

BĪR-KOṬ-GHWANḌAI INTERIM REPORTS, XI  
ACT-FIELD SCHOOL PROJECT REPORTS AND MEMOIRS  
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# VAJIRASTHĀNA

## ARCHAEOLOGY OF THE BARIKOT HILLTOP (SWAT, PAKISTAN)

Volume 1



Luca M. Olivieri  
In collaboration with Elisa Iori, Michele Minardi and Marco Pinelli

Foreword by Abdul Samad

Edited by Alice Casalini

"SAVE THE ARCHAEOLOGICAL SITE OF BAZIRA" PROJECT



International alliance  
for the protection  
of heritage  
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English revision by Klara-Maeve O'Reilly

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“Save the archaeological site of Bazira” is a project of ALIPH (International Alliance for the Protection of Heritage in Conflict Areas), ISMEO International Association for Mediterranean and Oriental Studies, and Directorate-General of Archaeology and Museums, Govt of Khyber Pakhtunkhwa (DOAM KP).

The project has been implemented by the Italian Archaeological Mission in Pakistan (Swat) of ISMEO and Ca' Foscari University of Venice (DSAAM, Dept of Asian and North African Studies), under the framework of the MoU with DOAM KP and annual licenses issued by the latter.



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BKG Interim Report II – *Imported artefacts from Bīr-koṭ-ghwanḍai* / by Maurizio Taddei. *A catalogue of coins from the excavations at Bīr-koṭ-ghwanḍai 1984-1992* / by David W. MacDowall and Pierfrancesco Callieri. ISIAO Reports and Memoirs, New Series, III. ISIAO: Rome, 2004.

BKG Interim Report III – *I manufatti metallici del sito di Barikot (Swat, Pakistan). Studi tecnico-diagnostici e tassonomici* / by Luca Colliva, with contributions of others. ISMEO. BraDypUS Communicating Cultural Heritage: Bologna, 2012.

BKG Interim Reports, IV = *The last phases of the urban site of Bīr-koṭ-ghwanḍai (Barikot). The Buddhist sites of Gumbat and Amluk-dara (Barikot)* / by Luca M. Olivieri and others. ACT Field School Reports and Memoirs, II. AICS-PIDSA. Sang-e-Meel Publications: Lahore, 2024.

BKG Interim Report Va = *Ceramics from the excavations in the historic settlement at Bīr-koṭ-ghwanḍai (Barikot) Swat, Pakistan (1984-1992)* / by Pierfrancesco Callieri and Luca M. Olivieri. ACT Field School Reports and Memoirs, Special Volume, 2.1-2. ISMEO/Alma mater University of Bologna. Sang-e-Meel Publications: Lahore, 2020.

BKG Interim Reports, Vb = *Ceramics from the excavations in the historic settlement at Bīr-koṭ-ghwanḍai (Barikot) Swat, Pakistan (1985-2017). The early historic phases* / by Elisa Iori. ACT Field School Reports and Memoirs, Special Volume, 2.3. ISMEO/Ca' Foscari University of Venice. Sang-e-Meel Publications: Lahore, 2024.

BKG Interim Reports, VI – *Terracotta figurines from the excavations in the historic settlement at Bīr-koṭ-ghwanḍai (Barikot) Swat, Pakistan (1977-2019)* / by Gennaro Altiero and Giuseppina Esposito. Ed. by Roberta Gooni. ACT Field School Reports and Memoirs. ISMEO/University of Naples, L'Orientale. Special Volume, 3, Sang-e-Meel Publications: Lahore, 2025.

BKG Interim Reports, VIII – *Stelae and stone sculptures from the excavations in the historic settlement at Bīr-koṭ-ghwanḍai (Barikot) Swat, Pakistan (1984-2022)* / by Cristiano Moscatelli ACT Field School Reports and Memoirs, Special Volume, 4. ISMEO/University of Naples, L'Orientale. Sang-e-Meel Publications: Lahore, forthcoming.

BKG Interim Reports, VIII – *Beads from the excavations in the historic settlement at Bīr-koṭ-ghwanḍai (Barikot) Swat, Pakistan (1984-2022)* / by Mubariz A. Rabbani. ACT Field School Reports and Memoirs, Special Volume, 5. ISMEO/Ca' Foscari University of Venice. Sang-e-Meel Publications: Lahore, 2025.

BKG Interim Report IX – *A Numismatic History of Barikot. Catalogue and Analysis of the Coin Finds from the Excavations at Bīr-koṭ-ghwanḍai (Barikot), Swāt, Pakistan (1984-2022)* / by Ehsan Shavarebi. Österreichische Akademie der Wissenschaften/ ISMEO: Vienna, 2025.

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BKG Interim Reports, XII – *Apsidal Temple H. Archaeology of early Buddhism at Barikot (Swat, Pakistan)* / by Luca M. Olivieri, Elisa Iori and Michele Minardi (forthcoming).

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## PRESENTATION

Adriano V. Rossi

*President of ISMEO – International Association for Mediterranean and Oriental Studies*

I am particularly pleased to introduce *Vajirasthāna. Archaeology of the Barikot Hilltop (Swat, Pakistan)*, a collective effort due to the ISMEO Italian Archaeological Mission in Swat. It reports about the recent discoveries and restorations by one of the oldest of the Italian missions still in operation among those established by Prof. Giuseppe Tucci and ISMEO in the 1950s, and it is being conducted since some years now in collaboration with the University of Venice Ca' Foscari.

The work in the field was in fact started in 1956 following the first visit to the Swat by Prof. Tucci during the previous year; and since then the mission has seen some of the leading Italian scholars in the field, such as Domenico Faccenna, Pierfrancesco Callieri, and Luca Maria Olivieri, take turns in its direction. We can undoubtedly say that it represents one of the most prestigious legacies to the Italian archaeology in Asia.

The present book, edited by Professor Olivieri and his collaborators, takes its title from the toponym Vajirasthāna, occurring in a Śāradā inscription found at Barikot and transferred to the Lahore Museum in 1898; it has been identified since many years with Barikot/Bazira, a pivotal site in the area and primary center of archaeological research. The book focuses its attention on the recent three-year period 2022-2024, during which the mission found the fundamental support of The International Alliance for the Protection of Heritage (ALIPH) Foundation through the project "Saving the archaeological site of Bazira". The project provided for the restoration of the structures in the Barikot area, allowing the conservation of the monumental artificial terraces of the acropolis, the valorization of the ancient religious and military monuments, and the creation of a buffer zone around the acropolis for the safeguard of the historical site.

As can be clearly seen from this publication, the implementation of the specific ALIPH/ISMEO project and, more generally, the work of the ISMEO/Ca' Foscari Mission, have benefited from a well-balanced international scientific network under the direction of Professor Olivieri, made up of expert scholars and younger researchers and students of an excellent level. This made it possible to carry out accurate research inspired by the criteria of

multidisciplinarity that are essential for modern archaeology, combining the excavation data with the detailed study of the construction methods and materials of artistic and artisan work, also through the contribution of archaeometry.

All this symbolizes one of the cornerstones of ISMEO's mission, which since its foundation has undertaken protocols and agreements for joint research projects with Italian, Pakistani and foreign universities, academies and cultural institutions, as well as with international organizations in the areas of its institutional activities. In this sense, the ALIPH/ISMEO Project has also further highlighted a peculiar aspect of the Archaeological Mission in Swat, which has been continuously promoting training projects for Pakistani, Italian and international students, with excellent results.

In the framework of the ALIPH/ISMEO project, another aspect very much felt by the contemporary scientific community is highlighted: that of the communication of research achievements, which must not be limited to a small circle of specialists, but must find innovative languages that allow its dissemination within a wider audience. Although the book itself represents a valuable and irreplaceable tool for dissemination, it is now appropriate to also turn to those tools that modern technologies make available. In this sense, I am pleased to underline how the project in question has been able to exploit this potential, too: in particular, an efficient Pakistani company has implemented detailed 3D reconstructions, which represent an important scientific and cognitive tool at the same time; and the production of documentaries, visible through links contained in the book and which refer to specific ISMEO platforms.

A decisive role in the most recent phases of the Mission has certainly been played by the ALIPH Foundation; I would like to thank Director Valery Freland and his collaborators for a consolidated and fruitful relationship, a collaboration which outside Pakistan has led to the important restoration of ancient vestiges at the UNESCO Heritage Site of Hatra. A grateful mention must be made of the Italian Ministry of Foreign Affairs and International Cooperation and the Italian Embassy in Islamabad for the essential logistical and economic support continuously provided to the Mission.

Finally, special thanks must be addressed to the Directorate General of Archaeology and Museums and the Provincial Government of Khyber Pakhtunkhwa, without whose contribution and generosity no activity in the Swat valley would be possible.

## FOREWORD

Abdul Samad

*Director-General Archaeology and Museums, Government of Khyber-Pakhtunkhwa (Pakistan)*

The story of *Vajirasthāna*, a name synonymous with both mystique and historical intrigue, has been the object of extensive discussion, claim, and reclaim for centuries. However, much of the scholarship surrounding it has been based on literary evidence and has thus frequently been (re-)interpreted and revised. Only in recent decades, through the tireless work of Italian and Pakistani archaeological teams in Swat, has tangible evidence begun to shed light on this enigmatic place, offering a more comprehensive understanding of its significance. Among these efforts, the Italian Archaeological Mission's work in Swat over the past seventy years stands as a monumental achievement—one that has significantly advanced our knowledge of the region and its role in the broader history of Buddhism.

The roots of the Italian archaeological mission in Swat trace back to the pioneering scholar, Giuseppe Tucci, who initially had studied the origins of Tibetan Buddhism. Tucci's journey led him, almost serendipitously, to Swat, a region that, unbeknownst to many, held crucial connections to the early spread of Buddhism, especially the Vajrayāna school. His work laid the foundation for what became a legacy of cross-cultural collaboration between Italy and Pakistan, a partnership that has flourished through the generations.

Over the years, this collaboration has evolved into a vibrant, international endeavour, with scholars from the United Kingdom, Germany, Austria, France, China, Korea, USA, Japan, and beyond regularly contributing to the ongoing excavation and research. What began as a focused study on Tibetan Buddhism now spans multiple fields, from archaeology to religious studies, and has enriched our understanding of the cultural and historical tapestry of Swat.

In particular, the past decade has seen a surge of new archaeological findings in Swat, particularly from Barikot. Many of these directly correspond to the ancient Buddhist literature—revealing the deep historical layers of this once-thriving cultural hub. One of the most significant discoveries is the identification of Barikot with a site frequently mentioned in Tibetan literature as the ancient *Vajirasthāna*. Having said this, the importance of Barikot extends beyond its association with Vajrayāna Buddhism; it was a centre of vibrant multiculturalism, serving as a crossroads for various dynasties, belief systems, and cultural influences. The layers of history evident in Barikot's archaeological remains reveal a rich tapestry of ancient civilizations that have long since faded but whose stories continue to resonate in the present.

Yet among the many remarkable discoveries, one inscription found at Barikot is particularly noteworthy. This inscription, now housed in the Lahore Museum, is one of the key pieces of evidence that affirms Barikot's role as the ancient *Vajirasthāna*, a place revered in Tibetan Buddhist literature as the birthplace of Vajrayāna Buddhism. Together with the recent excavations and conservation efforts on the Barikot hilltop, the inscription has provided invaluable insights into the region's spiritual and cultural significance.

This book, then, represents a significant step forward in the scholarly understanding of *Vajirasthāna*. It carefully and thoughtfully combines archaeological evidence with literary sources, offering a nuanced exploration of this ancient city and its profound influence on the development of Buddhism, particularly Vajrayāna Buddhism. By drawing on the rich history of archaeological research in Swat and the ever-growing body of discoveries, this work seeks to resolve the ambiguities and misconceptions that have surrounded the history of *Vajirasthāna*.

The Directorate of Archaeology and Museums, along with the Provincial Government of Khyber Pakhtunkhwa, takes immense pride in its ongoing collaboration with the Italian Archaeological Mission. This partnership stands as a testament to the enduring bonds between two countries, as well as the broader international community of scholars dedicated to uncovering and preserving the ancient history of Swat and Pakistan. It is our hope that this collaboration will continue to thrive, as future generations of researchers and archaeologists join hands in the quest to explore the hidden treasures of Swat—an area rich in historical, cultural, and spiritual heritage that has shaped the course of human civilisation for millennia.

May this book serve as both a record of our collective achievements thus far and a beacon guiding future discoveries, ensuring that the ancient history of *Vajirasthāna* is not forgotten but celebrated, shared, and understood by all.

## EDITORIAL NOTE

Alice Casalini

Editing such a prominent volume, both in terms of significance and sheer size, is both an honour and a great responsibility. The many contributions in this book are from a group of scholars, friends and colleagues, at different stages in their academic career – we have both seasoned academics with years of experience under their belt, and young scholars who are at the very start of their (hopefully long and successful) career, and everything in between. My editing interventions have strived to bring all contributions together in a cohesive whole that would do justice not only to the laborious work of our team and to that of our predecessors – who laid the solid foundation for the success of such work at the Italian Archaeological Mission in Swat – but also to the great monument of Bazira-*Vajirasthāna*.

...

The volume includes several contributions by the same author(s), and several intertextual references occur. To avoid cumbersome and confusing repetitions, we have decided to assign a number to each contribution by the same author, which is reported in superscript, according to the following scheme (here presented in alphabetical order):

Arcuri, Prota<sup>1</sup> = *Structural Overlaps in BKG 24* in TERRACE W.

Arcuri, Prota<sup>2</sup> = *Macrophase 8b: Zoomorphic Spouts* in TERRACOTTA AND CERAMICS.

Casalini<sup>1</sup> = *The Architecture of Temple 6: Excavated Materials and Reconstruction* in RELIGIOUS ARCHITECTURE: TEMPLE 6.

Casalini<sup>2</sup> = *Macrophase 8b: The Three Hares Roundel* in THE BARIKOT HILLTOP IN 10 OBJECTS.

Filigenzi<sup>1</sup> = *Śāhi Marble Sculptures* in SCULPTURES.

Filigenzi<sup>2</sup> = *Late Buddhist Rock Sculptures* in SCULPTURES.

Iori<sup>1</sup> = *Hindu Śāhi Settlements and the Fortified Limes* in CIVIL AND MILITARY ARCHITECTURE.

Iori<sup>2</sup> = *Macrophase 8b: A Hindu-Śāhi Portrait* in THE BARIKOT HILLTOP IN 10 OBJECTS.

Iori<sup>3</sup> = THE VAJIRASTHĀNA HILLTOP: ICONIC ASPIRATIONS AND OVERLAPPING RELIGIOUS LANDSCAPE

Minardi, Prota<sup>1</sup> = *Trench BKG 24.1* in TERRACE W.



Minardi, Prota<sup>2</sup> = *The Islamic Graveyard Outside the Terrace W (BKG 24.1)* in TERRACE W.

