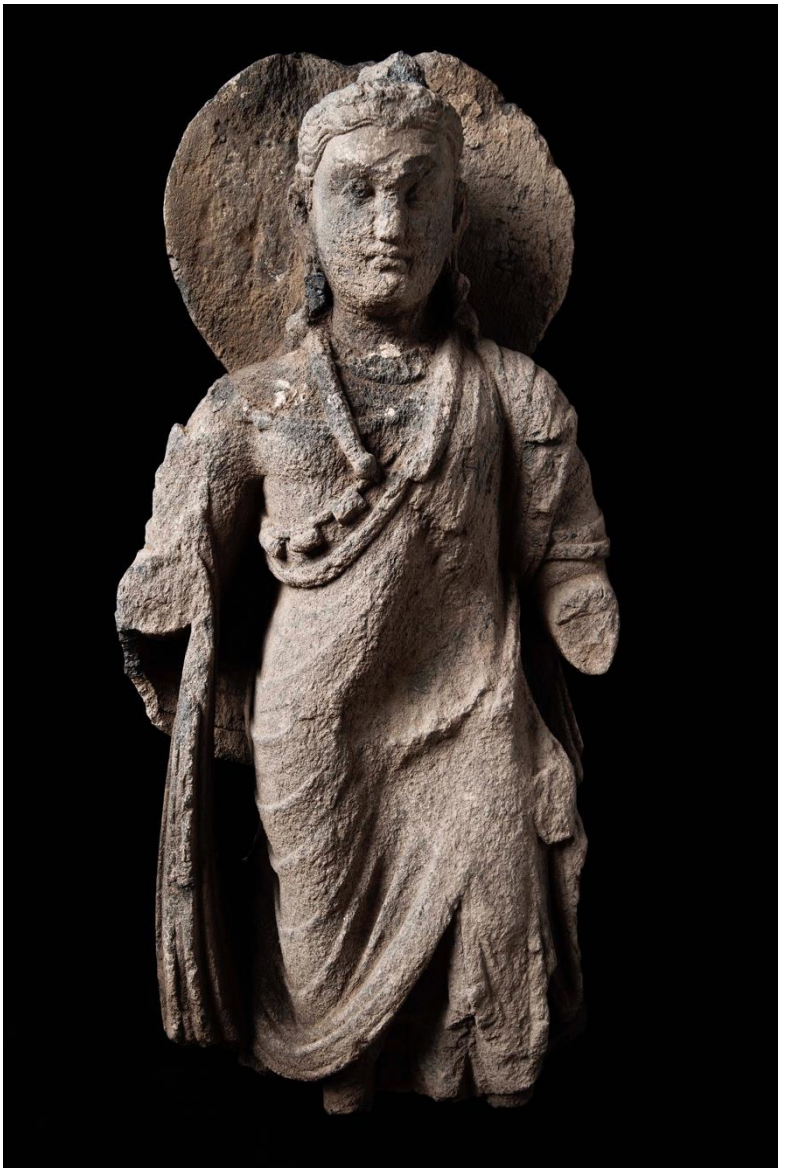
Journal of Asian Civilizations



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Amluk-dara (Swat): Stele statue of Bodhisattva, Swat Museum. (Photo by Edoardo Loliva).

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Editorial Note

The authors are responsible for the linguistic and technical qualities of their texts. The editors only tried to ensure minimum coherence to the articles. The editors always reserve the right to make all the changes in the manuscripts to maintain the standard of the Journal.

Amluk-dara (AKD 1)
A Revised Excavation Report

Luca M. Olivieri

with the contribution of
Amanullah Afridi/Fabio Colombo/Michele Cupitò
Francesco Martore /Massimo Vidale/M. Zahir

Abstract

The following pages present a revised and updated version of the excavation report of the site of Amluk-dara in the tahsil *of Barikot, Swat. The original report (*Olivieri et al. 2014*) was published in the ACT Reports and Memoirs, and it is now about to be out of print. The excavations started in 2012 after the police had stopped with the help of some members of the local community a large looting activity at the site. Additional excavations were carried out in 2016-2017. The excavation was part of the ACT-Field School Project, a project of the PIDSA-EAD/Italian Cooperation Program implemented by IsMEO/IsIAO and Directorate of Archaeology and Museums, Government of Khyber-Pakhtunkhwa. Fieldwork was carried out in collaboration with the Quaid-i-Azam University (TIAC). The site is now protected, and entirely acquired by the Provincial authorities. The report on the sculptural material will be soon available, as it is now part of a PhD project at the TIAC, Quaid-i-Azam University (Mr. Subhanigul).*

1. Introduction to the site (Figs. 1-3)

The stupa of Amluk-dara (Pashto for 'wild persimmon hill"; henceforth AKD) is located in the area of Shaga at an approx. altitude of 1035.00 m asl, just half a mile E of the village of Amluk-dara. The Amluk-dara valley is a tributary valley of the Karakar. The site (34°38'50"N, 72°12'23"E) was first noted and described by Aurel Stein in 1926 (Stein

1930: 18-19) and first documented by Giuseppe Tucci in 1956 (Tucci 1958: 315-18, figs. 38-39). In 1958-59 the stupa was partially restored by the Federal DOAM (2nd storey, N, NNW, NNW sides), and from the 1990s onwards was subsequently studied by Domenico Faccenna and others (Spagnesi 2006; Faccenna and Spagnesi 2014) and finally briefly excavated by the Federal DOAM in 1994 (the report of which was never published). The site was labeled as Amluk-dara 1 and inserted as Site 314 in the data-base of the Archaeological Map of Swat Valley Project, Phase 1 (AMSV; Olivieri, Vidale et al. 2006) and as Site 27 in Filigenzi 2015.

According to Stein '[The stupa] it proved in better preservation that any ancient Stūpa I had ever seen and constructed with remarkably careful masonry'. Stein concluded that a plan of excavation should be successfully arranged in the future, given '[...] its obvious importance and its undisturbed conditions [...]' (Stein 1930: 19). Actually, the recent study of new previously unpublished and unknown letters of the great Hungarian led us to the knowledge that Stein had the intention to excavate either Amluk-dara or Tokar-dara. Eventually he got the permit to carry out these excavations in 1933, when he came again to Swat (Doc. 312, Folder 3 IsIAO Library no. CIMG 4543). Unfortunately, the plan was abruptly canceled as he fell off his horse in Nipki-khel, near Kabbal, a few days after he had reached Swat (Olivieri 2015_a, 2015_b).

The stupa (or Main Stupa or building [30] in this report) is the major one in Swat with its 32x 28 m podium (h. 6.5). The site has been long targeted by illegal excavations. A vast-scale looting activity was stopped by the local police in November-December 2011, and, following a request of DOAM K-P, was placed under the protection of the Project in February 2012. The excavation started on April 22, 2012 and lasted nine weeks. The activities included the clearance of the Main Stupa stairways, as well as the excavation of a large trench AKD 1 (18x40; main axis E-W) in order to expose the original floor of the stupa terrace. Subsequently the trench was reduced to an area of 18x18 directly in front of the stairway of the Main Stupa. After having emptied various large pits left by the illegal excavators over the last few decades, the clearance of the front of the monument was finally completed. The excavations revealed four major monuments: Main Stupa [30], a stupa to the NNE [61], a shrine [60], just N of the previous one, a pent roofed shrine [17] at the bottom of the Main Stupa's stairway, and a shrine [100], W of the previous one.

One major problem of the dig was represented by the layers, which were >90% disturbed and mixed, for the most part the remains of fillings made by illegal diggers. Furthermore, there were tunnels and ramps for wheel-barrows and the like, in addition to small retaining walls, constructed by the illegal diggers during their activities. Discounting scattered exceptions, the excavations revealed complete series of superimposed partially intact archaeological layers only in the Sectors ENE (S of [61] and W of [60]), and in the Sector SSE (between [30] and [61]). We sampled soil, organics, and charcoal for 14C analysis from layers of Sector SSE. It was in this area that the panel Inv. No. AKD 89 was found in situ although re-used in a secondary position. During the excavations a total of 1088 stone and *kanjur* (a significant minority) objects were registered, most of them just tiny fragments, 96 of which were inventoried. Their study is still ongoing, but we expect to complete it shortly[1].

A detailed review of the Main Stupa in its archaeological context has been recently addressed by S. Whitfield (Whitfield 2018).

2. The site area 314 (Figs. 4-11)

The site AKD 1 is part of the Archaeological Map of the Swat Valley (AMSV) Site area 314 (see Olivieri and Vidale 2006; Olivieri et al. 2014). The extension of the area, which is locally known as Shaga (Pashto for 'sand') is approx. 35,000 m^2. The area is irregularly shaped as a triangle whose base (c. 360 m) runs NW-SE along the course of a stream locally known as Khwar (Pashto for 'torrent'). Near the SE limit of the area, a cluster of boulders seems to have been artificially arranged in order to dam up the stream and create a deep pond that is used as a reservoir. The pond, locally known as Dandikai (Pashto for 'little pond'), seems to have been there ab antiquo. The max. extension (200 m^2) of the area lies

[1] In this report numbers between square brackets indicate structures [walls, floors, edifices, etc.]; those between angle brackets indicate negative stratigraphic units <pits, razed surfaces, cuts, destruction layers, etc.>; those between round brackets, stratigraphic units (layers of various typologies: deposit, accumulation, filling, etc.).
We avoided diacritics and italic for architectural terms common in archaeological literature (stupa, chattravali, harmika, etc.). Architectural description follows Faccenna and Filigenzi 2007, with the sole exception of the term vihara, which is substituted by the more widely accepted 'shrine'. In this report measurements are given in m (0.00) if not differently indicated; the following abbreviations have been used: l=length, w=width, d/D.=diameter, h=height; dp=depth; m=meters, m^2=square meters, ha=hectares, t=thickness, hl=hectoliters; compass points are abbreviated (N, S, E, W).

approximately at the centre of the triangle, just SE of the Main Stupa. The area is entirely covered by ruins all belonging to an extended Buddhist sacred area. At only 20 m ESE from the Main Stupa a Shahi watchtower [191] (a decayed mound interpreted as a stupa in Stein 1930: 19) has been documented (previously known as 'Site 413b' in Olivieri, Vidale et al. 2006).

The sacred area is divided into four terraces; the main stupa lies on Terrace I. The area may be divided into the following sectors and sub-sites:

Sub-Site 707, NW of the Main Stupa: Stupa Terrace IV. Series of parallel walls built along the S and W sides of the hill N of the Main Stupa. The area is approx. 5,100 sq m. Part of the S side walls are constructed up against artificial terraces cut into the rocky outcrop.
Sub-Site 708, ESE of the Main Stupa: Stupa Terrace and Monastery II. Series of walls built parallel to the stream.
Sub-Site 709, ESE of 708: Stupa Terrace III; a stupa [190] on square podium (w c. 12) with retaining wall is still visible there.
Both sites had already been noted by Stein (ibid.).
In the surrounding area we documented other important ruins.
Site 710, a hill overlooking the Amluk-dara road (Bara-ghwandai). Walled ruins; potsherds.
Site 711, near the village of Gurikhan along the path leading to Sarbab. Late historic structures.

Rock-art/artifact sites (Figs. 7-9)

In the Site area 313, on both sides of the stream S of the Main Stupa we documented a series of rock artefacts (for wine presses, see Olivieri, Vidale et. al. 2006).

Site 412, wine press.
Site 413, wine press.
Site 712, wine press.
Site 713, wine press.
Site 714, wine press.
Site 715, wine press.
Another wine press was documented near Kuku-china (Site 716), SSE of Site area 314.

In the area near the village of Amluk-dara, in the site of Amluk-dara 2 (Site 307) (Di Florio et al. 1993: as 'Amlukdara') were documented cup-marks, tanks and axe sharpeners on slabs and boulders. Uphill from Site 307, we documented Site 717, with scattered cup-marks dug out of a vast granite outcrop. An ancient quarry area (phyllite) with traces of unfinished extraction (chattras) was found in Zaro-tangai near the spring (Site 718).

Painted shelters

Across the stream S of the Main Stupa we documented a painted shelter (white painting) (Site 706) (Olivieri 2013; Id. 2015$_c$).

Buddhist rock carving (Fig. 10)

SW of the village of Amluk-dara, in a small and pleasant fruit orchard, Stein documented a crude sculpture on a granite boulder, representing a Buddha seated on a throne (labelled as C 119 in Filigenzi 2015): 'As we moved towards the village bearing the same name Amluk-dara, between flowerdecked hedges and trees in bloom, I was shown on a small verdant meadow a large boulder bearing the rudely carved relievo representation of a seated Buddha. It measures 4 feet 8 inches in height. The pious zeal of the Pathāns had done what it could without too much trouble to deface the sacred image, especially the head' (Stein 1930: 18). The carving no longer exists as it was destroyed (before 1987) when the granite outcrops were blasted to obtain construction material. The original photograph taken by Stein is presently conserved in the British Library, Stein Collection, Inv. no, 392-30-127). The monument is labeled as AMSV Site 720.

[With the contribution of the students of Quiad-i-Azam University (TIAC)]

3. Trench AKD 1

The Main Stupa [30]

The monument is a stupa square in plan with a stairway on its N side, with a 2nd stairway with the 2nd storey along the same axis.
The podium of the 1st storey is 32 m long and 6.5 high. The 1st storey is

decorated with a series of Gandharan-Corinthian type pilasters surmounted by capitals with modillon, itself surmounted by brackets supporting projecting slabs. The base is decorated with a moulding, which is not very well preserved: a plinth surmounted by two large progressively indented cavettos, separated by a torus, is nevertheless recognisable.

The entire surface was plastered (amples traces of plaster still survive). The presence of a cornice supported by brackets in this case, instead of a simple architraved cornice, may be explained by the fact that the fields between the pilasters were painted.

The masonry is completely made of isodomic blocks of granite arranged in ashlar technique, with spaces filled with schist flakes. Pilasters (bases, shafts, capitals), modillons, and brackets are made in kanjur (limestone imported from NW Punjab); projecting slabs are in schist.

The top of the 1st storey presents a floor made of large blocks or slabs. The 2nd storey repeats the decoration and material of the 1st storey. The 3rd and 4th storeys are flat, plastered and marked along their upper limits by springing lines characterized by projecting slabs supported by cyma reversa type brackets. Also here, the presence of a cornice supported by brackets may be explained by the fact that the sides were painted. The surviving brackets of the 3rd storey are made of schist. On the basis of the available data, we have recomposed a chattravali with at least 7 chattras, of which the second from the bottom has a diameter of 7.30 m. The monument was more than 30 m high at the time (see below).

Orientation

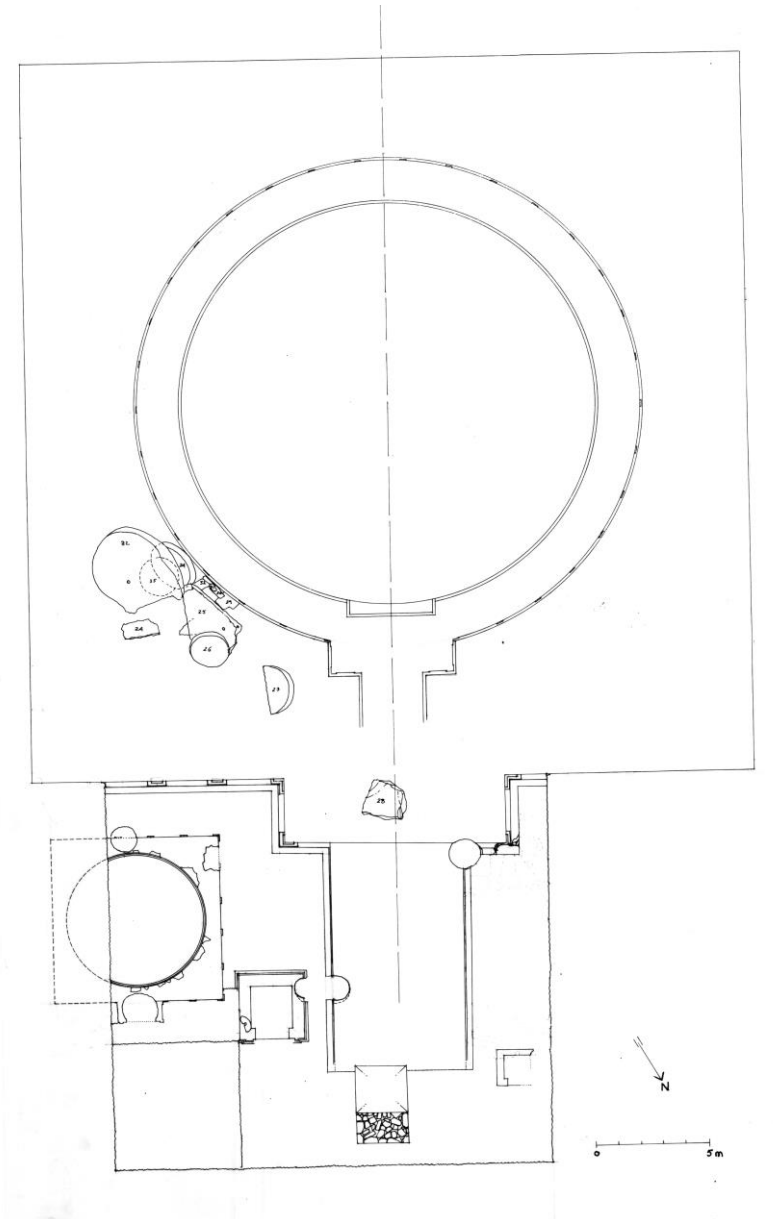
The orientation of the monument is NNE (and not N, as in Stein 1930: pl. 3). There is a slight difference of about 35° with astronomical N. The choice of the orientation was simply determined from observing the position of the sunrise. As everyone knows, due to the analemma of the Sun, the sunrise changes its position over the years. The orientation can thus be explained by the fact that the the planning of the stupa was performed at a time of the year after the Autumn Equinox, when the sunrise, at this latitude, is less than 40° to the ESE (see Snodgrass 1991: 15; Ioppolo in Faccenna 1995). This is the traditional system adopted by for the determination of the orientation of Islamic graves. In Islamic graveyards we observed a degree of difference of their orientation

according to the time of the year when the grave was dug. Of course, as happens on the stupa terraces, where the orientation of the main stupa features the orientation of the minor (and/or later) stupas, in Islamic graveyards the newly dug graves follow the orientation of those visible nearby.

Note

The same situation was observed in other major stupas, and the related minor monuments, in other stupa terraces. A clear difference with astronomical N is detectable at many other sites. For instance: a) Tokar-dara, Kalawan (NNW), Jamal Gahri (S-SSE), Mekhasanda (SSE); b) Marjanai, Abba Saheb-china (NNE), Nimogram (ENE), Saidu Sharif I, Bhamala (N-NNE). If our hypothesis is correct, it may be inferred that the first group was planned around the Summer solstice, while the second one, like AKD, before the Winter solstice. Monuments perfectly oriented towards the E (like GBK, Gumbatuna, Akauri A-C, Mohra Moradu, Thareli D), to the S (Jandial B, Sikri), to the N (Shajiki-dheri, Khader Mohra D1-2, Jaulian, Pippala, Kunala, Thakht-i Bahi, Sahr-i Bahlol A, Butkara I), may have been planned in equinoctial times (Ioppolo in Faccenna 1995: 170, fn. 1). Of course, the model, merits a more detailed study in the future in order to set the astronomical orientation in the framework of the topography of each area, the latter being an element that in some cases might have influenced the planning. However, the existence of preferred orientations (the evidence suggests N, and E) enables us to consider the astronomical point of view as the major factor for the choice of the orientation of a Buddhist monument (on the astronomical factor in religious architecture, see Willis 2009). Moreover, as far as AKD is concerned, no topographical or technical reason can have suggested building a monument with the entrance facing the nearby rocky cliff (see below the Paragraph on the building technique). If exposure to the sun and visual possession were the priorities, an orientation toward SSE or NNW would certainly have been preferred[3].

[3] On the analemma for Swat, see http://suncalc.net/#/34.6193,72.3265,7/2011.12.21/13:40. According to Fussman in Gandhara mountain stupas face E only where topography allows it (1986: fn. 20).



Pl. 1 - The excavated area of AKD 1. (Drawings of FM).

Compared dimensions

Note: Measurements are given with comparison to 4 other extensively studied monuments from the same District. The reconstructed measurements are marked with an asterisk; data for column 2-4 are from: Faccenna 1995; table XXVII; data of column 5 are from: Stein 1930: pl. 4.

According to Stein Amluk-dara stupa was '[...] the largest of all I surveyed in Swat' (Stein 1930: 18).

	Amluk-dara [30]	Saidu Sharif I Main Stupa	Tokar-dara Main Stupa	Gumbatuna Main Stupa	Shingardar
Orientation	NNE (N)	N-NNE (N)	NNW (N)	E	NNW (N)
1st storey					
w at base	34.60	20.5 c.	21 c.	15.5 c.	
base h	0.80	0.32	0.75	0.79	
wall					
h	4.70 c.	2.64	4.30	2.55	
w	33.50 W 28.00 N	20 c.	20.5 c.	15 c.	
cornice h	0.95 c.	0.315			
with coping h	1.00 c.	0.35	0.75	0.35	
1st stairway					
Period I					
landing					
l at base	3.15	1.02	2.30	1.00	
w	10.05	4.85	1.35 c.	4.75	
h	6.50	3.32	5.80	3.67	
flight of steps					
[Period I]					
l at base	7.20	3.77	6.30 c.	3.80	
w	6.00	4.29	4.20 c.	3.60	
h	6.25	3.32	5.80 c.	3.67	
steps					
riser	0.25	0.24			
tread	0.30	0.285			
nos. of steps	25	14			
[Periods II-III]					
l at base	10.80				
w	6.00				

	Amluk-dara [30]	Saidu Sharif I Main Stupa	Tokar-dara Main Stupa	Gumbatuna Main Stupa	Shingardar
h	6.25				
steps					
riser	0.25				
tread	0.30				
nos. of steps	36				
2nd stairway					
landing					
l at base	1.45				
w	5.30				
2nd stairway					
h	4.25				
flight of steps					
l at base	3.90	2.24 c.	4.00		
w	2.65	2.74	2.70		
h	4.00	2.20	2.79		
steps					
rise	0.25 c.	0.24			
tread	0.30 c.	0.285 c.			
nos. of steps	13 c.	9			
pediment					
w at base	3.65				
h	1.30				
l	0.45				
2nd storey					
d at base	19.25	16.18	15.94	11.95	
d at wall	18.55	15.87	15.50	11.55	
base h	0.75	0.32	0.55	0.72	
wall h	2.85	1.53 c.	1.69	1.10	
cornice h	0.65	0.31 c.			
with coping h	0.69	0.35 c.	0.55	0.30	

	Amluk-dara [30]	Saidu Sharif I Main Stupa	Tokar-dara Main Stupa	Gumbatuna Main Stupa	Shingardar
3rd storey					
d at base	19.11	13.76 c.	13.34	9.80	>18.90 c.
d at wall	18.55		13.00	9.55	
base h	0,50		0.53	0.72	
wall h	1.40		0.92	0.60	1.83 c.
cornice h	0.56				
with coping h	0.60		2.02	1.56	0.83
4th storey					
d at base	18.55		13.00	9.50	18.90 c.
w at wall	18.55				
base h					
w at base					
wall h	1.60		2.00	1.08	
cornice h	0.50		0.25	0.18	

	Amluk-dara [30]	Saidu Sharif I Main Stupa	Tokar-dara Main Stupa	Gumbatuna Main Stupa	Shingardar
chrattravali					
chattra 1					
d	>7.50				
t	0.34				
chattra 2					
d	7.20				
t	0.26				
chattra 3					
d	*>5*				
t					
chattra 4					
d	4.00				
t	0.30				
chattra 5					
d	2.32				
t	0.24				
chattra 6					
d	1.70				
t	0.26				
chattra 7					
d	1.69				
t	0.22				
chattra 8					
d	1.65				
t	0.21				
total h (including the harmika)	8.80				
Total h	32.90				

Construction techniques

Stein wrote that the monument's masonry showed an 'unusually neat execution', covered by a 'solid coating of plaster' (Stein 1930: 19). Ample parts of the monuments are exposed starting with the 1st stairway up to the dome, revealing the inner construction features. What is particularly interesting is that the core is composed of a horizontal course of stones interspaced by an horizontal thick course of mortar (c. 0.10-0.15 t). The mortar is made of compact layers of yellow purified clay with the inclusion of limestone fragments. Samples of the mortar have been collected for geological analysis (ongoing). For the facing masonry technique used, see above.

The problems related to the organization of work in stupa construction sites has never been addressed in detail. Some elements, related to the role of the *yupa-yasti*, can be found in two very informative articles published by J. Irwin (1979, 1980), integrated by P. Harvey and G. Fussman (Harvey 1984; Fussman 1986). Unfortunately, the issue was analyzed no further, as is proved by the miscellanea published in honor of the 80th birthday of D. Faccenna, (Callieri ed. 2006). Even if this book was originally conceived by its editor in order to address this very topic, only a few papers actually targeted the issue.

The excavations at AKD actually bring to light a very challenging aspect related to the construction of the stupa [30]. We were actually very lucky to be able to document at least 7 chattras clearly belonging to the chattravali of this monument (see below). The biggest (fragment [28]) was >7.50 d, and 0.34 t., the second biggest (sector [25]) was 7.20 d, and 0.26 t. Assuming an average of 25 g/dm3 as specific weight for granite and phyllite, the total weight of the latter, when assembled, was 25 t. (considering that [25] is a complete 1/8 sector, we may roughly calculate its individual weight as about 3 tons). The biggest complete chattra we have ([32], chattra 4), is almost intact (d 4.00 t 0.30); its total weight is 9.5 tons. Although the calculation is not precise, these figures can give some idea of the real order of magnitude. Even today lifting a large 9 tons piece of stone to a height of more than 30 m would be a challenging operation. Moreover, one should consider that just to lift the second biggest chattra on top of another one, up on top of the dome, the operation would have to be repeated 8 times. It is therefore hard to imagine that these almost

impossible operations were performed from the bottom up. We do not have any kind of evidence, either direct or indirect, regarding the existence or the use of engineering machinery yantra or machinae in Gandhara (for Buddhist India see the *Divyāvadāna*, 36.210).

We know, e.g. in Roman building engineering, that the business of construction becomes the more sophisticated, the more complex the building technique becomes. In Gandhara we might have simple building engineering simply because we do not have many significant examples of real architecture to be built. Stupas are solid monuments, "elaborated mounds", in reality more sculptures than buildings. Although examples of empty architecture are frequent (monasteries, shrines etc.), most of them were built simply using flat wooden ceilings and roofs, and the most elaborate Gandharan architecture never reached the technical standards of the coeval Roman (and Sasanian) *cupulae*. To correctly represent the problem, one should bear in mind that the most complex piece of Gandharan architecture is probably the double-dome shrine of Gumbat-Balo Kale described above. This monument, when compared to the challenges of coeval Roman architecture, appears quite unsophisticated.

