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THE INDO-GREEK FORTIFIED CITY OF BARIKOT (SWAT) THE BEGINNING OF THE MATURE URBAN PHASE (~ 150 BCE)

O. COLORU, E. IORI, F. MARZAIOLI, L.M. OLIVIERI, I. PASSARIELLO, F. TERRASI¹

THE SITE [L.M.O. AND E.I.]

Excavations have been carried out at the archaeological site of Barikot by the Italian Archaeological Mission in Pakistan since 1977. This project, started and initially directed by Giorgio Stacul († 2018) and Pierfrancesco Callieri, has been directed since 2010 by Luca Maria Olivieri, since 2017 with the co-direction of Elisa Iori.

Barikot, located at a strategic point of inner Swat (Fig. 1), is definitively identified with the location of the ancient town known as Beira, *urbs opulenta* in Curtius Rufus (VIII 10, 22), and as Bazira (α πόλις) in Arrian (*An.* IV 27, 7), a wealthy city besieged, seized and garrisoned by Alexander in Autumn 327 BCE. Besides the archaeological evidence, the main supporting arguments are the following:

- 1) the recent corroboration of the reconstruction of Alexander's itinerary proposed by the Italian Archaeological Mission (Rapin 2018; Coloru, Olivieri 2019);
- 2) the new study by Oskar von Hinüber of the Shahi inscription from Barikot mentioning the placename "Vajirasthāna" (Hinüber 2020 54-55);
- 3) and the study of Stefan Baums on the best approximation for the pronunciation of va(y)ira, Gandhari for Vajra. Ve(j)irə/Beira as place name is reported by a first-hand source of Curtius Rufus "*Beira incolae vocant*" (Baums 2019: 169-170).²

¹ We wish to express our gratitude to Dr Lauren Morris (Albert-Ludwigs-Universität Freiburg) for revising the English of this paper. Of course, any error is our responsibility.

² Reported in many places, e.g. in Tribulato, Olivieri 2017, and in Olivieri, Iori 2020.

