When and why the ancient town of Barikot was abandoned? A preliminary note based on the last archaeological data.

LUCA M. OLIVERI

Cultural phases

The last excavations at Barikot (Trench BKG 11) were carried out in five seasons from 2011 to 2013, and were focused on the last Macro-phases (6 and 5) of the lower town of the ancient fortified settlement founded by the Indo-Greeks in the late 2nd century BCE.

Macro-phase 6 (=Period IX in BKG 11, 4-5; =Period VIII in BKG 1 and Phase 3 in BKG 3; see Colliva 2011) was documented in all the previous excavations at the site as the last phase of organized re-use of the site when (part of) the town was already in ruin (Cupitò et al. 2013; Olivieri et al. in press; Olivieri in press). The last living phase of the ancient town is documented in the previous Macro-phase 5 (=Periods VII and VIII in BKG 11 and 4-5; = Period VII in BKG 1 and Phase 2b in BKG 3; Colliva 2011). The end of this Macro-phase at the same time marks the abandonment of the town.

A history of earthquakes

Some reasons for the sudden collapse of the urban system in Barikot have been postulated in a recent article (Olivieri, in press; with additional data in Olivieri, forthcoming). Briefly, according to the archaeological data, it seeems clear that if both Period VII and VIII were marked by destructive seismic events, the second one was eventually fatal, as the structures hit by the earthquake were left in ruins and the area abandoned. These two (3rd century CE) earthquakes, were not the first to have shaken the ancient town. A first massive quake had occurred in the first half of the 1st century CE (Macro-phase 4), maybe the same as the one documented in Sirkap by Marshall, who dates it to the year 30 CE (Marshall 1951). The event was followed at Barikot by a series of repairing works carried out all along the defensive wall and marked by the partial reconstruction of the bastions that were provided with enscarpments (see data from BKG 3 in Callieri, Filigenzi and Stacul 1990, and BKG 4-5 in Callieri et al. 1992).

Seismic waves are a recurrent phenomenon in the area, as all along the piedmont of the Hindukush-Karakoram. So, why did a town that had already positively reacted to

this kind of natural disaster, suddenly abandon a large part of its space (see below) at the end of Period VIII? At first, one may think that economic constraints didn't allow the élites of the town to invest in a second reconstruction, only few decades after the earthquake that occurred at the end of Period VII. The archaeological data from Period IX provide us a different picture. The well-fired fine red pottery accompanied by the presence of coins, cowry-shells, and an amazing number of shell bangles – a class of materials that was imported from Gujarat and Central India, speak of a sufficiently active economy, where trade connections with the East were still operative.

A preliminary assessment

We know that after Period VIII the settlement was reduced to the foot of the acropolis, where the occupation sequence (without urban features) continues uninterrupted until Shahi times (BKG 2: Filigenzi in Faccenna et al. 1984). We know very little about the central part of the ancient town, which is not available for excavations.

According to the available data, the abandoned area corresponds to the area withen about 150 m from the defensive wall, and to the acropolis[1].

The abandoned area is to about four-fifths of the original urban space. In Macro-phase 6 the defensive wall was nothing more than a semi-ruined retaining wall sustaining, from W, S and E, the artificial mound of the town created by 500 years of constructon and reconstruction phases. The function of defensive wall ended almost at the same time as the first Kushan kings in the early 2nd century (Macro-phase 4=Period V), when the town became part of the new empire's metropolitan territory and was demilitarized (Olivieri 1996). However, the former defensive wall continued to play a vital role in the town's life also in its later shape, as all the drains of the town continued to be collected into major outlets built and re-built through that wall both in its W, S and E stretches (unpublished data from 2006 excavations at BKG 10).

[1] Over there, the defensive structures (with features similar to the one in the lower town) were dismantled in 2nd century (BKG 7 and BKG 9: Olivieri in Callieri et al. 2000), and the occupation sequence shows a long phase of abandonment in Macro-phases 5-8.