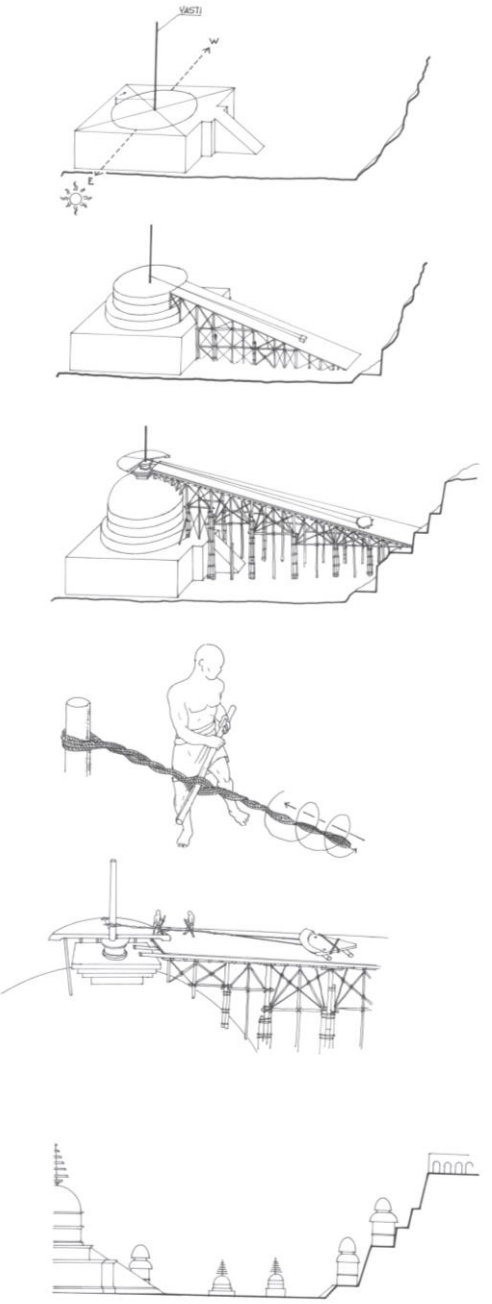
From monastic sources we know that the monks were directly involved in the business of construction, from buying the materials to dealing with the donors (see inter alia Schopen 2006, Id. 2007, and Shimada 2013; see also CKI 265, CKI 359). As a partial confirmation of this, the construction business was evidently not very complex, since no work contracts, orders or accounts, or the existence of lay professionals or guilds, have so far found mention in the monastic literature and texts. On the contrary, other professions, that evidently were regarded as deserving a real degree of skill are mentioned, like painters and sculptors (Schopen 2006: e.g. 239; see also Id. 1994). In this regard, it is interesting to note that neither the office of the navakarmika (or the monk in chief of new constructions), nor the shtapati (like an architect, not necessarily a monk) seem to be mentioned as professional figures. Several different types of (less skilled?) assistants belonging to the clergy are known in relation to new constructions and renovations in Buddhist monastic establishments (Schopen 2006). One of the most intersting stories narrated in Buddhist text is that of this three-storey monastery built in three days. Although the narrative has evident didactic and symbolic meanings (the building eventually collapsed), it is quite enlightening (ibid.: 231-33).

However, from a study of the monastic architecture in Gandhara, it appears quite evident that the major task of the monks in charge of construction was an endless series of renovations and transformations that, as we will see, were actually the steps of the long life of a stupa.

The construction of a stupa started most probably from the definition of its centre, and presumably, with the erection of a yasti. The presence of a real pole would have made easier a multiple series of actions: a) orientation, b) drawing the plan on the ground, c) inscribing the circumference of the upper storeys above/inside the square of the podium. After this phase we know nothing. I cannot accept the idea that the stupa (or at least a main stupa) was simply constructed from bottom to the top, like a house. In this sense a stupa can be very complex. It is a question of size. Most probably the system was rather complex in terms of sequence, even if still simple in technical terms.

On the following page 16: Pl. 2 - Hypothetical reconstruction of the Main Stupa building process. (Drawings by FM).

* * *


VASTI

Many main stupas are constructed near a rocky terrace or slope: e.g. at Tokar-dara, Abba Saheb-china, Saidu Sharif I and AKD (in the latter two sites, the nearby cliffs display ample and clearly visible traces of cuts). The presence of these rocky walls nearby suggested to me the idea that the rocky walls might have been used as starting points for gently sloping ramps constructed in order to reach the top of the stupa during the erection of the storeys. The chattras could have been easily dragged up there using simple machines, like the *argano spagnolo* (a rope-winch, a simple system known since the Bronze Age in Egypt). During the construction of the main stupas these rocky cliffs were possibly quarried to obtain construction material (as actually happened at Saidu Sharif I), as well as in order to enlarge the surrounding space. The new space could also be used to house new constructions (as at AKD).

Modification of the structure: An attempt of periodization

The Stupa [30] originally had a gray bluish schist decoration. Most of the decoration found in situ is made of kanjur (Figs. 15-21). None of these schist pieces have been found in their original position but some important and quite heavy pieces were found scattered in the re-filling left by the illegal diggers. These pieces were a) heavy enough not to be labeled simply as erratic, b) stylistically quite coherent, c) too big to belong to the decoration of a minor stupa. Fortunately, the most important of these pieces are double: two corner brackets and two stair-side elements (the latter are actually a couple), respectively Inv. no. 6 and 17 and [118] and [143], so we can rely on their association with [30]. These pieces can tentatively be ascribed to an otherwise not preserved Period I decoration. We do not actually know how long this schist decoration was in place. For sure it was replaced with decorative elements made of kanjur, plastered and colored, a decorative framework that is positively attested in connection with the second phase of the 1st stairway (i.e. Periods II and III; i.e. when the body of the staircase was re-built) and with the second phase of the monument [61]. In the new body of the staircase, two semi-circular niches were cut (<150> and <151>), most probably in order to create space for a votive stupa. A good example of a semi-circular domed cell or recess purposely built inside the staircase after the construction is documented at Tokar-dara, in the Main Stupa (Faccenna 1995: fig. 232a).

In comparison to the good example of the masonry facing the latter, the two from AKD appear to be absolutely primitive. The reason for leaving the inner facing as it was, after they were literally dug out of the core of the staircase, was that their inner wall was meant to be - and probably was - plastered. This is compatible with phases where plaster and stucco are dominant as a finishing touch. New additions were added to the 1st staircase in Period IV.

We can actually envisage a further addition to the building - the construction, after a phase of abandonment, of Shrine [17] (Period V)[4]. Most probably, after another phase of abandonment, we have a phase of later re-use of the sacred area in Period VI, before the final abandonment, as demonstrated by the life of [61] and [60]. In view of these phases the stupa [30] might have also continued its life, even if more than half the height of its 1st storey was already buried.

The final abandonment of the site, and of Stupa [30], as places of worship, occurred in Period VII. We have tentatively seven structural periods covering a time-range that might be conservatively placed between the chronological brackets of end-1st/beginning-2nd century CE and 9th century CE.

Throughout the life of the monument a series of building events occurred. Of these, only the early construction appears well planned.

The rebuilding of the staircase (Period II) appears rather peculiar: it is difficult to understand why the staircase was elongated, thus making its slope different from that of the 2nd stairway. This double inclination would have appeared quite strange in Gandharan architecture, where at least symmetry is always respected. Even if the 2nd stairway had a second phase connected to the rebuilding of the pediment (Period III), the 2nd landing was simply raised by a max. 0.30 m, so there are no great changes in the inclination. Most probably the reason was a technical one. We may presume that the 1st stairway was somehow damaged (perhaps by an earthquake). Whatever the reason, the people in charge preferred building a new flight of steps on top of the damaged one, probably reusing the same material. In consequence the staircase became higher and longer, and its inclination changed. The second reconstruction followed the

[4] The four stages of the 1st staircase and the five floors documented on top of the 1st storey (see below) represent the only clear guide for the periodization of the earliest phase. 60

inclination. A fourth modification phase (Period IV) was also documented preceding the construction of the Shrine [17]. The cutting of these two semi-circular cells is a very clumsy addition indeed, rather an encroachments[5]. The paved floor was in use from Period I to IV even though continuously re-plastered. Eventually the construction of the Shrine [17] (Period V), right in the middle of the steps, gives a final touch of oddity to the entire assemblage[6].

Addendum

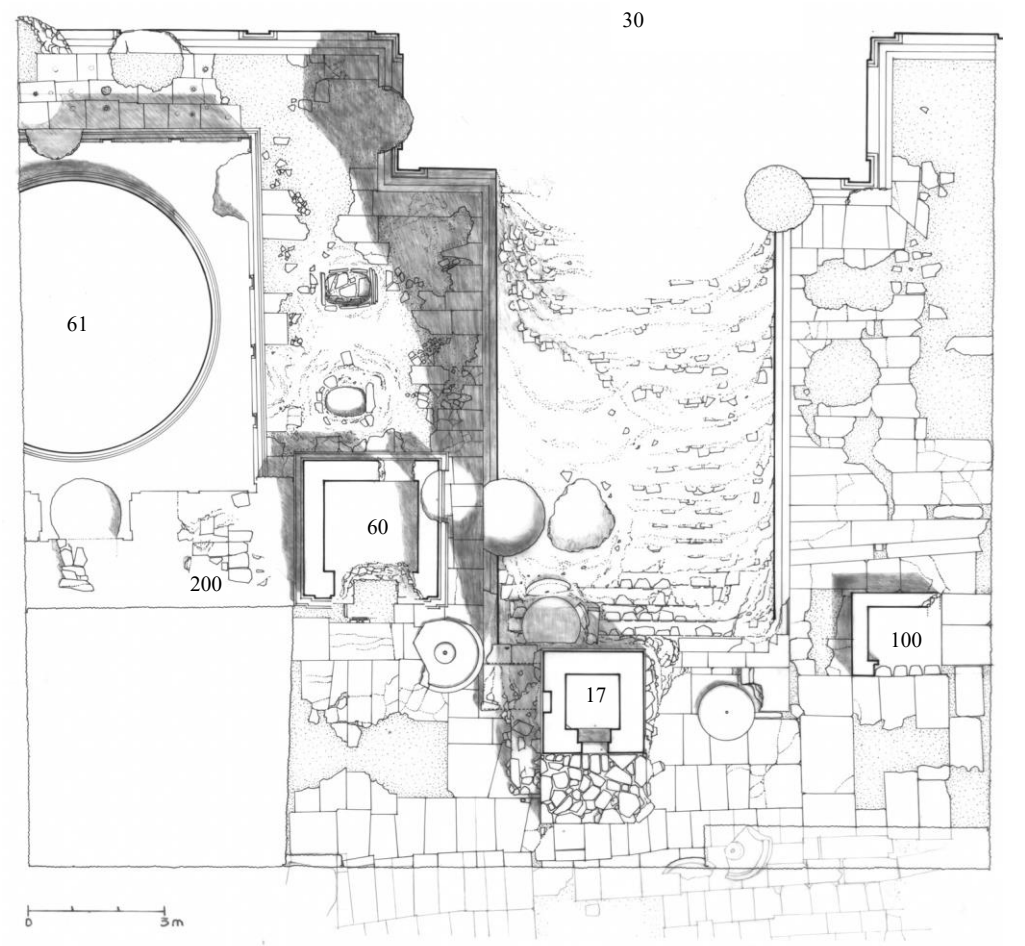
The area excavated in 2017 (Sectors NNE and NNW)

Note: *Updated archaeological descriptions are given in the sections dedicated to Stupa [61], Shrine [60].

* * *

[5] A similar situation is documented at the monastery of Kunala (Taxila). Here the main stupa features a smaller stupa 'immured in its core' (Marshall 1951: Pl. 87.a).

[6] K. Behrendt has already underlined the problem of the existence of long "static" architectural phases in the life of Buddhist sacred areas when discussing the re-usage of sculpture in static architectural phases (Behrendt 2009).



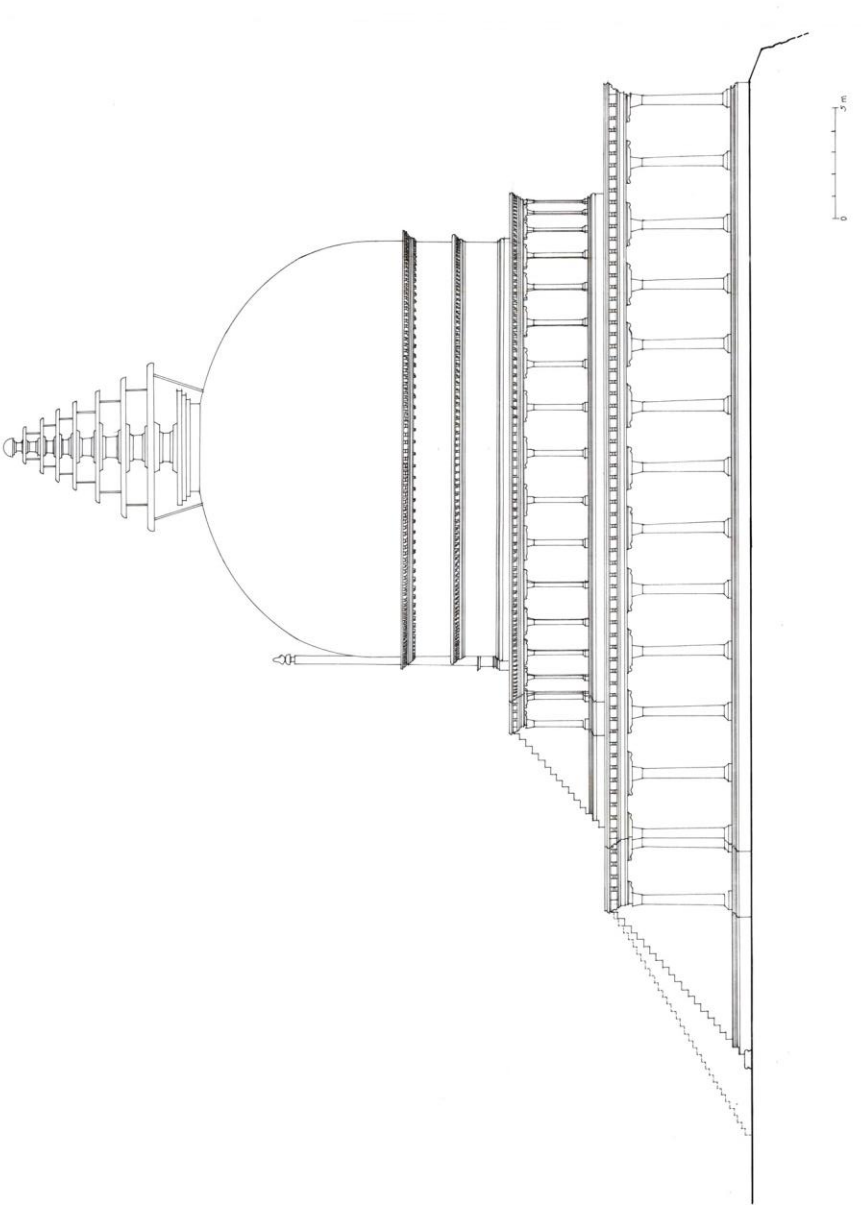
Pl. 3 - AKD 1, excavated area, plan. (Drawings by FM).

On the next pages, the sectors excavated in 2017. (Photos by LMO).

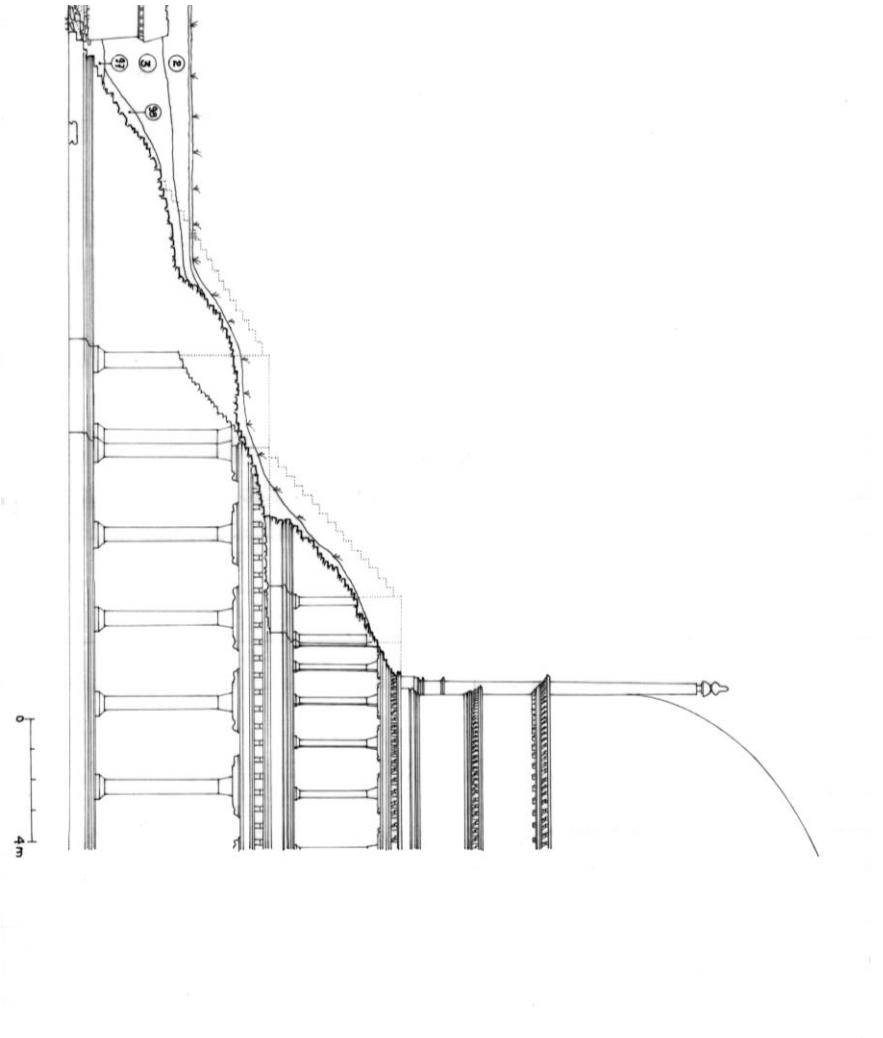
Sector NNW

Sector NNE

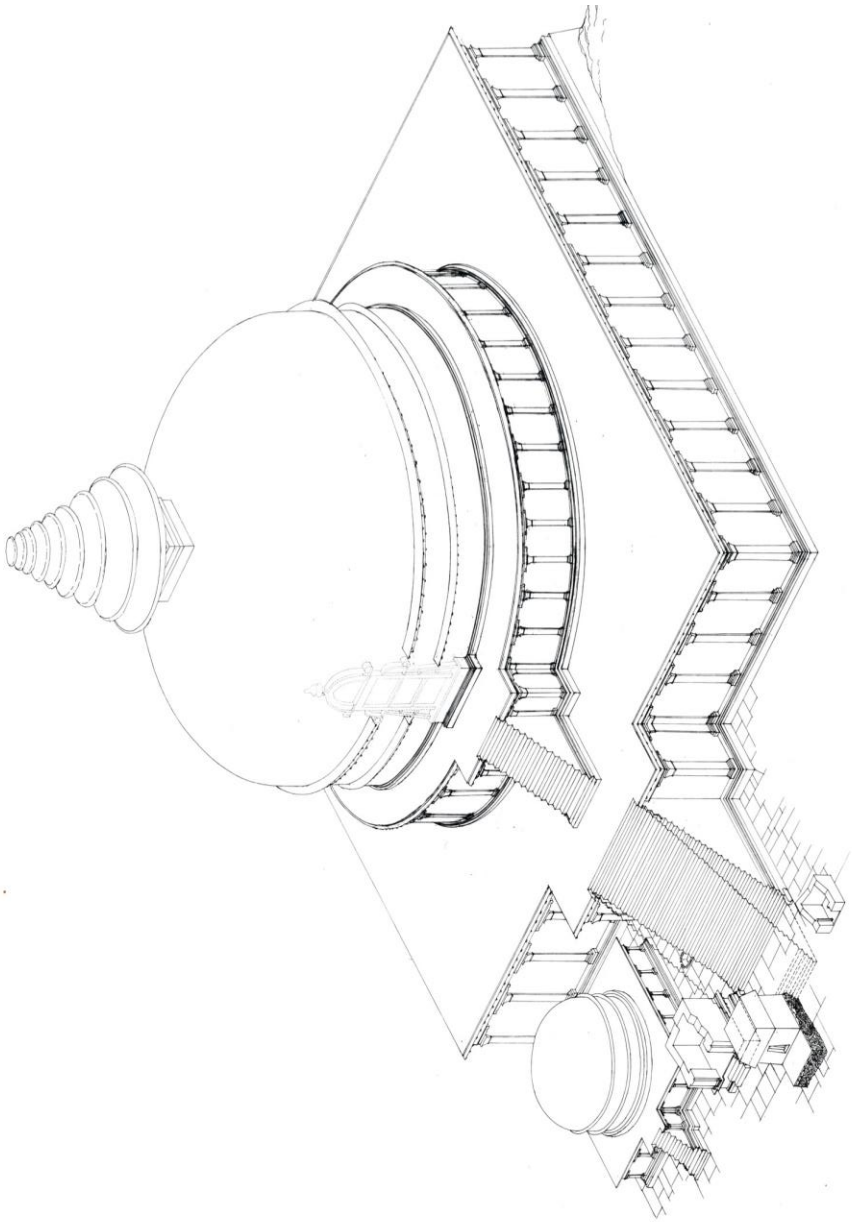
Details of Stupa [61] and Column [200].



Pl. 4 - AKD, Main Stupa, prospect side W. (Drawings by FM).



Pl. 5 - AKD 1, excavated area, section N-S. (Drawings by FM).



Pl. 6 - AKD, Main Stupa, axonometry (view from WNW). (Drawings by FM).
N.B. Column [200] is not represented.

The reasons for these series of strange building events, to the best of my knowledge, may be grouped into two categories. First, the stupa is not an edifice. It is more like a big sculpture, which is composed of parts that have their own meaning in terms of symbolism, and hardly have any structural value, or, if they do - like the staircases - their symbolic significance may at times be stronger than their functional value. Secondly, and related to the first point, this is the history of the religious architecture of the Subcontinent, but not limited to it, where the building is for worship and not vice-versa. Temples in India have undergone a long history of alterations and modifications, at least until the end of the 19th century. What changed was that at a certain point in time the various British laws for the protection of the religious monuments effectively started to take effect[7].

From 1904 onwards, any intervention concerning living temples and shrines was accepted with difficulty, when actually not forbidden by the Government ruling at the time. From that time the temples started being preserved or protected, as they were, perceived as architectural heritage more than living spaces. This model of monuments frozen in their immutable shape over the centuries does not belong to the living architecture of temples in the Subcontinent, nor did it really belong to the early European tradition. This model was inherited in Europe from the Renaissance by the Neo-Classicism and Romanticism movements, first in Germany (with this image of immutable Classical Italy). The high ranks of the ASI India successfully imported the model into India. Of course, a methodological companion of this model was the restoration in style (see below), which was dominant in the Subcontinent.

Like any South-Asian temple also stupas were not immutable things, rather the contrary. This fact can be considered a fait accompli, and is proved by a large body of archaeological evidence (summarized in Behrendt 2009) and AKD gaves a good account of this[8].

[7] Starting with the Bengal Regulation, XIX, 1810, and the Madras Regulation, VII, 1817, which inspired the Religious Endowments Act, XX, 1863 and the Indian Treasure Trove Act (TTA), VI, 1878, strongly desired by the Director General of the Archaeological Survey of India J. Burgess. These laws focused mainly on the protection of living worship monuments rather than on the protection of the archaeological heritage. With J. Marshall and the re-organization of the ASI we finally have the Ancient Monuments Preservation Act, VII, 1904, the antecedent of all the legislations of India, Pakistan, Sri Lanka and Bangladesh (see Olivieri 2015$_a$).

[8] To which the inscription of Sevanarma has to be added (Bayley 1980, Fussman 1982, Salomon 1986, von Hinüber 2003).

Several passages of Xuangzang already cast more than a faint beam of light on these aspects, but few were able to take the hint. The main reason is probably that very few field archaeologists paid much attention to the late phases of Buddhist monuments in Gandhara (apart from Faccenna, Kuwayama and Abdur Rahman, who were among the very few)[9].

1958-59 restoration (Figs. 22-24)

This restoration was carried out in 1958-59, under the direction of the DOAM Federal (Khan 1968). However, it is well known that in those years the Italian Archaeological Mission started its activity in the Yusufzai State of Swat, a fact that actually triggered the involvement of Pakistani State archaeology in the then semi-autonomous princely State (the history of these early phases is amply described in Tanweer 2011). Before the discovery of this restoration activity, we knew of only two other interventions financed by DOAM before 1969, when Swat became part of Pakistan: 1) the restoration of Udegram Castle implemented by the Italian Mission (Gullini 1958: 330); 2) the partial restoration of the Shingardar stupa. Both interventions were carried out following the same patterns of intervention observed at AKD: a) masonry restoration in-style, b) partial intervention (limited to the visual front of the monument, c) use of cement as basic mortar.

In stile intervention, which involves the same technique and materials, avoiding any sign of distinction between the original and the restored parts, was typical in Italy until the 19th Century, recommended by the Archaeological Survey of India (Marshall 1923) and used in the former British Raj territories still in the 1960s (and later). Apparently, no one had ever noticed nor knew that the 2nd storey was hugely restored. All the scholars who visited the site over the years (including the present writer), were apparently deceived by the description left by Stein in his famous report: '[the facing] exhibit[s] the Gandhāra type masonry in *unusually* neat execution' (Stein 1930: 19) (the emphasis is mine). Only after the complete clearance of the pediment did we find in the facing a dressed block marked '1958-59', while another block with an arrow heading up, a modern mason-mark, was found in the NE facing of the 2nd storey. Then,

[9] See Verardi 2010: 341-43. See also Verardi 2011.

after the 2nd storey was cleared of bush and weeds, we were able to define the restored area, marked by cement mortar and neatly dressed masonry interventions.

The 1st stairway (Fig. 25)

The 1st stairway, including the flight of steps and landing, is currently almost completely cut by a destruction negative interface <13>. The flight of steps was modified at least four times. These modifications made the steps progressively elongated by adding steps at the bottom and reconstructing the stepped surface, because of the relative change of inclination.

The original stairway [155] had the same inclination as the 2nd stairway (approx. 45°) and most probably was opened by propylaea formed by stair-side elements ([118] and [143]), which were probably meant to support elements of the railing (see Brancaccio, this Journal). This phase belongs to the structural Period I.

A second phase [160]-[158] is represented by the addition of at least 4 new steps, and by the insertion of reused elements in the masonry. The inclination of the staircase changed, and in this phase we may infer that the flight of steps was rebuilt. The base of the flight of steps had in this phase the same moulding as [30]: plinth superimposed by two large progressively indented cavettos, apparently separated by a small torus. Tentatively this phase has been linked to Periods II-III (see below). A third phase is represented by the addition of a sort of platform below the first step: the platform is preserved only with the blocks [124] and [123]. This phase has been tentatively ascribed to Period IV. The Period II-III additions to the stairway are also marked by several (F. Martore observed four) different layers of plaster at the base of the 1st storey and 1st stairway, in particular involving the remoulding of the torus. No layer of stucco was added to the Period IV 1st stairway's base. The W half of the stairway and of the 1st landing has been restored in order to give visitors some idea of the original volume (Periods II-III), as well as to facilitate the visit of the upper portions of the stupa. On the original floor of the first landing two board-games were found carved onto two slabs (see Schädler, this Journal).

The 2nd stairway and the upper pediment (Figs. 26-29)

The 2nd stairway, a flight of steps and landing, is currently entirely cut by a destruction negative interface <13>. The landing ends up against a small plinth running all around the 2nd storey below the pediment. One may assume two construction phases for the stairway from the presence of an early phase of the upper pediment (see below) and by two related superimposed small plinths.

