pots as Tools. In J.A. Moore and A.S. Keene, eds., *Archaeological Hammers and Theories*. New York: Academic Press, 107-134.
- Callieri, P. and L.M. Olivieri
(forth). *Ceramics from the Excavations in the Historic Settlement at Bīr-koṭ-ghwaṇḍai (Barikot), Swat, Pakistan (1984-1992)*, ACT-Field School Reports and Memoirs, Special Volume 2, Lahore: Sang-e-Meel Publications.

- Dani, A.H.
1965-66. Shaikhan Dheri Excavations, 1963 and 1964, *Ancient Pakistan II*: 1-407.
- David, N.
1972. On the Life Span of Pottery, Type Frequencies and Archaeological Inferences, *American Antiquity* 37(1): 141-142.
- Debevoise, N.C.
1934. *Parthian Pottery from Seleucia in the Tigris*. Ann Arbor: University of Michigan Press.
- Dittmann, R.
2018. Quel bruit! – Les indo-ariens envahissent-ils Haryana? Problems in the sequence of Bhagwanpura – a short note, *Mesopotamia Antiqua* 4: 125-142.
- Gardin, J.-C.
1984. Die Ursprünge der Kusana-Keramik. In J. Ozols and V. Thewalt, eds., *Aus dem Osten des Alexandersreiches. Völker und Kulturen zwischen Orient und Okzident. Iran, Afghanistan, Pakistan, India* (Festschrift zum 65. Geburtstag von Klaus Fischer). DuMont Reiseverlag, Köln: 110-126.
- Gaur, R.C.
1983. *Excavations at Atranjīkherā. Early Civilization of The Upper Gaṅgā Basin*. Centre of Advanced Study. Department of History, Aligarh Muslim University. Delhi: Motilal Banarsidass / Delhi University Press.
- Ghirshman, R.
1946. *Bégram. Recherches archéologiques et historiques sur les Kouchans*. Mémoires de la Délégation Archéologiques Française en Afghanistan, XIII. Cairo.
- Gosh, A.
1947-48. Taxila (Sirkap) 1944-5, *Ancient India* 4: 66-79.
- Husain, J.
1980. *Shaikhan Dheri Pottery: A Methodological and Interpretative Approach*, PhD Dissertation, University of Cambridge.
- Heitz, c. and Stapfer R., eds.
2018. *Mobility and Pottery Production. Archaeological and Anthropological Perspectives*. Leiden: Berne University Research Foundation.
- Husain, J.
1992. Potter's craft at Shaikhan Dheri. An ethno-archaeological reconstruction, *Pakistan Archaeology* 27: 171-195.
1993. Evolution of pottery types at Shaikhan Dheri, *Journal of Pakistan Archaeologists' Forum* 2(1-2): 176-240.
- Kanungo, A.K.
2013. *Glass in Ancient India. Excavations at Kopia*. Nalanda: Kerala Council for Historical Research.
- Kramer, C.
1994. A Tale of Two Cities: Ceramic Ethnoarchaeology in Rajasthan. In B. Allchin, ed., *Living Traditions. Studies in the Ethnoarchaeology of South Asia*. Oxford-New Delhi-Bombay-Calcutta: Oxford & IBH, 307-322.
- Iori, E.
2018. *The Gandharan region (NW Pakistan) from the Late Iron Age to the Hellenistic period. A study in the rise of a complex culture across local traditions, Iranism and Hellenism based on ceramics* (PhD Dissertation). University of Bologna "Alma Mater".
- Lugli, F.
2000. The Pottery from Simraongarh (The Karnāṭa Phase and the 'Decadence' Period). In M. Taddei and G. De Marco, eds., *South Asian Archaeology 1997*, Serie Orientale Roma, XC, 2. Istituto Italiano per l'Africa e l'Oriente, Rome: 1025-1050.
- Lyonnet, B.
2013. La céramique de la maison du quartier sud-ouest d'Aï Khanoum. In Lecuyot, G., *Fouilles d'Aï-Khanoum. IX. L'habitat*, Mémoires de la Mission Archéologique Française en Afghanistan, 9, Paris: 179-191 (with 122 figures).
- Maritan, L. et al.
2018. Looking like gold: chlorite and talc transformation in the golden slip ware production (Swat valley, north-western Pakistan), *Minerals [Special Issue "Mineralogical Applications for Cultural Heritage"]* 8, 200: 1-12.