Moscatelli<sup>1</sup> = *Gandhāran Stone Sculptures* in SCULPTURES.

Moscatelli<sup>2</sup> = *Macrophase 5: An enigmatic Mahāparinirvāṇa* in THE BARIKOT HILLTOP IN 10 OBJECTS.

Olivieri<sup>1</sup> = THE CITY OF VAJRA.

Olivieri<sup>2</sup> = ARCHAEOLOGICAL OUTLINES.

Olivieri<sup>3</sup> = THE SURVEY (1992–1993).

Olivieri<sup>4</sup> = *Methodology* in THE CONSERVATION PROJECT “SAVING THE ARCHAEOLOGICAL SITE OF BAZIRA” (2022–2024).

Olivieri<sup>5</sup> = *The Monumental Terraces and the Central Fortress* in CIVIL AND MILITARY ARCHITECTURE.

Olivieri<sup>6</sup> = *Trench BKG 6: The Śāhi Temple on Terrace E* in RELIGIOUS ARCHITECTURE: TEMPLE 6.

Olivieri<sup>6.1</sup> = The quarry sources of *kañjur* [Addendum 1 to Olivieri<sup>6</sup>]

Olivieri<sup>6.2</sup> = Decorated sandstone cornices from Macro-phases 8a–b [Addendum 1 to Casalini<sup>1</sup>]

Olivieri<sup>7</sup> = *Macrophase 9a: A Sphero-Conical Vessel* in THE BARIKOT HILLTOP IN 10 OBJECTS.

Rabbani<sup>1</sup> = *Common Pottery* in TERRACOTTA AND CERAMICS.

Rabbani<sup>2</sup> = BEADS AND ORNAMENTS.

The names of authors and other contributors are abbreviated to the first letters of their name/middle name/surname (e.g., LMO = Luca Maria Olivieri; MP = Marco Pinelli, etc.) in the chapter THE CONSERVATION PROJECT “SAVING THE ARCHAEOLOGICAL SITE OF BAZIRA” (2022–2024), as this section includes several in-text references to the many people who have worked on the conservation and excavation of the hilltop. This style of abbreviation is also used whenever an author intervenes with a brief text within the larger text by another or others and in the captions. The full name is used for non-contributors in the image captions.

Individual contributions, at the APA level 1 and 2 (i.e. the headings both in small caps and italics in the table of contents), have their own numbering of footnotes and figures.

In the body of the text, the following typographic rules are followed to signal the different nature of every element: structures, such as walls, drains, etc. are within square brackets: e.g., [200]; layers are within round brackets: e.g., (150); cuts, pits, razed surfaces (negative stratigraphic units) are within angle brackets: e.g., (320); finally, cup-marks and similar features are written within curly brackets: e.g., {5}. Structures that are underlined within squared brackets refer to those surveyed in the 1990s (i.e., Olivieri<sup>3</sup> THE SURVEY) [23]). This is done to graphically separate the structures surveyed at the time from those excavated and documented in later excavation campaigns.

A parenthesis system is also used for epigraphic translations: [ ] mark uncertain readings, ( ) lost material, and < > material omitted by the author.

We have chosen to keep the terminology given to structures and areas used in the fieldwork documentation. For example, we refer to Terrace E (emphasis on ‘E’) rather than E Terrace (emphasis on ‘terrace’), Terrace W rather than W Terrace. Words indicating architectural and/or archaeological features (e.g., terrace, trench, bastion) are capitalised

when followed by their specific designation (e.g., Terrace E, Trench 6.3, Bastion H). Walls and other common structural units are left in lowercase.

Cardinal directions are usually shortened and capitalised (e.g., N, S, E, W) in surveys, technical reports and stratigraphic studies for the sake of readability (namely, THE SURVEY (1992–1993); THE CONSERVATION PROJECT ...; *The Monumental Terraces and the Central Fortress*; *The Fortress on the Hilltop [Trenches BKG 14 and 15]*; *The Architecture of Temple 6* ...; TERRACE W). Directions are spelled out in all other contributions, especially when they are part of known phrases (e.g., the northwestern regions).

Stylistic choices for the images in each contribution have been left within the remit of individual authors. This accounts for slight discrepancies in the formatting of some graphic signs (e.g., N arrow, scale, etc.). These have been edited only for consistency in relation to the internal structure of each author's contribution. Figures and tables are capitalized in the text whenever they refer to images and illustrations from the present volume and are left in lowercase whenever they refer to images, plates and tables from other works. A special case is that of TABLE 1, TABLE 2 and TABLE 3 in Olivieri<sup>2</sup>, which are in small caps in the whole text, as they refer to macrophases and chronological data that are valid for all contributions. Plates relative to this text are always formatted in small caps; all others are in lowercase.

All images are property of the Italian Archaeological Mission/ISMEO, unless otherwise noted in the captions. Objects in the inventory are marked by the label of the site (BKG = Barikot), followed by their individual number.

Catalogue entries the last part of the volume (MATERIAL CULTURE) follow the format:

Inv. No. – Fig./Figs

Location/museum.

Stratigraphy; year of discovery (if needed)

Material; Dimensions

Conditions, Joints and special marks (if present)

Bibliography, if available.

This information is followed by a brief comment on each object. In the catalogue, all measures are in centimetres, unless otherwise noted. Generally, measurements are expressed in metres when we are discussing buildings and/or areas of space, and in centimetres when we are dealing with individual objects. The catalogue of coins by E. Shavarebi follows criteria and format that are specific to numismatics. They are explained by the author in the contribution.

The following abbreviations are used throughout the text. Bibliographic abbreviations are listed at the beginning of the section REFERENCES.

a.s.l.	above the [mean] sea level
av.	average
cf.	see
cm	centimetre(s)
d.	diameter

Dept.	Department
DG	Director General
DOAM	Directorate of Archaeology and Museums, Government of Khyber Pakhtunkhwa
DoAM	Department of Archaeology and Museums, Government of Pakistan
dp.	depth
DR	Departmental Representative
DSAAM	Dipartimento di Studi sull'Asia e l'Africa Mediterranea [Department of Asian and North African Studies]
Fig., Figs	figure, figures
fn	footnote(s)
Govt.	Government
h.	height
ha	hectares
KP	Province of Khyber Pakhtunkhwa
l.	length
max.	maximum
m	metre(s)
N, S, E, W	north, south, east, west
pers. comm.	personal communication
Pl., Pls	plate, plates
ref./refs	reference, references
sqm	square metre(s)
SRO	Sub-Regional Office (DOAM KP)
t.	thickness
tr.	translated/translation
w.	width

### III

## MATERIAL CULTURE



## Glazed Pottery (A. Fusaro)

This contribution provides a general overview of some ceramic items related to one of the Islamic phases of occupation of the Barikot site (Macro-phases 9a-b), dated to the tenth to twelfth century. The following analysis strictly focuses on vessels recognised as chronological markers, i.e. glazed ceramics and a few unglazed higher-quality products. They were collected from different trenches of the site: Trenches BKG 6.9, 6.10, 6.11, 7/9, 19, 20N, 20NE, 20E, 23, 23.1, 24, 24.1.

This preliminary presentation seeks to define the chronological attribution of the vessels and the circulation of the related wares as well as to reconstruct the trade and cultural connections between Barikot and other sites and regions. No attempts have been made to analyse the sherds within their stratigraphic contexts and no statistical analysis has been conducted because the author could not examine the whole assemblages associated with the selected items. A more in-depth study of the whole assemblages is planned.

The wares identified can be broadly divided into three main groups: monochrome wares, *sgraffiato* wares, and underglaze painted wares. The second group comprises the splashed *sgraffiato*, the *sgraffiato* and dot-painted, and the *sgraffiato* monochrome glazed wares. The third group comprises underglaze painted and slip-painted wares.

The most represented wares are the turquoise opaque glazed ware and the *sgraffiato* splashed ware, followed by the green monochrome glazed ware; *sgraffiato* and dot-painted ware and the underglaze painted ware are less represented. The *sgraffiato* green monochrome ware is extremely rare, along with brown monochrome ware and the bichrome ware, represented by single fragments.

All the wares are characterised by very fine light brown to reddish-orange bodies, with a medium compactness and slightly sandy texture. The temper macroscopically visible consists of very few opaque white very fine inclusions; no micaceous inclusions are visible to the naked eye. All the vessels are wheel-thrown. Except for the turquoise opaque glazed ware and a brown monochrome glazed item, all the vessels are coated with slip and glaze. Morphologically speaking, wares are internally very homogeneous. The phenomenon of reuse of vessels is testified by two tokens or pottery discs shaped from broken fragments, with smoothed fractures, belonging to a turquoise opaque glazed vessel and an underglaze painted bowl (BKG 11365, Fig. 1), respectively.

A detailed description of the morphological, stylistic and some macroscopically visible technological aspects for each ware is provided. The description is combined and completed by a comparative analysis of the glazed productions from Barikot with those from coeval sites from Pakistan and Iranian and Central Asian regions, which show the strongest similarities between assemblages. The main sites considered are Udegram (Swat), Balkh, Danestama, Ghazni, Herat, Lashkari Bazar (Afghanistan), Nishapur (Iran), Akhsiket, Bukhara, Hulbuk, Samarqand, and Termez (Uzbekistan).

### Turquoise opaque glazed ware

This production is technologically different from other monochrome wares. First, the vessels never bear any slip, only the glaze covers the surfaces. Second, the glaze appears opaque, a result probably obtained by adding tin to the alkaline composition, as proven by the archaeometric investigation conducted on identical items from Ghazni (Fusaro 2014: 131, 410–416).

The state of preservation of the glaze varies. In some cases, it is glossy and the turquoise colour is still very well visible. However, more frequently the glaze appears matt and whitish due to the milky weathering; cracks and blackening (i.e. presence of micrometric pits) are also common alternations visible on the glazed surfaces. Besides post-depositional alterations, this difference could be due to the glaze quality.

The most spread form recognised is a conical bowl with an oblique profile and simple rounded or slightly tapered rim (Fig. 2a); in a few cases the internal surface of the rim presents a thickening of glaze (BKG 11388, Fig. 2b). One bowl shows an incurved rounded rim (BKG 11633, Fig. 2c). Some conical bowls are characterised by a low carination and a disc base with lower concave surface (Fig. 2d) or a disc base with a central circular umbo on the lower surface (BKG

9577, Fig. 2e). In other pottery *corpora*, the latter is typical of vessels belonging to the *sgraffiato* splashed ware (for Nishapur see Wilkinson 1973: 60–61 cat. nos 13, 17; for Hulbuk see Siméon 2009: pl. 128/502).

When the glaze is thinner or only partially covers the surface, peculiar shallow parallel horizontal grooves are visible on the upper part of the exterior of some bowls, just below the rim: they can be interpreted as traces left during the shaping or the finishing process (BKG 8529, 11628, 11636, Fig. 2f). This grooved surface seems to have been identified on items of the same ware from Udegram (Manna 2006: 233).

The strictest comparisons for the bowls from Barikot are with items from Ghazni, both concerning technological and morphological features, especially the thickened glazed rim and the conical bowl with low carination (Fusaro 2014: 132, pls CXX/5, CXXIV/4–5). The same can be said for some items from Bust and Lashkari Bazar kept at the International Museum of ceramics in Faenza, Italy (Gulmini et al. 2013: 569, 574–575, 589). Similar items can be found also at other Afghan sites, i.e. Balkh (Siméon, pers. comm.) and Danestama (Le Berre 1970: pl. VI d).

Items related to this ware were also found farther west at Bukhara (Nekrasova 1999: 53, dated second half of the 12th–beginning of the 13th century), Nishapur (Rante, Collinet 2013: 152–154, fig. 85/16) and Samarkand (Shishkina, Pavchinskaja 1992: 70, 107, cat. nos 231–234).

### Green monochrome glazed ware

All vessels are covered with a white slip and green transparent glaze. Only two small fragments have transparent colourless glaze inside. The glossy appearance of the glaze could suggest its lead-based composition (cf. Henshaw 2008: 79). The forms recognised belong to lamps and small to medium jars.

Spouts are the only parts of the lamps preserved (BKG 11401, Fig. 3a). They are long open spouts shaped with a sharp tool. This type of spout is typical of a handled lamp with a closed globular reservoir and flat base, the handle is usually a loop/ring handle, with or without a flat thumb-stop (Shishkina 1979: pls XVII–XVIII). Indeed, one badly preserved flat base (BKG 6350, Fig. 3b) could belong to this group. More rarely the handle is a central vertical stem with a hole for hanging the lamp.

Lamps of the type identified at Barikot are widely spread all over Central Asia and mainly date to the 11th–12th century and occasionally circulated until the early 13th century: comparable specimens can be found in Afghanistan (Gardin 1957: 64, 67, pl. XXIII/5 from Balkh from Balkh (Siméon, pers. comm.); Franke, Müller-Wiener 2016: 323 from Herat), Tajikistan (VV.AA. 2011: 136–137, fig. 6 from Hulbuk), Uzbekistan (VV.AA. 2011: Henshaw 2008: 79–80, fig. 3.12, appendix d 503, 510 from Akhsiket; Houal 2020: pl. 75; Pozzi 2013: 134, fig. 13 and Pozzi, Mirzaachmedov, Iskanderova 2017: 182–182, fig. 27, from Vardanzeh, Bukhara oasis), Kazakhstan (VV.AA. 2011: 52, 54, from Taraz; 75, 81, pls XLIII and LXV from Semirechye), and Kyrgyzstan (VV.AA. 2011: 95–96, 124, fig. 2, pl. XXVIII, 171).

The two forms recognised at Barikot for closed vessels are: a small pot without a neck, flattened rim and hemispherical shoulder (BKG 11394, Fig. 3c); one medium-sized jar with cylindrical neck, thickened rounded rim projecting outwards, hearth-shaped body and disc base unevenly potted (BKG 6332, Fig. 3d). The first bears only slip inside; the second one shows an uncoated inner surface; both seem common features for the closed vessels of this ware. As suggested by a few pieces, carinated pots and/or jars also existed. Parallel horizontal grooves on the neck and shoulder carved under slip and glaze are a frequent decorative feature.

The closed forms at Barikot recall those from Ghazni: in particular small and medium-sized jars without necks or very short ones, also with a double-carinated body, and small jars with a short neck and a globular body (Fusaro 2014: 132; pls CXXII/1 and CXXIII/2 cf. BKG 11394; pl. CXXIII/3 cf. BKG 6332). The use of incisions and grooves under slip and glaze is also attested in a few green monochrome closed items from Ghazni, but their forms are different from those found at Barikot (Fusaro 2014: 134, pls CXXVIII/6 and CXXIX).

Examples of jars from Lashkari Bazar belonging to ‘groupe X – série 1’, dated to the late eleventh to the mid-12th century, are similar but not identical to BKG 6332 (Gardin 1963: pl. II and pl. XXIV/458, the vase has a ridged surface) and BKG 11394 (Gardin 1963: pl. XXIV/455).