We documented a pediment or frontal plinth with two superimposed carenated tori SU [67] on top of the 2nd landing. The existence of this element was first noted in 1956 by Tucci's team (Tucci 1958: figs. 38-39). The structure was heavily restored with the intervention SU [184] in 1958-59, as marked by the date inscribed on one of the dressed blocks of the facing. The restored upper portion of the pediment projects slightly over an older one. The only solution for this odd feature is that the pediment originally had two phases, [67] and [68]; after the artificial cut <13>, the surface of the 2nd stairway was totally destroyed, including the part that had been obliterated [67]; the restoration of choice concerned only [68], of which some original blocks are still in situ (see above). [68] corresponds to an early phase of the pediment.

* * *

Amluk-dara (Swat, 2012). (Photo by EL).

Top-dara (Kapisa, 2018). (Photo by LMO).

The top of the landing of the 2nd stairway was raised in a second phase; the new, larger, pediment [67] obliterated the previous one. Although the presence of this element is not commonly recorded by archaeologists in major stupas (only in Tokar-dara, main stupa, do we have a recessing rectangular niche that certainly housed a frontal niche), it is well known in minor and votive stupas. In these minor monuments, pediments supported false gables (typical in Gandhara) or votive reliefs (as shown in several representations from the Upper Indus).

In Swat the only other major monument with pediments supporting a niche and central stairway is the Main Stupa at the nearby site of Tokar-dara (Faccenna 1995: fig. 232a). The best comparison can be found instead in the stupa of Top-dara, currently under restoration and excavation by the Afghan Institute of Archaeology directed by Mr. Noor Agha Noori (on the previous page). Top-dara at the western side of Kapisa with its 36 mt h. (without the chattravali) can be considered the most majestic surviving stupa of Greater Gandhara (it is > 1/4 bigger than Amluk-dara).

The upper storeys and the dome

The top of the 2nd storey, apart from fragments of a small plinth preserved along the wall of the 3rd storey, and the restored portion of the 2nd storey facing, is cut by <13>.
The 3rd and 4th storey (or drum) are marked along their upper limits by springing lines characterized by projecting slabs supported by cyma reversa type brackets (see Stein 1930: 19).

Model of collapse: a few comparisons

From the pediment up to the top of the dome the frontal facing displays a vertical scar <15>. The width of the scar is a bit larger than the width of the pediment, and it has a roughly arched shape. The scar affects only the external masonry and it was most likely caused by the collapse of an external decoration, most probably a niche, if one compares the evidence of AKD with that of Shewaki and Top-Dara (Kapisa) (see Lézine 1964; Kuwayama 1991, Id. 2000, Fussman et al. 2008) (see fig. on previous page).

The chattravali (Figs. 30-31)

We have documented portions of the chattravali pertaining to seven chattras (Stein observed only four fragments; Stein 1930: 19). On the basis of these data we tentatively propose in Pls. 5-6 a chattravali formed by nine chattras. A rectangular element pertaining to a colossal harmika reported by Stein (ibid.) has been lost.
The chattravali collapsed clearly after a sesimic event in Period VII, when the stupa was already abandoned.

4. **Stupa [61]** (Figs. 33-39)

The monument is a stupa, square in plan, with stairways. The monument follows the orientation of the Main Stupa [30] (NNE).
Only the 1st storey, part of its original top [69], a portion of the 2nd storey, and a fragment of the 2nd stairway with its landing, have been preserved.

The 1st storey

The 1st storey's decoration follows more or less the decoration of [30]: The 1st storey is decorated with series of Gandharan-Corinthian type pilasters surmounted by a capital with modillons, which is surmounted by brackets supporting projecting slabs. The preserved capitals are all slightly different, although typologically similar. They were thus modeled by hand without using a mould. The base of the monuments is decorated with a moulding: the projecting parts are composed of a plinth with a superimposed torus, followed by a reverse sloping fillet and torus (or carenated torus?). The upper part is set back: cavetto and flat cyma or pseudo-cornice. The pillars have four concave flutes with beveled concave ends. The pillars are supported by a torus type base (Faccenna and Filigenzi 2007: pl. 37.1). The Gandharan-Corinthian capitals with collars, display two rows of acanthus leaves (sometimes frontal, sometimes at the sides). The capitals support modillons surmounted by a projecting architrave. Sometimes the architrave is made of two superimposed fillets, and sometimes of a flat fillet decorated with a row of dentils. The upper parts of the surfaces from which the architraves project are also decorated with rows of dentils. The moulding is completed by a flat band with a

superimposed row of ovoli (or rather a row of reverse, bordered squared leaves) surmounted by a ovolo-cavetto straight moulding. The entire surface is plastered and colored (ample traces of red color are preserved in the upper row of ovoli).

The masonry is mostly not visible, since most of the surface's plastering is preserved. It is made of isodomic blocks of granite arranged in ashlar technique, with spaces filled with flakes of schist; [69] top slabs are also made of schist.

*Addendum 2017 (see photos on pages 20 and 21). The stairway has been excavated and foundation exposed. The stairway is 2.60 l, and 1.80 w. It features a short landing with corner pillar. In this phase, to the N of Stupa [61] is the base of Column [200] with plynth and projecting coping slabs (c. 1.80 w., 0.90 h. max.).

The 2nd storey

The preserved part of the 2nd storey is decorated with a flat base surmounted by torus, cavetto, reverse sloping fillet (incomplete). The upper part is missing.

Position and comparisons

The position of a second smaller stupa on the right of the Main Stupa [30] is quite typical. A brief survey of the major Buddhist sacred areas featured by a Main Stupa on a square plinth shows that the pattern is comparatively frequent. This led us to think that there might have existed a foundation model for this type of stupa terrace, with two stupas constructed at the same time, a major one and a minor twin (right or left side, something that was apparently not significant). This pattern is clearly recognizable at Baligram, Gumbatuna, Marjanai (MS1, S7), Sikri (the so-called ‘large altar’ on the left), Mohra Moradu, Akhauri C, Jandial B.

Late phases (Period VI)

According to the stratigraphy described below, the stupa, in a later phase, even if its 1st storey was almost buried and - probably - its decay had

already started, was still a living monument. A Gandharan panel Inv. No. AKD 89 was found fixed in the layer, leaning against the wall of the 1st storey of [61].

In a subsequent phase a clay floor, with slabs placed horizontally, here and there showing ample traces of plaster (119), was raised to the same level as the cornice of the podium of [60] (cf. the situation documented at Hadda in Kuwayama 1987: fig. 4).

*Addendum 2017 (see photos on pages 23 and 24). Clay floor (119) includes the razed surface of Column [200].

These two late phases, tentatively ascribed to Period VI are later than the abandonment of shrine [17], and preceded the final abandonment of the site. This evidence quite perfectly matches the image, given above, of long-lasting monuments, whose life apparently continued even when their structure was terminally decayed (see the discussion in the section above: The Main Stupa [30]. Modification of the structure).

The re-use of the panel AKD 89 is quite interesting, since it indicates that the area (and possibly also [61]) was still an object of worship. The physical context of this discovery recalls quite closely the evidence documented at Sahri Bahlol D, platforms ii and iv, and Sahri Bahlol C, stupa iii, etc. (Behrendt 2009: 23-24, figs. 9, 10). The re-use at Sahri Bahlol has been tentatively ascribed to 6th-7th century CE.

* * *

On the next page: dimensions of stupa [61].

Dimensions

Orientation	NNE (N*)*
1st storey	
w at base	7.60
base h	0.59
w at base	8.16
wall h	1.10
cornice h	0.52
with coping h	0.55
Stairway	
w	1.80
l	2.60
2nd storey	
d	6
base h max.	0.48
wall h max.	0.12

5. Shrine [60] (Figs. 41-43)

The monument [60] is a square shrine with door opened to NNE. The external surface is practically all covered by a plaster with stuccoed colored surface. It is composed of a podium with base, torus, projecting fillet, reverse sloping fillet, and a band, with a superimposed second torus with cavetto on fillet. The cornice of the podium (lower part) is composed of a band with upper fillet, cyma recta and final band. The upper fillet is decorated with a row of bead-and-reels; the cyma recta, with lattice with oblique fillets and oblique parallel rows (straight and curvilinear, alternating); the fields between the fillets is colored red. The upper part of the cornice is decorated with a row of Gandharan-Corinthian S-shaped pillar type brackets supporting a flat band surmounted by a reverse ovolo and a fillet. The fields between the brackets are colored yellow. The base of the body is marked with a band surmounted by torus, fillet and cyma reversa.

Modification and late phases

Apparently, the shrine was originally open at floor level like shrine [100]: this element appeared underlined by scanty fragments of jambs (Period I). In a second phase the entrance was raised to the level of the cornice: a flight of steps (subsequently destroyed by the illegal pit <178>) was constructed in front of the new door [159]. We have documented an internal floor [112] connected to the steps. It seems that the the floor was used from a quite early phase (Periods II-III), when the external bodies of both the shrine [60] and the stupa [61] were plastered. In a very late phase (Period VI) the floor was still in use, with the external surface (119) raised up to the level of the entrance.

Dimensions

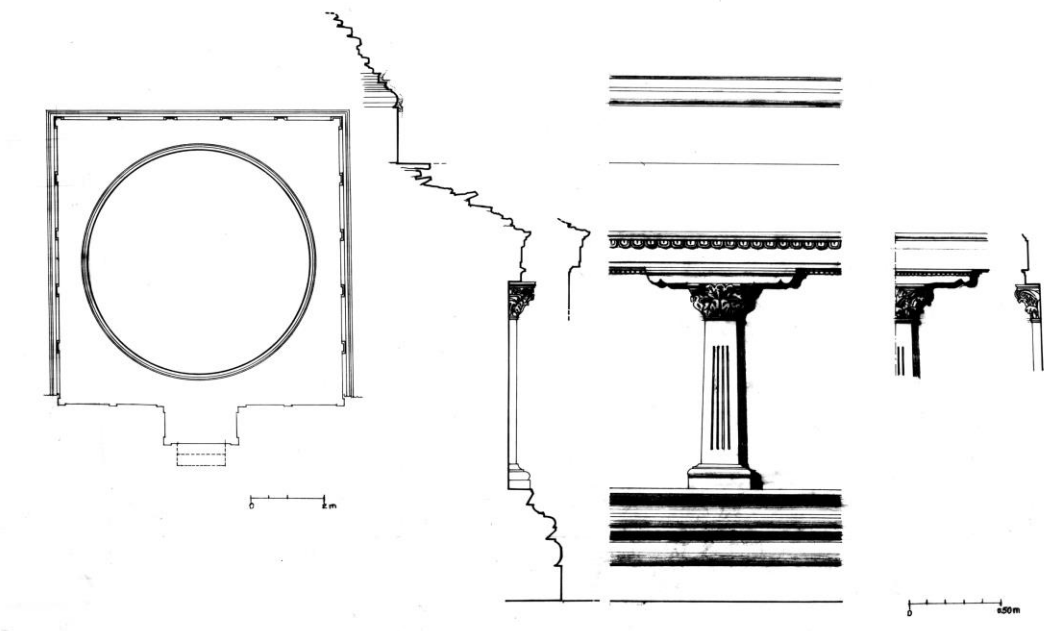
Orientation	NNE (N)
podium	
w at base	2.90-2.95
base h	0.28
wall h	0.66
cornice h	0.26
with coping h	0.28
body	
w at base	2.90-2.85
cornice h	0.12
wall h max.	2.00

6. Shrine [100]

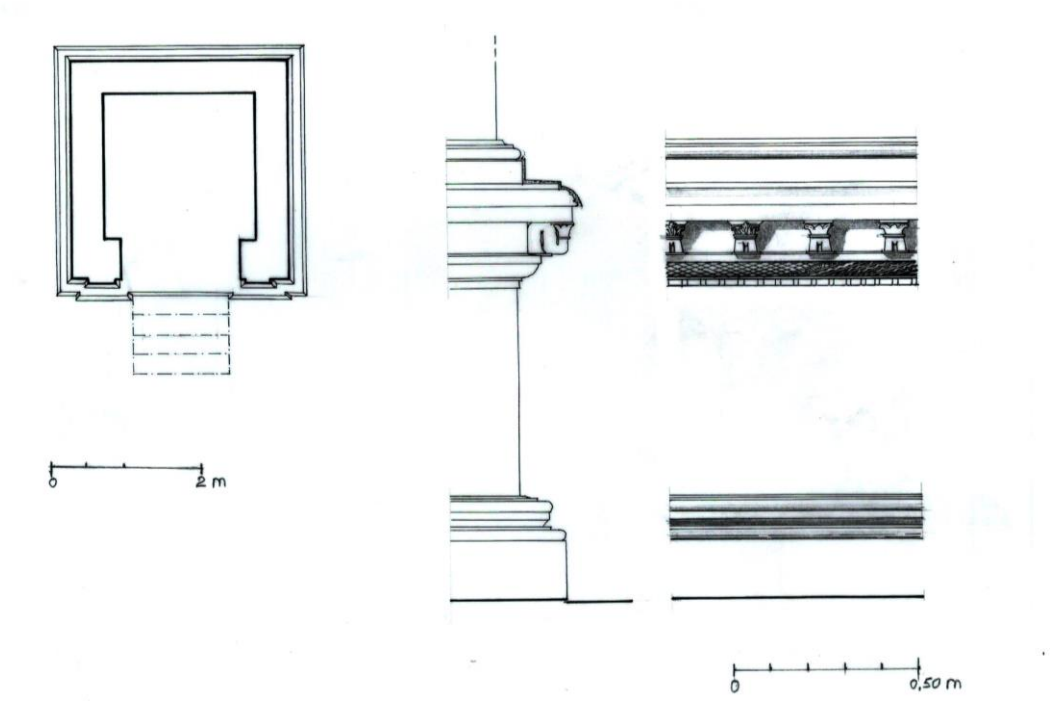
The monument [100] is a square shrine with door opened to NNE. Almost completely destroyed, it rises directly from floor [156] without any traces of foundation.

Dimensions

Orientation	NNE (N*)*
podium	
w at base	1.95-1.82
h max.	1.35



Pl. 7 - Stupa [61]: Plan, section and detail of the decoration. (Drawings by FM).



Pl. 8 - The shrine [60]: Plan, partially reconstructed section and detail of the decoration. (Drawings by FM).

7. Shrine [17][10] (Figs. 44-46)

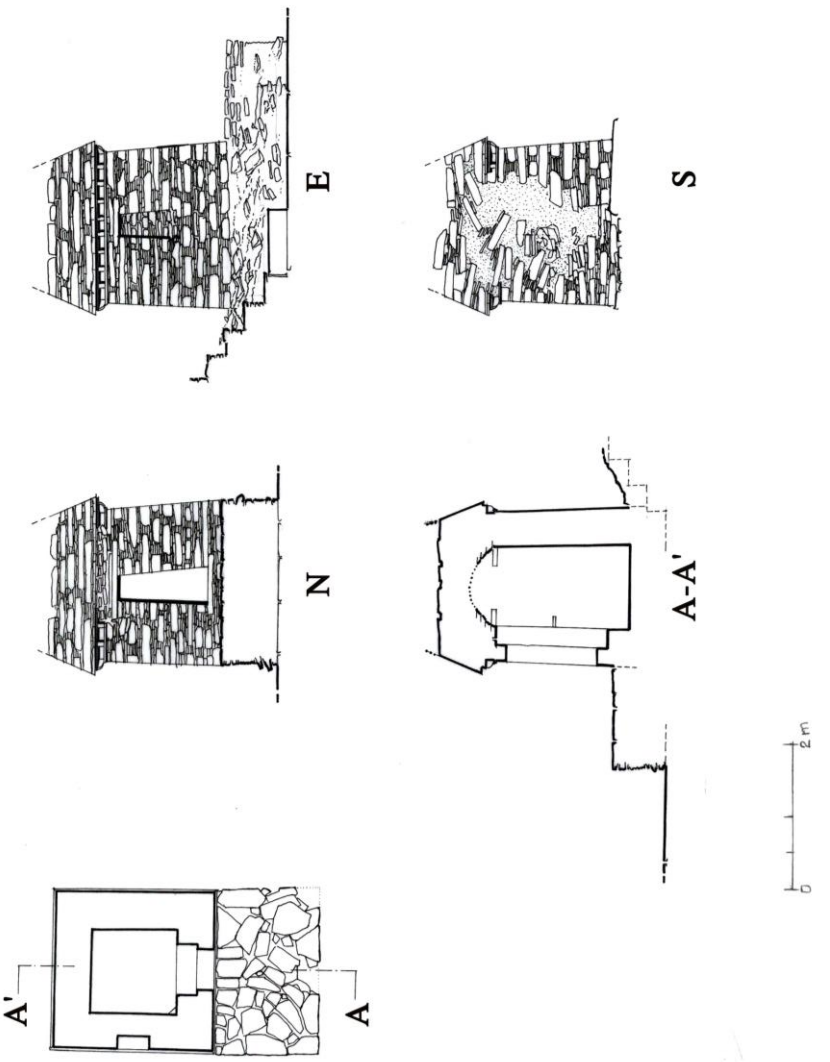
The monument [17] is a square shrine with door opened to NNE. Slightly damaged, it rises directly from the raised floor (122)-[95]. It was built in Period V, when the bottom part of the staircase was covered by debris.
The shrine is accessible through a paved platform. The shrine features a Western type tapered door open on the N side, with raised threshold, rebated jambs and inner step. The architrave of the door is constituted by a

[10] For shrine [17] a convincing comparison may be made with a building documented at Nawagai, Period III (attibuted by the excavator to 8th-10th CE), when a domical roofed cell was constructed against the S wall of the main Stupa. The excavator speaks of the presence of buildings constructed 'without any concern for the sentiments of the Buddhist worshippers and the sanctity of their shrine' (Said Qamar 2004: 185).

re-used harmika slab decorated with lattice of rosettes with lanceolated bordered petals and pistil.

Another fragment similar is size and decoration is inserted in the front wall, to the top left of the door; two smaller fragments with similar decorations are inserted on the left side of the door. The inside of the architrave is supported by a series of low increasingly inward-directed slabs. On the E side there is a rectangular niche; the W side is plain; it is not clear whether the S side originally presented an opening in correspondence with the N door (as suggested by the presence of a threshold-like slab). The wall partially collapsed when the monument was explored by illegal diggers, and was, for technical reasons, temporary restored as plain wall.

The body is surmounted by a pent roof projecting slightly off the wall and supported originally by eight re-used ovolo-type brackets per side, plus one at each corner. Only on the W and E sides is the original number of brackets preserved. It is not clear whether the roof was originally pointed or truncated. Internally the cell is square in plan; a small triangular shelf is inserted at approx. 0.50 h from the floor, in the NE corner. The floor is paved. The dome, actually a false dome, is circular in plan and formed by a series of slabs turned increasingly inward and resting on corbels, and covered by a series of increasingly smaller reused chattras ([115] and [157] found outside; in situ: [114]: d 0.96; [113]: d 0.98; see below). The pent roof is built on top of this structure. It is possible that the construction of the monuments was performed in two separate stages or that the monument was hit by an earthquake, since on the W side a line of fracture or detachment is clearly visible.



Pl. 9 - Shrine [17]: Plan, section and elevations.
(Drawings by FM).

The classification of the monument is not clear. Similar, but solid, votive monuments were found e.g. at Saidu Sharif I (for the type see Faccenna and Filigenzi 2007: pl. 23.5 and pl. 30.5 with references). The general feeling, however, is that the monument does not belong to the Gandharan architectural tradition (as confirmed by its stratigraphic and chronological position; see also Said Qamar 2004).

Dimensions

Orientation			NNE (N)
body		*pent roof*	
w	2.23	w	2.59
N	2.25	N	2.61
E	2.21	E	2.57
S	2.23	S	2.59
W	1.56	W	0.65
h	0.16	h max.	0.18
cornice h		projection	
door	0.53		
w	1.23		
h	0.52		
t	0.15		
inner step 1 h	0.40	*platform*	
inner step 2 h		w	2.28
inner dome	1.10	h	0.75
d	0.40	l	1.50
h			
niche	0.42		
w	0.82		
h	0.16		
depth	0.60		
h from base			

8. The dig and its Stratigraphic Units

For the sake of clarity, in this study we subdivided the excavation area into two main parts: 1) the stupa terrace (below and around the 1st stairway of [30]); 2) the 1st stairway, its landing, the top of the 1st storey along with the 2nd stairway and annexed elements of [30]. Despite the difficulties caused by the almost complete absence of reliable archaeological layers, we managed to reconstruct the structural phases of the site.

In order to facilitate a rational reconstruction of the stratigraphy, we decided to subdivide it into four major phases (and attempting a preliminary periodization), each corresponding to the four major stages of the life of the area and its monuments, from the foundation until today.

Foundation and structural development (= Periods I-V; c. 2nd/3rd-6th CE)[11]

During the excavations, after removing the filling of the large pits <6> and <7> excavated by illegal diggers, we exposed the following original layers (corresponding to the irregular bottoms of those pits): [156], (110), (97) and related isolated elements, (122), (133), (131), (132), (134), [95], (96), [123] and related isolated elements. Of course, due to the artificial intervention, the exposed layers formed a diachronic, and potentially deceptive horizontal facies. The floor [156] is cut by a series of pits dug and re-filled by illegal diggers in recent times: of these we have positively documented <141> (E of [17], S of [60]) and <140>, in the SE corner between the 1st storey of [30] and the body of the 1st stairway. This phase is characterized by a dynamic series of positive activities that start with the foundation of the artificial terrace and end with the last building added to the stupa terrace [17].

The list of the stratigraphic units recorded in this phase is reported below along with its interpretation and its preliminary periodization.

[11] A 2nd/3rd CE chronology for the early Periods may be inferred from the samples LTL12769A and LTL12771A, which were collected, at any rate, *above* the sealed limit represented by the paved floor [136] (Period I).

Stupa terrace

SU (152) Bed rock; gneiss. This layer corresponds to a rocky outcrop, that formed the original topsoil, on which the stupa terrace is built.

SU (153) Gravel and flakes of stone, mixed with clay; on top of (152). It corresponds to the levelling on which the paved stone of the stupa terrace is founded.

SU (154) Compact clay; on top of (153). It corresponds to the second filling, or subsurface, made of sieved clay as preparation for paving the floor.156].

SU [156] Stone floor; on top of (154). It is made of large flat gray stone (phyllite) slabs, occasionally interspersed with small flakes inserted vertically. It may correspond to [39] and [14] on the top of the 1st storey of [30] (see below).

SU [30] See above.

SU [61] See above.

SU [60] See above.

SU [100] See above.

Note: in the Sector ESE the floor [156] is pierced by 15 holes where possibly votive poles were driven in. Their average d is 0.10-0.20 and the depth 0.10 c. For the interpretation of these holes see Faccenna 1980-81: 671-72. The first three layers were investigated by excavating the filling (139) from t pit <141> excavated by illegal diggers. Floor [156] may correspond to floor [50] on top of 1st storey. All the layers mentioned correspond to structural Period I. In Period I the structures [30], [61], [60] and [100] were built.

SU (134) Stucco layer; preserved here and there; apparently originally spread all over the top of [156]

SU (133) Compact reddish clay with stone slabs here and there; on top of (134), it is preserved only between [30] and [61] to the W of the latter, in SSE Sector, and in a few other preserved spots (see below). It is apparently an external surface that was originally spread all over the top of (134).

SU [128] Rectangular tank with rounded corners; dug into [156] at the same level as (134); it lies W of [61] and E of [55], orthogonal to both. Lateral walls were

re-plastered with stucco and raised to the level of (133); the floor is made of a single slab.

SU [129] Rectangular tank with rounded corners; dug into [156] at the same level as (134); it lies W of [61] and E of [55], orthogonal to both, parallel and N of [128]. Lateral walls were re-plastered with stucco and raised to the level of (133); floor is composed of more than five slabs.

SU (130) Compact clay with sand and scattered fragments of bones; brownish; inside [128]. It may correspond to the filling of the latter.

SU (131) Compact clay with sand; brownish; inside [129]. It may correspond to the filling of the latter.

SU (137) Compact clay with sand; yellowish with traces of water run-off. It covers (133). External surface in the Sector SSE (between [30] and [61]. It is identical to (110).

SU (110) Compact clay with sand; yellowish with traces of water run-off. It covers (133), (130) and (131). External surface. It is identical to (137). It also corresponds to the bottom of <7> (see below). Unfortunately, the samples collected on the surface of (110) belong to the filling of pit <7>, the bottom of which touches the surface of (110) (see below sample LTL12766A).

SU <150> Semi-circular niche cut inside the 1st stairway; most probably in phase with [160] or [158].

SU <151> Semi-circular niche cut inside the 1st stairway; most probably in phase with [160] or [158].

SU [159] Large slab cracked into several pieces, with a small vertical slab on its short E side, in front of [60]. Originally a slab of [156], we presume it was reused as foundation base for a short flight of steps leading up to the entrance of [60] when the latter was raised.

Note: The sequence of plaster and clay [156]-(134)-(133)-(137)+(110): a similar sequence is documented in the excavation of the Buddhist sacred area of Lalma (Hadda, Afghanistan) (see Kuwayama 1987: fig. 5).

Inside the cell of [60]

SU (111) Compact brownish clay. Sub-surface of [112]. Preserved only along the inner perimeter.

SU [112] Paved floor; slabs preserved only along the inner perimeter. The floor is at the same level as the external cornice of the podium and of (119).

Note: This stratigraphy is cut by the vertical pit <178>, which is intersected by the tunnel <179> (see below).

Stupa terrace (continuation)

SU [123] Rectangular semi-dressed thick slab on top of (133), adjoining [124], and placed against the modified 1st stairway [158]. It was meant to make the 1st stairway longer.

SU [124] Small rectangular semi-dressed stone on top of (133), adjoining [123], and placed up against the modified 1st stairway [158]. It was meant to make the 1st stairway longer.

SU [117] Part of chattravali; abandoned chattra in situ. It lies on top of (110), and of (133) a fragment of stone slab of which is still visible. It might have been used, in connection with [123] and [124] to make the 1st stairway longer.

SU [132] Part of chattravali; abandoned chattra (upside-down) in situ; broken. It apparently lies on top of (110) and (133).

SU (122) Layer of stones, undressed and in mixed position. Filling of a foundation pit for shrine [17]. We infer the existence of both a foundation pit and (a) deposit layer(s) out of which the latter was dug. Both the negative interface and the deposit layer(s) have been eliminated by of pits <6> and <7> excavated by illegal diggers.

SU [17] See above.

SU [95] Paved floor or low podium built in front of and up against [17] on top of a series of layers, probably the very same out of which the foundation pit filled by (122) was dug.

SU (125) Silty yellowish compact clay with occasional flakes and gravels, and spots of plaster. Yellowish compact clay is always the result of the melting of the mortar

(in this case of the 1st stairway), after the demolition of the facing and the partial exposure of the core. It covers the extension of the 1st stairway [158] and [160].

SU (96) On top of [95]; a small ramp of compact brownish earth used as a step in ancient times to get into the shrine [17].

SU [157] Part of chattravali; abandoned chattra; broken. It lies on top of (125). It seems that the element was originally abandoned in situ in the position it was in when it collapsed from the roof of [17] (the roof is formed by a series of re-used chattras; see above).

SU [115] Part of chattravali: abandoned chattra; broken; in situ. It is sub-vertically inserted in (125), leaning against its razed slanted surface, apparently in the position it was in when it collapsed (from the roof of [17]?).

SU [118] Stair-side element; abandoned in situ. It lies on top of (125).

SU (97) Yellowish compact clay. Abandonment layer. It covers (125), and partly [115], [118] and [157].