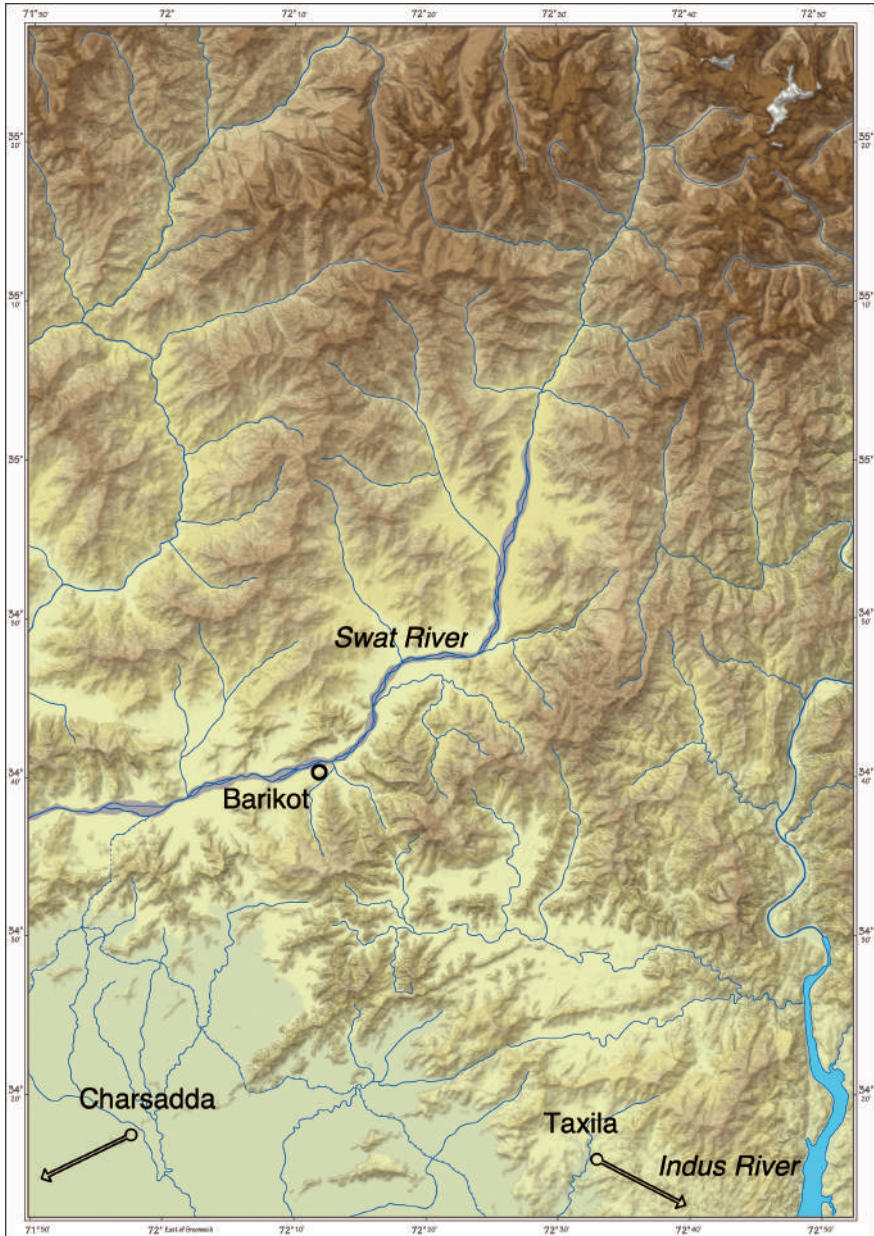


Fig. 1 - Map of the Swat region. Elaboration by K. Kriz, D. Nell and L.M. Olivieri. © Universität Wien – Institut für Geographie und Regionalforschung/ISMEO.



Fig. 2 - Aerial view of trench BKG 4-5/11. Photo by F. Khaliq. © ISMEO.

The present contribution represents the first part of a diachronic analysis of the site of Barikot. For a new study on the Saka-Parthian phase see Coloru, Iori, Olivieri (2021: 110-135).

STRATIGRAPHY AND MATERIALS

The complete archaeological sequence at Barikot was documented inside the later urban area during the 2016-2017 excavation campaigns (Sector K of Trench BKG 11) (Fig. 2).³ In Sector K (Fig. 3) the excavations revealed an 8-metre untouched structural stratigraphy, from the Kushan period down to the Proto-Urban levels.⁴ Detailed overviews of the excavation have already been

³ On the stratigraphical issues related to the area along and outside the fortification wall see Olivieri 2020.

⁴ The “Proto-Urban Phase” (1200-800 BCE) is defined on the basis of the evidence from the coeval sites of Barikot and Aligrama (Stacul, Tusa 1975, 1977). The terms “Proto-Urban Phase” (c. 1200-900 BCE), “Initial Urban Phases” (c. 500-150 BCE), and “Mature Urban Phase” (c. BCE 150-300 CE) substantially modifies the sub-division of the “Early Historic” archaeologi-

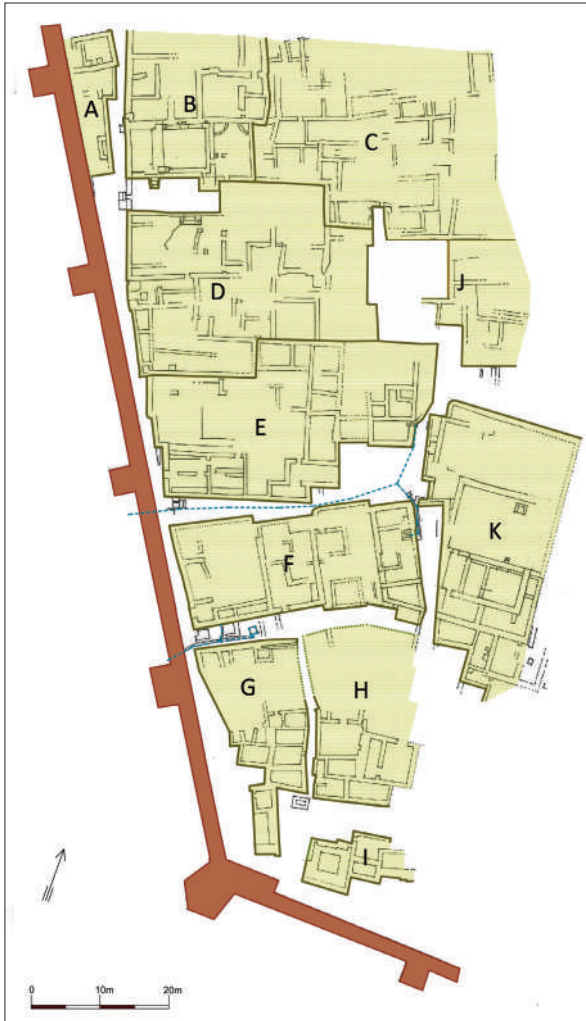


Fig. 3 - Map of trench BKG 4-5/11. Elaboration by I. Marati and F. Genchi. © ISMEO.

presented in Olivieri, Iori 2020, and in Iid. 2021. Here, we can simply add that the new data on the Proto-Urban Phase (1200-800 BCE) make it possible to establish the existence of a large graveyard and a settlement. The latter—provided with an inner stronghold (Figs. 3, 5)—extended over a surface of 15 to 20 hectares (Fig. 4).

cal period in South Asia (Smith, Mohanty 2016: 688-689). The “Proto-Urban Phase” perfectly overlaps with the Swat Protohistoric Graves Complex (see ref. in Narasimhan et al. 2019), and corresponds to the “Regionalisation Era” (Coningham, Young 2015).

Fig. 4 - BKG 11, Sector K, at the end of the Spring 2017 campaign. Photo by L.M. Olivieri. © ISMEO.