Table 1. Chronological concordance of Trenches BKG 1, 3, 4-5, 7, 8 and 11

<table>
<tr><th rowspan="2">Macro-phases</th><th colspan="6">Lower Town</th><th rowspan="2">Macro-events</th><th colspan="3">Acropolis</th><th rowspan="2">Macro-events</th><th rowspan="2">Relative Chronology
ABSOLUTE CHRONOLOGY</th></tr>
<tr><th>BKG 4-5</th><th>BKG 11</th><th>BKG 4-5 outside the city wall</th><th>BKG 1</th><th>BKG 3</th><th>BKG 3 outside the city wall</th><th>BKG 7</th><th>BKG 9</th><th>BKG 8 outside the city wall</th></tr>
<tr><td>9</td><td rowspan="4"></td><td rowspan="4"></td><td rowspan="4"></td><td rowspan="2"></td><td></td><td rowspan="2"></td><td rowspan="4">Abandonment phase.
Sporadic human presence.</td><td></td><td></td><td>Per. VII</td><td>Abandonment of the military installation.
Sporadic human presence.</td><td>15th-19th CE</td></tr>
<tr><td rowspan="3">8</td><td rowspan="3">Per. VII</td><td>Per.VII</td><td rowspan="2">Per. VIII</td><td rowspan="2">Per. VI</td><td rowspan="3">Earthquake.
Destruction of the Temple.
Establishment of a military garrison and construction of a fortified outpost</td><td rowspan="3">11th-13th CE</td></tr>
<tr><td rowspan="2">Per. X</td><td>Ph. 5?</td><td>Per. VI</td></tr>
<tr><td></td><td>Per. VII</td><td>Per. V</td></tr>
<tr><td></td><td rowspan="2">Per. VI</td><td rowspan="2">Ph. 4?</td><td rowspan="2">Per. V?</td><td rowspan="2"></td><td rowspan="2"></td><td>Re-occupation of the terraces for the building of a Brahmanic Temple</td><td>7TH-9TH CE</td></tr>
<tr><td></td><td></td><td>Abandonment phase.</td><td>5th-6th CE?</td></tr>
</table>

Macro-phases	Lower Town						Macro-events	Acropolis			Macro-events	Relative Chronology ABSOLUTE CHRONOLOGY
	BKG 4-5	BKG 11	BKG 4-5 outside the city wall	BKG 1	BKG 3	BKG 3 outside the city wall		BKG 7	BKG 9	BKG 8 outside the city wall		
7	Per. X	Per. X										
6	Per. IX	Per. IX				Ph. 3?	Temporary non-urban re-occupation	Per. IV	Per. IV	Per. IV	Temporary non-urban re-occupation	4TH CE
5	Per. VIII	Per. VIII	Ph. 8	Per. IX	Per. V	Ph. 2b	Earthquake. Abandonment of the drainage system. Flood				Abandonment phase. Sporadic human presence.	3RD CE (SECOND HALF)
	Per. VII		Ph. 7	Per. VIII	Per. IVB	Ph. 2a2	Earthquake. Reconstruction					3rd CE (first half)
4	Per. VI	Per. VII	Ph. 6	Per. VII	Per. IVB	Ph. 2a1	Intense building activity	Per. III	Per. V / Per. IV		Demolition of the Defensive Wall and construction of a stupa terrace (?)	2nd CE
	Per. V		Ph. 5	Per. VI	Per. IVA		Abandonment of the Defensive Wall. Demilitarization				Abandonment phase	1st-2nd CE
				Per. V		Ph. 1b ?						
3	Per. IV		Ph. 4 ?	Per. IV	Per. III	Ph. 1a	Earthquake. Retrofitting of the				Abandonment phase	1st BCE

Macro-phases	Lower Town						Macro-events	Acropolis			Macro-events	Relative Chronology ABSOLUTE CHRONOLOGY
	BKG 4-5	BKG 11	BKG 4-5 outside the city wall	BKG 1	BKG 3	BKG 3 outside the city wall		BKG 7	BKG 9	BKG 8 outside the city wall		
							defensive structures					
	Per. III		Ph. 3	Per. III Per. II Per. I	 Per. IIB Per. IIA		Demolition of the previous structures and construction of the Defensive Wall	Per. II	Per. III	Per. III?	Acropolis Defensive Wall	2nd BCE
2	Per. II		Ph. 2		Per. I bis		Settlement/ Graveyard	Per. IB	Per. II	Per. II		Periods V to VII Ghalegai sequence (1300-400 BCE)
1	Per. I		Ph. 1		Per. I		Settlement	Per. IA	Per. I	Per. I	Pit structures	Chalcolithic (Period IV of Swat protohistoric Period Period IV of Ghalegai sequence, 1700-1400 BCE)

If the settlement was reduced to the central and E quarters, we may deduce that (a) the town lost its urban features and was reduced to nothing more than a small mansion settlement, and (b) that the number of inhabitants decreased or fled.

A possible explanation and the background

The collapse of the draining system as a concause of the abandonment of an urban area is testified elsewhere (e.g. Merv: Simpson 2008), and it may be an additional reason to explain the abandoment of the quarters close to the former defensive wall.