Note: Floor (134) may correspond to floor [50] on top of 1st storey. They both belong to structural Period II. Floors (133) possibly correspond to floor [51] on top of 1st storey. Both these two floors and the two tanks may belong to Period III. The modifications of [158], which is the last intervention on the 1st stairway, belong to Period IV and may correspond to floor [52] on top of 1st storey. All the actions connected to the active life of [17], including the abandonment layer (97), belong to a hypothesized structural Period V. Apparently no other floor on top of the 1st storey can be ascribed to this period.

Top of 1st storey of [30]

SU [39] Stone floor; on top of the core structure of the 1st storey of [30], E side. It corresponds to [14]. It may correspond to [156] on top of the 1st storey of [30] (see above).

SU [14] Stone floor; on top of the core structure of the 1st storey of [30], W side. It corresponds to [39]. It may correspond to [156] on the top of the 1st storey of [30] (see above).

SU (160) Reddish compact clay; on top of [39]. Subsurface of [50].

SU [50] Stone floor; on top of (160).

SU (162) Reddish compact clay; on top of [50]. Subsurface of [51].

SU [51] Stone floor; on top of (162).

SU (163) Reddish compact clay; on top of [51]. Subsurface of [52].

SU [52] Stone floor; on top of (163).

Note: These four stone floors and related subsurfaces have been documented in a very limited area of the E side of the 1st storey, under the pile of the collapsed chattras of [30], next to the 2nd storey. All the layers are superimposed on each other in a clear physical relationship. Obviously these five floors represent a clear guide for the periodization of the earliest phase.

Abandonment and reuse (AMSV 14C dating: 7th CE? = Period VI)

This phase is characterized by a partially documented series of activities associated to the late reuse of the buildings and ending with the final abandonment of the site. Evidence of this phase is unfortunately documented only in Sectors ENE and SSE, while in the rest of the excavated area the corresponding layers have been totally destroyed and removed by large scale looting events (see below). The list of the stratigraphic units ascribable to this phase is reported below along with its interpretation and preliminary periodization.

Sector SSE (Figs. 51-54)

SU (136) Yellowish silty compact clay with presence of charcoal (minuscule fragments), gravel, and slabs placed horizontally. External surface (passage) partly eroded by rain run-off. It covers (137). A Gandharan panel Inv. No. AKD 89 was found fixed in the layer, abutting the wall of the 1st storey of [61], next to an element of chattravali, a chattra found fixed sub-vertically. The latter too originally abutted the wall of the 1st storey of [61]. Because of the excavation of pit <142> (see note below), it appeared to be standing in the void. Organic samples were positively collected in the layer (see below: sample LTL12770A).

SU (135) Thick layer of clay and sand, with scattered charcoal fragments. Abandonment layer. It covers (136).

SU (116) Yellowish silty compact clay with sand, charcoal fragments, occasional slabs placed horizontally, and with presence of charcoal (fragments). It covers (135).

SU (101) Brownish clay mixed with charcoal and ash, with a large number of potsherds (small fragments). Accumulation. It covers (116).

SU (89) Yellowish compact clay with fragments of plaster from the decoration of [61] and a large number of potsherds. found vertically fixed inside the layer (marker of an external passage). The color is due to the melting of the plaster and mortar from [61], the decay of which had already started. It covers (101) and lies at the same level as (119) in Sector ENE (see below).

SU (88) Reddish clay with charcoal (minuscule fragments) and ash. The color and the presence of charcoal and ash suggest a possible agricultural surface. It covers (89).

Sector ENE

SU (119) Yellowish silty compact clay with slabs placed horizontally, here and there showing ample traces of plaster. Plaster cover both the slabs and the visible wall of the 1st storey of [61], creating a sort of rudimentary cavetto against the bottom of the latter. (119) is at the same level as the cornice of the podium of [60]. It lies at the same level as (89) in Sector ENE (see above).

Sectors SSE-ENE (combined)

SU (86) Reddish clay, compact. No inclusions; abandonment. It covers respectively (119) and (88).

Note: The excavation of the NNE sector was particularly difficult because of the presence of vertical pits and horizontal tunnels dug inside the original stratigraphy by illegal diggers, creating a sort of termite's nest. For a detailed description of this cluster of pits and tunnels, see below. The situation documented in SU (89) should not surprise the reader. Late floors with traces of plaster are sometimes documented elsewhere. I do remember an analogous late stage floor with coarse plaster documented again from Lalma (see Kuwayama 1987: fig. 4).

Definitive abandonment and spoiling (AMSV 14C dating: c. 8th-10th CE= Period VII)

In this phase a series of negative activities, both static (progressive abandonment) and negative (spoiling) can possibly be identified.

Sectors SSE-ENE (combined)

SU (85) Reddish clay, very compact; presence of bones (occasional food waste deposits). External surface. It covers (86).

SU (70) Dark brownish silty layer, with charcoal, and tiny potsherds, vertically fixed. External surface. It covers (85). It lies up against [69], which is the residual original top of the 1st storey of [61].

SU (78) Brownish silty layer, with fragments of plaster. Deposit created by the natural decay of the exposed core of [61]. It covers (70).

SU (76) Yellowish clay. Deposit created by the natural decay of the exposed core of [61]. It covers (78). Organic materials were sampled from this layer. (see below: sample LTL12767A).

SU (66) Silty reddish clay with sand, eroded potsherds, fragments of slabs, fragments of bones including an almost complete skeleton of a hare found against the visible part of the 1st storey of [61], and scattered charcoal.
The layer is crossed by the filling of pit <142>. External surface, which apparently remained exposed for a considerable number of years, as proved by the presence of a great numbers of snail shells. Along the upper surface of this layer a continuous line of erosion of the facing of the masonry of the 1st storey and 1st stairway of [30] is visible. This line of erosion continues around the 1st stairway to the Sector SW, SU (72). The layer might be coeval with <13> on the top of [30] (see below). Layer (66) covers (76) and is covered by (24). Two samples of organic materials were collected from this layer. The sample collected close to the edge of pit <142>, was probably contaminated (see below: sample LTL12769A), the other seems to be more reliable (see below: sample LTL12773A).

SW Sector

SU (72) Inside a hole in the facing of 1st stairway, charcoal and snail shells.

1st stairway (FIgs. 55-56)

SU <13> The entire surface of the 1st stairway including the landing has been dismantled and the core exposed. The mortar (clay) of the core melted and created a compact yellowish clay layer.

Top of 1st storey of [30] (Figs. 30-31, 48-50)

SU [32] Element of chattravali, chattra 4, almost complete; t 0.30, d 4.00. Tool marks left by flat chisel on side (0.015 t). It covers [25] and [24 bis].

SU [25] Element of chattravali, chattra 2, complete 1/8 sector; t 0.26, d tot. 7.20. It covers [35], [35] and [37].

SU [35] Element of chattravali, chattra 6, complete; t 0.26, d 1.70. It covers [24 bis].

SU [24bis] Element of chattravali, chattra 7, t 0.22, d 1.69. It covers [25] and [24 bis].

SU [38] Element of chattravali, chattra, fragment; t 0.17, d? It covers <13>.

SU [34] Element of chattravali, chattra, fragment; t 0.19, d? It covers <13>.

SU [36] Element of chattravali, chattra, fragment; t 0.22, d? Tool marks left by flat chisel on side (0.015 t). It covers <13>.

SU [37] Element of chattravali, chattra, fragment; t 0.30, d? It covers <13>.

SU [26] Element of chattravali, chattra 8, complete; t 0.215, d 1.65. Tool marks left by flat chisel on side (0.015 t). It covers <13>.

SU [27] Element of chattravali, chattra 5, complete; t 0.24, d 2.32. Tool marks left by flat chisel on side (0.015 t). It covers <13>.

SU [28] Element of chattravali, chattra 1, fragment; t 0.34, d tot. <7.50. It covers <13>. Found in front of the 2nd stairway, on top of the 1st landing next to <10> (see below).

Note: the numbers are assigned to the chattras on the hypothesis that there was a chattra 3 that was not found. The hypothesis is based on the gap between the dimension (d) of chattra 2 (7.20) and chattra 4 (4.00).

SU <13> The entire top surface of the 1st storey has been dismantled and the core exposed. The mortar (clay) of the core melted and created a compact yellowish clay layer.

2nd stairway and upper storeys

SU <13> The entire surface of the 2nd stairway including portion of the landing and of the pediment [67]-[68] has been dismantled and the core exposed. The mortar (clay) of the core melted and created a compact yellowish clay layer.

SU <15> The frontal surface of the upper storeys of [30] displays a vertical scar from the pediment [67]-[68] up to the dome. The width of the scar is a bit larger than the width of the pediment, and has a coarse arched shape. The scar is due to the collapse of the facing masonry in loco. The collapse exclusively involved the external masonry.

SU <59> In correspondence with the pile of elements of chattravali (chattras) visible on the E side of the top of 1st storey (on <13>), the upper storey of [30] shows an ample but limited area with evident traces of destruction of all the projecting elements, slabs and brackets.

Recent intervention (Figs. 57, 61-62)

This phase is characterized by a series of physically positive activities linked to the following series of activities (in chronological order): a) the agricultural exploitation of the area; b) by the restoration of a portion of [30], c) and, more recently, by a series of illegal excavations. Each activity, at the same time chronologically separated but physically connected, corresponds to a period.
The activity c) can be divided into three types: 1) large scale excavation (at least 3 activities documented); 2) single pits (at least 3 activities documented); 3) multiple pits and tunnels (2 activities documented).

Stupa terrace

SU (2) Recent agricultural soil. It covers (24), (176), (3), (4), almost 90% of the 1st stairway, 1st landing, top of 1st storey, 2nd stairway and 90% of the pediment.

SU (24) The entire surface of the excavated area shows traces of the presence of a thick agricultural layer, brownish, not particularly compact, archaeologically sterile. Of course the layer's integrity has been almost totally destroyed by the several digs performed later by illegal excavators. It covers (66).

Note: From the information collected from the local farmers, we know that before the 1980s some Ghalegai landlords operated a large scale levelling of their lands in Shaga involving both the N and E terraces of [30]. Before the excavations were started we observed that the N terrace was on average 3 mt higher than the E one. Actually the difference in height between the two terraces was perceptible, albeit lower, already in 1926, when Stein visited the area. The photograph Inv. no. 392-30-192, British Library (Stein Collection), taken from E, clearly shows the situation. The difference in height is also visible in the agricultural terrace W of [30] (photograph Inv. no. 392-30-12, British Library, Stein Collection). From both photographs it may be inferred that the original difference in height was due to the presence, on the N terrace, of several mounds created by the collapse of minor monuments, which were apparently absent in both the areas E and W of [30]. The other possibility is that these lateral monuments were already completely destroyed in 1926, as we know had already happened at Gumbat-Balo Kale (see above); contra, it may be recalled that Stein found the monument and surrounding area quite intact (Stein 1930: 19). However, the gaps between the mounds in the terrace N were partially filled up over time by the natural decay of the monuments, giving to the terrace N the wavy surface visible in the first photograph. Moreover, the difference between the terraces N and W was greater than the present one. The limit between the N terrace and both the E and W terraces, was shaped in the form of a gentle slope (as is typical of mounds formed after the decay of solid monuments, when they do not implode and collapse entirely on their external sides). The increase in the height difference between the N and E terraces, and its lowering between the N and W terraces is explained as follows: the agricultural terrace E of [30], which lies outside the excavated area, was deeply cut by bulldozers (cut <73>) and the soil dumped on top of (66) in order to re-level the agricultural terrace in front of [30] (terraces N). A portion of the soil was also deposited by bulldozer on the W side, partly filling the gap between the N and W terraces. This deposit of soil from <73> is labelled (24). Of course, the layer (24) is formed by a mixture of previous layers, since <73> had cut into a series of layers belonging to earlier phases.

SU (171) Mixed soil. Filling of <170>.

SU <170> Single vertical pit excavated inside [61].

Note: It was excavated in the Fall 2009, since it is still visible and unemptied in a GoogleEarth® image dated December 1st, 2009 (see below). It cuts (24).

SU (4) Mixed soil, mostly consisting of huge lenses of blackish and yellowish earth, loose composition. Filling of <7>.

SU <7> It is a large excavation carried out by illegal diggers, covering an area

limited by the 1st storey of [30] (SE side) and by the upper half of the 1st stairway (E side) on the W. On its SE side it crosses the limits of <6>, from which it is not easily distinguished. The features of <7> are highly articulated too, and are the result of a large complex open-air daytime operation. The focus of the excavation was in the direction of the 1st stairway. As in a sort of upside-down stepped half pyramid, the pit progressively reduces its extension from N and E. Its E side was protected by retaining walls [20] and [175]. Access to the bottom of the pit was possible through its E sloping limit, which corresponded partly to the upper surface of (66). The bottom of this large pit corresponds to the upper surface of (110). On the top of (110) we found a medicine flask whose label mentions 2005 as production date and March 2008 as expiry date. After having reached (101) the illegal diggers continued excavating in depth the area all along the 1st stairway ending with pit <140> (filling (138)) next to the corner between the 1st stairway and the 1st storey. Pit <7> cuts (24) and several other units (see above, note).

SU [20] See above SU <7>.

SU [175] See above SU <7>.

SU (138) See above SU <7>.

Cluster <165>-<166>-<142>-<167>-<103>-<105>-<168>
From the recent agricultural surface (2) the illegal diggers initially dug the pit <165> exactly at the junction between the ENE limit of the excavation and the SE corner of the 1st storey of [30] (a vertical section of <165> is visible in the baulk). At the level of (89) a radial tunnel <166> departing from <165> and reaching the NNE corner of [61] and the baulk. Here they excavated a vertical pit <142> that destroyed the corresponding part of [61], and penetrated also the floor [156] below. The pit <165> continued below and, at the level of (101), another radial tunnel <167> departed from the latter, following the wall of the 1st storey of [30] horizontally for less than 5 mt. until it crosses the pit <113>. The network of tunnels was completed with pit <105> (filling (81) dug in correspondence with the SW corner of [61], and from this, by a tunnel <168> ran into <113>). The cluster was apparently excavated before <7> and subsequently cut by the latter. For this reason in fact the NW corner of [61], cut by <105>, started collapsing only after <7> was cleared, leaving the masonry fragment curiously isolated in the void.

SU (92) Mixed soil. Filling of <77>.

SU <77> Vertical single pit, half cut inside the W wall of [60], creating a quite deceptive niche-shaped feature. It was excavated before <6> and subsequently cut by the latter.

SU (3) Mixed soil, mostly containing huge lenses blackish and yellowish in color, loose. Filling of <6>.

SU <6> It is a large excavation done by illegal diggers, covering an area limited by <53> to the SW, by the upper half of the 1st stairway to the S, and by the natural limits of AKD 1 to the N, W and E. On its NE side it crosses the limits of <7>, from which it is not easily distinguished. The features of <6> are very articulated and are the result of a large complex open-air daytime operation. The known limits of the pit show that it intially involved quite a large area. The focus of the excavation was obviously towards the center, most probably the shrine [17], whose pent roof would have been visible immediately under the surface, and most probably already known to the illegal diggers. Somewhat resembling an upside-down stepped pyramid, the pit has progressively been reduced in size, the sides remaining protected by retaining walls such as [31] along the 1st stairway (N) and [40] along the SE limit. Access to the pit is afforded by small ramps documented in the N and E boundaries of AKD 1. The bottom of the pit corresponds to the original floor [156]. Pit <6> cuts (24) and several other units (see above, note).

SU (139) Filling of <141>.

SU <141> Pit. Cut in [156] at the bottom of <6>.

SU <182> Pit E of <141>. Cut in [156] at the bottom of <6>.

SU [40] See above SU <6>.

SU [31] See above SU <6>.

SU (176) Mixed soil. Filling of <177>.

SU <177> Single vertical pit cut inside (3) in correspondence with [17]. It cuts also (2).

Note: Pit <177> was excavated by illegal diggers in December 2011. After a police operation the pit was filled in in the same month. From the pit the illegal diggers recovered a front-view statue of a Bodhisattva, subsequently confiscated by the Police and currently in the custody of DOAM K-P in the Swat Museum (Figs. 58-60).

SU <91> Vertical single pit cut inside portion of the N stairway of [61].

SU (54) Mixed, mostly made of huge piles of stones mixed with loose lenses of

different soils. Large elongated mound of debris, blocks of stones, slabs, decorated pieces, pebbles from demolished masonry etc. that may have been related either to a recent demolition (perhaps occurring in the area outside the W limit of trench AKD 1), or to ancient layers of collapse (of the 1st stairway?) found by the illegal diggers and piled up on the edge of their target. On the top of (54) the illegal diggers built the small retaining wall [65]. Filling of <53>.

SU <53> Large trench-shaped pit involving all the area W of the 1st stairway and N of the 1st storey of [30]. Its W limits lie outside the limits of AKD 1. Its N limit crosses the SW limit of <6>. The target of the pit seems to have been, here as elsewhere, the 1st stairway and the 1st storey, where the probability of finding large decorated elements was higher. On the top of (54) the illegal diggers built the small retaining wall [65]. The bottom of the pit corresponds to <156>. The shrine [100] was partly destroyed by <53>.

SU <180> Pit. Cut in [156] at the bottom of <53>.

SU <181> Pit. Cut in [156] at the bottom of <53>.

SU [65] See above SU (54).

Note: The DOAM Federal, in 1992, opened a small trench in front of the stairway. After a few days the excavation was re-filled. All the evidence left in the terrain was subsequently obliterated by the excavation of <6>. Pit <53> seems to have been dug out in 2009, as it appears freshly re-filled in a GoogleEarth® image dated December 1st, 2009 (see below).

Inside the cell of [60]

SU (180) Mixed soil. Filling of <178>.

SU <178> Elongated trench-shaped pit intersecting with <7> and <6>, with no clear limits to S and W. The N limit lies outside AKD 1.

Note: The trench <178> seems part of a series of digs carried out in 2009, as they appear freshly re-filled in a GoogleEarth® image dated December 1st, 2009 (see below).

SU (181) Blackish soil. Filling of <179>.

SU <179> tunnel crossing [60] N-S. The N side of the tunnel opens in <7> and intersects <178>.

Inside the cell of [17]

SU (109) Mixed soil, blackish. Filling of <21>.

SU <21> Single vertical pit cut out of the surviving top of the pent roof of [17]. Parts of its inner false-dome (see above: [115], [114], [113]) were replaced during the re-filling. The pit was excavated ante-2011.

SU [108] Partial closing of the door of [17]. Coarse stone masonry. Built from the outside.

Note: The recent life of [17] is very complicated. Probably it was spoiled first through <21>. When the large pit <7> was opened, [108] was built for safety reasons. This happened because the illegal diggers might indeed have experienced the partial collapse of the N side of the building. Then, very recently, the excavation of <177> took place. Apparently it was a target-pit, excavated with the aim of recovering that Bodhisattva statue (Figs. 64-66). It seems that the people involved with the most recent excavations in AKD know the area and its potential quite well. It seems that the illegal diggers intentionally left sculptures (like that Bodhisattva) already located, with the aim of recovering them when more convenient, maybe according to the demand of the market.

1st stairway

SU (102) Yellowish soil. Filling of <103>.

SU <103> Vertical single pit cut inside the structure [155] of the 1st stairway.

Top of 1st storey of [30]

SU <10> Large hollow pit dug near the NW side and left partly unfilled.

SU <9> Large hollow pit dug in the first landing near [28] and left partly unfilled.

2nd stairway and upper storeys of [30]

[183] Partial restoration of the facing of the 2nd storey (N, NW and NE sides).

[184] Restoration of the pediment [67]-[68], originally cut by <13>.

SU (19) Yellowish mixed soil. Filling of <18>.

SU <18> Large hollow pit dug on the NE side of the base of the the second landing.

SU <16> Sub-circular tunnel excavated inside the core of [30]. The tunnel ends with a vertical pit.

SU <16bis> Single vertical sub-rectangular pit dug into the dome of [30] (max. dp c. 10.00).

SU <11> Large hollow pit dug near the NE side and left partly unfilled.

Note: Pits <9> and <10> were dug in the Fall 2003 since they are still visible and unemptied in a GoogleEarth® image dated November 27th, 2003. The tunnel <16> or part of it was already excavated when Stein visited the site in 1926 (Stein 1930: 18).

[With the contribution of AA, MC and MV, MC]

* * *

9. List of illustrated finds (Figs. 15-21, 53-54)

Inv. No.	Locus	SU	Description	Conditions	Dimensions	Material
45	6	(1)	Corner capital (?). Gandharan-Corinthian with double rib.	Good.	50x33x17	Gray schist
132	**17**	(3)-(4) S of [60]	Corner capital (?). Gandharan-Corinthian with double rib.	Bad.	45x19x30	Gray schist
137	**18**	(3)-(4) Wof [17]	Capital, or part of chattra, decorated with acanthus leaves.	Good.	98x44.5x9	Gray schist
216	**24**	(3)-(4) E of [17]	Dividing element. Semi-column with gandharan-corinthian capital	Good.	33x27x11	Gray Schist
804	**54**	(3)-(4) W of [61]	Panel. Naked amorino represented by back supporting garland with pomegranates.	Bad.	23x24.3x6	Gray schist
836	**60**	(3)-(4)/(24)	Panel. On right, eagle; on left, palm tree and a globular pot (?).	Fair.	28x18.5x4	Gray schist
837	**61**	(3)-(4)/(24)	Frieze. Two large square fields; from right: rosette of 4 pointed petals and open sepals with rosette in the pistil (lotus?), human figure (?) with fig-tree on right.	Fair.	36x19x7.5	Gray schist

10. Chronology

Radiocarbon dating (MZ)

The samples listed in the following chart Table were dated with the radiocarbon method using the Accelerator mass spectrometry technology (AMS), at the Centro di Datazione e Diagnostica (CEDAD) of the University of Salento, Italy. Radiocarbon dating of the samples was calibrated in calendar age using the OxCal Ver. 3.10 software based on atmospheric data. The calibration results are shown in the following charts and graphs (the second chart by MZ shows the results using OxCal 4.2.2)

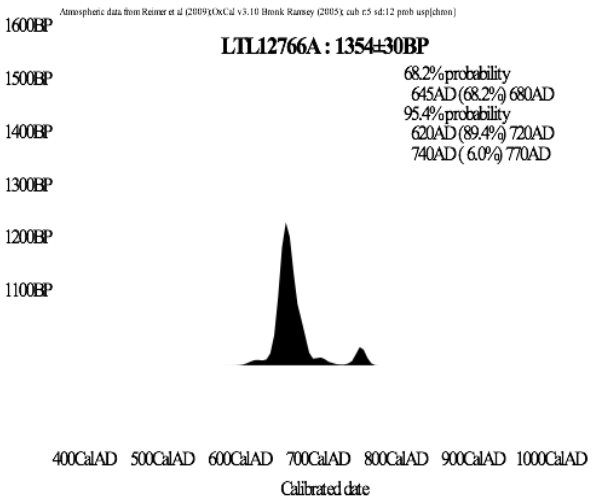
Source	Description	Code CEDAD	Radiocarbon Age (BP)	δ13C (‰)	Calibrated dates (confidence level 2σ)	Period	Reliability
No. 32 AKD I SU (110)	Animal bones	LTL12766A	1354 ± 30	-19.3 ± 0.5	620AD (89.4%) 720AD 740AD (6.0%) 770AD	VI-VII	weak
No. 19 AKD I SU (76)	Animal bones	LTL12767A	1102 ± 35	-21.8 ± 0.5	870AD (95.4%) 1020AD	VII	good
No. 22 AKD I SU (66)	Charcoal	LTL12769A	1771 ± 45	-19.8 ± 0.4	130AD (95.4%) 390AD	VII	weak
No. 20 AKD I SU (136)	Charcoal/ animal bones	LTL12770A	1227 ± 40	-18.3 ± 0.6	680AD (95.4%) 890AD	VI	good
No. 18bis AKD I SU (116)	Charcoal	LTL12771A	1690 ± 45	-20.0 ± 0.3	230AD (95.4%) 440AD	IV-V	weak

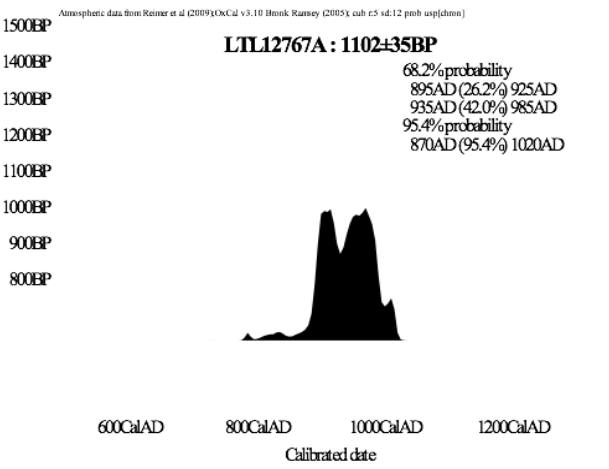
Source	Description	Code CEDAD	Radiocarbon Age (BP)	δ13C (‰)	Calibrated dates (confidence level 2σ)	Period	Reliability
No. 23 AKD I SU (66)	Animal bones	LTL12773A	1291 ± 35	-15.5 ± 0.5	650AD (94.0%) 780AD 790AD (1.4%) 810AD	VII	good

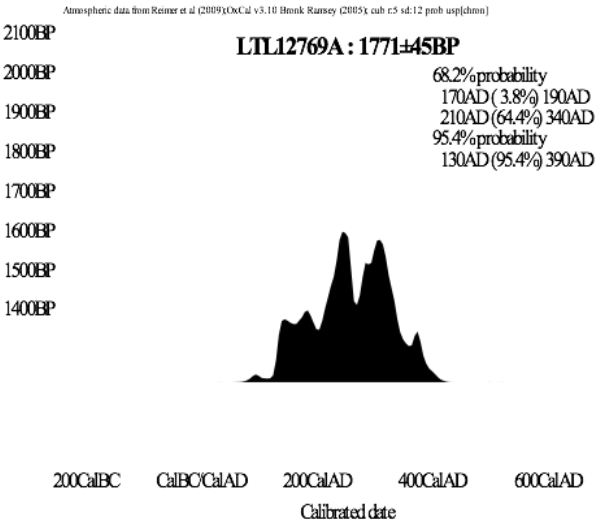
Code CEDAD	Radiocarbon Age (BP)	Calibrated dates @ 95.4 % probability	SU	Period
LTL12770A	1227 ± 40	685 – 895 cal AD	(136)	VI
LTL12773A	1291 ± 35	660 – 825 cal AD	(66)	VIIa
LTL12767A	1102 ± 35	835 – 1015 cal AD	(76)	VIIb

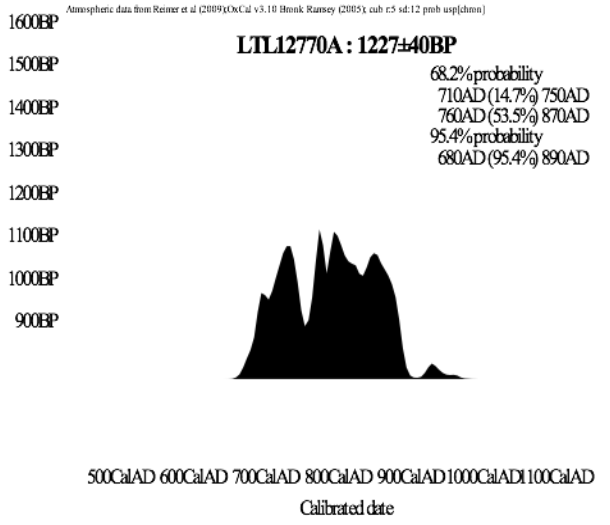
Reliable samples: Calibrated dates (OxcCal 4.2.2). (MZ).