- Marshall, J.
1951. *Taxila. An illustrated account of archaeological excavations carried out at Taxila under the orders of the Government of India between the years 1913 and 1934*, I-III. Cambridge: Cambridge University Press.
- Meyer D. *et al.*
2016. Economic Space. On the Analysis and Interpretation of Pottery Production and Distribution, *E-Topoi* (Special Volume 6: *Space and Knowledge. Topoi Research Group Articles*, ed. by Gerd Graßhoff and Michael Meyer): 190–219.
- Miller, D.
1985. *Artefacts as categories. A study of ceramic variability in Central India*, Cambridge: Cambridge University Press.
- Miller, H.J.
2017. A Further Note on Rang Mahal Pottery. Interpreting Ceramics and Dynastic History, *Heritage: Journal of Multidisciplinary Studies in Archaeology* 5: 47-55.
- Morigi, E. and Bianchetti, P.
2005. New Evidence on the Pottery Sequence of Ghalegay (Swat, Pakistan). In U. Franke-Vogt and H.-J. Weisshaar, eds., *South Asian Archaeology 2003*, Forschungen zur Archäologie Außereuropäischer Kulturen, 1. Linden Soft, Aachen: 223-230.
- Morris, S.P.
1985. ΛΑΣΑΝΑ: A Contribution to the ancient Greek Kitchen, *Hesperia* 54(4): 393-409.
- Olivieri, L.M.
2012. When and why the ancient town of Barikot was abandoned? A preliminary note based on the last archaeological data, *Pakistan Heritage* 4: 109-120.
2014. *Digging up. Fieldwork guidelines for archaeology students*. ACT Report and Memoirs, Series Minor, 1. Lahore: Sang-e-Meel Publisher.
2015. Urban defenses at Bīr-koṭ-ghwaṇḍai, Swat (Pakistan). New data from the 2014 excavation campaign, *Ancient Civilizations from Scythia to Siberia* 21(1): 183-199.
2017a. *Digging up. Fieldwork guidelines for archaeology students*. (2nd Revised Edition – eBook). Lahore: Sang-e-Meel Publisher.
2017b. Decline or Transformations: Patterns of Change in Swat at and after the end of the Kushan Era (3rd-6th Century AD), *Journal of Asian Civilizations* 40(1): 41-59.
2017c. A note on the Swat ‘Fashion Ware’, its origin and diffusion, *Ancient Pakistan* XXVIII: 105-117.
- Olivieri, L.M. and M. Vidale *et al.*
2006. Archaeology and Settlement History in a Test-Area of the Swat Valley. Preliminary Report on the AMSV Project (1st Phase), *East and West* 44(1-4): 73-150.
- Olivieri, L.M., *et al.*
2014. *The Last Phases of the Urban site of Birkot-ghwandai (Barikot). The Buddhist sites of Gumbat and Amluk-dara (Barikot)*, ACT Reports and Memoirs, II, Lahore: Sang-e-Meel Publisher.
- Orton, C. and Hughes, M.
2013. *Pottery in Archaeology*. Cambridge Manuals in Archaeology. Cambridge: Cambridge University Press.
- Papadopoulos, J.K.
1992. ΛΑΣΑΝΑ, Tuyeres, and Kiln Firing Supports, *Hesperia* 61(2): 203-221.
- Petrie, C.A., P. Magee and Nasim Khan
2008. Emulation at the edge of empire: the adoption of non-local vessel forms in NWFP, Pakistan during the mid-late 1st century BC, *Gandhāran Studies* 2: 1-16.
- Sankalia, H.D.
1974. *The Prehistory and Protohistory of India and Pakistan*. Poona: Deccan College Postgraduate and Research Institute.
- Schachner, A.
1995-1996. A Special Kind of Pattern Burnished Decoration on Late Kushan Pottery in Bactria and Afghanistan, *Silk Road Art and Archaeology* 4: 151-159.
- Sinopoli C.M.
1988. The Organization of Craft Production

at Vijayanagara, South India, *American Anthropologist* 90(3): 580-597.

Wheeler, M.

1962. *Chārsada. A Metropolis of the North-West Frontier*. Oxford: Oxford University Press.

Wilson, G.D. and C.B. Rodnig

2002. Boiling, Baking, and Pottery Breaking: A Functional Analysis of Ceramic Vessels from Coweeta Creek, *Southeastern Archaeology* 21(1): 29-35.

Wood, B.G.

1990. *The Sociology of Pottery in Ancient Palestine: The Ceramic Industry and the Diffusion of Ceramic Style in the Bronze and Iron Ages*. American School of Oriental Research/ University of Sheffield (UK). Sheffield: JTOT Press.

Contributors

ABDUL HAMEED, PhD

Lecturer, Department of Archaeology,
Hazara University, Mansehra, Pakistan

ABDUL SAMAD, PhD

Director, Directorate of Archaeology and Museums,
Government of Khyber Pakhtunkhwa, Peshawar,
Pakistan

ABDUR RAHMAN, PhD

Former Professor/Chairman, Department of
Archaeology, University of Peshawar, Pakistan

AYESHA MEHMOOD MALIK, AR

Assistant Professor, School of Architecture
and Planning, University of Management and
Technology, Lahore, Pakistan

BRIAN E. HEMPHILL, PhD

Professor, Department of Anthropology,
University of Alaska, Fairbanks,
Alaska 99775 USA

GUL RAHIM KHAN, PhD

Professor, Department of Archaeology,
University of Peshawar, Peshawar, Pakistan

JONATHAN MARK KENOYER, PhD

Professor, Department of Anthropology,
5240 Swell Social Science Building, 1180
Observatory Drive, University of Wisconsin,
Madison, USA

LUCA MARIA OLIVIERI, PhD

Director, ISMEO Italian Archaeological Mission in
Pakistan, 31-32 College Colony, Saidu Sharif, Swat,
Pakistan (and Hagenbergstr. 47 10965 Berlin,
Germany)

MAMOONA KHAN, PhD

Professor and Head, Department of Art and Design,
University of Gujrat, Sub Campus Government
Postgraduate College, Satellite Town, Rawalpindi,
Pakistan

MUHAMMAD ADRIS KHAN

Research Scholar, Department of Archaeology,
Hazara University, Mansehra, Pakistan

MUHAMMAD ZAHIR, PhD

Associate Professor, Department of Archaeology,
Hazara University, Mansehra, Pakistan

MUKHTAR ALI DURRANI, PhD

Former Professor/Chairman, Department of
Archaeology, University of Peshawar, Pakistan

MUHAMMAD NASIR CHAUDHRY, AR

Assistant Professor, School of Architecture
and Planning, University of Management and
Technology, Lahore, Pakistan

RIFAAT SAIF DAR, PhD

Director, Institute of Visual Arts and Design,
Lahore College for Women University,
Lahore, Pakistan

SHAKIRULLAH, PhD

Associate Professor/Chairman,
Department of Archaeology, Hazara University,
Mansehra, Pakistan

SYED SAJJAD HAIDER, AR

Assistant Professor, School of Architecture
and Planning, University of Management and
Technology, Lahore, Pakistan

ISSN 0066-1600