Fig. 5 - BKG 11, Sector K, at the end of the Fall 2017 campaign: Wall [3003], Macrophase 1b. Photo by L.M. Olivieri. © ISMEO.



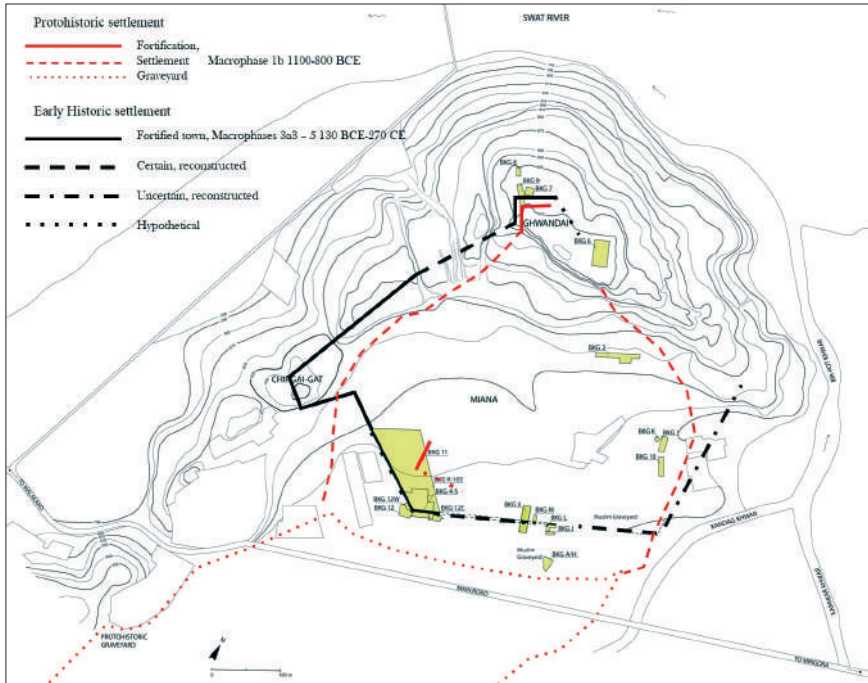


Fig. 6 - Archaeological Map of BKG area. Elaboration by R. Sabelli and E. Iori. © ISMEO.

As demonstrated by the wall section of Sector K (Figs. 5-7), the end of the protohistoric settlement is sealed by a quite long phase of abandonment (Interphase 1c; Fig. 8) featuring thick layers of alluvium followed by a local process of stable soil formation. From the layers tentatively dated from 500 BCE (Macrophase 2a) onwards, the material assemblage and structural evidence testify to the establishment of a true urban settlement at Barikot (Initial Urban Phase). Details on the significant data for associated metal and glass production were presented during the 2018 EASAA Conference by Massimo Vidale, Roberto Micheli and Ivana Angelini. Ongoing studies on beads and terracotta figurines were presented in preliminary form in the ‘Posters’ section at the same Conference (Esposito, Alterio 2024). For the data on the pottery sequence and materials the reader is referred to Olivieri, Iori 2020, and to Iori 2018.

The Initial Urban Phase at Barikot from Macrophase 2a and the involvement of Swat in transregional trade, highlighted by the pottery assemblage, might be attributed to the special role that Swat had already started playing from the Proto-Urban periods. The Swat valley, characterised by a naturally irrigated environment, has always had an extremely stable agricultural production based on double-cropping. More evidence is surfacing from the stable