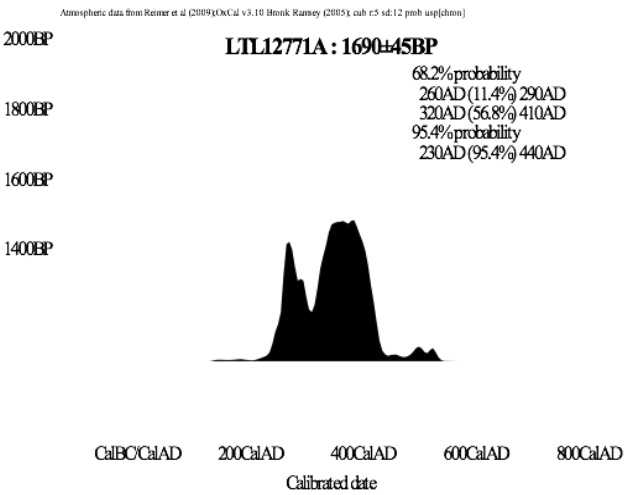
Calibrated dates (CEDAD)

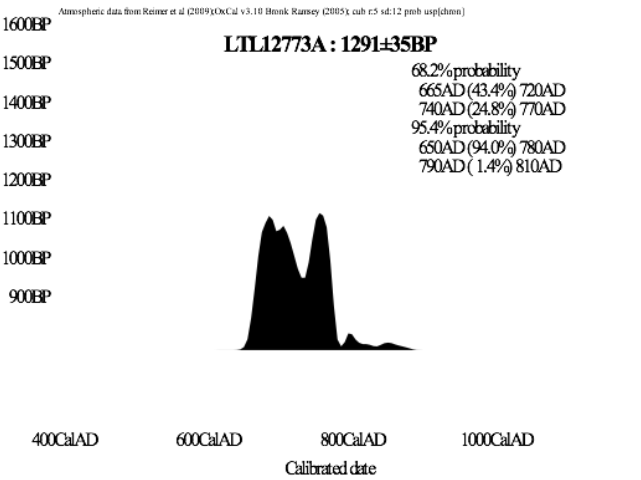





Atmospheric data from Reimer et al (2009);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]
LTL12769A : 1771±45BP
68.2% probability
170AD (3.8%) 190AD
210AD (64.4%) 340AD
95.4% probability
130AD (95.4%) 390AD
2100BP
2000BP
1900BP
1800BP
1700BP
1600BP
1500BP
1400BP
200CalBC
CalBC/CalAD
200CalAD
400CalAD
600CalAD
Calibrated date


Atmospheric data from Reimer et al (2009);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]
LTL12770A : 1227±40BP
68.2% probability
710AD (14.7%) 750AD
760AD (53.5%) 870AD
95.4% probability
680AD (95.4%) 890AD
1600BP
1500BP
1400BP
1300BP
1200BP
1100BP
1000BP
900BP
500CalAD
600CalAD
700CalAD
800CalAD
900CalAD
1000CalAD
1100CalAD
Calibrated date


Atmospheric data from Reimer et al (2009);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]
LTL12771A : 1690±45BP
68.2% probability
260AD (11.4%) 290AD
320AD (56.8%) 410AD
95.4% probability
230AD (95.4%) 440AD
2000BP
1800BP
1600BP
1400BP
CalBC/CalAD
200CalAD
400CalAD
600CalAD
800CalAD
Calibrated date


Atmospheric data from Reimer et al (2009);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]
LTL12773A : 1291±35BP
68.2% probability
665AD (43.4%) 720AD
740AD (24.8%) 770AD
95.4% probability
650AD (94.0%) 780AD
790AD (1.4%) 810AD
1600BP
1500BP
1400BP
1300BP
1200BP
1100BP
1000BP
900BP
400CalAD
600CalAD
800CalAD
1000CalAD
Calibrated date

11. Other Data

The 'Amluk-dara hoard'

When considering the chronology of the AKD site, unfortunately we cannot take into consideration the evidence provided by the so-called 'Amluk-dara hoard' (Bopearachchi 2008-09 and ref.). Indeed, if this label effectively corresponded to the homonymous village or valley, it would mean that the area was frequented or settled in Saka or Indo-Greek times (maybe not earlier than the second half of the 2nd century BCE). This would not be strange, considering the proximity of a well-known Indo-Greek urban settlement in the nearby site of Barikot.

A particularly interesting point might be, on the other hand, the very position of the Amluk-dara area along the main track leading up to the top of Mt. Ilam. The identification of the mountain with the rock of Aornos, mentioned in the accounts of the Alexander's itinerary in Swat, can be now regarded a fait accompli (Olivieri 1996; Olivieri 2015$_b$, for a final reassessment of the question). It is worth noting that Aornos is the name of the key point in the network of garrisons Alexander left to control the area (Olivieri 1996: 51), especially - at a guess - the line of communications between Swat and the Indus plain on the Buner side. I have already suggested that the location of the new fortication established by the Indo-Greeks and maintained by their Saka successors may follow the location of former and long since abandoned Macedonian garrisons. This for instance occurred at Peukelaotis (Charsadda), Bazira (Barikot) and Ora (Udegram) (ibid.: 72). In this regard the discovery of this hoard, if it was effectively made in or around Amluk-dara, could shed a faint light on these otherwise obscure early-historic settlement phases in the area surrounding the ancient Aornos.

Aurel Stein's assessment

Coming back to the chronology of AKD 1, what Aurel Stein wrote in this regard may be found quite interesting. 'Of two copper coins brought to me and declared to have been found at the site one was a Kushān issue much effaced and the other a piece of the Turkish Shāhīs of Kābul. They respectively indicate the approximate Periods when worship at the site

may have most flourished and when it ceased. Definite chronological indications could be hoped for only from such a systematic exploration as the site owing to its obvious importance and its indisturbed conditions invite. It deserves to be noted that the valley of Amlūk-dara lies on the route followed by the Hindus of lower Swat on their annual visit to the sacred height of Mount Ilam which forms so striking a background to the ruined Stūpa. The top of the mountain was an object of pious pilgrimage already in Buddhist times, as shown by Hsüan-tsang's description of Mount Hi-lo, the identity of which with Ilam I was subsequently able to establish. The site of Amlūk-dara is among all Buddhist sanctuaries I was able to trace certainly the nearest to the sacred peak and may well have connected in some way with the pious legends which one clustered around it and in a modified form have lingered to the present day' (Stein 1930: 19).

Nearby structures

A Shahi phase is clearly marked by the presence of a watch-tower ([191]), the features of which match perfectly those identifying Hindu Shahi military structures (Olivieri 2003). A post-Gandharan phase for the life of the Buddhist sacred area of AKD 1 might also be inferred from the presence of that crude, unfinished rock-carving, that was blasted years ago (C 119, AMSV 720) (Fig. 10). After the analysis of more than 200 analogous rock-sculptures in Swat and surrounding areas, it is now clear that these sculptures were always located along the tracks leading up to the sacred areas (Filigenzi 2015). The sculpture positively suggests a 6th-8th century CE chronology (Humera Alam and Olivieri 2012).

The presence of a good number of wine presses around AKD 1 (see above) (Figs. 7-9) might also be cautiously considered as a marker of a late-historic occupation of the area. Unfortunately, the chronology of these infrastructures is far from being more precisely defined (Olivieri, Vidale et al. 2006; Olivieri 2010).

Addendum: A chronological comparison of the major nearby sites

Site	Foundation	Final abandonment	Verification means	References	Buddhist rock reliefs (7th-9th CE)
AKD 1	2nd/3rd CE	10th CE	14C	This Report	x
GBK 1	2nd-3rd CE	13th CE	14C	This Report	
Tokar-dara	1st CE	5th-6th CE	Analysis of material	M. Ashraf Khan and M. Farooq Swati 2012	
Marjanai	3rd CE	4th-5th CE	Coins	Shah Nazar Khan 1995	
Nawagai	2nd-3rd CE	8th-10th CE	Analysis of material	Mian Said Qamar 2004	
Panr I	1st-2nd CE	4th-5th CE	Coins and analysis of material	Faccenna et al. 1993	
Saidu Sharif I	1st CE	4th-5th CE	Coins and analysis of material	Callieri 1989 Faccenna 1995	
Butkara I	3rd BCE	10th CE	Coins and analysis of material	Faccenna 1980-81	x
Butkara III	1st CE	4th CE	Callieri 1989	Abdur Rahman 1990	
Shanesha	2nd-3rd CE	10th CE	Coins and analysis of material	Abdur Rahman 1993	x
Damkot	1st-3rd CE?	10th CE	Coins and analysis of material	Abdur Rahman 1968-69	x
BKG Miana	2nd BCE	4th CE	14C and analysis of material	This Report	
BKG	2nd BCE	13th CE	14C and analysis of material	Callieri et al. 2000, Eid. 2000-2001	x

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Figures

Fig. 1 - The Amluk-dara valley and site seen from W (Mt. Ilam in the background). (Photo by LMO).

Fig. 2 - The Amluk-dara valley seen from ESE. (Photo by LMO).

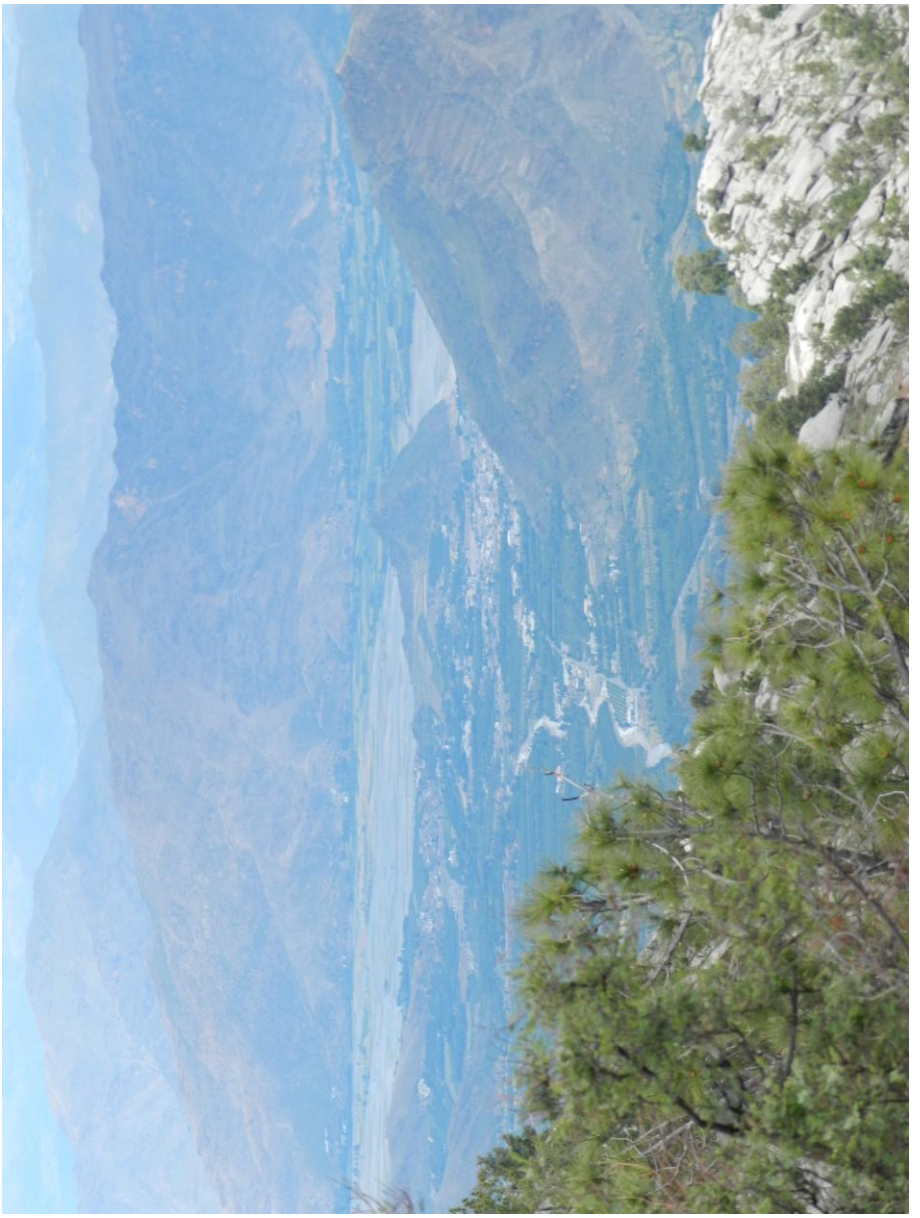


Fig. 3 - The Karakar Valley seen from Mt. Ilam (Photo by LMO).

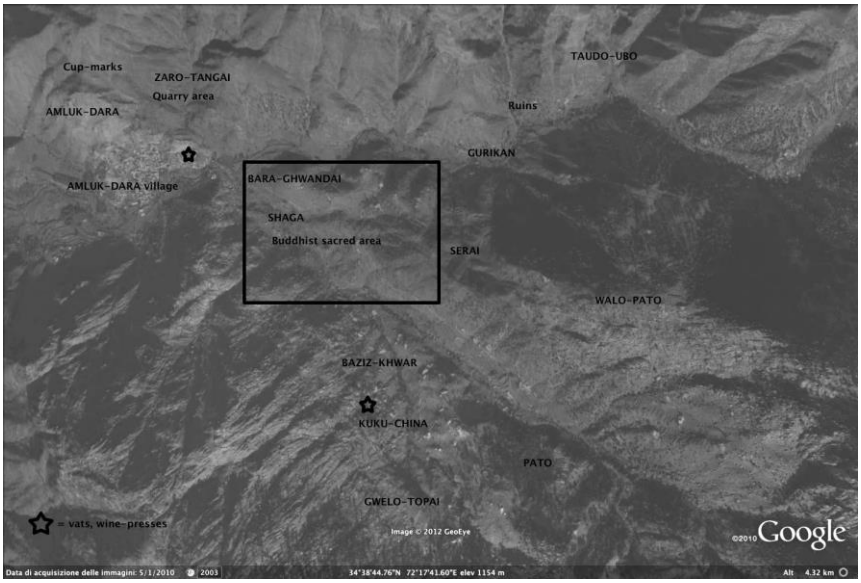


Fig. 4 - The Site area 314: general view. (Photos © GoogleEarth, processed by LMO).

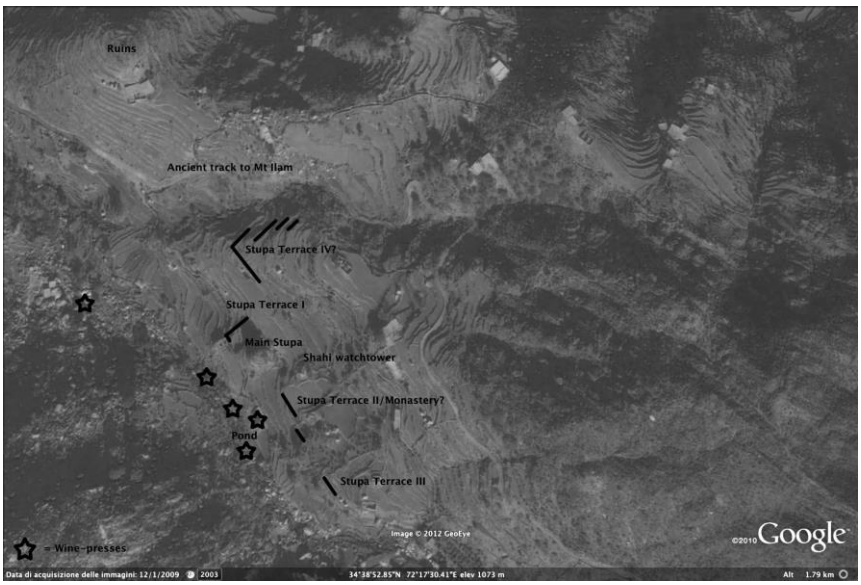


Fig. 5 - The Site area 314: detail. (Photos © GoogleEarth, processed by LMO).

Fig. 6 - The AKD trench at beginning of the excavations. (Photo by LMO).

Figs. 7-9 - AMSV 713, 714, and 716.
(Photos by LMO).

Fig. 10 - AMSV 720 (C119).
(Photos by LMO; ©British Library Board, Stein 392_30_127).

Fig. 11 - Dandikai pond. (Photo by LMO).

Figs. 12-13 – From left: Niches <150> and <151>, W and E side of the stairway. (Photos by LMO).

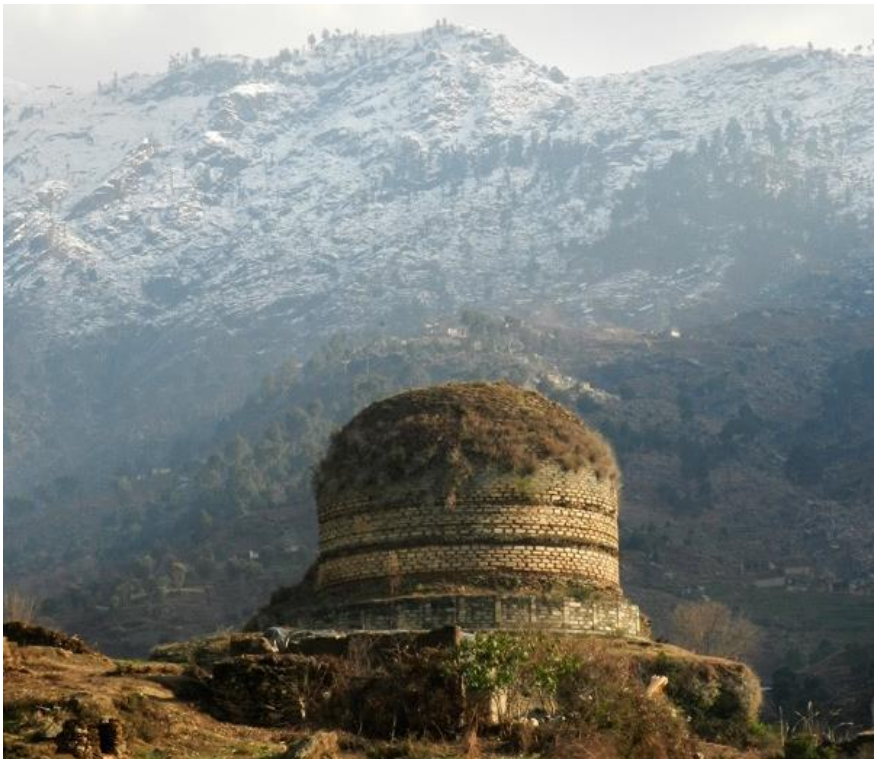
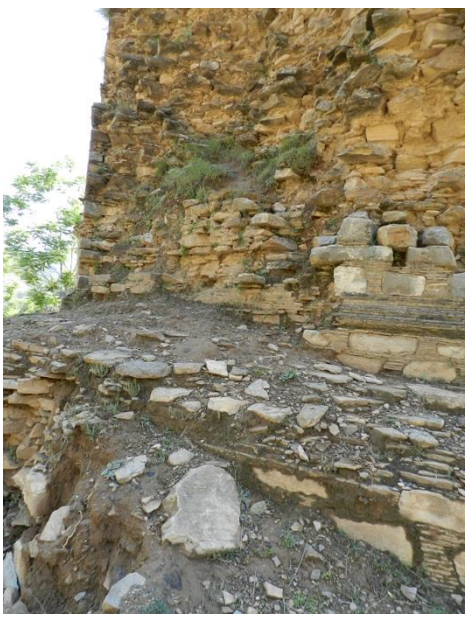


Fig. 14 – The Main Stupa. Mt. Ilam in the background. (Photos by LMO).

On the following page: Figs. 15-21 - Fragments from Main Stupa [30], Period I (clockwise from bottom left: AKD 18, 24, 54, 61, 60, 6 and 17). (Photos by EL).

Figs. 22-24 - Restored masonry (2nd storey; 1958-59). (Photo by LMO).

Fig. 25 - Detail of the 1st stairway, late phase
and reconstructed volumes of the upper steps. (Photo by LMO).



Figs. 26-27 - The upper pediment (projecting) at AKD (left),
and the (recessing) frontal niche at Tokar-dara.
(Photos by LMO).

Fig. 28 (see next page).

Figs. 28-29 - The 1st stairway (left); the 2nd storey, the 2nd stairway and the upper pediment. (Photos by LMO).

Figs. 30-31 - Two views of the chattras on the E side of the top floor of the podium. The picture above shows also the rows of brackets and coping that mark the upper storeys. In correspondence with the collapsed chattras, the row of brckets is missing. The left picture shows traces of four of the superimposing floors on the top of the 1st storey. (Photos by LMO).

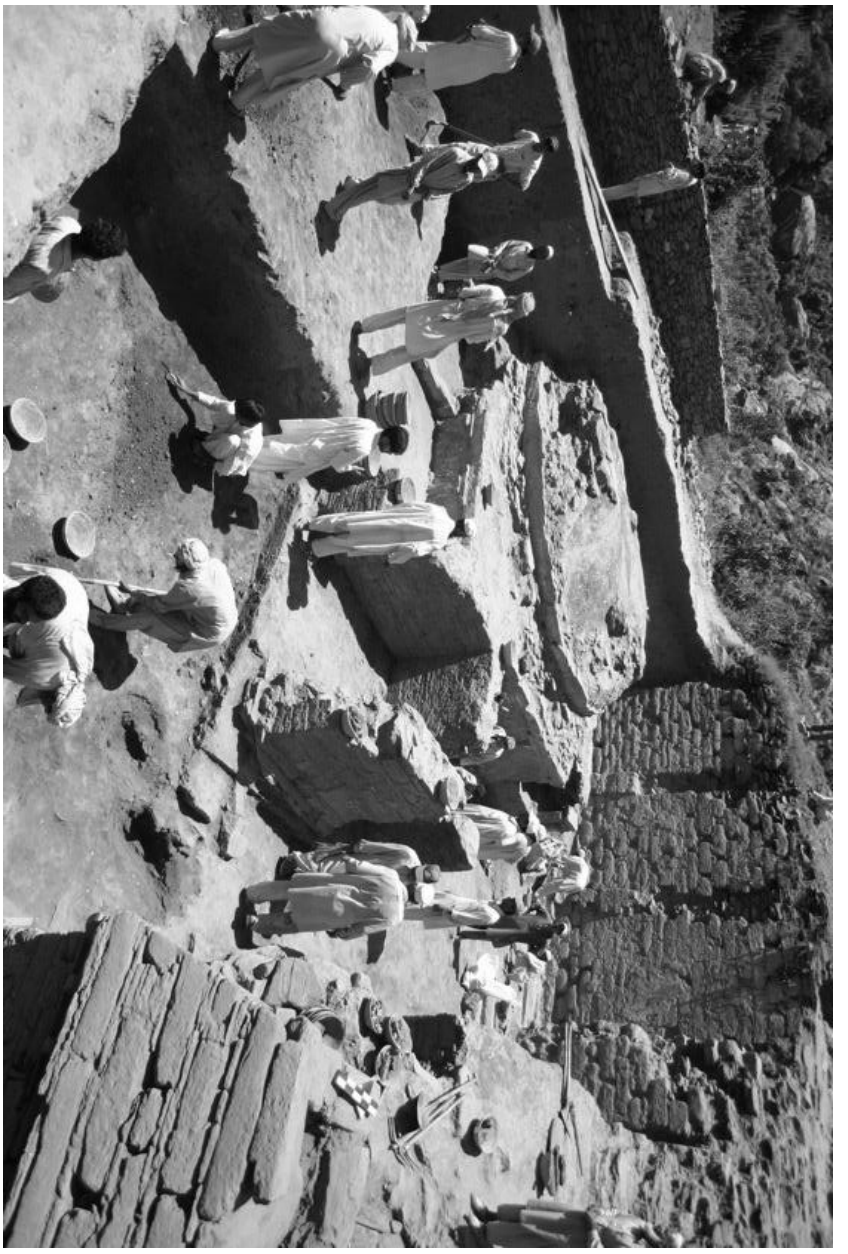


Fig. 32 - Stupa [61] and Shrine [60] during the excavation. (Photo by LMO).

Figs. 33-34 - Stupa [61]: Details of the SW corner of the podium (collpsed in ancient times) (left); details of the podium decoration (W side) (right).
(Photos by EL).

Figs. 35-37 - Stupa [61]: Details of the podium decoration (W side): capital and modillon. (Photos by EL).

Figs. 38-39 - Stupa [61]: Details of the podium decoration (W side) during and after the restoration. (Photos by FC).

Fig. 40 - Shrine [60]: Details of the podium decoration (S side) during restoration (F. Colombo). (Photo by LMO).

Fig. 41 - Shrine [60]: Details of the podium decoration (S side). (Photo by FC).

Fig. 42 (see next page).

Figs. 42-43 - Shrine [60]: S and N views.
(Photos by EL).

Figs. 44-45 -Shrine [17]: NNW view, and view of the cella. (Photos by LMO and EL).

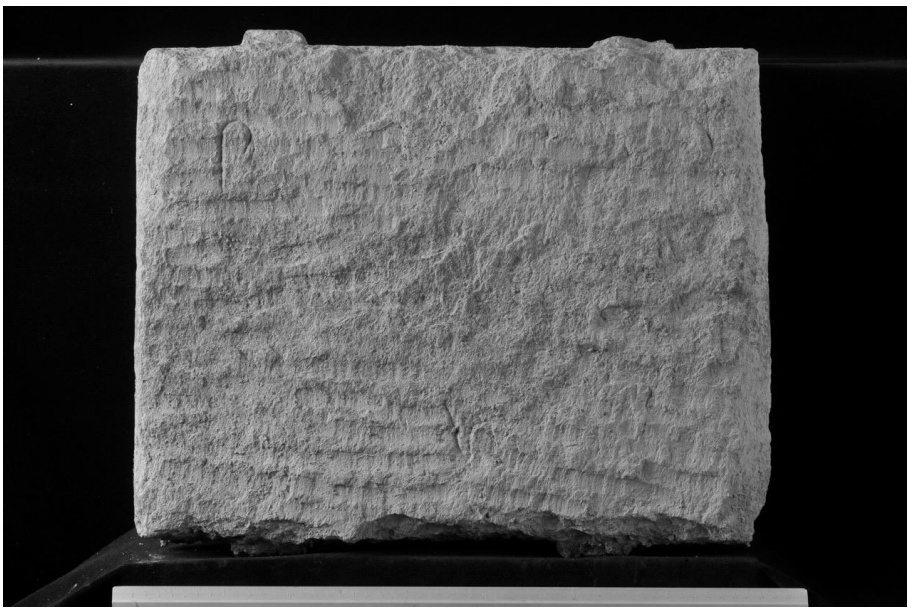
Fig.46 - Shrine [17] during the conservation.
(Photo by MV).

Fig. 47 - Period I: Floor [156], and tanks [128] and [129], W of [30]. (Photo by LMO).

Figs. 48-50- Top of the 1st storey: The 4 floors on the W side (left). The lowest one [14] corresponds to [39] on the E side. (Photos by LMO).

Fig. 51 - External surface SU (136) and panel AKD 89. Pit <142> is visible to the. right. (Photo by LMO).