Green monochrome glazed jars from other Afghan sites, such as Balkh and Herat, are also similar (for Balkh see Siméon pers. comm.; for Herat see Franke, Müller-Wiener 2016: 334–335, dated to the tenth to 13th century, cf. BKG 6332). Similar forms are to be found also in Nishapur and can be paralleled to the small and medium-sized jars of Barikot both for form and the grooved decoration under the coatings, the latter appears to be a quite frequent feature (Wilkinson 1973: 233 cat. nos 10–13 cf. BKG 11394, even if the rim is different; 232 cat.no. 4, cf. BKG 6332; see especially Wilkinson 1973: 232–233, cat. nos 3, 6, 4, 11 for the grooved decoration).

Closed vessels similar to BKG 6332 are also attested at Termez (Houal 2020: pl. 75, M3).

#### Brown monochrome glazed ware

This ware is represented only by one bowl with a well incurved rim (BKG 11797, Fig. 4). The vessel is covered with a transparent brown glaze applied directly on the body, without slip; it is well preserved and glossy. This same feature was recognised for the production at Ghazni (Fusaro 2014: 131).

This ware can be identified with that from Nishapur ‘chocolate brown glaze’, comprising some bowls with upright rim (Wilkinson 1973: 236, cat. no. 33).

This monochrome ware is very rare also at Akhsiket (Uzbekistan), where brown glazed vessels, exclusively lamps, are remarkable for unusual brightness and texture (Henshaw 2008: 79, fig. 3.14).

#### Bichrome glazed ware

The production is represented by one very small fragment belonging to a bowl with an incurved rim (BKG 11395, Fig. 5). The vessel bears a white slip; the inner surface is covered with a yellow transparent glaze, and the outer one with a green transparent glaze.

Bichrome glazed vessels circulated during this period in other Central Asian sites. For example, some bichrome yellow-green glazed vessels were recovered at Ghazni, but they exclusively consist of closed forms (Fusaro 2014: 132). However, a fragment of a bowl from Ghazni with *sgraffiato* lines and bright yellow and green colours similar to the small item from Barikot could suggest that it belongs to the late variant of the splashed *sgraffiato* ware, dated to the second half of the 12th century (Fusaro 2014: pl. CXXXVIII/1).

#### *Sgraffiato* splashed ware

This is among the most represented wares of the lot analysed. The fragments recovered show white slip and transparent colourless glaze, that cover the inner surface completely while coatings are limited to the outer surface of rim. The decoration comprises simple geometric and abstract motifs incised into the slip, complemented by brown, green and mustard yellow splashes, the latter colour appearing mottled. The coloured decoration partially follows and overlaps with the incised patterns (BKG 11395, 11448, 11795, 11850, Fig. 6a–b–c).

The only form identified is a conical bowl with a straight simple rounded rim and low carination (BKG 11398–11399, Fig. 6d–e); the associated base is a disc base with a lower concave surface and rounded outer profile (BKG 8536, Fig. 6f).

Several variants of this ware existed between the tenth and 12th century; their manufacture stretched from present-day Iraq to Central Asia. The fragments found at Barikot seem to belong to the typical production of eastern Central Asia. The same production is spread at Udegram, representing the most common glazed ware (Manna 2006: 234); brown, green and ochre yellow splashes follow the incised pattern consisting of a simple panelling filled with spirals.

The vessels circulating at Barikot represent a production with less refined and less complex decoration than those from Samarkand (Shishkina and Pavchinskaja 1992: 88, 114, 116, cat.nos 280–283, dated to the tenth century) and Nishapur (Wilkinson 1973: 59–60, cat. nos 8, 14); the latter, indeed, shows a more complex pattern and the bowls have straight walls with no carination. For example, it seems quite evident that BKG 11358 is a simplified version of a vessel from



Samarkand, bearing a central triangle with the same chromatic palette comprising red, brown, and olive green (Shishkina Pavchinskaja 1992: 97, cat.no. 174).

Barikot items are well comparable, both for decoration and morphology, to a more ancient variant of *sgraffiato* splashed ware found at Ghazni, dated to the tenth to eleventh century. This variant is scarcely represented compared to the most common later *sgraffiato* splashed ware from the same site. The main feature of the earliest production are green and brown colours, in the form of splashes and dots respectively, following the incised lines; the form associated is a conical bowl with low carination (Fusaro 2014: 138, 267-268, pl. CXXXIII/9-12).

The *sgraffiato* splashed ware recovered at Balkh is similar to that from Barikot, both for bowl type and decorative pattern (Gardin 1957: 71-72, pl. XVII/4c). No strict comparisons are traceable with vessels from Lashkari Bazar, except for a general similarity of the motifs (Gardin 1963: 'groupe XII série XII-2' dated to late eleventh to the mid-12th century, pl. XXVII/519, 521, 522).

### *Sgraffiato* and dot-painted ware

This production is characterised by a combination of *sgraffiato* and painted elements. The main pattern is drawn with lines incised into the white slip, consisting of horizontal bands and simple geometric or abstract elements such as squiggles and curls; rows of painted dots under the transparent colourless glaze, follow the incised lines (BKG 11899, Fig. 7a). Dot colours range from brown to red to green in different hues, also comprising black, orangish, and olive green. A mustard yellow to olive green painted line usually underlines the rim edge. The form recognised is a bowl with well-incurved rim (BKG 9827, Fig. 7b); in one case the rim is straight (BKG 9828, Fig. 7c). Open vessel BKG 11387, showing a disc base with very shallow lower concave surface, could belong to the dot-painted and *sgraffiato* production, as suggested by three very small brown dots at the centre of the cavetto associated with three radial incised lines (Fig. 7d). Similar *sgraffiato* decoration inside the cavetto is visible on items from Lashkari Bazar (Gardin 1963: pl. XXVI/487-488). A comparison is also possible with an item from Danestama (Le Berre 1970: pl. VI d/16).

Two items (BKG 9828 and 11050, Fig. 7e-f) bear turquoise glaze drops on the rim and the outer surface; this feature could suggest that they were fired in the same kiln with the turquoise opaque glazed ware (Fusaro 2014: 270) or, alternatively, that the drops are part of the decorative pattern as in a few bowls from Ghazni (Fusaro 2014: pl. CXXXIII/4).

Items from Udegram and several Afghan sites clearly belong to the same production as the vessels from Barikot, as suggested by almost identical decoration and forms. At Udegram, the *sgraffiato* and dot-painted ware is the second most common production after the *sgraffiato* splashed ware (Manna 2006: 234). The Afghan sites considered are Ghazni (Fusaro 2014: 137, pl. CXXX/5, see also CXXXI/2), Lashkari Bazar (Gardin 1963: 'groupe XI série 4' dating from the late eleventh to the mid-12th century, pl. XXVI/492, 493 and pl. XXVII/499, 504; 118, pl. XXVI/494 for bowls with inturned rims; pl. XXVII/499, 504 bowls with straight conical profile, cf. BKG 9828,) and Bust (Gardin 1963: 11, pl. III/h), Danestama (Le Berre 1970: pl. VI c/10, 13, 15 cf. BKG 9827-9828), Balkh (Gardin 1957: 70-71; Siméon, pers. comm.). The ware was also spread in the Afghan Sistan (Fairservis 1961: pl. 15, from Peshawarun). The ware is mainly dated to the first half of the 12th century in the mentioned sites. Gardin highlighted the good quality of the glaze of this ware at Lashkari Bazar, appearing smooth and glossy (Gardin 1963: 119).

From the comparative analysis it appears clear that this production was typical in the Afghan regions. Nonetheless, items were also found in southern Pakistan (Collinet 2004: pl. 4, from Sehwan Sharif; Piacentini Fiorani, Fusaro 2022: 257 from Banbhore); Tajikistan (VV.AA. 2011: 143-144, fig. 9.4 from Magian, dated 12th-13th century; forms seem to fit partially those from Afghanistan) and Uzbekistan (Henshaw 2008: 82-83, fig. 3.15, from Akhsiket, dated 12th c.; Houal 2020: pls 78, B2-3, and 87, P4-3, from Termez, dated eleventh-12th century), but as for the Uzbek productions forms and chromatic palette appear different.

### *Sgraffiato* green monochrome glazed ware

The ware is represented by very few sherds. White slip and transparent green glaze entirely cover the inner and outer surface of the rim. The decoration incised into the slip always comprises at least a couple of parallel horizontal lines on the interior of the rim; only in one item squiggles or irregular circles are visible (BKG 12163, Fig. 8). The fragments analysed show a light milky alteration layer, that could suggest a mixed lead-alkaline composition of the glaze. The only form associated is a hemispherical bowl with an incurved rim.

The *sgraffiato* green glazed vessels from Udegram (Manna 2006: 233) and Ghazni (Fusaro 2014: 134–135) mostly bear a decoration with simple elements like concentric circles and spirals; bowl forms from Ghazni also match with those from Barikot (Fusaro 2014: pl. CXXVI/2). Bowls with well-rounded profiles from Lashkari Bazar are also similar (Gardin 1963: 'groupe XIII série 1', 124 pl. XXVIII/526, 528). A chronological attribution to the end of the eleventh to the first half of the 12th century has been proposed for Ghazni (Fusaro 2014: 271), while in Lashkari Bazar the ware circulated throughout the 12th century.

### Underglaze painted ware

The ware comprises different variants according to the colours of the decoration: monochrome dark brown painting; bichrome olive green – brown or red – brown painting; polychrome red – olive green / green – brown painting. Decorative patterns are simple. Squiggles or curls, mostly at the centre of the cavetto, are common (BKG 6162, Fig. 9a); sometimes they are associated with geometric forms such as triangles (see, for example, BKG 11358 Fig. 9b). Curls or squiggles painted in brown to black at the centre of the cavetto are common in many underglaze painted productions ranging from Eastern Iran (Wilkinson 1973: 104 from Nishapur), Uzbekistan (Houal 2020: pls 79–80, 85 from Termez), to Afghanistan (Gardin 1963: 73, 'groupe I série I' pl. XIII/126, 127 and 'groupe I série 3–4' pl. XV/170, dated first half of the eleventh century, for Lashkari Bazar; Le Berre 1970: pl. VI b/2 for Danestama).

In one case a pseudo-epigraphic band is painted in brown between two reddish-orange horizontal lines on the inner surface of the rim (BKG 11727, Fig. 9c).

The type of conical bowl with a simple rim and disc base with a concave lower surface prevails. This same form is well represented for the underglaze painted ware at Bukhara (Nekrasova 1999: fig. 19, especially nos 2, 3, 8, 14, 16; dated to the eleventh century) and Kuva (VV.AA. 2011: 215, pls XIX–XX, dated to the eleventh century) in Uzbekistan. At Bukhara, the vessels of the eleventh century frequently show horizontal pseudo-epigraphic bands just below the rim on the interior. An interesting comparison for the chromatic palette on simple straight rim of the bowl BKG 11386 (Fig. 9d) has been detected with a vessel from Kuva dated to the 12th century (Henshaw 2008: appendix C 430).

The chromatic palette of the decoration perfectly matches with painting of the wares from many other sites, especially Lashkari Bazar, Ghazni and Balkh: monochrome brown; bichrome red and brown; polychrome red – green to olive green – brown (Fusaro 2014: 141; Gardin 1957: 69–70). The same is true for the very simple geometric or abstract motifs found in most of the vessels from these sites. Gardin dated this production from Lashkari Bazar and Balkh to the 11th century (Gardin 1957: 70).

Gardin and Allen underlined that this production is the regional/provincial variant of the more refined Samanid's earlier productions (Gardin 1957: 71).

Indeed, similarity with the simplest vessels from Nishapur can be also underlined, especially regarding the morphological type of the conical bowl with a simple rim and disc base with a lower concave surface, in some cases associated with a black-brown squiggle at the centre of the cavetto (Wilkinson 1973: 104, cat. no. 56).

Pseudo-epigraphic bands painted in brown underlined by red lines are spread throughout the Central Asian underglaze painted productions. The fragment from Barikot BKG 11727 recalls specimens from Nishapur (Wilkinson 1973: 140, 153, cat. no. 32), from Akhsiket (Henshaw 2008: appendix D 494), Termez (Houal 2020: pl. 81, B3–3; Martínez et al. 2020: inv.no. TA8), and Lashkari Bazar (Gardin 1963: 'groupe I série I-1, 2', dated first half of the eleventh century; 58,

73, pl. XIII/126–129, 143, 148). From the latter site, the morphological type of conical bowl with a straight wall and simple rim is also comparable to the item from Barikot (Gardin 1963: pl. II/1). Another item with a pseudo-epigraphic band was recovered at Udegram (Manna 2006: 233), where underglaze painted bowls are characterised by a conical straight profiles and rounded rims with dark to pale brown, ochre, yellow, and red decoration.

BKG 11358 is the only underglaze painted vessel from Barikot with the most preserved decoration. The latter finds comparison especially with similar pattern on vessels from Lashkari Bazar (Gardin 1963: 'groupe II série 1, 3', pls XVII/223, XVIII/252 and 'groupe VI série 1' pl. XX/320, dated first half of the 11th century). A similar triangular decoration at the centre of the cavetto painted in brown, green and yellow is found at Danestama (Le Berre 1970: pl. VI b/6).

#### Slip-painted ware

Only one fragment belongs to the slip-painted ware (BKG 10123, Fig. 10). It is an open vessel whose inner surface is coated with a black slip and transparent colourless glaze; the decoration is painted in white and red: the former is used for delineating two specular loop-like motifs, the latter is used for a horizontal band probably encircling the cavetto. This black-slipped type is quite spread in Central Asia, from Khurasan to the Afghan Sistan; however, the variant with a bichrome red and white painting is less common.

Examples can be seen at Nishapur (Wilkinson 1973: 158, 160, dated to the ninth to tenth century). Some items from Samarkand with simpler decorative patterns can be also considered for comparisons (Shishkina 1979: pl. LX-5; Shishkina Pavchiskaja 1992: 103, cat.no. 209, dated first half of the eleventh century). A few items with black slip and red-white painting have been also found at Ghazni (Fusaro 2014: 142), while no specimens were recovered at Lashkari Bazar (Gardin 1963: 96, only white over black, sometimes with brown-yellow).

#### Unglazed fine ware

Although this contribution focuses on glazed pottery, some sherds of unglazed fine vessels from Barikot are also worth mentioning. Most vessels show a fine grey body. None of the items recovered is complete, but according to the preserved portions, we could suggest that they belong to jugs with cylindrical necks and simple or tapered rims (BKG 11412, 11397, Fig. 11a-b), with globular or carinated bodies. BKG 11400 testifies to a presence of handled jugs, being a handle jug with high vertical strip handle and thumb-stop consisting of combined cone-truncated and button-shaped elements (Fig. 11c). Decoration mainly comprises incised and comb-incised straight or wavy lines on neck and shoulder (BKG 11412 and 11397), sometimes associated with a gadrooned carved pattern (BKG 11939, Fig. 11d) or large depressions creating a lobed body (BKG 11425, Fig. 11e) resembling the metal vessels.