These quarters were built in a sloping area, totally un-manageable in the absence of a working drainage system. All these aspects are going to be addressed in detail in the two publications mentioned above (Olivieri , in press and Id., forthcoming); however it may be anticipated that the abandonment of the drainage system might have been linked to a crisis of the élites (the cleaning of drains is a duty performed by low-caste groups)[2].

I think that towns like Bazira had very little in common with the concept of a real urban space, which would have been experienced at that time only in the metropolis of the Roman Empire, Gangetic India and China. Towns like Bazira were basically a colonial foundation created by foreign occupants (Indo-Greek), mantained with their military features by their successors (Sakas and Parthians), as enclaves separated from the local village (as fortified cantonments), that were after being demilitarized and turned into well-organized clusters of petty aristocratic mansions, regulated by structured rules The cleaning and repairing of the communal draining system was certainly a vital part of the town's life, also indicating the co-presence of different social groups (possibly organized in a cast system). By the way, on the basis of the archaeological data, the living quarters of the low-caste groups were not inside the (excavated sectors of the) ancient town. The growth of a petty aristocracy or local élites, with trade connections in India and a cultural affiliation with central Asian models (see Olivieri 2011, and Id., forthcoming) occurred in Swat in a period when the affiliation with the Kushana rulers favoured local élites, and a relative peace favoured an economy characterized by agriculture (probably co-managed with the Buddhist foundations), and by open and easy trade channels with North India. This fact, as a side effect produced

[2] The abandonment of the draining system is clearly shown by thick layers of alluvium mixed with debris, clogging all the drains and pit-wells in trenches BKG 3, 4/5 and 11 at the end of Macro-Phase 5.

that phenomenon of "Indianization" of the material culture that is so evident in the diffusion of the paddle-and-anvil pottery technique, as well as the introduction of pottery forms that were traditional in North India (Olivieri, Vidale et al. 2006; Olivieri, forthcoming). Economy and cash-flow favored the rise of a more complex society that benefited also from a patronage/exchange relationship with a countryside dominated by rich Buddhist foundations (Olivieri 2010).

If these élites "were" the town, a crisis of their political patrons (Kushans) might have produced a sort of waterfall-effect that caused - in between – a crack in the social framework (that may be proven by the abandonment of drainage management), and eventually put an end to the life of the town as it was before. Practically the Kushana-allied élites may have found themselves on the wrong side when the political wind changed.

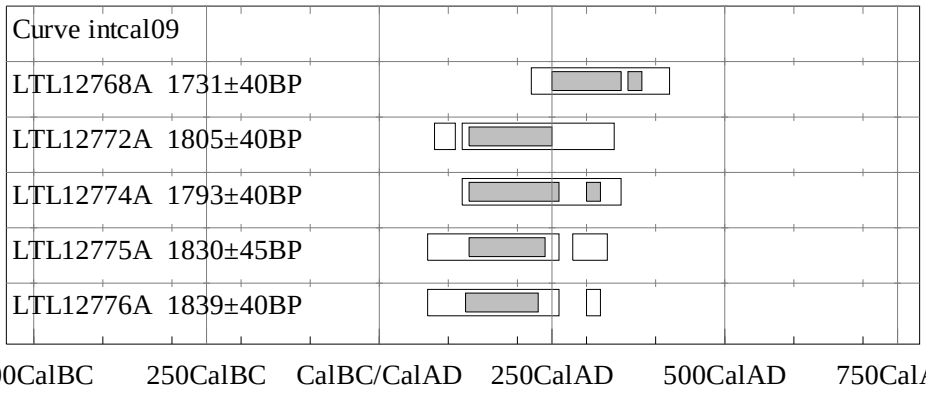
Coins and chronology

The chronology of the Macro-phase 6 firmly refers to a post-Kushan period, even though its precise dating changes from time to time. Initially Callieri proposed a 4th century CE chronology (Callieri in Faccenna et al. 1984), but he changed his view in later contributions (e.g. Callieri 2010) by proposing a 5th-6th century CE chronology. The latter was mainly based on two elements: (a) the presence of Late- and sub-Kushan coins, as well as Kushano-Sasanian coins in the Macro-Phase 5 layers, and (b) the coeval presence of the so-called "Fashion Ware", a luxury black-on-red pottery, that was first discovered by Abdur Rahman in his excavations at Damkot (Abdur Rahman 1968-69). This chronology, built on the timeframe proposed by McDowall for those two classes of coins (McDowall and Callieri 2004, McDowall 2005), suggested that the final period of the town's life matched a time running from the 3rd to the mid-4th centuries CE.