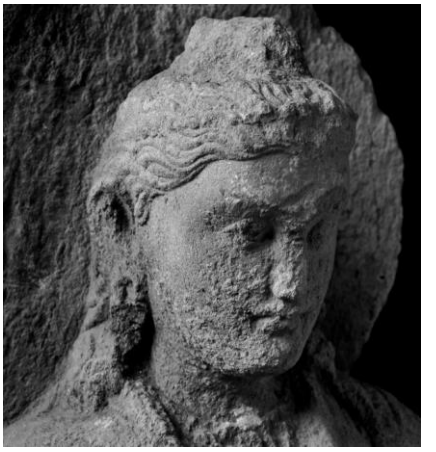
Fig. 52 - Floor (119) in the Sector ENE. (Photo by LMO).



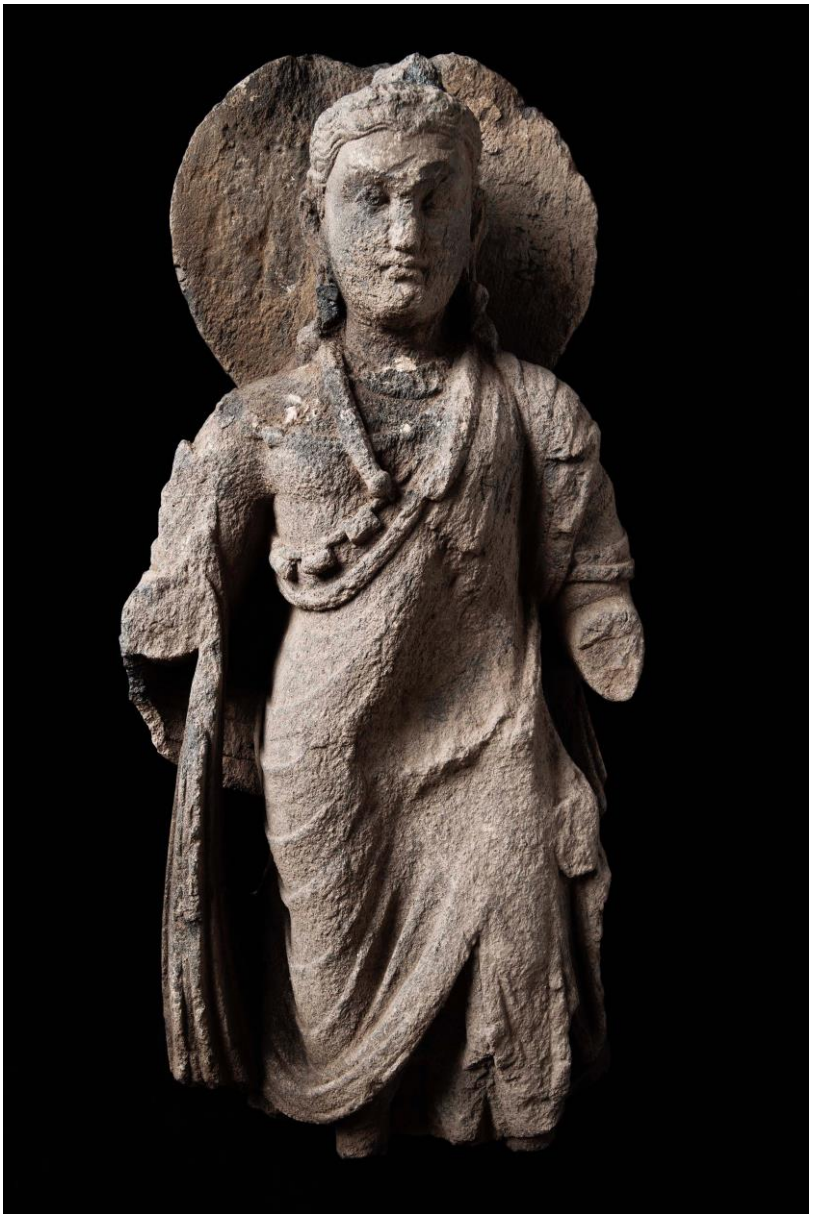
Figs. 53-54 - Panel AKD 89. (Photos by EL).

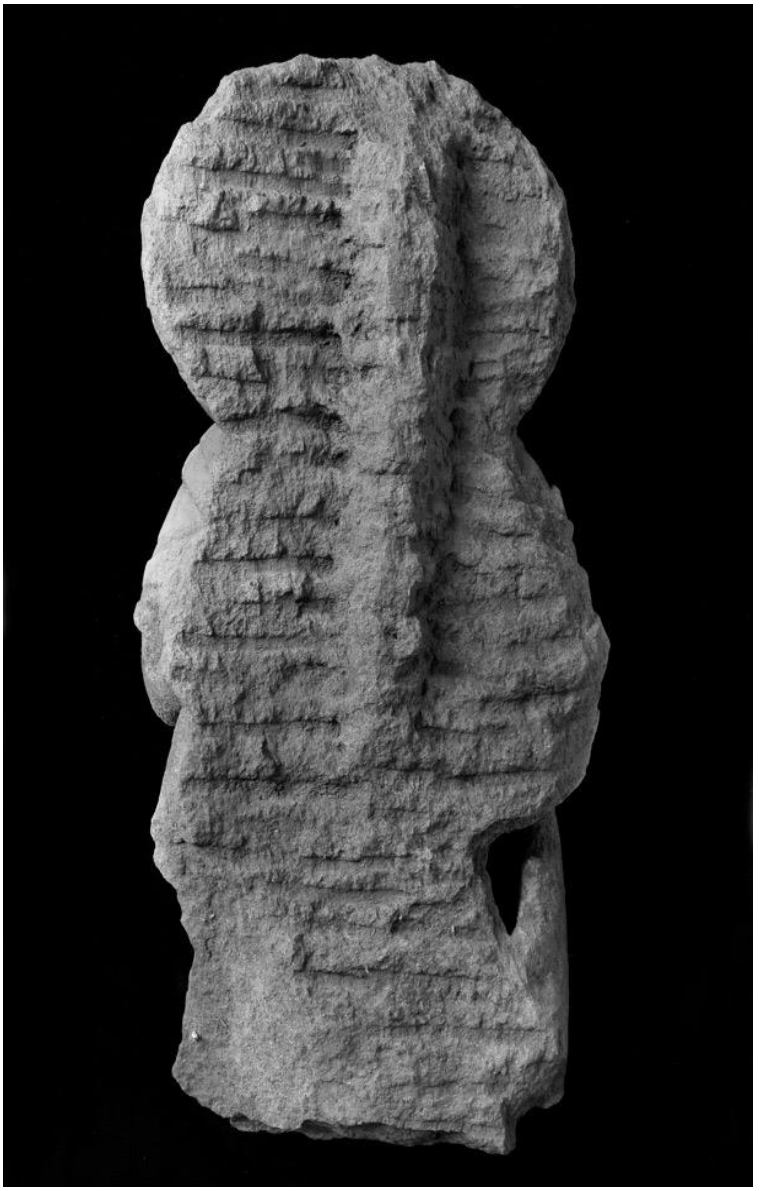
Figs. 55-56 - The dismantled 1st stairway (SU <13>). (Photos by LMO).

Fig. 57- The recent stratigraphy visible in W Section. (Photo by LMO).



Figs. 58-60 (on this and following pages). - Statue of Bodhisattva recovered in December 2011 (h. 62.0, w. 26.0, th. 15.5). (Photos by EL).





Figs. 61-62- Evidence of the December 2003 and December 2009 robbing pits. (Photos © GoogleEarth).

False-Niche or False-Door?
The Evidence in Real and Represented Architecture

Elisa Iori

Abstract

This paper represents the ideal companion of the preceding one. One of the major features documented at Amluk-dara is the presumed presence of a huge central niche, which was the architectural target of the monumental staircase. The same feature has been documented in other stupas, such as Tokar-dara in Swat and Zar Dheri in the Hazara district, as well as in another gigantic stupa at Shevaki 1 in Kapisa. The frontal niche which welcomed the believers at the summit of the staircase, might have had the shape and function of a door. A celestial door, not a real one, a kind of trompe l'oeil*, through which transpires the spiritual being embedded in the apparent density of the material architecture. Doors/non-doors are often represented in small stūpas, and in the architecture represented in Gandharan reliefs. The analysis of these materials, their connection with real architecture, and the related symbolic values, are addressed in the following pages.*

1. Introduction

The many examples of Gandharan production conserved in museums all over the world can only give us a vague idea as to how monuments and sacred places, today stripped of their figurative role, must have appeared to the devout, pilgrims and to travellers in the past.

The new architectural vision of the sacred buddhist area of Gandhara was combined with the birth of a new disposition of figurative apparatus, in which the horizontal frieze shown on the body of the *stūpa* seems to represent one of the more original solutions. However, the Gandharan figurative programme did not end with horizontal friezes and

indeed, there are various types of decoration that have contributed to the creation of the new figurative layout of Gandharan sacred buildings.

One of the more common figurative spaces used to illustrate the life of Buddha is represented by elements which have been given the term false-niche[1]. This is a sort of stele terminating in a pseudo-trefoil arch defined as a flat representation of a vertical section of *vihāra* with a double overlaid covering, separated by an intermediate cylindrical

[1] Throughout this article, the terminology used by Faccenna and Filigenzi (2007: 50) will be used. Generally, a false-niche has been indicated with many different terms (e.g. 'pignon de *stūpa'*, Foucher 1905-1951: 127; 'false gable', Ingholt 1957: 102; Faccenna and Taddei 1962: pl. XVIIb, Zwalf 1996, I: 55, et al.; 'false-window', Ackermann 1975: 98; 'false gable-window', Hargreaves in Marshall 1975: n. 85; 'fausse niche'/'false niche', Foucher 1905-1951: 76; Faccenna and Filigenzi 2007: 50, et al.) attributable to two definitions: 'false gable' and 'false-niche'. The term 'false gable' intends to translate the Foucherian definition 'pignon de stûpa', with a clear reference to the classic gable. However, this reference, inherent in both definitions of 'false gable' and 'pignon de stûpa', seems to come from two different considerations.
Zwalf explains how the term 'false-gable' is justified in the shape that the element assumes at its final part (Zwalf 1996, I: 55), namely, in the trefoil arch that – though being a section of an double overlaid covering – here is seen as a gable. The definition therefore would be a sort of synecdoche, calling the entire piece by a small part. In this sense, the term 'false gable' relates to the decorative element from a *vihāra* with a double overlaid covering.
Instead, in using the definition 'pignon de stûpa', Foucher seems to make reference not so much to the shape, but to the position that the false-niche takes up on the body of the *stūpa*, a position that would seem to recall the classic gable (Foucher 1905-1951: 132). This definition therefore associates, in the same way as 'false gable', a similarity to a classic gable; however the term 'pignon' here seems to be linked more to the positioning on the buildings' dome, particularly those of *stūpas*, rather than to the cover of a *vihāra.* Confirmation of this is given by the definition 'pignon de stûpa' itself, which, in Zwalf's perspective would sound like 'pignon de vihāra'.
In any case the use of a definition that alludes to classic gable seems inappropriate. In fact, the term 'gable/pignon' refers to something that in its entirety – both in shape and in function – is not actually a gable.
Another branch of study uses the term 'false-niche', which even Foucher utilizes in reference to the representations of these elements on reliefs and small *stūpa* using the expression "fausses niches formant saillie" (Foucher 1905-1951: 76, 186). This element effectively appears as a niche carved on to the body of the dome in the representations of Gandharan reliefs, whereas small *stūpa* and real architecture (see Archaeological Evidence) suggests a protruding position with respect to the *stūpa'*s curved surface, then showing a clear incompatibility, from an architectural point of view, of the element in question with the definition of 'niche', because the in-set feature of the element is absent in Gandharan 'false-niches'. However, being encased in a solid frame in vertical axes and isolated (at least physically) from the rest of the illustrative apparatus that decorate the structure to which the element is placed against, the images enclosed within the 'false-niche' are completely independent in context. In this sense, the term 'niche', meant as its original meaning *nidus*, acquires a more correct dimension. So, it would be opportune to use the term 'niche', which, although not entirely adequate from an architectural point of view, is used here with a conventional value, dismissing the definitions considered as too limiting and misleading that allude, even in different ways, to a classic gable.

element, which is made up of a curved overhang in the lower part and a dome above (Faccenna and Filigenzi 2007: 43; Table 1)[2].

Given that the stele is placed against the body of sacred buildings through a system of anchoring, the archaeological decontextualization unfortunately forms the rule. In truth the false-niches, being easily exposed during the passing of time to breakages and removal by human and natural factors, were never found *in situ*.

Lacking in any archaeological context, the study of false-niches has been until now exclusively limited to iconographical and iconological analysis of the superimposed reliefs within, with little interest towards the archaeological context of this particular category of decorative support. However, I do believe that a deeper analysis of archaeological evidence may provide a new interpretation towards understanding both the symbolic meaning of these elements and the internal logic in selecting the subjects illustrated within them.

2. Indirect Evidence: small *stūpas* and reliefs

A useful indirect source of information in determining the disposition of false-niches on Buddhist buildings is represented by reliefs and miniature *stūpa*[3], where nevertheless these elements do not appear to have a canonised position.

In Loriyan Tangai's well-known small *stūpa* (Fig. 1), the lower part of a false-niche is inserted into the last circular storey or drum, with the trefoil arch protruding with respect to the curved surface of the dome. However, it should be noted that the original presence of the false-niche in this is doubtful, given the absence of this element in the earlier photographs from the end of the nineteenth century (British Library 1003/1037; Burgess 1900: 88, fig. 35; Faccenna 2001: 160, fn. 57).

[2] The examples in their entirety are no higher than one metre. However, some component fragments from the lateral naves of Type B false-niches exceed one metre, thus demonstrating the existence of examples of a larger size, which were the result of assembling many slabs and have been more easily subject to breaking up (e.g. Behrendt 2016). See also the fragment of a large lunette (w. 1.31 m) from Butkara I (Faccenna and Taddei 1962: pl. CLXII) and fragments from Zar Dheri (below).

[3] The only case where a false-niche has been connected to something other than a *stūpa* is provided by a relief of unknown provenance conserved at the Central Museum of Lahore (Jansen and Luczanits 2008: Cat. No. 206).

The small *stūpa* of Gandha[i]ri[4] (Fig. 2), albeit universally accepted for its complessive incongruity (Burgess 1900: 88, fig. 36; Zwalf 1996, I: 36; Faccenna 2001: 161, fn. 59), showed four recesses to house false-niches directly on the raised part of the dome. The authenticity once again is doubtful.

A miniature *stūpa* from Takht-i-Bāhi, conserved at the Victoria and Albert Museum (Ackermann 1975: 98-99, pl. XXXIII-XXXIV), shows a false-niche placed against the drum of the *stūpa*. The *Parinirvāṇa* of Buddha is shown inside, in the main figured field, whereas there are generic scenes of adoration and Buddha in meditation in the two areas above. Nevertheless it is believed that the *stūpa* had been given an incorrect combination of a dome with a quadrangular *harmikā* used as a base (Ackermann 1975: 98). As a result, we do not know the original development of the lower part of this small *stūpa*.

A different placement is suggested by a curvilinear frieze from Butkara I which must have adorned the surface of - a by now lost - small *stūpa* (Faccenna and Taddei 1962: pl. LXXXIa-b; Fig. 3). In fact, here the lower portion of a false-niche is directly inserted between the figured panels of the horizontal frieze. Even though we cannot be certain of the frieze's position on the small *stūpa*, it is difficult to believe that the frieze decorated the *stūpa*'s dome.

With regard to the representations on the reliefs, when present, the false-niche appears either directly on the raised part of the dome (e.g. Zwalf 1996, II: 235), or against the second circular storey (Figs 4, 5) of a *stūpa* on a quadrangular podium with angular columns.

The architecture represented in small *stūpas* and reliefs therefore show either one or four false-niches upon the last circular storey of the *stūpa* or at the height of the dome (on the drum or on the raised part of the dome) with the upper part protruding. In this last case, the false-niche certainly would have suffered from structural problems, keeping in mind also the heavy earthquakes that have always characterised the region. Although this type of indirect source helps in understanding more or less the positioning of false-niches and the type of buildings they were adhered to, it is difficult not to raise doubts over their total adherance to reality, talking about simplified representations that are in many cases doubtful of their authenticity. In order to understand the meaning and functionality of

[4] Originally in the Indian Museum of Calcutta (Tissot 1985: pl. IX.1; Zwalf 1996, I: 36).

false-niches, it is important to look at real as well as represented architecture from a critical-comparative perspective.

3. Archaeological Evidence

Despite the fact that false-niches have never been recovered *in situ*, some archaeological evidence allows us to propose a series of considerations. In particular we refer to the *stūpa* of Zar Dheri in the Hazara district and the two *stūpas* of Amluk-dara and Tokar-dara in the Swat valley. Zar Dheri represents a *unicum* for a variety of reasons. In fact, many reliefs and architectural elements that are integral parts of at least three large false-niche's trefoil arches have been discovered in one of the monastery's cells (Yoshihide 2011: 238, 282-284). These pieces not only stand out for their excellent condition and iconographical singularity, but also represent the largest examples of false-niches ever discovered, reaching a width of three metres (Group A and B) and four metres high (Group A). Adding to the exceptionality of this discovery is a peculiarity of the *stūpa*. In fact, in correspondence with at least three (S, E, W) of the four stairways that originally gave access to the second storey of the *stūpa*, the presence of a raised niche/recess (2.5 m long) has been revealed, which interrupts the curved line of the *stūpa* itself (Yoshihide 2011: 257, pls 67-68). In the reconstructed model, the trefoil arches found in the monastery cell are positioned in correspondence with these niches/recesses, in the upper part (Fig. 6).

The main *stūpa* of Amluk-dara (see Olivieri in this issue), with its 32x28m (almost) square podium, is the largest ever excavated in the Swat valley. Along the axis of the double stairway (N) that leads to the second storey of the *stūpa*, there is a rectangular plinth 4m wide with a 90cm protrusion that was restored by the Department of Archaeology and Museums (DOAM) in 1958-59 (Fig. 7). The archaeologists have put forward the hypothesis that this structure could have been the base of a large, lost false-niche (Faccenna and Spagnesi 2014: 177-8; Olivieri et al. 2014: 348-349). As well as Amluk-dara, the Tokar-dara *stūpa* has a double stairway (W) that gives access to the second circular storey of the *stūpa*. In front of the stairway there are traces of a linear podium 'protruding slightly beyond the line of the body of the stupa with an elevation suggesting a wall, also linear, in the shape of a shallow niche' (Faccenna and Spagnesi 2014: 331; Fig. 8). D. Faccenna, interpreted this structure as

well as the one at Amluk-dara as the base of a large false-niche (Faccenna and Spagnesi 2014: fig. 368).

A similar characteristic can also be observed in several Afghan *stūpas* in the region of Kabul/Kapisa, probably from a later date than those already mentioned. The Shevaki 1 (Fussman 2008, II: pl. 48) and Top Dara 1 (Fussman 2008, II: pl. 91-92; see Olivieri this issue: fig. 31) *stūpas* present a large trefoil niche on the dome, in line with the access stairway at the *pradakṣiṇā-patha*, which was meant to house sculptures in stucco.
At Shevaki 1, apart from the large trefoil niche, the lower portion also seems familiar[5], recalling the false-niche's profile which in this case is higher with respect to the level of the walkway. Differently, at the level of the upper drum at Seh Topan 4 there is quite a deep niche whose profile doesn't seem ascribable to a trefoil arch (Fussman 2008, II: pls 42, 42.c), but rather could have been adapted to house a statue. Despite the clear differences, we cannot exclude that these niches on the domes of the Kabul/Kapisa area's *stūpas* were a reflection of an older Gandharan tradition, where a false-niche with a trefoil arch is placed in front of the access stairway to the *pradakṣiṇā-patha*, though in this particular case much leaner in terms of shape and iconographical content. Another later reference to false-niches comes from the *Dharmarājika stūpa* in Taxila, which had four moulded bases (about 5.8m wide) during its final reconstruction phase. These bases – protruding about 1.6m from the dome's profile - were placed in corrispondence to the four stairways that give access to the circular structure (Marshall 1951: 237; Fig. 9). What Marshall considers triple niches housing an image of Buddha with Bodhisattva clearly refer to the subdivision of the lower part of a complex false-niche (or Type B, see Tab. 1), which here however appears to take on a three-dimensional appearance.

To sum up, the Gandharan *stūpas* in Zar Dheri, Amluk-dara, Tokar-dara and Taxila show, in relation to the entrance stairways, the presence of one or four, according to the *stūpa's* type, protruding rectangular bases or niches. According to the reconstructive hypotheses put forward by archaeologists these were the places of large false-niches which, then, would appear aligned with the stairway and directly placed either on or inside the *stūpa* at the height of the walkway. There is also large crumpling above the bases at Amluk-dara and Tokar-dara which is very

[5] Whilst Masson's reconstruction proposes a simple lengthened trefoil arch (Wilson 1841: pl. IX).

indicative. It is very probable that the false-niches represented the point at which treasure hunters concentrated, being a weak spot that provides relatively easier access to the internal structure of the *stūpa*. These crumples, albeit reshuffled by treasure hunters, would partially represent a negative mark of the original false-niches. In particular, the profile of the large *vacuum* of the Amluk-dara *stūpa* brings to mind the form of what we have come to know as a false-niche (Fig. 7; see Olivieri this issue, figs. 28-30, 42). The positioning of false-niches at the height of the *pradakṣiṇā-patha* that is suggested by archaeological evidence does show similarity to the reliefs in Figs 4, 5. The false-niche's position directly on the raised part of the dome, could come merely from a simplification of real architecture instead.[6] In fact, as noted at Amluk-dara and at the *Dharmarājika*, the false-niches could assume an elevated position with respect to the walkway caused by the insertion of a high rectangular base.

The oldest archaeological reference (and reliefs) suggests therefore a position for false-niches that brings to mind that of the portal or *toraṇa*, being directly connected to the entrance stairway and the *pradakṣiṇā-patha*. Other references to the link between false-niches and doors are given by the internal allocation of the figures and from several decorative elements associated with false-niches.

4. Typology and Decorative Elements

The main discriminative factor between the two types of false-niche is provided by the articulation of its lower part in one (Type A) or three (Type B) naves respectively. However, in both types A and B[7] (Tab. 1) the lower portion maintains a trapezoidal appearance due to the inclination of

[6] This could be potentially valid also for the suspended position observed in the small *stūpas* discussed above. However, their doubtful relevance (in particular, I refer to the small *stūpas* from Loriyan Tangai and Gandha[i]ri) lead me to exclude them from any speculation. Instead, the position suggested by the small curvilinear frieze from Butkara I seems to correspond to that indicated by archaeological evidence and reliefs in Figs 4, 5.

[7] The reference bibliography for the sample examined (for a total of about 200 elements of false-niches) is the following: Hargreaves 1930; Foucher 1905-1951; Marshall 1951; Ingholt 1957; Faccenna and Taddei 1962, 1964; Taddei 1974; Ackermann 1975; Tissot 1985; Zwalf 1996; Faccenna 2001; Kurita 2003; Khan 2005; Jansen and Luczanits 2008; Ali and Qazi 2008; Khan 2016. Photographic archives: The British Library, *Archaeological Survey of India Collections*, www.bl.uk; American Institute of Indian Studies (AIIS), dsal.uchicago.edu/images/aiis; Western Himalaya Archive Vienna (WHAV), http://whav.aussereurop.univie.ac.at/; *Archivio fotografico Museo Nazionale d'Arte Orientale "Giuseppe Tucci"*).

the lateral jambs, which recall the oldest wooden constructions, whilst the upper portion assumes the profile of a voluted pseudo-trefoil arch with intermediate element. The latter is often associated with pendants, finial and decorative elements connected to the extrados of semi-arches and/or arches through a system of sockets and tenons.

In many false-niches, the figured field of semi-arches seems divided into three assumed areas by two dividing vertical bands that reunite to form a dividing arch of lunettes or end at the height of the lunette arches' impost level (Foucher 1905-1951: fig. 48), thus recalling the internal skeleton of the vaults in ancient wooden constructions like that represented on the doorway of the Lomāś Ṛṣi Buddhist cave in Magadha (British Library 1003/44). Moreover, in some examples the bracket-like motif in the arch's intrados (Figs 10-11)[8] does nothing but recall (as is Lomāś Ṛṣi's case) the wooden support beams, whereas the frequent dividing lunette arches recall those of the doors represented on Gandharan reliefs (e.g. Callieri and Filigenzi 2002: no. 82). The figurative repertoire of the upper lunettes in the door represented in the Gandharan reliefs and that of the false-niches is also very similar. In the door's lunettes the decoration is usually very simplified given the narrow surface available. In particular, there are phytomorphic decorative motifs, figures with snake-tails and worshippers. In the upper lunettes of the false-niches, even though scenes of adoration are often found[9], phytomorphic decorative motifs are particularly common, such as rows of rosettes or lotuses and open flamed palmettes (Figs 10-11; see also Callieri and Filigenzi 2002: no. 88; Saidu Sharif: S 667, S 890, S 1043), which can also be found in the lunettes of doors shown on the reliefs (e.g. Faccenna and Taddei 1962: pl. CLXVI). Moreover, the fantastic figures with snake-tail or feline bodies at the ends of the lunette are characteristic, representing an effective solution for taking advantage of the entire space both in the lunettes of the false-niches (e.g. Foucher 1905-1951: figs 48, 271; Zwalf 1996, II: 491) and in those of the portals (e.g. Callieri and Filigenzi 2002:

[8] Reference is made above all to several fragments from Saidu Sharif I (e.g. S 477, S 522, S 538, S 544) and Butkara I (e.g. B 890).

[9] Referring mostly to the scene of adoration of the *bhikṣā-pātra* (e.g. Ingholt 1957: 168; Foucher 1905-1951: fig. 48), of Buddha (e.g. Faccenna and Taddei 1964: Pl.CDIIIa; Ingholt 1957: 238) or more rarely of Bodhisattva (e.g. Tissot 1985: figs 19, 30), of the turban (e.g. Faccenna and Taddei 1964: pls CDIIIa, CCCXCIX; Zwalf 1996, II: 491) and, in only one case, of Buddha remains (e.g. Faccenna and Taddei 1964: pl. CCCXCIX).

no. 82). Another echo in the false-niche of the door motif comes from the external decorative elements. The volutes of arches and semi-arches, that are constant in false-niches, usually terminate in a bird's head or a 'monster' (Fig. 12). As the Gandharan reliefs show, the volutes run constantly at the end of the portal arches and lintels in the *toraṇas* both in simple and figured form (Figs 13-14).

In real architecture, the Indian world shows these decorative elements not only on the lintels of the East *toraṇa* at Bhārhut (Huntington 1985: 5.8), where the volutes take the shape of the terminal part of a *makara,* but also on the lintels of the *toraṇa* of Sanchi I where they present a more geometric appearance (Huntington 1985: 6.4). The mythical creature *makara*, a symbol of 'auspiciousness and the primal life source' (Huntington 1985: 65), complies very well with the theme of passage innate in the *toraṇa* and generally in the portals. It is probably in this Indian figurative-semantic collection where the origin of the volutes with 'monster/bird's heads' that characterised the arches and semi-arches of the false-niches can be found.