Fine grey jugs are spread throughout Central Asian sites, including Udegram (Bagnera, Manna 2006: 324). Grey jugs with cylindrical necks and incised lines or comb-incised lines are common. Wavy lines are the most frequent motifs at Bust (Gardin 1963: 9, see pl. V/19, 20). Jugs fragments BKG 11412 and BKG11397 show a very good resemblance with Lashkari Bazar (Gardin 1963: 52, pl. V/17 'groupe 2'). Jugs from Nishapur are also very similar to the specimens from Barikot (Wilkinson 1973: 299–301), considering their grey body, morphological type, and decoration (Wilkinson 1973: 305 cat. no. 43, dated eleventh to 12th century, cf. BKG 11412). They also include a handled jug with vertical strip handle and thumb-stop (Wilkinson 1973: 300, cat. nos 21, 23, cf. BKG 11400). Similar jugs are also found at Ghazni (Fusaro 2014: pl. CLX/3), Balkh (Siméon, pers. comm), Hulbuk (Siméon 2009: pl. 4) and Akhsiket (Henshaw 2008: appendix D 489, 495, also with fine comb-incised straight horizontal and wavy lines).

The decorative pattern found on the jug wall BKG 11425 is comparable with jugs with gadrooned decoration delimited by double incised lines at Bust (Gardin 1963: 9, pl. III/b). Pottery from Bust is dated to the beginning to mid-eleventh until the mid-12th century in association with the assemblages from Lashkari Bazar (Gardin 1963: 11–12).

Carinated jugs with incised and carved/gadrooned decoration as jug fragment BKG 11939 have been recovered from different sites, such as Lashkari Bazar (Gardin 1963: 'groupe 2, poterie gravée', pl. IV/10-12), Ghazni (Fusaro 2014: pls CXIII/3 and CXIV/1, 2, 3), Nishapur (Wilkinson 1973: 301, cat. no. 24 dated eleventh century), and Hulbuk (Siméon 2009: pls 15, 18).

The only vessel that differs from the group, both for the buff body and the form, is cup BKG 11396 (Fig. 11f). Cups made of buff paste with deep cylindrical to pear-shaped bodies and short vertical handles are spread in several regions from eastern Iran to Afghanistan (Shishkina 1979: pl. XXX/9 probably dated ninth to tenth century from Samarkand; Siméon 2009: pl. 14 from Hulbuk; Gardin 1957: pl. XVI/2 from Balkh (Siméon, pers. comm); Houal 2020: pl. 71 but see also pl. 66 – D4 from Termez). The closest comparison for the vessel from Barikot is with an example from Mansura, although larger and wider than BKG 11396, that shows a cone-truncated body with a vertical upper part, a thickened rounded rim projecting outwards and a short vertical handle.<sup>168</sup>

#### Final remarks on chronology and networks

The comparative analysis of the selected lot with coeval ceramic *corpora* allows defining the chronology of the finding contexts at Barikot, and at the same time leads to a preliminary reconstruction of the network connecting Barikot with coeval centres in Pakistan, Afghanistan, Iranian and Central Asian lands.

The timespan related to the wares analysed is the eleventh to 12th century. However, some items belonging to the *sgraffiato* splashed and the slip-painted wares could have circulated since the tenth century (see also Allen 1989: 60-62 on the pottery from Bust and Lashkari Bazar, and Siméon 2009: 190 for the *sgraffiato* splashed ware from Hulbuk).

It is noteworthy that, within the period considered, the *sgraffiato* splashed ware is among the most abundant productions in many sites, thus confirming a general trend also visible at Barikot (see, for example, Manna 2006 for Udegram, and Rante, Collinet 2013: 170 for Nishapur).

The most common base for the glazed wares at Barikot is the disc base with a concave lower surface. This is also quite a good chronological marker mainly associated with productions dated to the eleventh to first half of the 12th century (see also Rante, Collinet 2013: figs 85/7, 20, 21 related to period IIIA, eighth -early eleventh century).

The timespan proposed for the vessels of Barikot mostly relies on the chronological attribution of the assemblages from Ghazni and Lashkari Bazar, with whom Barikot items show the strongest similarities. Regarding Ghazni, the assemblage dated to the eleventh century comprises underglaze painted ware, slip-painted ware, green monochrome, and fewer items of the *sgraffiato* green monochrome glazed ware; the earlier type of *sgraffiato* splashed ware is also represented (Fusaro 2014: 264-269). Different underglaze painted wares ('groupes I, II and VI') circulated at Lashkari Bazar mostly during the first half of the eleventh century, with a continuation throughout the century (Gardin 1963: 137-139).

The ceramic assemblage of Ghazni dated to the end of the eleventh to the first half of the 12th century shows a greater variety of monochrome glazed vessels, including turquoise opaque, brown and bichrome, along with the *sgraffiato* and dot-painted ware (Fusaro 2014: 270). The assemblage from Lashkari Bazar dated to the same period comprises the green monochrome glazed ware ('groupe X'), *sgraffiato* and dot-painted ware ('groupe XI'), and *sgraffiato* splashed ware ('groupe XII'). According to Gardin, the *sgraffiato* green monochrome glazed ware ('groupe XIII') is later and dates from the early to the second half of the 12th century (Gardin 1963: 137-139).

The unglazed fine grey and buff vessels from Barikot can be broadly attributed to the same chronological period, i.e. eleventh to 12th century (Rante, Collinet 2013: 166 for Nishapur; Gardin 1963: 52 for Lashkari Bazar; Siméon 2009: 181).

It seems clear that the glazed items from Barikot were not locally produced, as testified by the very limited quantity of items collected (the same has been underlined for Udegram, Manna 2006: 233) and the absence of evidence of glazed

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<sup>168</sup> The vessel is displayed at the site museum of Mansura/Brahmanabad, visited by the author in December 2024.

ceramic manufacture. However, we cannot exclude that in Northern Pakistan a glazed pottery manufacture existed beyond the area between Barikot and Udegram.<sup>169</sup> The same hypothesis can be suggested for the unglazed grey vessels. Therefore, all the items considered for the study are imports. The comparative analysis shows Barikot closely connected to some regions while also featuring common trends with many Central Asian and South Asian centres. Udegram shows a similar pattern related to the glazed wares found, because of the geographic proximity and the concurrence of the two sites.

The site was reached by items typical of Eastern and Southern Central Asia and Afghanistan: indeed, the turquoise opaque glazed ware and the *sgraffiato* and dot-painted ware are manufactures particularly developed throughout the areas controlled by the Ghaznavid dynasty. They shared fashions and tastes.

Other vessels from Barikot, i.e. those related to the *sgraffiato* splashed ware, but especially the underglaze painted and slip-painted wares, perfectly fit the features of more provincial glazed productions. They are characterised by simplified forms and decorations which developed at the peripheral areas. They imitated earlier and higher-quality vessels of the main pottery centres of Iran and Central Asia, such as Nishapur and Samarkand (Gardin 1963: 139-140). The former especially seems a reference centre for the productions arriving at Barikot, as suggested by several similarities identified. The strictest comparisons for the vessels analysed are with pottery from Afghan sites, especially Ghazni and Lashkari Bazar, but also Danestama and Balkh. This evidence points to connections with Afghanistan, thus suggesting strong cultural and possibly economic links with the homelands of the Ghaznavid dynasty, that also controlled the Swat region in the period considered, i.e. eleventh to 12th century.

However, it is interesting to note that for underglaze painted wares and the unglazed fine grey jugs, good parallels are also with several centres in nowadays Uzbekistan. This further testifies to the long-lasting contacts between Central Asia and the Indian subcontinent (Burton 1996: 21, 24-25, 27).

Finally, two aspects that show specific connections and parallels between pottery assemblages from Pakistani sites stand out. The comparison between the buff-body cup from Barikot BKG 11396 and the specimen from Mansura points to a regional reinterpretation of higher-quality productions circulating in Iran and Central Asia. The absence of glazed stonepaste items is a shared feature of the pottery *corpora* of Barikot, Tulamba, Mansura, Sehwan Sharif, and Banbhore, further proving that stonepaste items, widespread in the rest of the Islamic world since the 12th century, did not reach Pakistani centres (cf. Collinet 2004 and Piacentini Fiorani, Fusaro et al. 2022).

Fig. 1 – Token reshaped from an underglaze painted bowl, BKG 11365 (photo MP)

Fig. 2 – Turquoise opaque glazed ware. a) BKG 11636, b) BKG 11388, c) BKG 11633, d) BKG 11768, e) BKG 9577, f) BKG 8529 (drawings AC, photos MP)

Fig. 3 – Green monochrome glazed ware. a) BKG 11401, b) BKG 6350, c) BKG 11394, d) BKG 6332 ((drawings AC, photos MP)

Fig. 4 – Brown monochrome glazed ware, BKG 11797 ((drawings AC, photos MP)

Fig. 5 – Bichrome glazed ware (?), BKG 11395 (photo M. Prota)

Fig. 6 – *Sgraffiato* splashed ware. a) BKG 11448, b) BKG 11850, c) BKG 11795, d) BKG 11399, e) BKG 11398, f) BKG 8536 (drawings AC, photos MP)

Fig. 7 – *Sgraffiato* and dot-painted ware. a) BKG 11899, b) BKG 9827, c) BKG 9828, d) BKG 11387, e) BKG 9828, outer surface, f) BKG 11050, outer surface (drawings AC, photos MP)

Fig. 8 – *Sgraffiato* green monochrome ware, BKG 12163 (drawings AC, photos MP)

Fig. 9 – Underglaze painted ware. a) BKG 6162, b) BKG 11358, c) BKG 11727, d) BKG 11386 (drawings AC, photos MP)

Fig. 10 – Underglaze painted ware, BKG 10123 (photo MP)

Fig. 11 – Unglazed fine vessels. a) BKG 11412, b) BKG 11397, c) BKG 11400, d) BKG 11939, e) BKG 11425, f) BKG 11396 (drawings AC, photos MP)

<sup>169</sup> A future archaeometric investigation on the pastes of glazed wares could shed new light on this issue.

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### *Abbreviations*

Arr. *Anab.* = Arrian, Ἀλεξάνδρου Ἀνάβασις

Curt. = Q. Curtius Rufus, *Historiae Alexandri, libri qui supersunt*

SAA = *South Asian Archaeology Conference*

SAAA = *South Asian Archaeology and Art Conference*

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ARA = *Archaeological Research in Asia*

AION = *Annali dell'Istituto Orientale di Napoli*

AIUON = *Annali dell'Istituto Universitario Orientale di Napoli*

AMIT = *Archäologische Mitteilungen aus Iran und Turan*

BAVA = *Beiträge zur Allgemeinen und Vergleichenden Archäologie*

EA = *Eurasia Antiqua. Zeitschrift für Archäologie Eurasiens*

EI = *Epigraphia Indica*

EMSCAT = *Études mongoles et sibériennes, centrasiatiques et tibétaines*

EW = *East and West*

JA = *Journal Asiatique*

JIABS = *Journal of the International Association of Buddhist Studies*

JAC = *Journal of Asian Civilizations*

JRAS = *The Journal of the Royal Asiatic Society of Great Britain and Ireland*

ONS = *Journal of the Oriental Numismatic Society*

RET = *Revue d'Etudes Tibétaines*

SAS = *South Asian Studies*

ACT = Archaeology Community Tourism - Field School Project

ACT RepMem = ACT Reports and Memoirs

ANP = Antiquities of Northern Pakistan: Reports and Studies

ANU = Australian National University Press

ICCROM = International Centre for the Study of the Preservation and Restoration of Cultural Property

IGNA = Indira Gandhi National Centre for Arts

IsMEO RepMem = IsMEO Reports and Memoirs

IsIAO RepMem = IsIAO Reports and Memoirs

KNAW = Koninklijke Nederlandse Akademie van Wetenschappen

MANP = Materialien zur Archäologie der Nordgebiete Pakistans

MASI = Memoirs of the Archaeological Survey of India

MDAFA = Mémoires de la délégation archéologique française en Afghanistan

ÖAW = Österreichische Akademie der Wissenschaften (Verlag)

SOAS = School of Oriental and African Studies

SOR = Serie Orientale Roma



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# VAJIRASTHĀNA

## ARCHAEOLOGY OF THE BARIKOT HILLTOP (SWAT, PAKISTAN)

Volume 2



Luca M. Olivieri  
In collaboration with Elisa Iori, Michele Minardi and Marco Pinelli

Foreword by Abdul Samad

Edited by Alice Casalini

“SAVE THE ARCHAEOLOGICAL SITE OF BAZIRA” PROJECT



International alliance  
for the protection  
of heritage  
in conflict areas





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English revision by Klara-Maeve O'Reilly

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TABLE 1 – Concordance between the Macro-phases of Barikot and the Periods/Phases of individual Trenches (compiled by LMO).