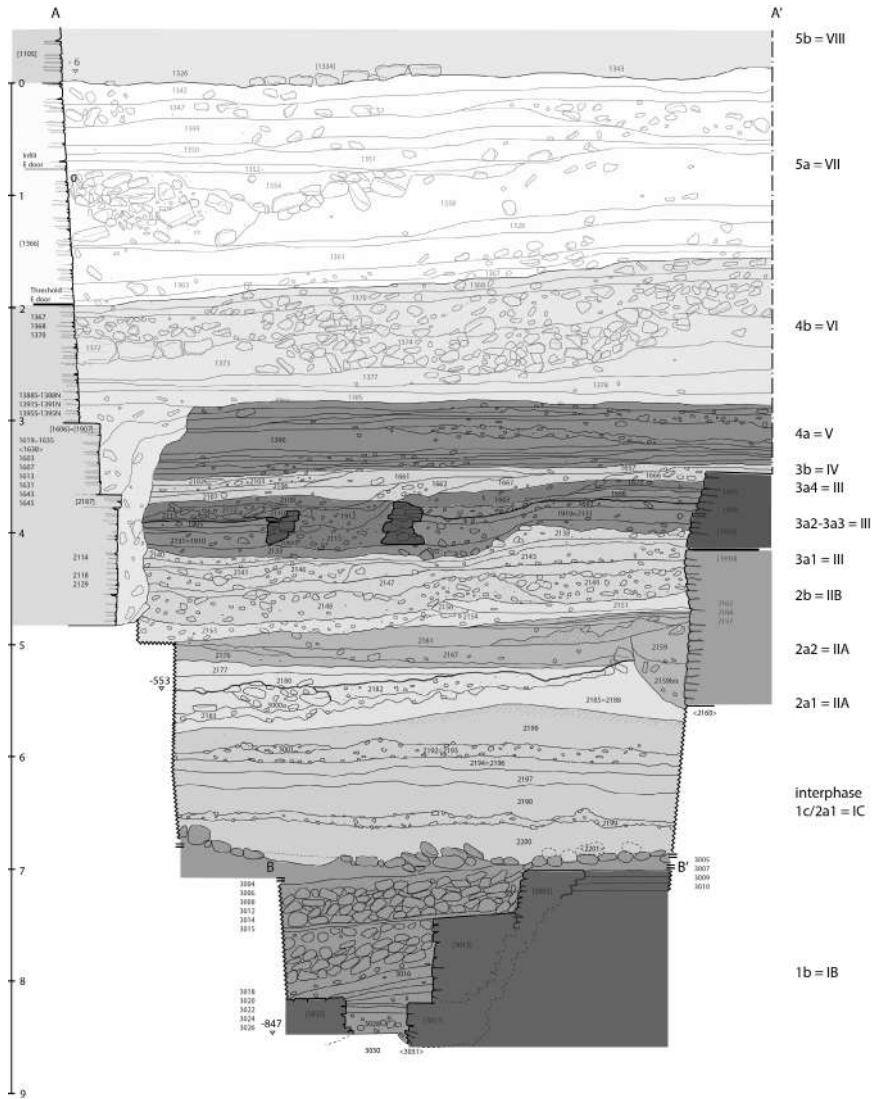


Fig. 8 - Cross-sections A-A', B-B'. Elaboration by E. Iori and M. Vidale. © ISMEO.

contraction and cultural localization after the decline of the Achaemenian control (Macrophase 2b), Curtius Rufus still defined the city as *opulenta* on the basis of first-hand information. The military raid carried out by Alexander in Bajaur, Swat and Buner, and the establishment of garrisoned towns (at Bazira/Beira, Ora, etc.), can be better explained if one looks at the necessity of providing the army with resourceful (strategically and logistically) supply lines.

One further note may be made on the fortification and re-fortification of the Alexandrian Bázira, which is described in Arrian (*An.* IV 28, 4). As already noted in our previous communication (Olivieri, Iori 2020), the remains of a large earthen structure on the edge of a moat may hint at the fact that the city was already defended and moated before the Indo-Greeks.

THE RADIOCARBON MODEL [F.M., I.P., F.T.]

A total of 26 samples of different organic materials were selected for radiocarbon dating at the AMS facility of the Center for Isotopic Research on the Environmental and Cultural heritage (CIRCE; Terrasi et al. 2008) (Table 1). Specifically, 21 seeds, one charcoal and four bones were treated according to the standard protocols used at CIRCE in order to eliminate contaminations and to extract the organic fraction to analyse. For example, the so-called AAA (Acid-Alkali-Acid) method was used for seed and charcoal samples, while the gelatinization method was used to extract collagen in gel from the bone samples (Passariello et al. 2012). After chemical treatment, all the samples were then combusted to extract the CO₂ and transformed into graphite according to Marzaioli et al. (2008). The graphitized samples were then subjected to the ultra-sensitive measurement of the ¹⁴C/¹²C isotopic ratio, yielding the conventional radiocarbon ages listed in Table 1 with their uncertainties at the 68% confidence level (1 σ). Absolute dates were then obtained using the IntCal13 database (Reimer et al. 2013) and the calibration program OxCal (Bronk Ramsey 2013). Due to the presence of wiggles, in particular, in the periods 700-400 BCE and 350-200 BCE, the calibration curve shows flat behaviours, which make the single absolute determination quite uncertain. These so-called ‘wiggles’, well known to archaeologists and archaeometrists working on these periods, are an inevitable factor, due to solar activity and oscillation of the helio-geomagnetic field.

The close interaction between archaeologists and physicists at the Barikot project may have contributed to partly solving this problem. Here stratigraphic information is connected with experimental data both in the experiment design phase and during the analysis of data. The compact sequence of samples collected at Barikot (Tables 2 and 3) allowed the construction of a calibrated Bayesian model utilising known anteriority/posteriority relationships, the grouping of samples belonging to the same phase, with boundaries obtained by combining archaeometric and archaeological data (Table 4).

THE HISTORICAL CONTEXT [O.C.]