The new excavations have brought to the light a slightly different panorama. The AMS 14C analysis of samples collected in BKG 11 Period IX (Macro-phase 6) and Period VIII (Macro-phase 5) possibly revealed an earlier chronology, suggesting that the town was abandoned in the 3rd century and re-occupied in the form of a slum towards the 4th century CE (Cupitò et al. 2013, Olivieri et al. 2014). Other samples from Periods VII and VIII that will soon be analyzed will perhaps eventually confirm this preliminary analysis. Also from the pottery we got new data that led us to anticipate by about a century the

collapse of the urban life at Barikot. The "Fashion Ware" resulted stratigraphically associated with "Golden Slipware" and "Red-on-Golden SlipWare" luxury pots, most in the shape of carinated and bi-carinated luxury vessels, two classes of pottery that may be dated to a period not later than the 2nd-3rd century CE (see possible comparisons in Falk 1994 and Allchin 1999).

Table 2. AMS 14C calibrated dates from Period IX (G. Quarta, CEDAD)



No.	Code	Topographic position	Calibrated dates (2s)
2	LTL12775A	Sectors 3-4, Locus 37bis	70AD (89.4%) 260AD; 280AD (6.0%) 330AD
3	LTL12772A	Sectors 5-6, Locus 54	80AD (1.2%) 110AD; 120AD (94.2%) 340AD
4	LTL12774A	Sectors 5-6, Locus 58	120AD (95.4%) 350AD
5	LTL12776A	Sectors 7-8, Locus 63	70AD (94.3%) 260AD; 300AD (1.1%) 320AD
6	LTL12768A	Sectors 7-8, Locus 68	220AD (95.4%) 420AD

The collection of coins (Æ) documented in Macro-phases 6 and 5 is quite coherent.

Macro-phase 6: The coins from Period IX are consistent with a post-Kushan dating. Out of 31 coins, 12 are late-Kushan[3], 10 are sub-Kushan[4], 1 is Kushano-Sasanian (BKG

[3] Three of these coins are from a very reliable stratigraphic context, from the last occupation layers after the

2352)[5]; the Kushan coin BKG 2157 and the two Soter Megas coins (BKG 2118 and 2170), may be ascribed to a later circulation or hoarding phenomenon of good standard coins; 3 coins are still unidentified (2 early-Kushan, 1 late-Kushan?)[6].

Macro-phase 5: Period VIII are quite consistent with a late-Kushan dating[7]. Out of 18 coins, 3 are late-Kushan, 4 are Kushan, and 6 are sub-Kushan. 1 coin is tentatively attributed to the Kushano-Sasanians (BKG 2280). Another good example of Kushano-Sasanian issue is coin BKG 2375, which belongs to to the last phase of Period VIII[8]. The remainder is unidentified, or linked to a hoarding phenomenon.

The same horizon has been documented in the previous trenches at Barikot. Overall, within these macro-Phases, Late-Kushan and sub-Kushan coins are dominant and the presence of a few Kushano-Sasanian issues of Peroz I and Hormizd may well have real chronological significance.

abandonment of the town.

[4] The sub-Kushan coins are tiny pieces of Æ with traces of figures of an average weight of 1 gr. Found in different sites, including Hadda (excavations 1970-71) and Taxila (Bhamala), they are considered a pre-Hephthalite local production used as small change, corresponding to around one quarter of the Kushano-Sasanian half unit, or half quarter of the standard Kushan unit (information provided in Callieri and MacDowall 2004: 69).

[5] Kushano-Sasanian, obv. bust of king. 3.6 gr. D. 1.5.

[6] This chronology is also confirmed by the materials recoverd in the layers sealing Period IX. The scanty and occasional human presence in the area (marked only by a few structures) in the subsequent Period X provided a relatively coherent horizon associable with a post-Kushan/pre-Turki Shahi period, i.e. with 4th-6th centuries CE. Out of a total of 28 coins, we identified also a Kushano-Sasanian: BKG 2341: Ob.: bust of king with tripartite tiara; rev.: fire altar. H. 6. (Cribb 1990: nos. 24, 25, 35; Callieri and MacDowall 2004: no. 124); 3.0 gr. D. 1.8.