MACROPHASE	LOWER TOWN													ACROPOLIS/HILL						Chronology (relative / absolute) <i>Toponym</i>	Representative coin finds		Climatic conditions				
	BKG 4-5	BKG 11-22	BKG 12	BKG 1	BKG 3 outside	BKG 3	BKG 18	BKG 16- 21	BKG 19	BKG 17	BKG 10	BKG 2-13	Structural macro-events	BKG 7-9	BKG 9-23	BKG 8-24	BKG 20	BKG 14	BKG 15	BKG 6	Structural macro-events	Cultural phase	coinage				
10														Per. IV construction of a <i>dona</i> (BKG 10) in early 20th cent. ↓ Pashun village from 16th cent. ↓ abandonment of Dardic settlement (clan of Baira or Baria) in 16th cent.							Per. 4 agricultural use hermitage place for local <i>fakirs</i>	Yusufzai / Miangul (16th to early 20th cent. CE) <i>Berikot / Bir-kot</i>		COOLING LITTLE ICE AGE (LIA)			
9b-c	Per. X			Per. VII			Ph. 5						Per. VI Islamic occupation and graveyard (BKG 3 and BKG 17 (?) at least from 13th cent.	Per. VII	Per. VIII BKG 9	Per. 3	Per. 3	Per. 3	Per. 3	Per. 3b fortification of the <i>kot</i>	Dardic / Timurid (13th to 15th cent. CE) <i>Qal'a-ye Wajira (?)</i>		MEDIEVAL WARMING (MW)				
9a														Per. V [?]	Per. VI BKG 23	Per. 3	Per. 3	Per. 3	Per. 3a construction of a military watchtower (BKG 14) Fortification (BKG 24) ↓ destruction of the Hindu Temple	Ghaznavid / Ghurid (11th to 12th cent. CE)		Ghaznavid					
8b														Per. IV construction of the turreted Temple (BKG 2)	Per. VII BKG 9	Per. 1	Per. 2			Per. 2b reconstruction of the Hindu Temple (BKG 6) (Period 2b)	Hindu Šahi (9th to 10th cent. CE) <i>Vajirashāna</i>		Hindu Šahi	LESS COOL DRY			
8a														Per. III construction of the foothill palatial area (BKG 13)	Per. V BKG 9	Per. 1 BKG 23			Per. 1 Per. 2 Per. 2 Per. 2a hilltop fortified settlement construction of the Hindu Temple (BKG 6) (Period 2a) construction of a tank and Fortress on the hilltop (BKG 14, 15) Modification of the artificial Terraces E and W (BKG 20, 24) demolition of the Buddhist sacred area (?) hilltop 'urban' phase	Turk Šahi (7th to 9th cent. CE)		Turk Šahi					
Interphase C																						536-660 CE		COOL DRY LATE ANTIQUE LITTLE ICE AGE (LALIA)			
7														Per. VII foundation of a Buddhist stupa upon the ruins of the abandoned city (BKG 19)									abandonment phase sporadic human presence		Kidarite / Alkhan (5th to 7th cent. CE) Kidārite Alkhan	STABLE WARM WET	
6	Per. X	Per. IX	Per. VIII			Per. V	Ph. 3	Per. 6	Per. 8	Per. VI														Per. I temporary non-urban re-occupation	Per. I abandonment phase sporadic human presence	Early Kidarite (mid/late 4th cent. CE) Late Kušān Kušāno-Sāsānian small aes	GANDHARAN OPTIMUM END

MACROPHASE	LOWER TOWN													ACROPOLIS/HILL						Chronology (relative / absolute) <i>Toponym</i>	Representative coin finds		Climatic conditions			
	BKG 4-5	BKG 11-22	BKG 12	BKG 1	BKG 3 outside	BKG 3	BKG 18	BKG 16-21	BKG 19	BKG 17	BKG 10	BKG 2-13	Structural macro-events	BKG 7-9	BKG 9-23	BKG 8-24	BKG 20	BKG 14	BKG 15	BKG 6	Structural macro-events	Cultural phase	coinage			
5b	Per. IX	Per. VIII b					Per. 5	Per. 7			Per. III	earthquake abandonment of the drainage system										Kushano-Sasanian (late 3rd / early 4th cent. CE)	Kušāno-Sāsānian		STABLE WARM WET GANDHARAN OPTIMUM END	
5a	Per. VIII	Per. VIIIa	Ph. 8					Per. V			Per. II	pottery production area (BKG 1) Modification of the Apsidal Temple (BKG 16)								demolition of the Defensive Wall expansion of Terrace W construction of Terrace E	Late Kushan (3rd cent. CE) Late Kushan (3rd cent. CE)	Late Kušān Late Kušān				
4	Per. VII	Per. VII	Ph. 7				Per. 4	Per. 6			Per. II	earthquake reconstruction intense building activity							Per. 1	Buddhist sacred area (BKG 6) on Terrace E massive stepped structure (BKG 14-15)	Kushan (1st to 2nd cent. CE)	Kušān		MONSOON INTENSIFICATION		
	Per. VI	Per. VI	Ph. 6				Per. 3	Per. IV			Per. II	abandonment of the Defensive Wall initial abandonment of the Defensive Wall	Per. IV-III BKG 7	Per. V-IV BKG 9				Per. 1	Per. 1							
	Per. V	Per. V	Ph. 5				Per. 1b					Re-construction of the Apsidal Temple (BKG 16)														
3b	Per. IV	Per. IIIB	Ph. 4				Per. 1a	Per. 2			Per. III	earthquake rehabilitation of the Defensive Wall								construction of the new Defensive Wall on the Acropolis Hill (BKG 8)	Saka-Parthian (mid-1st cent. BCE to late 1st cent. CE) Ođirāja	Indo-Scythian		GANDHARAN OPTIMUM PEAK		
3a4		Per. IIIA 4										fortified urban phase	Per. II	Per. III												
3a3	Per. III	Per. IIIA 3	Ph. 3					Per. 1				demolition of the previous structures and stratigraphy for the construction of the urban Defensive Wall (BKG 11-12) with southern gate (BKG 18)								construction of the earlier Defensive Wall on the Acropolis Hill (BKG 9 & 7)	Indo-Greek (mid-2nd to mid-1st cent. BCE) late post-Mauryan - unknown (early to mid-2nd cent. BCE)	Indo-Greek Taxila-Gandhāra Mauryan				
3a2		Per. IIIA 2										urban occupation phase														
3a1		Per. IIIA 1										urban occupation phase									Late / post-Mauryan (mid-3rd to early 2nd cent. BCE)	Taxila-Gandhāra Mauryan		LESS COLD DRY GANDHARAN OPTIMUM BEGINNING		
2b	Per. IIB	Ph. 2b						Per. 1				construction of the Apsidal Buddhist Temple (BKG 16)									Mauryan (end-4th to mid-3rd cent. BCE)					
2a2	Per. IIA2							Per. 4.1				earthen rampart and moat (BKG 12W)									Achaemenid - Assakenian (5th to 4th cent. BCE) Macedonian conquest Bazira / Beira ↑					
2a1	Per. IIA1							Per. 3				urban occupation phase									Early or pre-Achaemenid (6th to 5th cent. BCE)					

MACROPHASE	LOWER TOWN													ACROPOLIS/HILL						Chronology (relative / absolute) Toponym	Representative coin finds		Climatic conditions			
	BKG 4-5	BKG 11-22	BKG 12	BKG 1	BKG 3 outside	BKG 3	BKG 18	BKG 16-21	BKG 19	BKG 17	BKG 10	BKG 2-13	Structural macro-events	BKG 7-9	BKG 9-23	BKG 8-24	BKG 20	BKG 14	BKG 15	BKG 6	Structural macro-events	Cultural phase	coinage			
													construction of a non-Buddhist Temple (BKG 16)													
Interphase B		Per. IC																							COLD DRY	
1b		Per. IB						Per. 2					final collapse and abandonment of the fortified cluster									Settlement			Iron Age (c. 1000-900 BCE) = Period VII of the Ghalegai sequence (?)	COOLING
1a		Per. IA	Ph. 1a BKG 12		Per. I								Settlement/reconstruction of the inner citadel (BKG 11-K) Graveyard	Per. IB	Per. II (BKG 9)	Per. II (BKG 8)						Settlement			Iron Age (c. 1200-1000 BCE) = Period VI of the Ghalegai sequence	COOL DRY
Interphase A (?)																									COLD [?]	
0	Per. I (?)		Ph. 0 (only in BKG 12)		Per. 0			Per. 1					Settlement	Per. IA (BKG 9)	Per. I (BKG 8)	Per. I (BKG 8)						Settlement			Chalcolithic (c. 1700-1400 BCE) = Period IV of the Ghalegai sequence	COOLING
-1 / -3													sparse anthropic presence												Prehistoric phases (c. 3000-1700 BCE) = Period III-I of the Ghalegai sequence and Northern Neolithic	HOLOCENE OPTIMAL NORTHERN NEOLITHIC OPTIMUM
Holocene 2													loess capped landscapes alternated with erosion phases												(c. 5000-3000 BCE)	COOL DRY MONSOON INTENSIFICATION PEAK
Holocene 1																								(c. 9000-5000 BCE)		
Late Pleistocene													silt/loess deposits [?]												(c. 15000-10000 BCE)	

MACROPHASE	LOWER TOWN													ACROPOLIS/HILL						Chronology (relative / absolute) Toponym	Representative coin finds		Climatic conditions	
	BKG 4-5	BKG 11-22	BKG 12	BKG 1	BKG 3 outside	BKG 3	BKG 18	BKG 16- 21	BKG 19	BKG 17	BKG 10	BKG 2-13	Structural macro-events	BKG 7-9	BKG 9-23	BKG 8-24	BKG 20	BKG 14	BKG 15	BKG 6	Structural macro-events	Cultural phase	coinage	
<i>Phylladic bedrock</i>																								

TABLE 1 – Concordance between the Macro-phases of Barikot and the Periods/Phases of individual Trenches (L.M. Olivieri)

\*The climatic data are all hypothetical and based on available information (see also Olivieri 2025b with refs)

\*\*For radiocarbon data see TABLE 2.

Key:



TABLE 2 – List of radiocarbon measurements (compiled by LMO).

#	Macrophase	Sample ID	Source	Cal Date	relative probabilities (%)	1 $\sigma$	2 $\sigma$	Laboratory	Year	Material
80	Macrophase 9c-10	INNOVA-17	BKG 13 (26)	1517-1594 CE	80.0	x		INNOVA	2019	charcoal
79	Macrophase 9c	ENEA-185	BKG 2 (17)	1300-1330 CE	27.1			ENEA	2008	charcoal
				1340-1400 CE	41.1					
77	Macrophase 9b-9c	PSUAMS-6205	BKG 11 <1002>	1287-1393 CE	r.			PSU	2019	bone
78		PSUAMS-4427	BKG 308 <139>	1276-1390 CE	r.			PSU	2019	bone
75	Macrophase 9a	BETA - 664153	BKG 2_13_3	1113 – 1156 CE	32.3	x		BETA An.	2023	soil
				1075-1108 CE	24.2	x				
				1028-1172 CE	95.4		x			
76		PSUAMS-6206	BKG 11 W (46)	1021-1154 CE	r.			PSUAMS	2019	bone
85		FTMC-NS41-5	BKG 17 <F2> (17)	1083-1151 CE	56.6	x		VILNIUS RC	2024	bone
				1025-1160 CE	95.4		x			
97		BETA - 726618	BKG 6.3 (1846)	1026-1158 CE	95.4		x	BETA An.	2025	seed
98		BETA - 726619	BKG 6.3 (1803)	1116-1219 CE	61.2		x	BETA An.	2025	seed
				1042-1107 CE	34.2		x			
99	Macrophase 8b	BETA - 726622	BKG 24.1 (21)	951-1034 CE	84.5		x	BETA An.	2025	charcoal
				896-923 CE	10.9		x			
69		ENEA-183	BKG 2 (344)	770–900 CE	55.6			ENEA	2008	charcoal
				920-960 CE	12.6					
70		ENEA-184	BKG 2 (365)	789-900 CE	47.7			ENEA	2008	charcoal
				910-960 CE	20.5					
71		DSH9629_CH	BKG 2 TTIE	873 CE	100.0	x		INNOVA	2019	charcoal
				894 CE	96.0		x			
106		DSH9646_CH	BKG 6.5 (38)	969-1018 CE	100.0	x		INNOVA	2019	charcoal
				942-1024 CE	84.0		x			
107		DSH9642_CH	BKG 6.5 (25)	886-991 CE	100.0	x		INNOVA	2019	charcoal
				944-975 CE	53.0		x			
108		DSH9574_WO	BKG 6.5 (25)	949-995 CE	70.0	x		INNOVA	2019	wood
				939–1018 CE	71.0		x			
109		DSH9575_SO	BKG 6.5 (55)	950-985 CE	62.0	x		INNOVA	2019	coprolyth (small mammal)
				891-994 CE	100.0		x			
110		DSH9635_CH	BKG 6.5 (23)	882-970 CE	100.0	x				
				856-982 CE	86.6		x			
100		BETA - 726623	BKG 235 (48)	871-992 CE	81.5		x	BETA An.	2025	charcoal
				828-860 CE	8.5		x			
				775-787 CE	5.4		x			
101		BETA - 726624	BKG 23.1 (218)	874-993 CE	88.2		x	BETA An.	2025	charcoal
				830-852 CE	3.9		x			
				775-786 CE	3.3		x			

#	Macrophase	Sample ID	Source	Cal Date	relative probabilities (%)	1 $\sigma$	2 $\sigma$	Laboratory	Year	Material
67	Macrophase 8a	Sapicnza (Callieri 2005: 423)	BKG 6.2 (477)	605-685 CE	<i>r.</i>			ENEA	2005	charcoal
68		DSH9644_CH	BKG 6.5 (33)	690-750 CE	86.0	x		INNOVA	2019	charcoal
				670-778 CE	93.0		x			
74		DSH9647_CH	BKG 6.5 (41)	791-826 CE	34.0	x		INNOVA	2019	charcoal
				764-882 CE	78.0		x			
72		DSH9643_CH	BKG 6.5 (30)	774-884 CE	100.0	x		INNOVA	2019	charcoal
				800-872 CE	93.0		x			
73		DSH9645_CH	BKG 6.5 (35)	802-844 CE	52.0	x		INNOVA	2019	charcoal
				774-886 CE	100.0		x			
112		DSH9633_CH	BKG 6.5 (15)	802-844 CE	47.0	x		INNOVA	2019	charcoal
				770-895	97.0		x			
111		DSH9634_CH	BKG 6.5 (17)	802-844 CE	51.0	x		INNOVA	2019	charcoal
				773-888 CE	100.0		x			
65	Macrophase 7b	DSH9630_CH	BKG 13 (275)	693-746 CE	74.0	x		INNOVA	2019	charcoal
				688-752 CE	55.0		x			
66		DSH9631_CH	BKG 13 (294)	664-694 CE	71.0	x		INNOVA	2019	charcoal
				660-720 CE	72.0		x			
64	Macrophase 7a	DSH9632_CH	BKG 13 (299)	488-533 CE	67.0	x		INNOVA	2019	charcoal
				410-536 CE	100.0		x			
56	Macrophase 6	L.TL12768A	BKG 11 W 7-8 68 (30)	250-350 CE	62.6	x		CEDAD	2012	bone
				220-420 CE	95.4		x			
57		L.TL12772A	BKG 11 W 5-6 54 (393)	130-250 CE	68.2	x		CEDAD	2012	bone
				120-340 CE	94.2		x			
58		L.TL12774A	BKG 11W 3-4 53 (226)	130-260 CE	59.5	x		CEDAD	2012	bone
				120-350 CE	95.4		x			
59		L.TL12776A	BKG 11 W 7-8 63 (101)	125-230 CE	68.2	x		CEDAD	2012	bone
				70-260 CE	94.3		x			
60		L.TL13055A	BKG 11 W 3-4 28 (600)	380-440 CE	46.0	x		CEDAD	2013	bone
				330-540 CE	95.4		x			
61		L.TL13056A	BKG 11 W 3-428 (592)	320-310 CE	45.7	x		CEDAD	2013	bone
				250-300 CE	22.5	x				
				240-410 CE	95.4		x			
62		L.TL13057A	BKG 11 W 3-428 (597)	480-540 CE	36.5	x		CEDAD	2013	bone
				410-470 CE	31.7	x				
				380-550 CE	95.4		x			
63		L.TL12775A	BKG 11 W 3-4 37bis (256)	130-240 CE	68.2	x		CEDAD	2013	bone
				280-330 CE	1.0	x				
				70-260 CE	89.4		x			