The beginning of the Mature Urban Phase corresponds to the restructuring of the city in the Indo-Greek period (Macrophase 3a). In this period, the ar-

TABLE 1
List of sampled materials at CIRCE Lab. Elaboration by F. Terrasi

Trench	Macro-phase	Context	Sample	Laboratory number	Radiocarbon age (BP)	Calibrated date (BCE/CE) 95.4% probability
BKG 4	3a	L. 401 SU 328-14	Bone	DSH7059_G	1882±76	42 BCE - CE 330
BKG 4	3a	L. 401 SU 328-15	Bone	DSH7060_G	2059±46	195 BCE - CE 48
BKG 4	3a	L. 401 US 328-13/15	Weighted average	DSH7060/61_G	2091±26	182-45 BCE
BKG 4	3a	L. 401 SU 328-13	Bone	DSH7061_G	2105±31	202-45 BCE
	2b	SU 206	Seed	DSH7578_SE	2213±28	369-201 BCE
BKG 12W	1b	SU 211	Seed	DSH7579_SE	2845±28	1108-922 BCE
BKG 12W	1b	SU 215	Seed	DSH7551_SE	2864±34	1187-923 BCE
BKG 12W	1b	SU 217	Seed	DSH7550_SE	2934±29	1223-1036 BCE
BKG 12W	1b	SU 305	Seed	DSH7934_SE	2903±21	1192-1011 BCE
BKG 12W	1b	SU 310	Seed	DSH7905_SE	2874±37	1192-929 BCE
BKG 12W	1b	SU 318	Seed	DSH7929_SE	2898±21	1191-1008 BCE
BKG 12W	1b	SU 306	Seed	DSH7932_SE	3023±22	1386-1209 BCE
BKG 11	3a	SU 2113	Seed	DSH7930_SE	2144±39	356-53 BCE
BKG 11	3a	SU 2117	Seed	DSH7933_SE	2142±22	350-94 BCE
BKG 11	3a	SU 1676	Seed	DSH7931_SE	2144±18	349-109 BCE
BKG 11	3a	SU 1912	Seed	DSH7577_SE	2151±35	357-58 BCE
BKG 11	3a	SU 1920	Seed	DSH7548_SE	2206±29	366-197 BCE
BKG 11	3a	SU 1928	Seed	DSH7549_SE	2156±30	357-95 BCE
BKG 11	2b	SU 2153	Seed	DSH7926_SE	2157±19	353-117 BCE
BKG 11	2a	SU 2167	Seed	DSH7925_SE	2309±18	403-370 BCE
BKG 11	2a	SU 2175	Charcoal	DSH7954_C	2410±25	729-403 BCE
BKG 11	2a	SU 2182	Seed	DSH7928_SE	2497±20	772-541 BCE
BKG 11	interphase	SU 2184	Bone	DSH7935_G	2537±21	795-555 BCE
BKG 11	1c	SU 2196-10	Seed	DSH7893_SE	2450±35	755-411 BCE
BKG 11	1c	SU 2203-11	Seed	DSH7891_SE	2486±31	777-487 BCE

chaeological data illustrate a social context where an élite bearing Greek names lived in a multilingual/ethnic community, as demonstrated by Greek and Brahmi inscriptions on sherds, and an Aramaic *dipinto* (Tribulato, Olivieri 2017; Zellman-Rohrer, Olivieri 2019; Baums 2020) (Fig. 9).

In one of the structural phases associated with Indo-Greek material (now dated *after* 150 BCE) the refortification of the city took place. The lower city

TABLE 2

Modelled radiocarbon sequence: BKG 11. Elaboration by F. Marzaioli and I. Passariello. © CIRCE-INNOVA/ISMEO