The arch pendants that assume the form of a bunch of grapes or a fruit (Fig. 12.c-d) show similarities with the decoration of portal arches and *toraṇa* shown on the reliefs (Figs 13-14; see also Faccenna and Taddei 1962: pl. CLXVI) that reproduce floral elements in stone, which most probably reflect the usual manner of decorating these structures in real life.[10]

A further clue to the link between false-niches and door motifs comes from the lower register of a Type B false-niche showing the worship of Buddha's remains: in the second cylindrical body of the *stūpa* there is in fact a false-niche, whose lower part actually seems to have been made as a door or portal with two fold-leaves as indicated by the vertical line (Fig. 5). Additional support for the association between false-niches and door motifs comes from the reliquary of Shaikhan Dheri (Allchin 1972; Fig. 15) that reproduces a miniature cruciform building with a

[10] Finials and figured elements connected to the extrados of semi-arches and/or arches, generally representing different species of birds (with very few exceptions: see Foucher 1917: 332, pl. XXVII; 'Archivio fotografico MNAO': Inv. GANDHARA 152, 166), seem to recall the motif of *vihāra* more than the portal. In fact, birds frequently appear on the covering of *vihāra* represented in reliefs (e.g. see Zwalf 1996, II: 506; Jansen and Luczanits 2008: Cat. No. 202). Finials can be both in simple and figured form: lophophorus (?) with open wings (Foucher 1905-1951: fig. 48) or simply two wings (Kurita 2003, I: 337).

double roof covering probably illustrating real architecture – although nothing similar has ever been brought to light (Allchin 1972: 17). The four faces of the building act exactly like a false-niche (or viceversa) with a bracket-like decoration that evokes the wooden structure of the real architecture on which the object is drawn and shows an internal subdivision in superimposed figured registers representing scenes from the life of Buddha accompanied with a verse of text from top to bottom, something that also characterizes false-niches.

In conclusion, archaeological evidence, internal portions of figured fields and decorative motifs suggest that false-niches, whose profile is clearly inspired by a section of *vihāra* with a double roof covering (Faccenna and Filigenzi 2007: 43), refers more in particular to the facade of the latter and is intended as a portal, as highlighted by the reliquary of Shaikhan Dheri. If we acknowledge the validity of this reference, we must ask ourselves the reasoning behind this recall to the entrance of a *vihāra* with double overlaid covering on the body of a *stūpa.*

5. The Symbolic Value of the False-niche

Throughout the Gandharan area the spaces where the reliefs are located change. Whilst *toraṇa* and *vedikā* represent the ideal place for the location of reliefs in India, due to the importance given to these structures in the devotional rite of *pradakṣiṇā*, in sacred Gandharan structures, *toraṇas* and *vedikās* around the *stūpa* disappear, even though *vedikās* can appear as a parapet along the border of the *stūpa's* quadrangular body and along the access stairway (Faccenna 1980-1981, I: fig. 30; Olivieri et al. 2014: 347, 379-384).

In his analysis of *stūpa* n. 17 at Butkara I, D. Faccenna acutely brings to light the symbolic value of the *vedikā* and pseudo-*vedikā* motif in the Gandharan area that "concettualmente prosegue la balaustra (*vedikā*), che nello stūpa indiano (Sanchi) limitava lo spazio in cui era racchiuso il monumento e nel quale si accedeva per una porta (*toraṇa*)" (Faccenna 2004: 318). As a matter of fact, though disappearing from the architectural apparatus, recalls of the *vedikā* are persistent (due to its symbolic value as a sacred enclosure) in the decorations on the body of the *stūpa,* as well as on the *harmikā,* in the decorative form of the pseudo-*vedikā* both in real (e.g. main *stūpa* of Saidu Sharif I, Faccenna 1995) and represented (e.g. Callieri and Filigenzi 2002: no. 68) architecture. It is therefore possible to

hypothesize that the *toraṇa* – as complementary value to that of the *vedikā* - lost its original place around the *stūpa* and was recalled in Gandharan *stūpas* by the motif of false-niches[11]. As demonstrated by archaeological evidence, false-niches are always placed in front of the entrance stairway, a position that mirrors that of the portal. From a morphological point of view however - as mentioned above - the false-niche seems to refer to the facade, intended as a portal, of a *vihāra* with double overlaid covering rather than to a typical Indian portal (*toraṇa*), something unfamiliar to Gandhara.

The choice of a reference to *vihāras* with double overlaid covering is probably due to the wide diffusion of this structure in the North West of the Indian subcontinent and to the sacred value which it was connected to.[12] As a result, it is possible to hypothesize that the main components and figurative supports of sacred Indian structures (*vedikā* and *toraṇa*) were inherited by Gandhara. Here, deprived of their own architectural identity, they became 'decorative' motifs applied directly to the sacred building because of their symbolic value to the enclosure and entrance. Being a spiritual display of Buddhism, apart from being a memorial to Buddha's *mahāparinirvāṇa* (Fussman 1989: 44), the *stūpa* is above all a receptacle of embedded and intertwined symbols that can have more or less visibility according to the period, to the place and to the devotee's spiritual sensibility, even though the Dharma retains its wide and absolute value. As a cosmogram and a replica of the establishment of the cosmic and spiritual order (Irwin 1979, 1980), the *stūpa* becomes a three-dimensional *maṇḍala* that could but include a symbol of passage and an access to beyond, as an actual portal. If the *vedikā* indicates the holiness of the place by defining its borders, the presence of an entrance in the form of a false-niche symbolically emphasizes accessibility.

[11] The connection of the portal motif to Gandharan *stūpas* is evident, for instance, in the decoration of the platform at the base of the *stūpa* in block F at Sirkap, Taxila (Marshall 1951: 163-164, pl. 28, 30a).

[12] Although other types of *vihāra* are observed in reliefs and architectural remains (e.g. Jansen and Luczanits 2008: 251, 325; Foucher 1905-1951: 224), the linear translation of the *vihāra* with double overlaid covering seems to be recalled in Gandharan reliefs with more frequency. Moreover, it is the only motif that has won a place of honour on the body of sacred buildings in the form of a false-niche. So one wonders whether the prevalence of this motif on the reliefs is motivated by some specific cult role or activity connected to the *vihāra* with double overlaid covering or the predominance of this motif is simply connected to the prevalence of this specific type of *vihāra* in Gandharan territory, or whether the sculptors chose this motif only for spacial (i.e. the trefoil arch fits to the profile of a meditating Buddha very well) and artistic reasons.

6. The Great Departure within the False-niche

It is possible to hypothesize that false-niches, more properly false-doors, became a decorated space – given their symbolic value – loaded with a particular semantic value and most probably the selection of illustrated figures within are a result of this meaning. Which subject could be more apt in proposing a reflective pause[13] in the moment of the approach to the rite of *pradakṣiṇā*, that projects the devotee towards the dimension of spiritual safety, if not the Great Departure?

In both Type A and Type B false-niches the episode from the life of Buddha that appears most often is that of the Great Departure (Filigenzi in Callieri and Filigenzi 2002: 101-102)[14], which occupies a place of honour in the lower register. In a verse of text from top to bottom that is characterised in almost all reliefs containing it[15], the Great Departure presents itself at the apex of a narrative climax in which episodes relative to the life of Prince Siddhārtha[16] (e.g. The Great Renonciation and scenes from the palace) follow each other chronologically, in a crescendo of intensity towards the main event which is used as a representation of effect: Siddhārtha is shown frontally on horseback, the front part of the horse comes out of the frame, almost as if it comes out of the decorative dimension, expanding the power of the image that recalls the model of the

[13] Differently from a narrative frieze, the reading of a false-niche requires a physical staticity from the observer. See Taddei 1993: 46.

[14] The picture that emerges from the analysis of subjects illustrated in various fields of the false-niche (see bibliography in fn. 7) is nevertheless varied and shows how the space of the false-niche, particularly in Type B false-niches, could be used both for chronological development of a narrative cycle (the life of Bodhisattva Siddhārtha; Conversion of the Kaśyapas: e.g. Foucher 1905-51: fig. 225) and to illustrate different subjects linked by particular themes (e.g. Dīpaṃkara jātaka/Offering of the handful of dust/Buddha and the son Rāhula: Ingholt 1957: 159, Taddei 1974: fig. 13), whilst in many cases between two chronological extremes, subjects that are probably dear to local traditions (or to the devote who commissioned the work) can be inserted in the case of small *stūpas*. However, examples are not lacking where only one episode of Buddha's life (accompanied by generic scenes of adoration and offerings) is represented in a false-niche or cases in which in all figured fields generic scenes of adoration appear. These last two cases characterise Type A false-niches, many of which belonging to small *stūpas.* must have played a determining role in the selection of the subjects.

[15] The only exception known to this day is that of the false-niche with the Great Departure, that shows unconnected subjects in the superior registers from a thematic and chronoligical point of view (Jansen and Luczanits 2008: Cat. No. 158).

[16] On the figured panels represented on the false-niche overhanging arch segments see Filigenzi 2006: 17-27.

Sun God on a cart, not without semantic repurcussions (Filigenzi in Callieri and Filigenzi 2002: 101-102). Using the image of Buddha on horseback in this manner (facing the observer directly), it almost seems as though it is taking the role of a mediator between the *stūpa* (with all its connected values) and the devotee. Without doubt the fact that the lower portion of the Type A false-niche is formally depicted as a tapered door must have guided the sculptors in the choice of subject. So much so, that in several Type A false-niches containing the Great Departure, the city gate (a key element for the identification of this episode) is significantly less evident and at times completely absent (e.g. see Ingholt 1957: 168; Kurita 2003, I: 145; Khan 2005: 15; Zwalf 1996, II: 176). However, the formal aspect of the lower portion of Type A false-niches cannot justify alone the prevalence of this episode that actually appears much more often in the lower register of Type B false-niches (e.g. see Taddei 1993: fig. 13; Kurita 2003, I: 147; Ingholt 1957: 40), lacking any direct graphical correlation with the portal. It is in fact the false-niche in its entirety that conveys the meaning of the portal and the passage. It is not an accident that a key episode of the life of Buddha like the Great Departure - when Prince Siddhārtha decides to abandon his secular life at the palace and take the path of deliverance - has a place of honour on this decorative support loaded with this semantic value[17].

It is probable that false-niches showing episodes relative to the life of Bodhisattva Siddhārtha, positioned in chronological order and culminating in the Great Departure, rather than a sort of incipit or epilogue to the eventual narration that developed in the horizontal frieze of the *stūpa*,[18] would represent a sort of invitation to the devotee to 'enter' through a metaphoric doorway into the dimension of Dharma, personified by the *stūpa* itself, thus beeing guided and inspired by the choice of Siddhārtha.

* * *

[17] In the case of four false-niches/doors in cruciform *stūpas* (e.g. Zar Dheri), a more varied thematic collection is possible.

[18] At the moment the combination of horizontal frieze and false-niche is only attested in the small curvilinear frieze from Butkara I (Fig. 3).

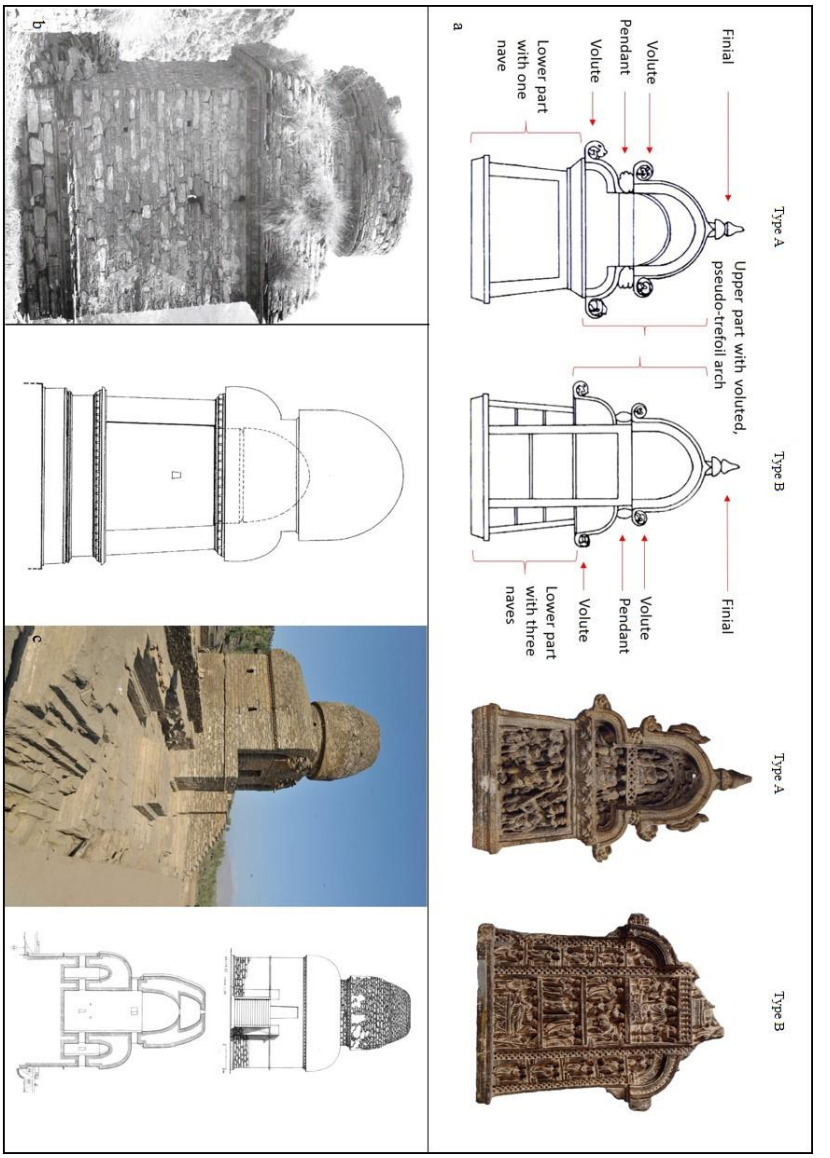


Table 1- a) (from left): Type A or simple false-niche (Faccenna and Filigenzi 2007: pl. 20): linear translation of a single cell *vihāra* with double overlaid covering; Type B or complex false-niche (Faccenna and Filigenzi 2007: pl. 21): linear translation of a double shell *vihāra* with double overlaid covering; b): single cell *vihāra* with double overlaid covering, Abbasahebchina (Swat): photo and reconstructive section (Faccenna and Spagnesi 2014: figs 440, 453); c: double shell *vihāra* with double overlaid covering, Gumbat (Swat): photo, frontal prospect and section (Olivieri et al. 2014: pls III, VI).

Acknowledgement
Some of the observations made in this article are the elaboration of what initially presented by the Author in her MA thesis ("La Sapienza", University of Rome) under the tutorship of Prof. Arcangela Santoro.

Post-scriptum
When this article was in the proof stage, I came across a very interesting feature from Butkara III. On a side of a harmikā *there is a scene that has been interpreted as the "worship of the* vihāra*" (Khan 2016: 60; Fig. 16). Although the latter is a known motif on Gandharan reliefs, in this case it is absolutely evident that the represented object is a false-niche, not a* vihāra. *Lacking of any figured registers, the meaning of the false-niche, worshipped in this scene, is relevant for its own symbolic and spiritual value. Maybe the 'beyond' value of the false-niche/false-door discussed above, can give a reasonable framework for an otherwise perplexing representation.*

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Figures

Captions

Figure 1 – Small *stūpa* from Loriyan Tangai. Indian Museum of Calcutta (Jansen and Luczanits 2008: 174).

Figure 2 – Small *stūpa* from Gandha[i]ri. Unknown (Jansen and Luczanits 2008: 185).

Figure 3 – Small curvilinear frieze, Butkara I. Swāt Museum, Saidu Sharif (Faccenna and Taddei 1962: pl. LXXXIa).

Figure 4 – Relief illustrating the adoration of a *stūpa*. Lahore Museum (Ingholt 1957: 157).

Figure 5 – Part of the lower register of a Type B false-niche from Takht-i-Bāhī illustrating the adoration of the remains of Buddha. Peshawar Museum (Photo by C. Moscatelli).

Figure 6 – Conjectural elevation of the main stupa from Zar Dheri (Yoshihide 2011: ill. 7-9).

Figure 7 – *Stūpa* of Amluk-dara after restoration in 2012 with part of the base protruding (Photos by the author).

Figure 8 – *Stūpa* of Tokar-dara from the West with part of the base protruding (after Faccenna and Spagnesi 2014: figs 337, 355).

Figure 9 – *Dharmarājika stūpa* of Taxila from the East (Photo by the author).

Figure 10 – Bracket-like motif in the arch's intrados of a false-niche in green schist from Butkara (Inv. B 744; 27.5x33.5 cm) MNAO, Roma. Photograph courtesy of IAMP-ISMEO.

Figure 11 – Bracket-like motif in the arch's intrados of a false-niche in green schist from Saidu Sharif (Inv. S 544) MNAO, Roma. Photograph courtesy of IAMP-ISMEO.

Figure 12 – Volutes and Pendants; a: *Dharmarājika* (Taxila), Taxila Museum (Khan 2005: 309); b: Butkara I, Swat Museum (Inv. B 36; photograph courtesy by IAMP-ISMEO); c: unknown provenance, Central Museum Lahore (Jansen and Luczanits 2008: Cat. No. 158); d: unknown provenance, Karachi Museum (Kurita 2003, I: 145).

Figure 13 – Ascetic in portals. Butkara III, Peshawar University Museum (Jansen and Luczanits 2008: Cat. No. 221).

Figure 14 – Relief with the image of donor in *toraṇa,* from Butkara I. MNAOR, Rome (Callieri and Filigenzi 2002: no. 72).

Figure 15 – Prospective reconstruction of the reliquary of Shaikhan Dheri (Allchin 1972: fig. 7).

Figure 16 – One face of a *harmikā* illustrating the adoration of the false-niche. Butkara III (Khan 2015: 61, n. 29).

Fig. 1

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Fig. 3

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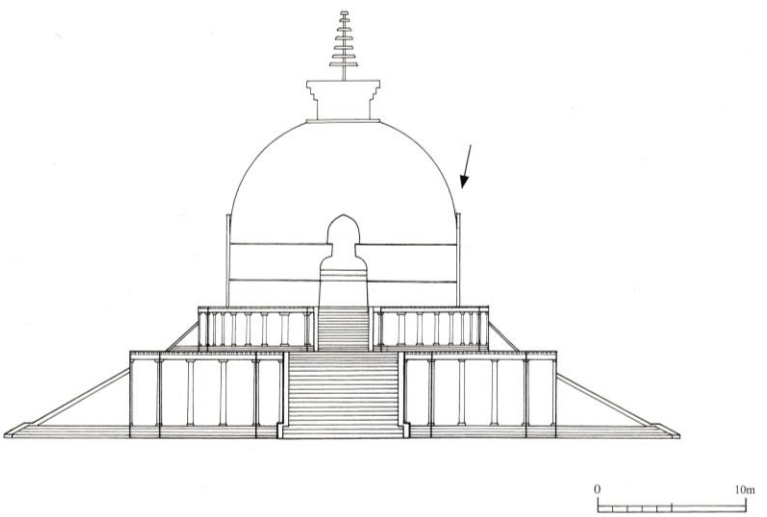
Fig. 5



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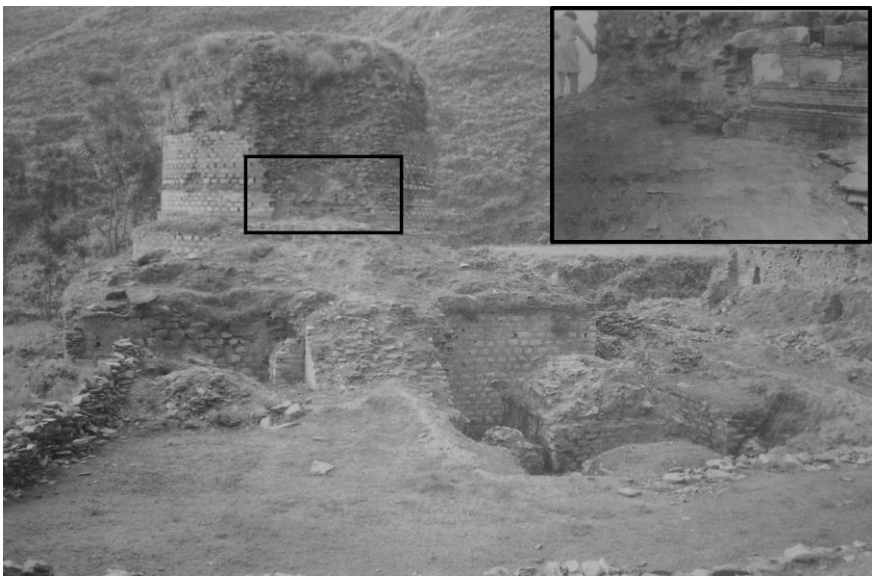

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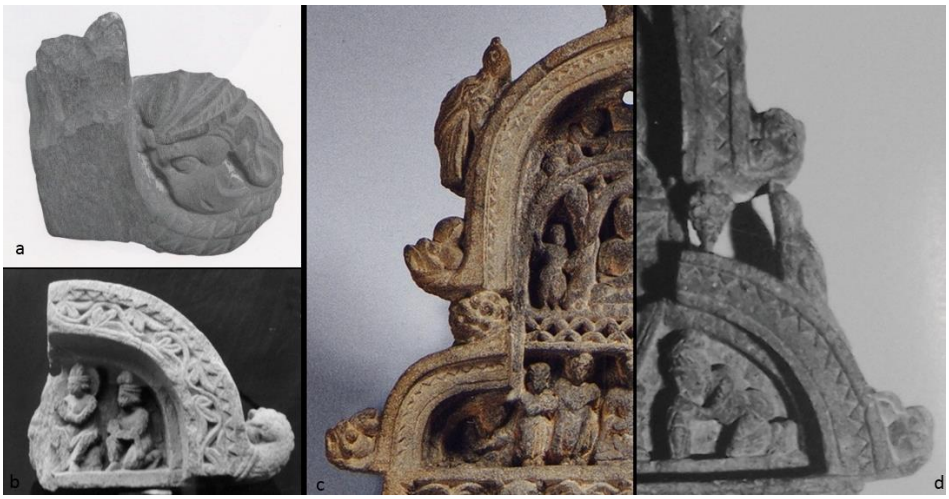

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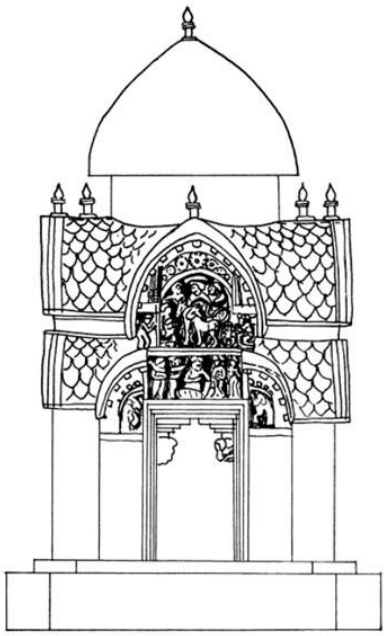

Fig. 14

Fig. 15

Fig. 16

The making of a theory
An analysis of the trajectory of the 'great earthquake' at Taxila in Sir John Marshall's works

Ifqut Shaheen/Sirat Gohar/Rafiullah Khan

Abstract

This paper examines Sir John Marshall's observations about the occurrence of a 'great earthquake' at Taxila, Pakistan, in the early first century CE. A careful reading of his works shows that Marshall remained silent about seismic activities until his magnum opus, the 3 vols. Taxila, appeared in 1951. The chronological marker used for this binary here is 1935. Around this time, excavations at Taxila ceased and Marshall left for England. The year is also significant due to the occurance of the Quetta earthquake which probably influenced Marshall to invoke seismic considerations in the synthetic treatment he rendered to his data. As it is argued that the 'great earthquake' theory of Marshall suffers from scholarly shortcomings, new researches should be informed by a strong sense of criticality.

I am not of course suggesting that an excavator can claim any more finality for his conclusions than others, or that he should be in any way more exempt from criticism.
(Marshall 1945/2006, I: xvii).

Surveying and mapping an archaeological site is an art,
verifying the cause of damage is science.
(Ambraseys 2006: 1015)

1. Introduction

Archaeological practice in British India presents a fascinating story of discoveries, imperial designs and legal and institutional matters. No less intriguing is to know the ways and developments which shaped, inspired and influenced archaeological interpretations and explanations.

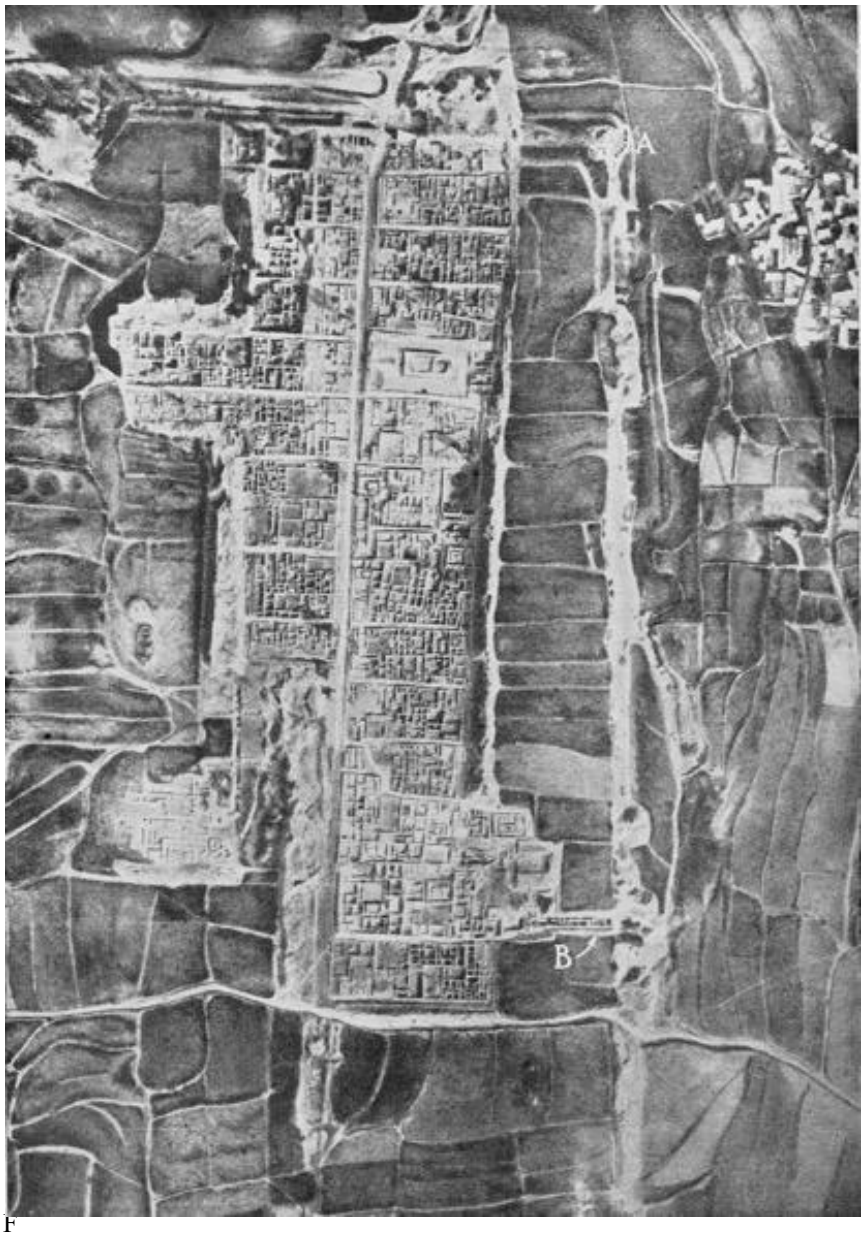

Fig. 1 – Aerial photograph of Sirkap (R.I.A.F) showing the location of A. Ghosh trenches (after Ghosh 1947-1948: pl. I) (Courtesy DOAM).