[7] There are some later presences, such as 1 coin of Azes II (BKG 2267), 1 Indo-Greek coin (BKG 2271), and a local Taxila coin (BKG 2372; attributed to the 4th-3rd century BCE by Göbl 1976: 11) which may be ascribed to a later circulation or hoarding of good standard coins, or offerings (specially in the case of BKG 2372, which was found amongst other items in front of a Buddhist shrine).

[8] Kushano-Sasanian; ob.: bust of king facing right (Peroz? 250-265) rev.: fire altar. H. 11. (Cribb 1990: nos. 32, 33; Callieri and MacDowall 2004: no. 122). 3.8 gr. D. 1.7.

Table 3. Presence of coins by class in Trenches BKG 3, 4-5, and 11 (Macro-phases 5, 6 and 7)

Periods	Macro-Phase	Earlier	K	LK	*LK Ardoxso*	*LK Siva*	KS	SK	Later
BKG 11 (preliminary identification)									
Period X	7	1	3	11	*4 (?)*	*2 (?)*	1	0	1
Period IX	6	0	3	12	*3 (?)*	*5 (?)*	1	10	0
Period VIII	5	3	4	3	*0*	*2*	2	6	0
BKG 4-5 (after McDowall and Callieri 2004)									
Period X	7	0	0	0	*0*	*0*	0	0	0
Period IX	6	0	0	3	*2*	*0*	0	0	0
Period VIII	5	0	4	0	*3*	*2*	1	2	0
Periods VI-VII	5	0	17	16	*3*	*10*	8	10	0
BKG 3 (ibid.)									
Phase 2b/Per. VII	5	0	0	12	*3*	*8*	14	0	0
Phase 2a2	5	0	0	8	*0*	*8*	0	0	0
Phase 2a1/Per. IVA	4	2	5	0	*0*	*0*	0	0	0

The the current status of the question may be summed up as follows.

(1) Sub-Kushan coins: these are basically fractions of Kushano-Sasanian coins; 118 specimens were found in the relic chamber of stupa A5 at Bhamala, associated with a silver coin of Vahran IV (388-399 CE) (Callieri and McDowall 2004. 69). In Barikot, besides those found in the last few seasons, a further 12 specimens were documented in the past (ibid.).

(2) Kushano-Sasanian coins: all the coins recovered at Barikot (including 24 specimens found in trenches BKG 1-4/5) belong to the Bivar Class IV (Æ, 3-4 gr.). In the data referring to the previous excavations at Barikot, from Macro-Phase VI, we have a total of 3 coins of Peroz I (including a copy), 1 of Kawad, 2 of Shabuhr II (ibid.).

(3) Late Kushan coins: the majority of the identified coins belong to the McDowall "Crude Siva" and "Flan Ardoxso" types (8 specimens). This preliminary ratio confirms the data published in Callieri and McDowall 2004: out of a total of 39 identified coins, 11 are identified as Flan Ardoxso, and 28 as Crude Siva. The chronology attributed by

McDowall (2005) to both classes (respectively: end-3rd CE and 4th CE) may be just slightly later than the preliminary chronology I am proposing for BKG 11.

The chronology of Peroz I and Hormizd according to Carter (1985) might be c. 265-300 and 300-325 CE, respectively. According to Cribb (1999) it has to be situated respectively to c. 245-270 and 270-295 CE. Schindel recently proposes for those Sasanian governors a chronology not earlier than 280-300 CE (Schindel 2012).

However, I found particularly interesting how these chronologies match the preliminary results of the AMS 14C dates. So, from the point of view of a field archaeologist, the numismatic collections comfort a late 3rd century chronology suggested by the archaeological analysis of the AMS 14C results. Of course, this is only a very preliminary interpretation. For a final assessment of the coin from BKG 11, we await the analysis of the coins of the later phases of Barikot which will be done in great detail by M. Pfisterer and M. Alram in the near future. For a final assessment of the 14C dating, we will wait for further and statistically more valid analysis.

A preliminary conclusion

In the second half of the 3rd century CE, certainly Kushan power was in great crisis in Swat, and their local allies lost their political force. It doesn't seem that Swat was directly under the rule of the first Sasanian governors, as the scarce number of coins indicates. Certainly, after defeating the Kushans, the Sasanians should have found new local allies. In this regard, I found it very interesting that the sub-Kushan coins started possibly being minted already in the second half of the 3rd century by these new ruling groups, as an issue convertible with both the new and previous currencies

However, the new rulers of Barikot might have had less prestige, less financial and military power, maybe also looser connections with the influential abbeys of the many Buddhist foundations around the town. All these factors, combined with the natural disasters, might have eventually led the town to the abandonment.

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