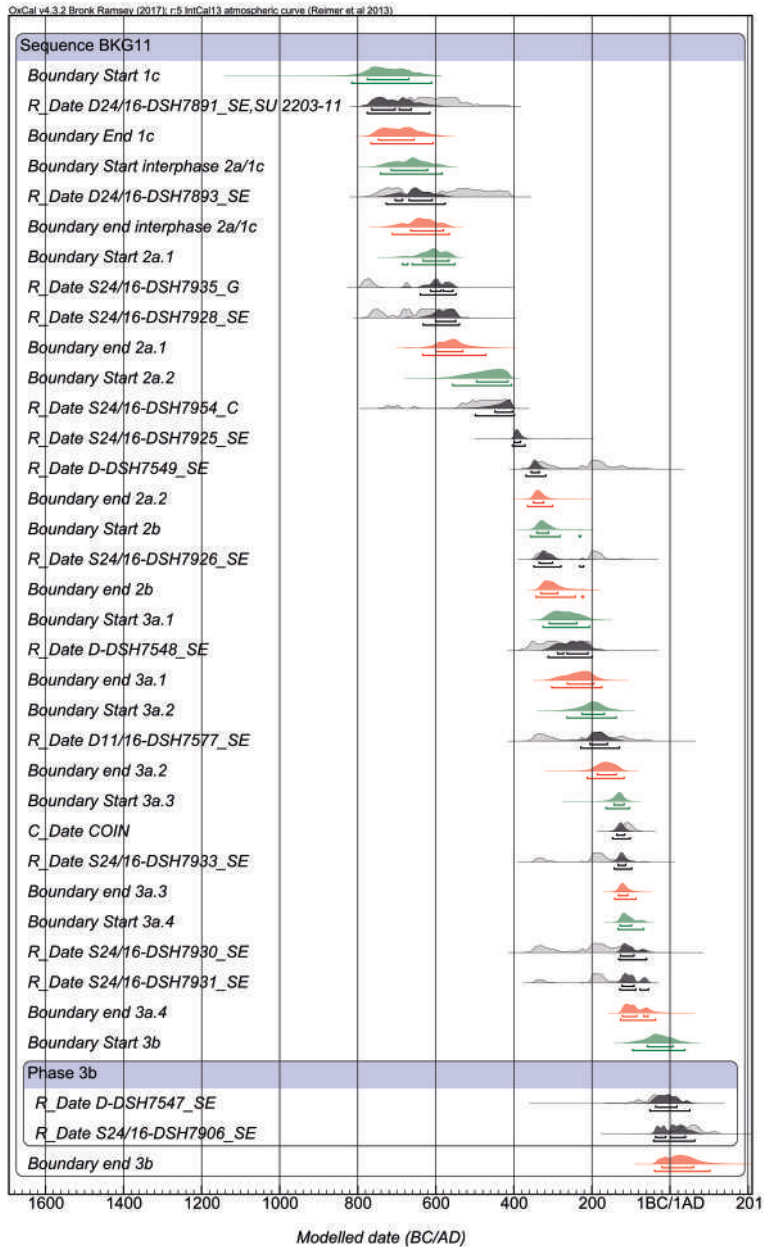
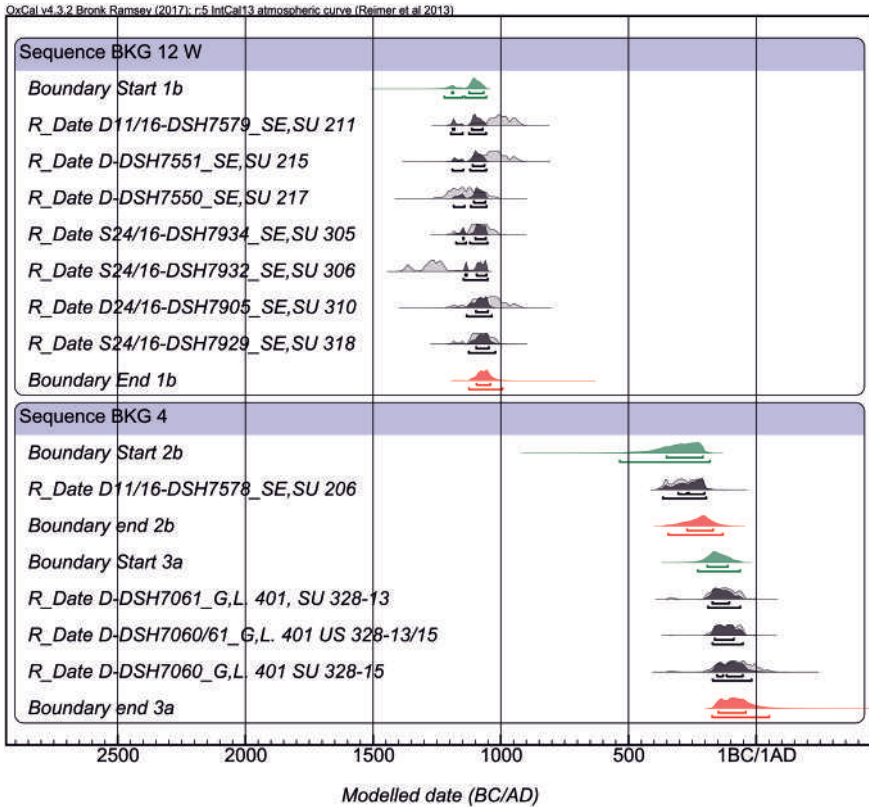


TABLE 3

Modelled radiocarbon sequence: BKG 12. Elaboration by F. Marzaioli and I. Passariello.
 © CIRCE-INNOVA/ISMEO