#	Macrophase	Sample ID	Source	Cal Date	relative probabilities (%)	1 $\sigma$	2 $\sigma$	Laboratory	Year	Material
	<i>Macrophase 5b</i>	<i>r.</i>								
53	<b>Macrophase 5a (H)</b>	DSH11289_CH	BKG 168 (428)	156-237 CE	87.0	x		INNOVA	2022	seed
				116-252 CE	93.0		x			
54		DSH11248_CH	BKG 168 (428)	118-210 CE	96.0	x		INNOVA	2022	seed
				60-236 CE	99.0		x			
55		DSH11249_CH	BKG 168 (455)	110-250 CE	87.9	x		INNOVA	2022	seed
				8-362 CE	99.6		x			
105	<b>Macrophase 5b</b>	DSH12607_CS	BKG 2110 (1499)	127-203 CE	68.3	x		ISOCORE	2025	seed
				114-220 CE	91.0		x			
106		DSH12649_CS	BKG 2110 (1487)	154-206 CE	53.3	x		ISOCORE	2025	seed
				120-231 CE	95.4		x			
52	<b>Macrophase 4b-5a</b>	DSH11245_CH	BKG 16 (165)	203-414 CE	96.0	x		INNOVA	2022	seed
				64-538 CE	100.0		x			
	<i>Macrophase 4b</i>	<i>r.</i>								
51	<b>Macrophase 4a</b>	DSH11285_CH	BKG 160 (452)	3-84 CE	68.0	x		INNOVA	2022	seed
				54-204 CE	99.0		x			
46	<b>Macrophase 3b</b>	BKG 19.1-915	BKG 191 (915)			<i>r.</i>		OXFORD	2023	seed
				BCE 56 - 20 CE	87.8		x			
47	<b>Macrophase 3b (H)</b>	DSH11290_CH	BKG 16 (332)	BCE 4 - 78 CE	76.0	x		INNOVA	2022	seed
				BCE 54 - 130 CE	99.0		x			
48		DSH9648_CH	BKG 13 (350)	BCE 40-20 CE	100.0	x		INNOVA	2019	charcoal
				BCE 48-52 CE	100.0		x			
49		PSUAMS-6207	BKG 12 E (48)	BCE 47-52 CE	<i>r.</i>			PSUAMS	2019	bone
50		DSH7906_SE	BKG 3 (592)	23-77 CE	100.0	x		INNOVA	2017	charcoal
				1-94 CE	90.0		x			
104		DSH12606_CS	BKG 21104 (1457)	BCE 49-11 CE	68.3	x		ISOCORE	2025	seed
				BCE 59-32 CE	82.8		x			
43	<b>Macrophase 3a4</b>	DSH7931_SE	BKG 11-K (1676)	BCE 204-164	86.8	x		INNOVA	2017	seed
				BCE 208-109	82.8		x			
44	<b>Macrophase 3a4 (out cella H)</b>	FTMC-RF53-8	BKG 16 E (731)	BCE 156-91	49.3	x		VILNIUS RC	2023	seed
				BCE 147-92	95.4		x			
45		FTMC-RF53-9	BKG 16 E (715)	BCE 178-97	56.1	x		VILNIUS RC	2023	seed
				BCE 202-51	88.3		x			
84		FTMC-NS41-1	BKG 16 SE (725)	BCE 174-96		x		VILNIUS RC	2024	seed
				BCE 201-48			x			
42	<b>Macrophase 3a3-3a4</b>	DSH7930_SE	BKG 11-K (2113)	BCE 208-109	76.4	x		INNOVA	2017	seed
				BCE 235-53	72.8		x			
102		DSH7612_SE	BKG 11-K (1687)	BCE 356-285	55.2	x		INNOVA	2017	seed

#	Macrophase	Sample ID	Source	Cal Date	relative probabilities (%)	1 $\sigma$	2 $\sigma$	Laboratory	Year	Material
				BCE 235-171	43.9	x				
				BCE 369-106	100		x			
103		DSH7615_SE	BKG 11-K (1680)	BCE 297-228	61.1	x		INNOVA	2017	seed
				BCE 385-352	31.0					
				BCE 330-204	68.7					
				BCE 395-334	31.3					
35	Macrophase 3a3	D-DSH7060	BKG 401 (328)	BCE 117-36	68.8	x		INNOVA	2016	bone
				BCE 193-28 CE	98.7		x			
36		D-DSH7061	BKG 401 (328)	BCE 174-91	92.1	x		INNOVA	2016	bone
				BCE 202-45	100.0		x			
37		D-DSH7060	BKG 401 (328)	BCE 163-128	40.0	x		INNOVA	2016	bone
				BCE 182-45	100.0		x			
38		ENEА-181	BKG 310 (592)	BCE 200-40 CE	68.2			ENEА	2005	charcoal
39		ENEА-182	BKG 302 (449)	BCE 180-70 CE	68.2			ENEА	2005	charcoal
40	Macrophase 3a3 (H)	FTMC-RF53-10	BKG 1615 = TT SW (924)	BCE 200-107	58.5	x		VILNIUS RC	2023	seed
				BCE 209-51	78.2		x			
41		FTMC-RF53-11	BKG 16 TTC (33)	BCE 176-97	57.7	x		VILNIUS RC	2023	seed
				BCE 201-51	88.9		x			
32	Macrophase 3a2	DSH7577_SE	BKG 11-K (1912bis)	BCE 210-156	51.5	x		INNOVA	2016	seed
				BCE 236-89	64.1		x			
33		OxA-38260	BKG 11-K (2131)			<i>n.</i>		OXFORD	2019	seed
				BCE 359-214	95.4		x			
34		DSH7933_SE	BKG 11-K (2117)	BCE 204-161	75.9	x		INNOVA	2017	seed
				BCE 210-94	81.2		x			
	Macrophase 3a1	<i>n.</i>								
29	Macrophase 2b (H)	BETA - 650199	BKG 16 (8) 2022	BCE 281-232	37.5	x		BETA An.	2023	charcoal
				BCE 389-355	30.7	x				
				BCE 311-206	59.1		x			
				BCE 395-349	36.3		x			
30		DSH11243_CH	BKG 1615 (473)	BCE 290-209	66.0	x		INNOVA	2022	seed
				BCE 400-196	99.0		x			
83	Macrophase 2b (out cella H)	FTMC-NS41-2	BKG 16 SE (745)	BCE 357-278	39.7		x	VILNIUS RC	2024	seed
				BCE 233-101	53.2		x			
31	Macrophase 2b	DSH7926_SE	BKG 11-K (2153)	BCE 206-173	62.1	x		INNOVA	2016	seed
				BCE 214-156	53.2		x			
28		DSH7578_SE	BKG 12 W (206)	BCE 260-205	50.4	x		INNOVA	2016	seed
				BCE 369-201	100.0		x			
19	Macrophase 2a-2b (Shrine 16-H)	FTMC-RF53-1	BKG 16 TTC (40)	BCE 356-280	45.2	x		VILNIUS RC	2023	seed

#	Macrophase	Sample ID	Source	Cal Date	relative probabilities (%)	1 $\sigma$	2 $\sigma$	Laboratory	Year	Material
				BCE 367-171	95.4		x			
20		FTMC-RF53-2	BKG 16 TTC (37)	BCE 355-281	45.8	x		VILNIUS RC	2023	seed
				BCE 365-170	95.4		x			
21		FTMC-RF53-4	BKG 16 TTC (21)	BCE 351-290	41.5	x		VILNIUS RC	2023	seed
				BCE 361-241	52.2		x			
22		FTMC-RF53-6	BKG 16 TTC (1000)	BCE 397-359	48.7	x		VILNIUS RC	2023	seed
				BCE 403-351	54.2		x			
				BCE 293-208	41.2		x			
23		FTMC-RF53-10	BKG 16 TTC (41)	BCE 355-281	68.3	x		VILNIUS RC	2023	seed
				BCE 365-170	95.4		x			
81		FTMC-NS41-3	BKG 160 (2012)	BCE 375-290	15.2	x		VILNIUS RC	2024	bone
				BCE 290-209	53.1	x				
				BCE 389-342	24.2		x			
				BCE 321-201	71.2		x			
82		FTMC-NS41-4	BKG 160 [2000]	BCE 381-351	18.2	x		VILNIUS RC	2024	bone
				BCE 290-209	50.1	x				
				BCE 391-342	25.9		x			
				BCE 322-201	69.5		x			
24	Macrophase 2a-2b (16-H)	DSH11288_CH	BKG 1614 (414)	BCE 316-272	39.0	x		INNOVA	2022	seed
				BCE 384-195	99.0		x			
25		DSH11250_CH	BKG 1615 (278)	BCE 404-378	76.0	x		INNOVA	2022	seed
				BCE 413-358	61.0		x			
26		DSH11246_CH	BKG 1615 (483)-(485)	BCE 288-227	56.0	x		INNOVA	2022	seed
				BCE 322-200	66.0		x			
27		DSH11286_CH	BKG 1615 (483)	BCE 407-361	88.0	x		INNOVA	2022	seed
				BCE 422-384	67.0		x			
15	Macrophase 2a.2 (H)	DSH11247_CH	BKG 1615 (415)	BCE 540-362	99.0	x		INNOVA	2022	seed
				BCE 570-348	75.0		x			
16	Macrophase 2a.2	DSH7925_SE	BKG 11-K (2167)	BCE 399-385	100.0	x		INNOVA	2017	seed
				BCE 403-370	100.0		x			
18		DSH7954_C	BKG 11-K (2175)	BCE 494-410	89.5	x		INNOVA	2017	seed
				BCE 543-403	91.4		x			
12	Macrophase 2a1	DSH7928_SE	BKG 11-K (2182)	BCE 642-556	73.8	x		INNOVA	2017	seed
				BCE 654-541	61.9		x			
13		DSH7935_G	BKG 11-K (2184)	BCE 792-754	74.5	x		INNOVA	2017	bone
				BCE 608-595	13.8					
				BCE681-670	11.7					

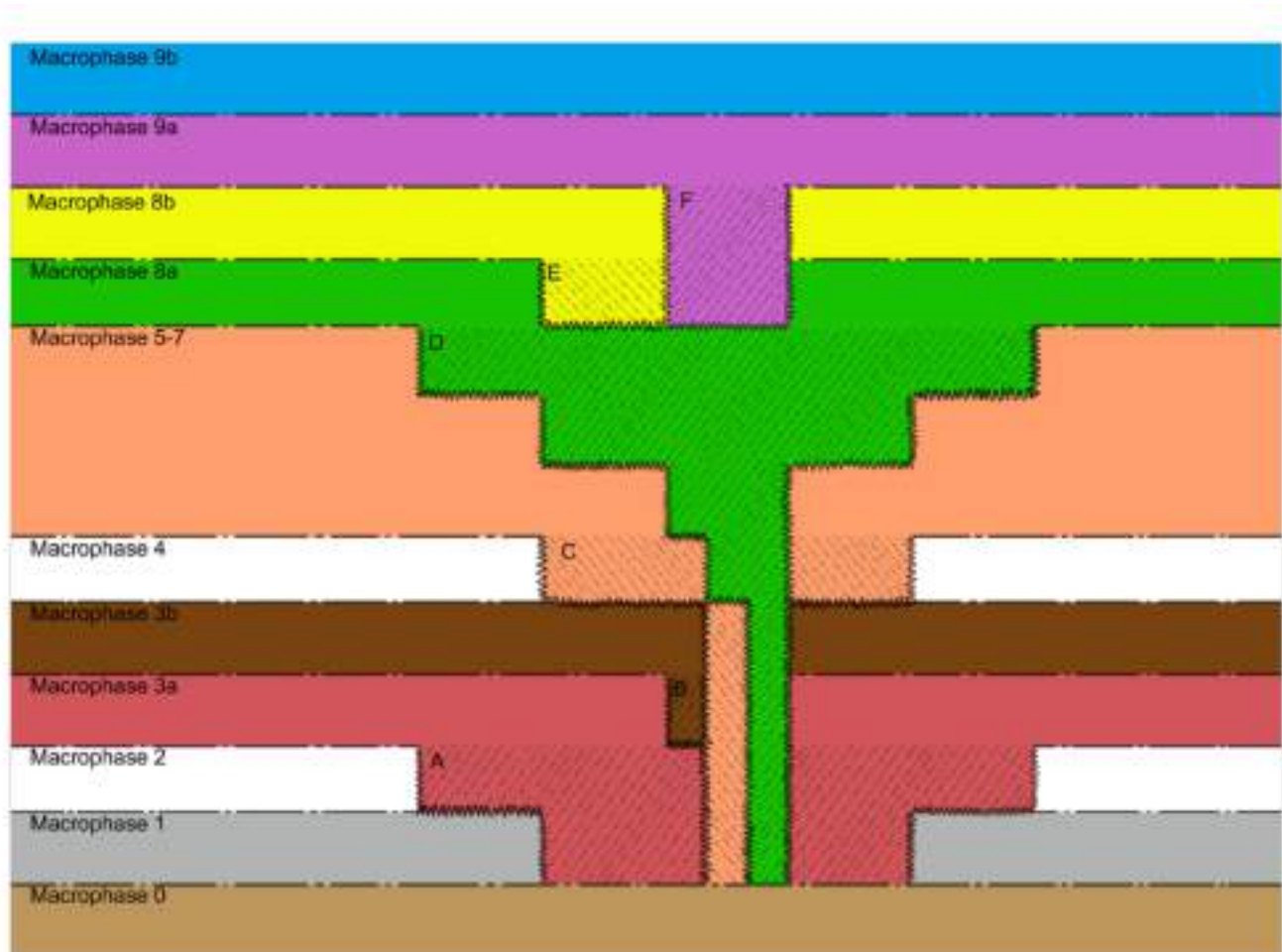
#	Macrophase	Sample ID	Source	Cal Date	relative probabilities (%)	1 $\sigma$	2 $\sigma$	Laboratory	Year	Material
				BCE 795-747	56.8		x			
				BCE 642-658	24.3					
				BCE 685-666	11.5					
				BCE 585-555	7.4					
				BCE 642-586	24.3					
11	Interphase B	DSH7891_SE	BKG 11-K (2203)	BCE 651-544	66.0	x		INNOVA	2017	seed
				BCE 777-487	100.0		x			
14		DSH7893_SE	BKG 11-K (2196)	BCE 555-471	41.8	x		INNOVA	2017	seed
				BCE 747-385	33.9	x				
				BCE 597-411	55.8		x			
				BCE 755-680	27.0		x			
8	Macrophase 1b	DSH11244_CH	BKG 1614 (426)	BCE 930-832	100.0	x		INNOVA	2022	seed
				BCE 996-820	100.0		x			
9		PSUAMS-2786	BKG T1 (= Tucci)	BCE 921-831	<i>r.</i>			PSUAMS	2019	bone
10		PSUAMS-2787	BKG T2 (= Tucci)	BCE 974-836	<i>r.</i>			PSUAMS	2019	bone
4	Macrophase 1a-1b	OxA -38259	BKG 11-K (3016)-(3017)	BCE 1161-1056	95.4			OXFORD	2019	seed
5		OxA-38258	BKG 11-K (3014)	BCE 1125-926	95.4			OXFORD	2019	seed
6		DSH7579_SE	BKG 12 W (211)	BCE 1045-973	84.1	x		INNOVA	2016	seed
				BCE 1089-922	98.4		x			
7		DSH7929_SE	BKG 12 W (318)	BCE 1117-1044	100.0	x		INNOVA	2017	seed
				BCE 1129-1008	94.8		x			
1	Macrophase 1a	DSH7932_SE	BKG 12 W (306)	BCE 1291-1224	96.1	x		INNOVA	2017	seed
				BCE 1309-1209	82.2		x			
2		DSH7934_SE	BKG 12 W (305)	BCE 1122-1046	100.0	x		INNOVA	2017	seed
				BCE 1131-1011	90.0		x			
3		DSH7905_SE	BKG 12 W (310)	BCE 1114-1002	100.0	x		INNOVA	2017	seed
				BCE 1131-929	94.2		x			
90	= Interphase A (?)	BETA - 664158	BKG 2,13_16	BCE 1546 - 1511	33.0	$\infty$		BETA An.	2023	soil
				BCE 1623 - 1501	95.4		$\infty$			
96	= Macrophase 0	BETA - 664164	BKG 2,13_21	BCE 2569 - 2521	46.0	$\infty$		BETA An.	2023	soil
				BCE 2499 - 2475	22.2	$\infty$				
				BCE 2581 - 2465	94.0		$\infty$			
88		BETA - 664156	BKG 2,13_19	BCE 2102 - 2036	49.3	$\infty$		BETA An.	2023	soil
				BCE 2150 - 2019	82.1		$\infty$			
93		BETA - 664161	BKG 2,13_18	BCE 1972 - 1888	65.4	$\infty$		BETA An.	2023	soil
				BCE 2027 - 1877	90.6		x			
92		BETA - 664160	BKG 2,13_10	BCE 2027 - 1941	68.2	x		BETA An.	2023	soil
				BCE 2040 - 1891	89.8		x			