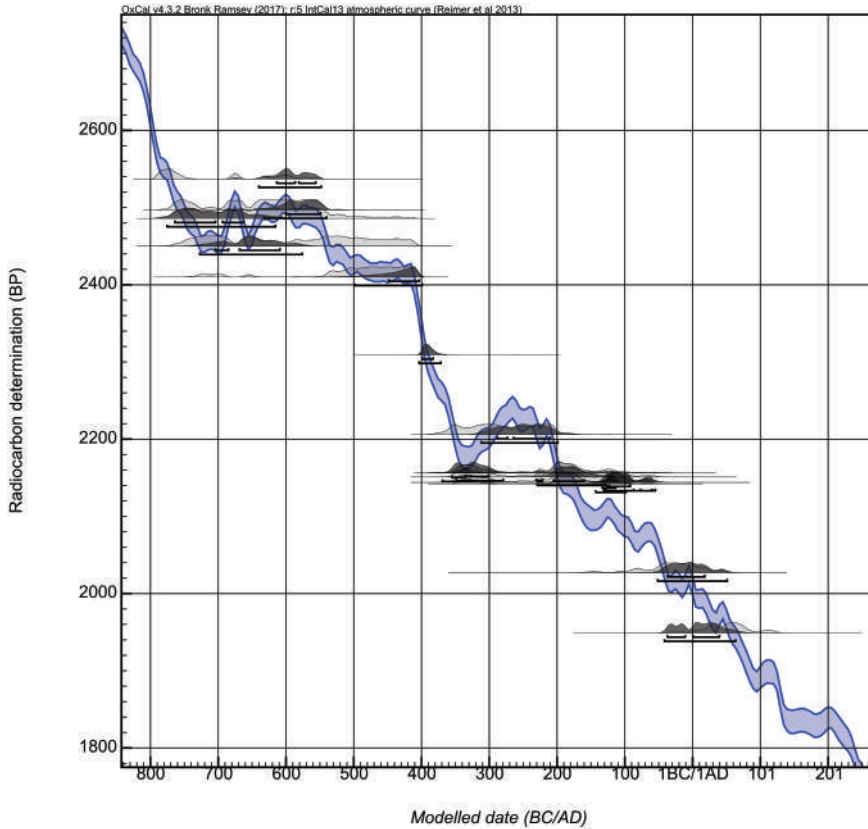
and the acropolis were encompassed within an imposing defensive wall marked by massive rectangular bastions at every 28 metres, the equivalent of 100 Attic feet, and by a regular network of drains (Olivieri 1996; 2003; Callieri 2007).

The refortification and its associated financial investment might be related to a major political event, which might have been likewise instigated by the foundation of the new Pushkalavati at Shaikhan-dheri. If our reconstruction is correct, the reason for such huge military investment might have been, again, the necessity of creating—as Alexander did—a strategic bulwark at Bazira/Beira to protect a crucial pool of economic resources for the new Pushkalavati.

Indeed, the building of these fortifications falls in a crucial period for the history of the Greek dynasties in the North-West of the Subcontinent between the reigns of Menander I (c. 165-130) and Antialkidas (c. 115-95). Here we

TABLE 4

Behaviours and peculiarities of the modelled sequence of BKG 11 (here the conventional radiocarbon age is reported as a function of the corresponding calendar date).
Elaboration by F. Marzaioli and I. Passariello. © CIRCE-INNOVA/ISMEO



follow the chronology proposed by Osmund Bopearachchi (Bopearachchi 1991). During the wars against his rival Eucratides I (c. 171-145), Menander seems to have lost most of his possessions and been confined in eastern Punjab at Sagala (possibly the modern Sialkot). Around 145 BCE, however, Eucratides, on his way back to Bactria, was murdered by his own son.⁸ This event as well as the beginning of the nomadic invasions triggered a civil war in Bactria which eventually would lead to the fall of the Greco-Bactrian kingdom a few decades later. It was after these events that Menander could regain his territories and

⁸ Justin, XLI.6.5; for a hypothesis on the identity of Eucratides' murderer see Coloru 2009: 227.



Fig. 9 - Three scripts and three languages (inscribed and painted potsherds from Macrophase 3a). Photo by Aurangzeb Khan and E. Iori. © ISMEO.

became the sole ruler of an area stretching from Arachosia to eastern Punjab. Despite the image of peaceful monarch conveyed through his representation in Buddhist sources, coin iconography shows that Menander wanted to be portrayed as a warrior king according to the ideology of Hellenistic kingship⁹ and, as told by Plutarch, c. 130 BCE he eventually died in battle.¹⁰ Between 145 and 130 BCE Menander was presumably occupied with organising his kingdom; again, numismatic evidence shows that he was responsible for a major monetary reform that would become the standard for all his successors.¹¹

The geographical distribution of Indo-Greek coinage shows that after the death of Menander his kingdom was divided in two “blocks”. The *Western block* represented by Zoilos I, Diomedes (c. 130-120), Lysias (c. 120-110) and Antialkidas (c. 115-95) approximately occupied the area between Arachosia and Swat. Apparently, part of Gandhara and Punjab were controlled by Agathokleia (c. 130-125), possibly the

⁹ “The power of the post-Diadochoi Hellenistic kings was defined by the paradox of conquest and precariousness: violence founded royal power in forms which claimed legitimacy, but were always open to overthrow by a mightier power—hence the instability of this political world” (Ma 2008: 374). Menander also led a military campaign in the Ganges Valley pushing his army to Pataliputra as attested by both Apollodoros of Artemita and a few references in Indian literature. According to Coloru (2009: 223-225) this campaign can be dated approximately between 155 and 150 BCE.

¹⁰ Plutarch, *Political Precepts*, 821d-e.

¹¹ Menander introduced a silver tetradrachm of 9.80 g as well as a new weight for his bronze coinage consisting in a base unit of 2.75 g and its multiples (5.50 g, 11 g, 22 g, and 44 g); see Bopparachchi 1991: 67-68; Coloru 2009: 242, and more recently Bordeaux 2018: 112-121.

widow of Menander who became regent for his son Strato I (c. 125-110), and Heliokles II (110-100).¹²

The discovery of coins of Zoilos I and Antialkidas at Barikot in a context *following* the construction of the walls suggests that the two monarchs exerted control over the Swat valley after the death of Menander.¹³ In addition, the reigns of Lysias and Antialkidas (who might have ruled jointly for a short period) are marked by a new phase of territorial expansion in India, which is clearly shown by both iconography and the royal epithets taken on by the two kings. Lysias (Fig. 10) adopts the elephant scalp and the epithet *Aniketos*, i.e. “Invincible”, already styled by Demetrios I (c. 200-185), the king who started the territorial expansion of the Greeks south of the Hindukush.¹⁴ Antialkidas, on the other hand, uses peculiar iconography showing an enthroned Zeus holding a Victory in his right hand and receiving the salute of an elephant who raises his trunk (Figs 11-12).¹⁵

¹² For the historical reconstruction of the period following the death of Menander see Boppearachchi 1991: 88-101; Coloru 2009: 244-248. For a different interpretation of the identity and the role played by Agathokleia see Dumke, Grigo 2016.

¹³ The coin of Antialkidas discovered at Barikot (cf. Boppearachchi 1991, *Antialcidas*, sér. 12; detail drawn to our attention by Gunnar Dumke) is a silver-plated drachm of Indian standard. In addition to providing a chronological reference point, this coin witnesses the difficulty in supplying precious metal experienced by the Indo-Greek kings. This crisis had already begun under Agathokles, who for a certain period issued coins in cupro-nickel, and many of the new Indian tetradrachms introduced by Menander were actually silver-plated (see Widemann 2000: 234-235). The same practice is observable in the coinage of Menander’s eastern successor Heliokles II. This crisis reached its peak between the 1st century BCE and the 1st century CE, and is echoed in a passage of Philostratus’ *Life of Apollonius of Tyana*, 2.7, where the author says that Indians use coins of orichalchum and black brass to make their purchases. The reason for this scarcity might be due to problems with the two sources of silver for the Indo-Greeks: on the one hand, we can assume that the silver mines of the Panjshir valley exhausted until the discovery of new veins in a different site of the valley under the Kushans (Widemann 2000: 240-241; but see the recent study on mineral exploitation in Afghanistan by Thomalsky et al. 2013: 199-230). On the other hand, the Agucha and Dariba mines in Rajasthan were still active between the 5th and 1st centuries BCE (¹⁴C dating), even though the production is “related to Mauryan remains” (Widemann 2000: 240). In addition, Widemann states that production stopped or was not available for the Indo-Greek kingdoms and their successors for unknown reasons (*ibid.*: 240). Rajasthan was never part of Indo-Greek territory, so I think it is possible to suppose that political considerations played a role. Perhaps, local powers (the Śuṅga dynasty?) exerting authority over these mines may have stopped silver export to their rivals. If so, it may be possible that Menander’s campaign against Pushyamitra could be considered among the causes or the consequences of this interruption in silver supply.

¹⁴ On the signification of *Aniketos* and the other official titles quoted in the text see Muccioli 2013.

¹⁵ A variant of this iconography is represented by the issues showing Zeus standing and holding a sceptre in his left hand. Behind Zeus, an elephant raising his trunk. On the elephant’s head, a winged Nike holding a wreath in the right hand. Cf. Boppearachchi 1991, *Antialcidas*, sér. 6A.



Fig. 10 - Indo-Greek drachm of Lysias. © CNG www.cngcoins.com



Fig. 11 - Indo-Greek drachm of Antialkidas. © CNG www.cngcoins.com



Fig. 12 - Attic weight tetradrachm of Antialkidas. © CNG www.cngcoins.com

This iconography associated to his royal epithet *Nikephoros*, i.e. ‘Victorious’, confirms that he had territorial gains as well as a distinct recognition in India. Furthermore, the inscription on the so-called Heliodoros pillar at Vidisha (Besnagar), witnesses the wide range of Antialkidas’ diplomatic activity in India.¹⁶ The period between c. 145-130 BCE provided Menander with enough time to strengthen his authority over his Indian kingdom. The Swat valley had a vital role in supplying the major centres of the plain such as Pushkalavati and the defensive work at Barikot aimed to affirm royal control over this productive area. Taking into account all of the evidence gathered so far, it is possible to put forward the hypothesis that the new fortifications at Barikot and possibly the new foundation at Pushkalavati were part of a wider political programme inaugurated by Menander after 145 BCE, and completed before the reign of Antialkidas, closer to the time of Zoilos I (we can exclude Diomedes because his reign was short and geographically limited to the west) or Lysias.

¹⁶ For a detailed study of the inscription see Mairs 2014: 117-133.

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