#	Macrophase	Sample ID	Source	Cal Date	relative probabilities (%)	1 $\sigma$	2 $\sigma$	Laboratory	Year	Material
86		BETA - 664154	BKG 2,13_12	BCE 2806 - 2754	38.3	x		BETA An.	2023	soil
				BCE 2815 - 2671	68.4		x			
				BCE 2895 - 2843	27.0		x			
87		BETA - 664155	BKG 2,13_13	BCE 2936 - 2897	40.9	x		BETA An.	2023	soil
				BCE 3021 - 2891	95.4		x			
<i>95</i>	<i>Holocene deposits</i>	<i>BETA - 664163</i>	<i>BKG 2,13_32</i>	<i>BCE 6368 - 6304</i>	<i>68.2</i>	<i>x</i>		<i>BETA An.</i>	<i>2023</i>	<i>soil</i>
				<i>BCE 6383 - 6230</i>	<i>95.4</i>		<i>x</i>			
91		BETA - 664159	BKG 2,13_14	BCE 6775 - 6651	66.4	x		BETA An.	2023	soil
				BCE 6831 - 6644	85.8		x			
94	<i>Pleistocene deposits</i>	BETA - 664162	BKG 2,13_29	BCE 16215 - 16028	68.2	x		BETA An.	2023	soil
				BCE 16257 - 15928	95.4		x			
89		BETA - 664157	BKG 2,13_34	BCE 14952 - 14721	68.2	x		BETA An.	2023	soil
				BCE 15033 - 14630	95.4		x			

Legend – *Italics*: potentially contaminated/less reliable layers.  
Samples from contaminated/unreliable layers are excluded from the list.  
*v. = vacat*

% relative probability – confidence refers to value 1s

TABLE 3 – Matrix of the interconnections of Macrophases and Interphases.



## Chapter III

# MATERIAL CULTURE





III.B.4 - GLAZED POTTERY (S. Fusaro)



Fig. 1 – Token reshaped from an underglaze painted bowl, BKG 11365 (photo MP)

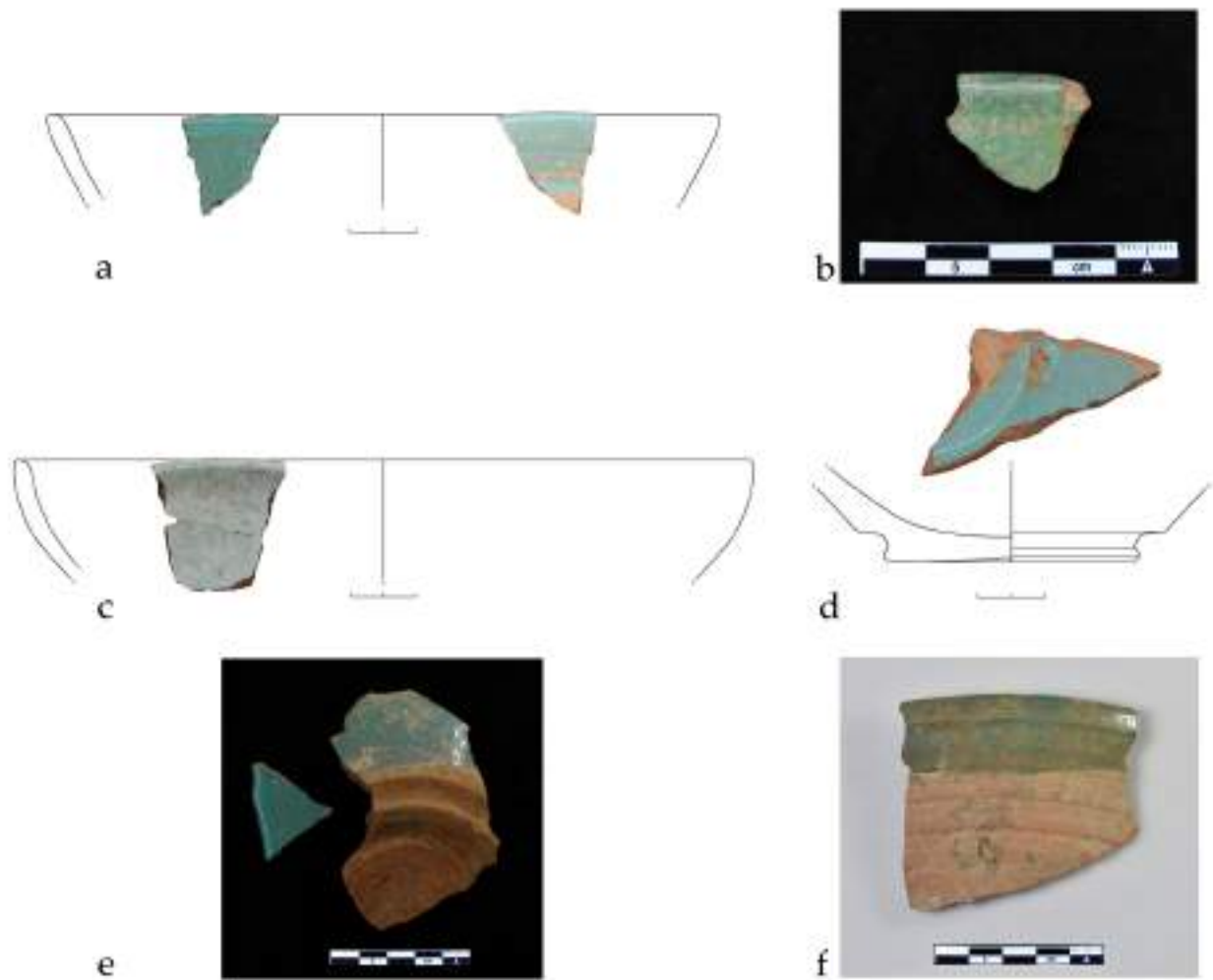


Fig. 2 – Turquoise opaque glazed ware. a) BKG 11636, b) BKG 11388, c) BKG 11633, d) BKG 11768, e) BKG 9577, f) BKG 8529 (drawings AC, photos MP)

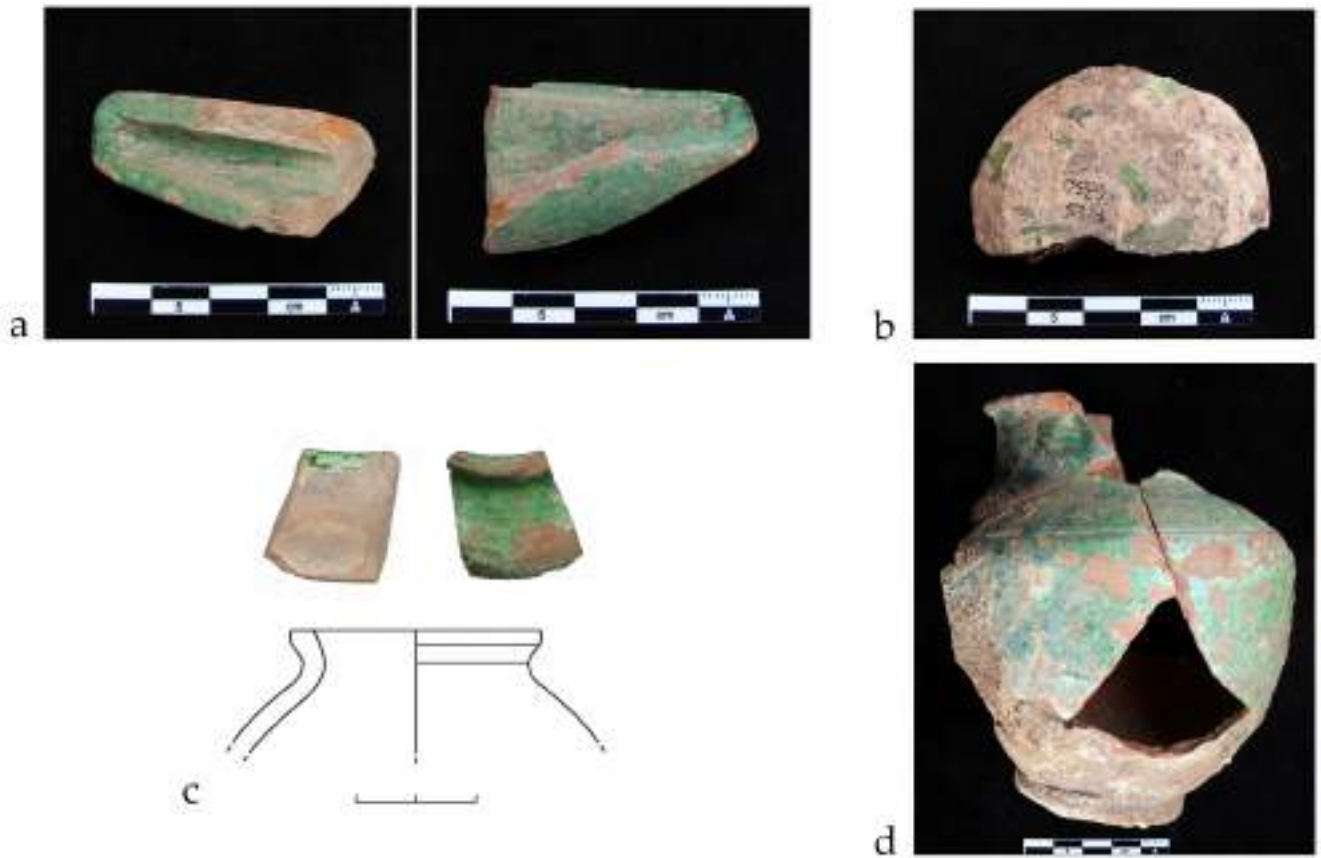


Fig. 3 – Green monochrome glazed ware. a) BKG 11401, b) BKG 6350, c) BKG 11394, d) BKG 6332 ((drawings AC, photos MP)

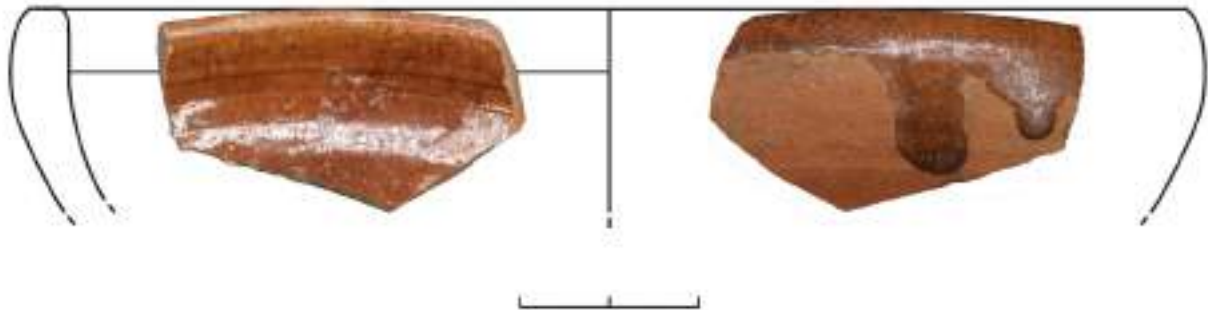


Fig. 4 – Brown monochrome glazed ware, BKG 11797 ((drawings AC, photos MP)

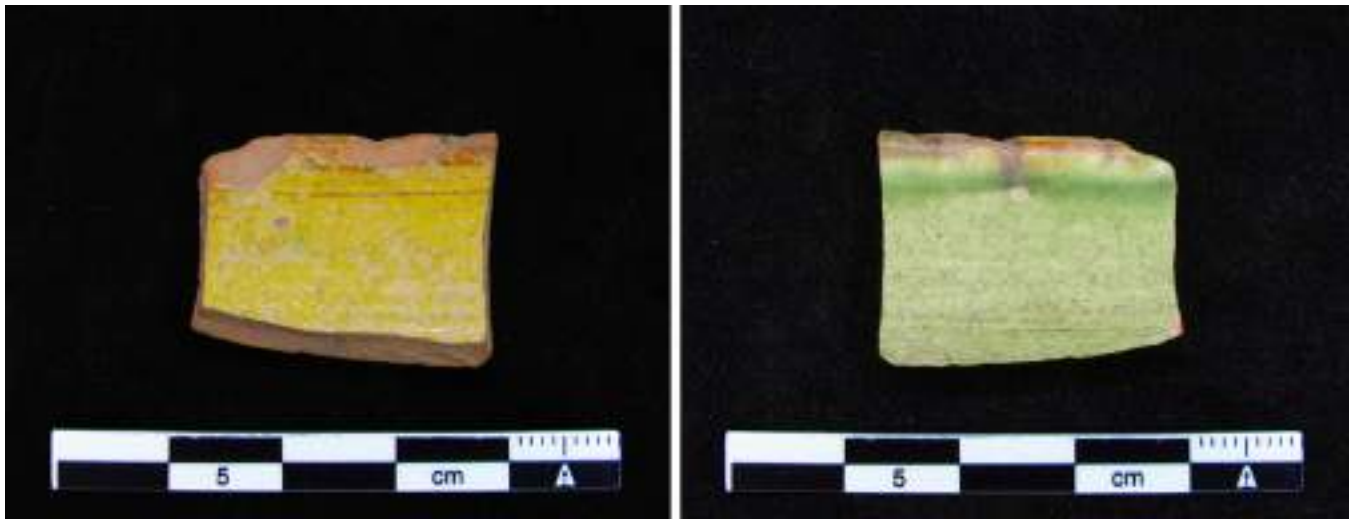


Fig. 5 – Bichrome glazed ware (?), BKG 11395 (photo M. Prota)

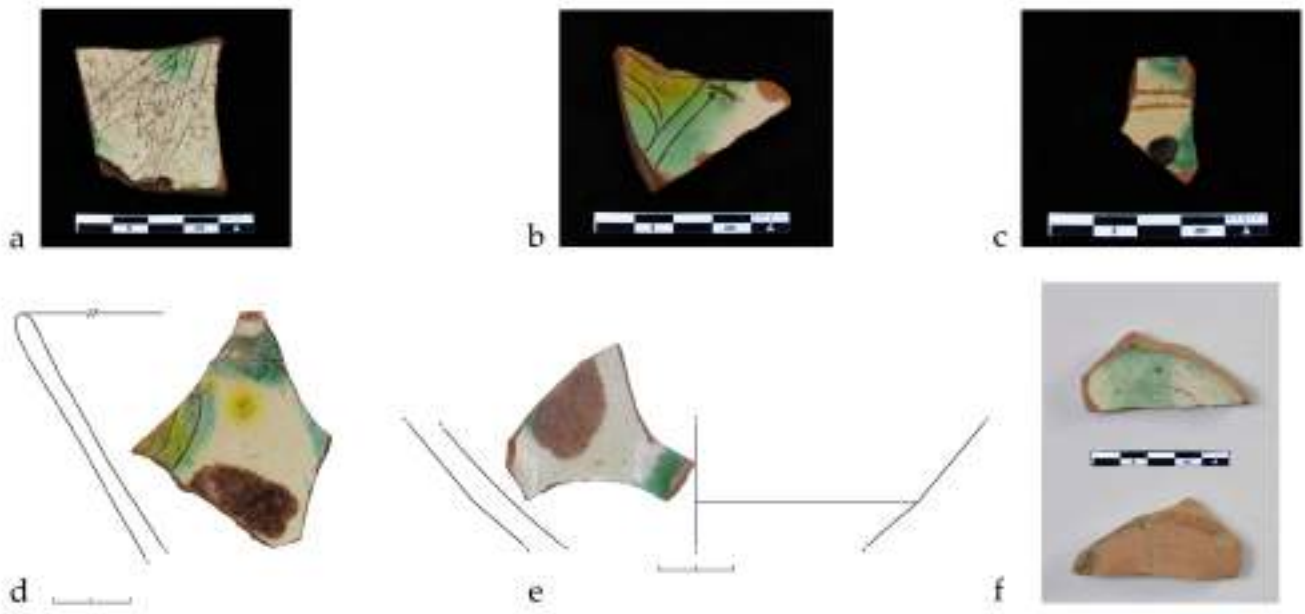


Fig. 6 – Sgraffiato splashed ware. a) BKG 11448, b) BKG 11850, c) BKG 11795, d) BKG 11399, e) BKG 11398, f) BKG 8536 (drawings AC, photos MP)

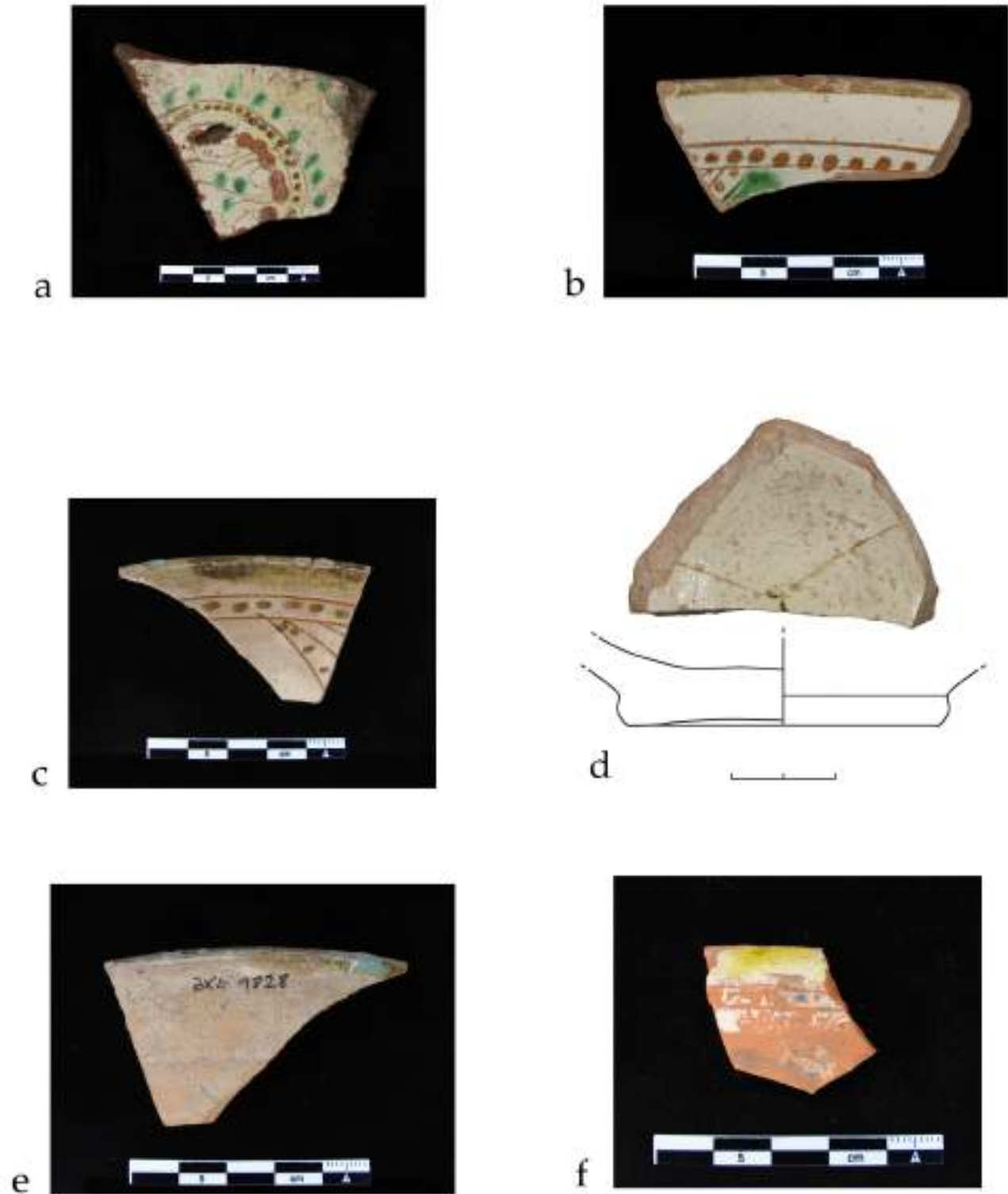


Fig. 7 – Sgraffiato and dot-painted ware. a) BKG 11899, b) BKG 9827, c) BKG 9828, d) BKG 11387, e) BKG 9828, outer surface, f) BKG 11050, outer surface (drawings AC, photos MP)



Fig. 8 – Sgraffiato green monochrome ware, BKG 12163 (drawings AC, photos MP)

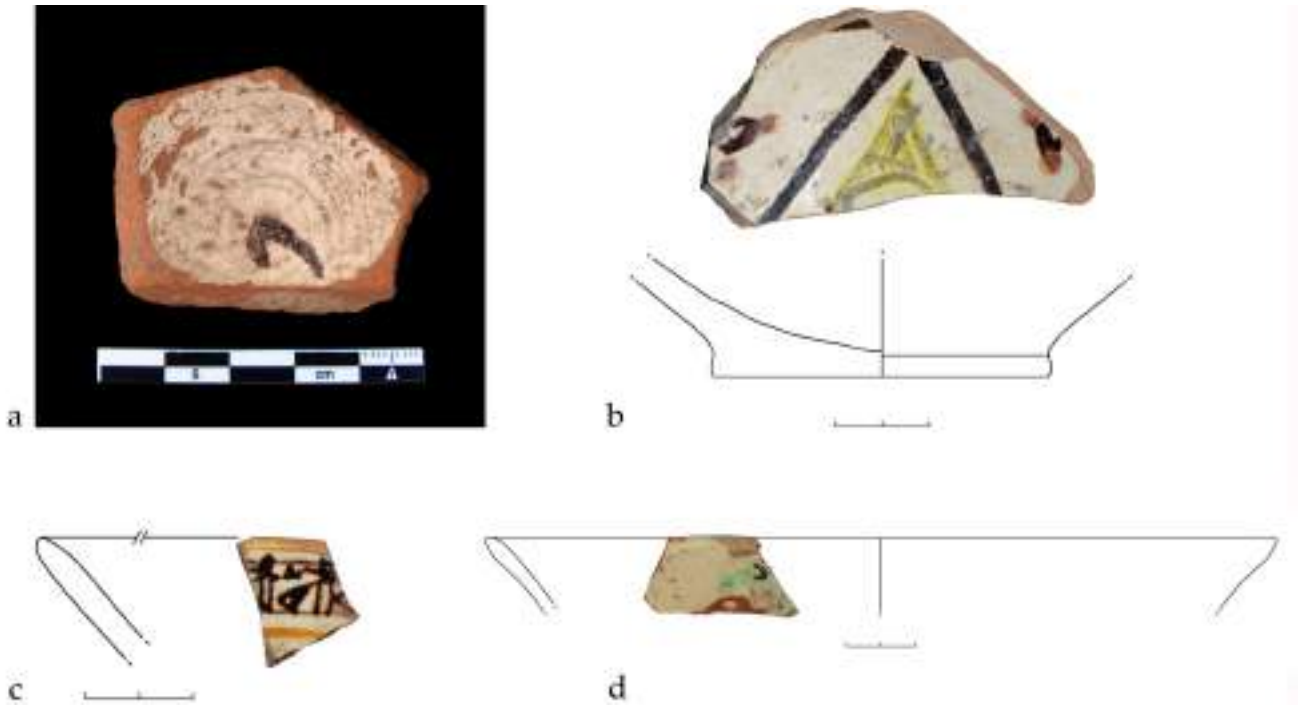


Fig. 9 – Underglaze painted ware. a) BKG 6162, b) BKG 11358, c) BKG 11727, d) BKG 11386 (drawings AC, photos MP)



Fig. 10 – Underglaze painted ware, BKG 10123 (photo MP)

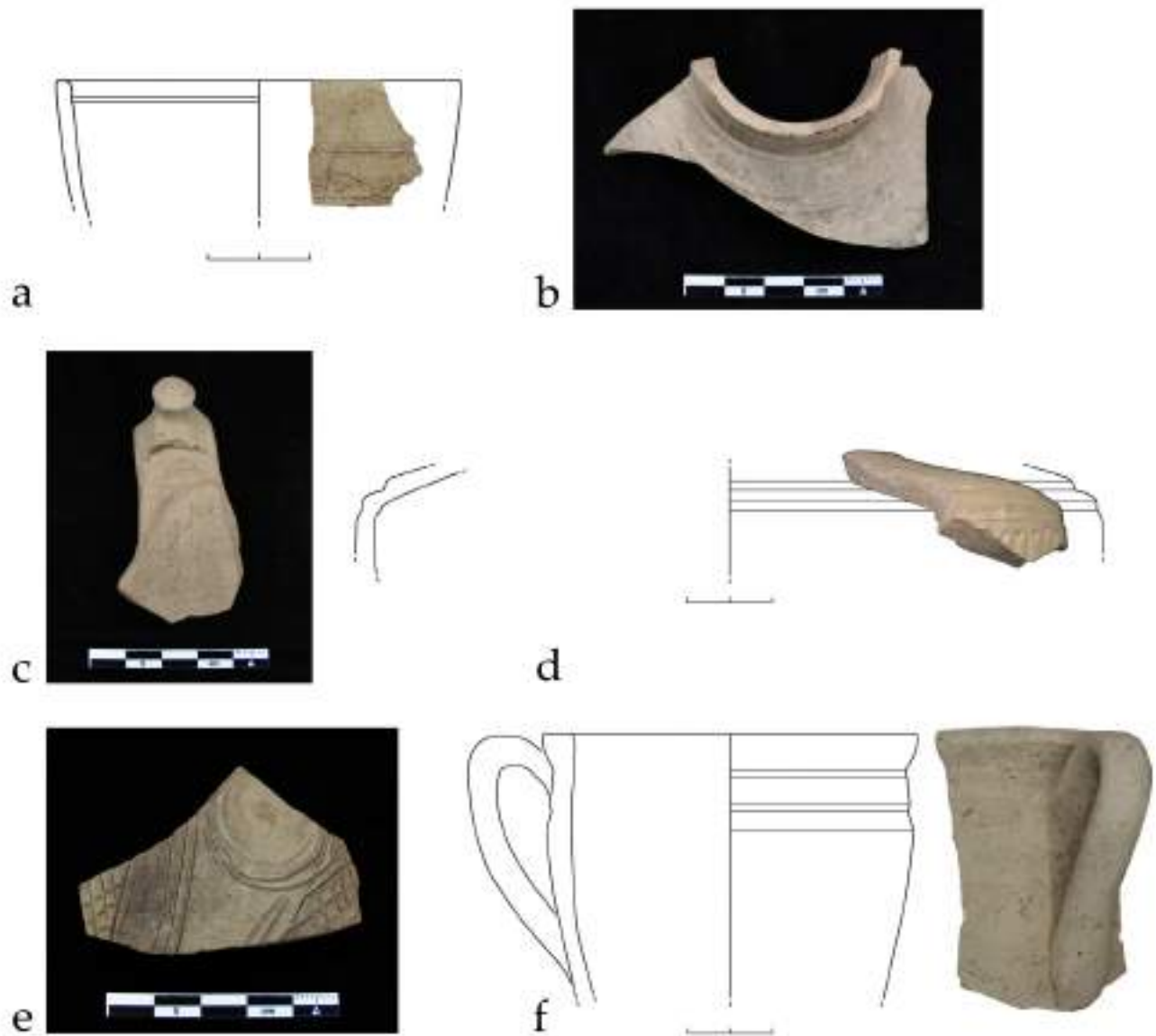


Fig. 11 – Unglazed fine vessels. a) BKG 11412, b) BKG 11397, c) BKG 11400, d) BKG 11939, e) BKG 11425, f) BKG 11396 (drawings AC, photos MP)



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