Various studies have illustrated and critically analyzed trends and activities in the field. Many theories have taken birth, remained valid for a considerable amount of time and, at last, either disappeared or were contested. Who does not know about Aryan Theory, Classical influence in Gandhara art and architecture and so on? Many other such instances could also be produced: for example, theories with regard to the decline of cities of the Harappan civilization (Lahiri 2000/2006; Ratnagar 2000/2002; Sahni 2000/2006). Beside these overarching programs, theories and concepts working in certain local contexts could also be easily delineated in works of colonial archaeologists and scholars (Chakrabarti 1988/2001; Guha 2015; Lahiri 2000/2006, 2005/2015; Michon 2015; Paddayya 2016, 2018). An interesting instance in this respect concerns the occurrence of 'the great earthquake' theory formulated and presented by Sir John Marshall. The site of this catastrophe and sufferings was Taxila.

Taxila is one of the important archaeological spaces in South Asia. Its significance is due to many reasons. It evokes not only the memory of a rich Buddhist heritage and urban landscape but also of Marshall's archaeological saga. Here he surveyed and excavated historical urban sites and sacred sanctuaries for more than two decades (1912-1934). All this enabled him to expose a valuable archaeological landscape which in turn made it possible to present influential speculations, interpretations and theories (i.e. evolution of monastic architecture, Bhir-mound as the first site of urban process as led by Persians, classical prominence, diffusion etc.).[1] And Marshall's earthquake stipulation is one of the

[1] It needs to be pointed out that, as Nayanjot Lahiri (2005/2015: 125-131) observes, Taxila as envisaged and constructed by Marshall differed in many ways from that of Alexander Cunningham's work. The later made explorations while having Chinese pilgrims' accounts and some classical sources in his hands; hence, Cunningham brought religious landscape to the fore. On the contrary, Marshall's schema concerning Taxila was the result of well-thought-out and strategic deliberations. His interest in Greek evidence, urban patterns and evolution of religious architecture make his work markedly different from his predecessor's exploratory campaigns. Lahiri concludes that '[a]bove all, the care taken to slowly and systematically excavate sites, stratum by stratum, with an understanding of the exact location of the artifacts and antiquities being unearthed, transformed Cunningham's image of Taxila as static and religious into a dynamic and vibrant urban location.' This appreciation of Marshall's work by Lahiri may be read alongside some critical reexaminations of the archaeology of Taxila during the last two decades. Of special importance here are observations presented by Coningham and Edwards (1997-1998) about commercial, administrative and religious loci in the city of

interesting aspects of his archaeological interpretations at Taxila.

This study examines the development of the earthquake formulation at Taxila in Marshall's works in a comprehensive manner. Its trajectory has been traced in his publications right from his preliminary reports, through *A guide to Taxila* (hereafter the *Guide*), to his magnum opus about the valley, *Taxila: an illustrated account of archaeological excavations carried out at Taxila under the orders of Government of India between the years 1913 and 1934* (hereafter *Taxila*). The trajectory, which qualifies to term his observations as theory, once established is followed by a critical and contextual analysis especially in relation to the devastating earthquake at Quetta in 1935. The paper also brings to the fore the influence and persistence of the theory not only with connection to Taxila but in archaeological investigations in other parts of Gandhara as well. Our investigation does not cover an assessment of the earthquake proposition with the help of physical examination either of the structures at Taxila or the material recovered from them due, simply, to the fact that we do not have the required expertise, which Marshall also lacked, from geological, seismological and architectural perspectives. However, some well-founded observations made by scholars recently about ancient Swat adds interesting dimension to our discussion.

2. The trajectory of the 'great earthquake' in Marshall's texts

The Marshall's reports on his work in Taxila can be divided into two periods: (1) pre-1935 texts which include preliminary reports in the *Annual Report of Archaeological Survey of India* (hereafter *Annual Report*) and the *Guide* (1918) and (2) post-1935 texts which include the *Guide* (1936), *Taxila* (1951/2006) and the *Guide*[2] (1960). It is striking that

Sirkap. Furthermore, Michon has adopted an approach with regard to interpreting data from Sirkap as in contrast to the traditional inclination to reduce sophisticated socio-cultural phenomena to great 'isms', e.g. Hinduism and Buddhism etc. as codified religions enjoying great textual traditions (Michon 2015: 152ff; see also Michon and Antably 2013).

[2] This is the revised comprehensive version of the *Guide* of 1918. Addition of new data not only increased its volume but also permitted, in the wake of the publication of *Taxila* (1951/2006), new insights to be presented in this volume. Marshall writes in his Foreword, 'The further research and co-ordination of data involved in this big undertaking have led to new light being thrown on various outstanding problems. In order

the first class does not present any suggestion about such a seismic activity, whereas the latter group is more pronounced and articulate about the occurrence of such a disaster. It is necessary to give a careful treatment to both classes here. For this purpose, we would like to use 1935 as chronological marker for our analysis for two reasons: (1) Marshall's farewell to India in the preceding year and (2) the occurrence of the Quetta earthquake.

Pre-1935 texts

Archaeological research at Taxila was started by Marshall by the turn of the second decade of the twentieth century. From the begining, preliminary reports of each season's survey and excavations were regularly published. The *Annual Report* accommodated all these writings. This publication first appeared in the year 1904, two years after Marshall's arrival in India in 1902. It is interesting to note that not a single article of the *Annual Report* mentions an earthquake at Taxila. Similarly, the *Guide* of 1918 and its revised edition (1960) also garner importance. The 1918 edition, not unlike the *Annual Report*'s articles, does not propose any link between the second and third strata at Sirkap and any earthquake. The only slight reference to an earthquake found in the book is about the Jandial Temple. It goes as follows:

> In several of the column and pilaster bases fractures were caused in ancient days, *probably by earthquakes*, and these fractures were repaired by cutting back the broken stones to a straight edge and dowelling on a separate piece by means of iron pins (Marshall 1918: 89) [our italics].

The passage refers to the remains of the Jandial Temple, and it may be noticed that the suggestion lacks any evidence. The possibility of an earthquake and minor damages has been just cursorily pointed out. This is in sharp contrast to the 1960 version of the *Guide* which is discussed below.

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to bring this, the fourth, edition up to date and to incorporate in it the extra material, it has been necessary not only to revise and in part to rewrite the existing text, but to increase it substantially by raising the number of chapters from eleven to sixteen and the number of illustrations from twenty-six to thirty-seven' (Marshall 1960).

Post-1935 texts

It is clearly understandable that Marshall gives in-depth and scholarly treatment to his data from Taxila in his three volumes, *Taxila*. And it is obvious that Marshall thinks that the academic world needs to be kept updated about progress in archaeological research, thus the imperative to immediately publish incomplete data as it is uncovered, while synthetic and more mature thought follows when sufficient data is accumulated.[3]

In relation to reflections about the earthquake, it is long after finishing his excavations at Taxila that Marshall starts forceful talking. It might seem more as a coincidence that the completion of excavations at Taxila in 1934 and the devastating earthquake at Quetta in 1935 occurred nearly at the same time. We argue that the latter influenced the formulation of Marshall's earthquake theory at Taxila. It seems prudent to summarize all the description in this respect here.

Marshall's first systematic earthquake observations appear in *Taxila*. While discussing the topography of the area, he notes that "the springs of Mārgalla spur which used to feed the Tamarā [nalla] are said to have been closed by Dharamśāla earthquake of 1905, since when its deep-cut bed has carried relatively little water except in the rainy seasons" (1951/2006, I: 3). Furthermore, he also thinks that the second stratum of Bhir Mound was destroyed due to the earthquake that occurred 'in the early part of the second century B.C.' (1951/2006, I: 87). Interesting is it to note that Marshall frequently refers to 'the great earthquake' of the first century CE in his *Taxila*.

[3] "Much that is contained in these volumes has already seen in the light of day in my *Annual Reports* published between 1913 and 1934, and is therefore more or less familiar to students. But I am sure that students will share my view that in a prolonged campaign of work such as I have carried through at Taxila *Annual Reports*, however diligently they may have been prepared, are not enough. In such an excavation there comes a time when the entire body of data has to be re-examined and co-ordinated, and a comprehensive account of the whole put at the service of archaeologists and historians. Unless this is done, the labour of years will inevitably lose much of its value and scientific interest. And this is the task which only the excavator himself can adequately perform; for he alone possesses the requisite knowledge of the site and of the circumstances attending each individual find; and by virtue of his long familiarity with the subject he is in the best position to appreciate its problems and pitfalls" (Marshall 1951/2006, I: xvii).

Marshall formulates 'the great earthquake' theory, primarily, in the second chapter of *Taxila.* He sees severe disturbance caused by this catastrophe to stratum II of Sirkap. Its effects were also visible in the structures of the earlier stratum owing to the rebuilding activities. We may not leave, at this point, the chronology of the city as undiscussed. Primarily proposed by Marshall, others have also rendered serious thought to it. Marshall's (1951/2006: 118) chronological designation goes on to say: the earliest stratum VII belongs to the pre-Greek period; strata VI and V are of Greek times; strata IV-II 'date from Saka times' while the II stratum was rebuilt by the Parthians after the 'great earthquake'; and to the Kushans' arrival relates I stratum. Mortimer Wheeler and A. Ghosh's excavation of 1944-45 suggests a new chronology for Sirkap. The first half of the first century BCE was termed as pre-structural while the post-structural time was dated to post-second century CE. Between these two were delineated four phases: 2nd half of the 1st century BCE; 1st half of the 1st century CE; 2nd half of the 1st century CE; and 2nd century CE (Ghosh 1947-1948: 50). According to the revised scheme of Erdosy (1990), the VII stratum is of Indo-Greek times, strata VI-III belong to Indo-Scythians (founders of the Sirkap city), II stratum was occupied by the Indo-Parthians and Kushans (from Gondophares till Kanishka I) and stratum I was associated, until it was abandoned, to the period between Huvishka and Vasudeva. The focus on the issue at hand is also the distribution and extension of the city of Sirkap. The Hathial spur at the south of the exposed part of Sirkap is included in the Greek city by some, while others think that it was a later addition (Allchin 1982; Dani 1986/1999: 88ff.). Similarly, Kachcha-kot, to the north of the walled city, is also subject to disagreement. Erdosy (1990) gives it importance in relation to the Greek settlement and for Wheeler (1947-1948: 83-84) it was the first of the two successive Sirkaps having its boundary in the north of the Palace. According to Wheeler, the city was to centre on since Saka or Parthian time 'further south in order to comprise the impending ridges of Hathiāl' (Wheeler 1947-1948: 84; for a synthetic view of all this discussion see Petrie 2013 and Rienjang 2018). The quake affected other sites as well. The time period for the earthquake is said to be the early part of the first century CE, i.e. Gondophares' reign or that of his predecessor. According to Marshall:

> . . . Taxila was visited by a violent earthquake, which furnishes *a notable landmark in the city's history*. The effects of its devastating force can still be seen among the excavated remains (1951/2006, I: 63) [italics added].

Besides Sirkap, Marshall also interprets data from Jandial, Dharmarajika, Khader Mohra, Akhauri and Kalawan in the framework of the great earthquake.

> At the temple of Jaṇḍiāl, for example, the heavy stone plinths of pillars and pilasters were split through and through; at the Dharamarājikā the great central stūpa and the smaller memorials around it were half destroyed; in Sirkap most of the buildings were reduced to ruin and in one case a structural stūpa (Pl. 27, *a*) was lifted bodily from its base and laid on its side (Marshall1951/2006, I: 63).

Dharmarajika has also been analyzed in relation to the great earthquake disaster. The stupa's drum and dome, building H, parts of the monastery – in other words all the Saka period structures – were damaged, and later repaired with diaper masonry.

In *Taxila*, Marshall also argues that the abandonment of Sirkap was decided by the new conquerors, Kushans, due, *inter alia*,[4] to this seismic disaster. During the Parthian time a new style of architecture was introduced in the wake of the great quake experience. Sir Marshall elaborates:

> The scare caused among the populace by this catastrophe led to momentous changes in the city's architecture. Up to that time houses and structures of all kinds at Taxila had been built of rough rubble masonry in mud, with a facing of mud, or occasionally lime pilaster, to hold the surface together. Even in the most favorable conditions such structures possessed little stability, and if shaken by a serious earthquake were bound to collapse. When, therefore, the people of Taxila set about restoring their city, they resorted to new methods of building. In the first place, they cast round for a more stable kind of masonry and, since the local stone was too flintlike and intractable to be chiseled into squared ashlar, they had

[4] While discussing his data from Sirsukh, Marshall touches upon the issue of abandonment of Sirkap. Four factors have been surmised by him. The crucial two are "a deadly plague which wiped out half the inhabitants, and that only two or three decades earlier it had been laid in ruins by a devastating earthquake, the effects of which were no doubt still only too apparent". The remaining two are probably just to build a new city out of pride of conquest as well as in the face of strategic considerations (1951/2006, I: 217).

> recourse to a massive type of 'diaper' which was fashionable on the other side of the Indus and had been proved by experience to be far more durable than ordinary rubble. Secondly, they reduced the height of buildings and took special precautions to make their foundations secure. In the case of some of the large new edifices, such as the apsidal temple in Sirkap, they carried the foundations down as much as 20 ft. to virgin soil. Their dwelling houses they limited to two stories only, the lower one of which was in the nature of a basement or *tahkhāna*, buried to more than half its height underground (Marshall 1951/2006, I: 63).

The reconstructed buildings included House 2A, Block B, Block C, Block D (Buddhist apsidal temple's court, Griha Stupa, circular apse and its foundation), Block E (stupa in court a), House I of Block G, Block I, Block G', Block F', Block B', Block A', *Mahal* (royal palace) and many more (Marshall 1951/2006, I: 138ff).

Beside Sirkap, Marshall also sees other ruins in the framework of his earthquake theory. Some damages to Jandial temple had already been assigned, in a rather unforceful way, to an earthquake in the first edition of the *Guide* (1918: 89). However, contrary to this, *Taxila* deals the same idea in an elaborate manner in the context of the great earthquake. It goes on as follows:

> In several of the column and pilaster bases fractures were caused in ancient days, probably by the same earthquake which overthrew so many buildings in Sirkap and at the Dharmarājikā stūpa, and these fractures were repaired by cutting back the broken stones to a straight edge and doweling on to them separate pieces of stone by means of iron pins (Marshall 1951/2006, I: 223) (cf. the block quote on above p.139).

And all this has also been comprehensively made part of the revised edition of the *Guide*. A comparison of the texts of the *Guide* of 1918, 1936 and 1960 is interesting. As has been referred to above, the 1918 version is almost silent about explaining archaeological data with reference to an earthquake. Only some minor damages observed at Jandial were related to a probable earthquake. On the other hand, the 1936 *Guide* talks with certainty about the quake-related damages at Jandial; but is still completely silent regarding a 'great earthquake.' However, in *Taxila* (1951/2006, I: 223) the site has very cursorily been viewed in the great earthquake context. It is interesting that the *Guide* of 1960 does not relate the Jandial data to the first century catastrophe; rather, the 1918 version has been retained. In the rest of the 1960 *Guide* data from other sites such

as Sirkap, Dharmarajika, Akhori, Khadir Mohra and Kalawan has been greatly and systematically seen in the great earthquake framework.

3. Discussion

The important point to ponder upon, in line with the first epigraph at the head of this paper, is John Marshall's predilections with respect to earthquake at Taxila. Three intriguing points come to the mind for consideration in this respect. They are: (1) scholarly/academic principle, (2) the 1935 Quetta earthquake and (3) the legacy. It is, however, necessary to demonstrate the ambiguity and inconsistency which mark the theory in terms of timeframe definition before analyzing these themes. As Marshall does not clearly define the date for its occurrence, an annoying temporal indeterminacy marks his formulation. In *Taxila,* about three times 'the first half' of the first century and six times 'first century' have been mentioned. Other dates in the same source are: 30 A.D. twice; 20 A.D. once; between 20 and 40 A.D. once and 20 or 30 A.D. twice. In the *Guide* (1960): 'first century' once; 30 A.D. once and 25-30 A.D. twice.[5] Marshall also says, one time (1951/2006, I: 63), that the earthquake took place during the reign of Gondophares or that of his predecessor's. This problem has also vexed later scholars. Each one has picked a date as given by reading of specific portion of *Taxila*. Dar (1984: 53) in his discussion of the Jandial temple refers to Marshall and gives the date as '20-30 A.D' while Olivieri (2012: 109) and Reinjang (p. 4) in relation to Sirkap write 30 CE.

With respect to academic framework. Sir John Marshall presented an elaborate vision for the archaeological work in the Subcontinent shortly after his arrival as Director General of Archaeological Survey of India. As is clear from seminal speeches of Lord Curzon (Ronaldshay 1928) and The Ancient Monuments Preservation Act, 1904 (Khan 2014: 215 ff.), a clearer framework had from the very beginning been set forth. Pertinent to all this, Marshall enunciated his strategy in his Introduction to the first *Annual Report* (1902-03). Beside excavation, conservation and epigraphy, publication was taken as one of the principal duties of ASI (Marshall

[5] We retain Marshall's use of A.D. here in contrast to our own use of CE in the rest of the paper.

1904). For Marshall, publications may be of two types, i.e. regular periodical publications which shall be followed by a more robust and scholastic treatment of the data once it is almost fully procured (see fn. 3 above). His conviction was that you could not keep others as waiting for years for the complete accumulation of your data. They have to be updated regularly about progress of yearly work.[6] At the completion of the excavations, a final publication may see the light of day. In the light of this understanding, it may be argued that if preliminary reports about excavations at Taxila do not refer to any catastrophe, it should be understood that they just aimed at rough periodical reporting of data. It follows that the earthquake theory invoked by Sir John in his *Taxila* was the result of a more serious thought rendered by him to his complete data.

The Quetta earthquake matters. Writers and researchers are influenced in formulation of their ideas and propositions by developments taking place in their surroundings. Historians and archaeologists particularly apply insights from recent events to the past and its various aspects. Many examples can be put forward regarding the past catastrophes as being explained with the help of recent parallels. For example, M.R. Sahni assesses the role played by natural disasters and developments in the decline of the Indus Civilization. Beside the unstable character of the Indus River in which occur regular floods, he also considers the role played by earthquakes in destroying the Indus settlements. It is interesting that Sahni cites recent earthquakes' effects for understanding socio-cultural decline in the past. He refers to the 1819 destructive quake which greatly damaged Kutch. It resulted in the formation of a great elevation – area which came to be known as Allah Bund. This comparatively recent experience led Sahni to argue for a similar occurrence at Mohenjodaro (Sahni 2002/2006). This prompts us to ask: had the Quetta earthquake of 1935 not occurred, would Marshall still have formulated his theory? While it is difficult, no doubt, to answer this

[6] The significance of such publications was pointed out in this passage. 'It may be hoped that the "Annual" will serve to stimulate the interest not only of the public but of the Survey Officers themselves in what is being done. Instead of feeling, as in the past, that they are working in the dark on desultory schemes to no consistent end, Survey Officers will henceforth be sustained by the knowledge that good work during the year will obtain regular and prominent notice, and that it will meet with the appreciation in the Archaeological World, which it deserves' (Marshall 1904: 13).

question, we suggest that there is enough evidence to demonstrate that Marshall was profoundly infuenced by the 1935 earthquake. Further, Marshall's earthquake theory, one can argue on the basis of our second epigraph, is based on shaky grounds as it does not result from integrated multidisciplinary study. It has recently been suggested that archaeological data with respect to events, such as earthquake, could only be useful if experts from diverse fields such as history, geology, seismology etc. are engaged in an integrated manner for the purpose. Such efforts could show effects of catastrophe on the site and the nature of the earthquake (Ambraseys 2006). Against this understanding, Marshall's earthquake theory about Taxila would seem as wanting in comprehensive academic validity. However, we may try to understand his argument in its own right; that is his analysis of structures and antiquities from an archaeologist's point of view.

Marshall is justified in his decision to not dig too deeply, viz keeping the Saka-Parthian stratum intact, at Sirkap. And this permitted him to draw insights concerning 'a number of interesting features including phenomena arising out of the great earthquake, as well as, its bearing on the future of the city's architecture' (Marshall 1951/2006, I: 119-120). One of the important points he makes is that diaper masonry replaced the previous rubble masonry. While invoking the earthquake, Marshall asserts that 'the purpose of the new type of masonry was not to improve its appearance, but to give it greater stability; and that it was introduced at Taxila as a direct result of the great earthquake can hardly be doubted' (Marshall 1951/2006, I: 249; 1960: 107). A departure in architectural patterns was also noted. The new buildings were furnished with solid and deep foundations and in some cases alignment and designs had also seen changes. If the pre-quake houses were tall and having little stability, much thought about safety and stability was invested in those constructed after the great catastrophe. They became two storied; the lower making basements or *tahkhānas*, manipulated from the previous remains and effected deep into the soil. Marshall also produces written evidence in support of his observations. 'It is to this peculiar type of low bungalow that Philostratus appears to refer in his *Life of Apollonius*, when he says that the houses were so designed that, if you look at them from the outside, they appear to have only one story, but if you go inside, you find in reality that they have underground rooms as well, the depth of which is

equal to the height of the chambers above' (Marshall 1951/2006, I: 63-64). Rise in ground levels was also viewed as the result of continual rebuilding activity over the previous ruins; the great earthquake played a crucial role in it. Moreover, observations have also been made about debasement and deterioration in (minor) antiquities via prism of various earthquakes (Marshall 1951/2006, I-II). Notwithstanding all this, one may still discern lack of serious thought in the whole analysis. There are two reasons for this: (1) Marshall did not have access, after 1934, to regularly analyze the ruins and antiquity, and (2) much of his original notes had been lost during the War.

Similarly, the theory has also not been buttressed by literary evidence. Marshall does not produce any textual evidence in support of a great earthquake at Taxila in the first century CE. We wonder that classical sources could furnish some information, at least indirectly, in this connection. Marshall, while otherwise greatly relying on textual sources for his analysis,[7] fails to add literary evidence to the earthquake construction regarding his data. And this, one can maintain, shows a major limitation of reflections concerning a huge disaster. Recently, flaws have been found in the long-standing view about Mycenaean Palaces' destruction by an earthquake of a worst nature around 3000 years back. 'Wars ruined long distance trading, bad harvests and famine caused widespread unrest, and the highly complex administrative systems of the Mycenaeans, Hittites, Mesopotamians and Syrian trading cities collapsed' (Bohstrom 2018).[8] However, all this must not make us oblivious to the

[7] Daniel Michon (2015: 164) makes a critical evaluation of Marshall's use of – and reliance on – literary sources. He observes that 'Marshall gives a detailed, 76-page *textual* history of Taxila.' He concedes to the value of such sources in producing macro-history but makes us cautious with regard to their deterministic influence so far as treatment of the archaeological data in *Taxila* is concerned. Text determines his chronology, gives life to kings and archaeological material and gives birth to 'ethnic origin' or religious affiliations. And all this goes in disfavour to micro-history with its interest in day-to-day business of people (for a critical reassessment of the Sirkap data see Michon 2015: 152-200).

[8] Michon comments on this point of the present article that here the authors 'could strengthen their argument in two ways. First, they could more clearly link Taxila to Bohstrom's work. That is, they could show that Taxila certainly fits the profile of a large, heavily militarized (see Michon and Antably 2013) trading city, constantly in flux, and dependent on a large agricultural base to feed its many inhabitants. Thus, the very

fact that collective memory can provide a sound ground for speculative and analogical reasoning. It is suggested that in an area prone to frequent natural catastrophes, insights from historical earthquakes may warrant archaeological interpretations (Forlin and Gerrard 2017) such as presented by Marshall in our case. A recent study shows how the earthquake phenomenon was experienced and perceived in ancient India. Based on careful examination of classical works, especially *Brihat Samhita* (5-6th century CE) and *Abdhuta Sagara* (10-11th century C) by Vahara Mihira and Ballala Sena, respectively, R.N. Iyengar (1999) identifies four types of earthquakes. They are *Vayu*-type, 'unanimously accepted as the most destructive', *Agni*-type, *Indra*-type and *Varuna*-type, the last three of successive level of intensity. He also produces data about the areas as affected by these historical earthquakes. Amongst the various names are included Darada, Gandhara, Kashmira and Kailasa, which are of interest to us. The first two include in *Vayu*-type earthquake, Kashmir in *Indra* and *Varuna*-type while Kailasa is mentioned in *Indra*-type. The intensity which Marshall ascribes to the Taxila quake qualifies to relate it to the *Vayu*-type. This type of 'earthquakes could have had a radius of area of perceptibility of (100 yojana) 960 km.' (Iyengar 1999: 829). As studies from areas as far away as Barikot (Swat) have also pointed to the possibility of Taxila-like quake around the same time (Olivieri 2012), one can imagine about the widespread nature of the early first century C.E. catastrophe (?).

In this situation of Marshall's failure, what is left to us to think about is a contemporary context; that is the occurrence of a catastrophic earthquake at Quetta in 1935. It razed the whole city to the ground. The intensity of the event was so much so that many reports, beside the news carried by other news agencies across the world, appeared about it.

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conditions that Bohstrom points to as potential causes of significantly altered urban forms existed at Taxila. Second, they could integrate Rodney Stark's insights into their paper. Stark (much like Ambraseys and Bohstrom) seeks to alter the way we imagine archaeological ruins by noting that, "[w]hen we examine the magnificent ruins of classical cities we have a tendency to see them as extraordinarily durable and permanent — after all, they were built of stone and have endured for centuries. But this is an illusion. We are usually looking at simply the last ruins of a city *that was turned to ruin repeatedly* (Stark 1993: 158)." A ruined city need not be due to natural disasters. In fact, the *repeated ruin* that ancient cities went through was more often than not due to the factors that Bohstrom identifies.'

Captain L.A.G. Pinhey, Additional Political Agent, Quetta, wrote *Report on the Quetta earthquake of 31st May 1935* (n.d.) after less than two years. It deals with various rescue and rehabilitation measures taken by the government. Chapter XIV of the report gives information about The Viceroy's Quetta Earthquake Relief Fund which also quotes the appeal the Viceroy had made, in strong language, for funds. Not only Indian people, central and provincial governments but foreign countries had also made donations. *The Geographical Journal* published a comprehensive article about it the following year (Skrine 1936) which was appended by a detailed discussion (Cox *et al.* 1936).[9] Another article was also published on this historic devastation in *Journal of the Royal Society of Arts* (Karslake 1935). *The Science News Letter*, published by the Society for Science and the Public (Washington, D.C.), also refers to the devastating effects of the Quetta earthquake in relation another such occurrence, though less in intensity, near Mt. Everest. It goes like this:

> The entire northern part of India is subject to frequent and powerful earthquakes. Just a few days less than a year ago, on May 31, 1935, the most disastrous earthquake that has visited India within historic times completely wiped out the city of Quetta, near the border of Baluchistan, far to the west of the region of Wednesday's quake (Violent Earthquake Centered in Northern Part of India 1936: 363).

At this point, we may but maintain that Marshall would not have been indifferent towards these developments in an area where he had spent more than three decades of his active life. So it is apt to suggest that Marshall,[10] while analyzing his data in detail, would have been influenced by the Quetta earthquake so as to imagine about such a possibility around

[9] The paper and the discussion were presented at the Evening Meeting of the Royal Geographical Society on 8th June 1936.

[10] Michon rightly observes that this argument could be strengthened 'by supplying more detail on the *cultural impact* of the 1935 Quetta earthquake. Two citations of scholarly journals which noted the earthquake are provided, but what about other news accounts in the public sphere? How far did the news travel? How was it characterized? Where was Marshall living in the months immediately following the earthquake, and how might he have read about it? In other words, evidence that this earthquake *did* pervade the consciousness of those living in India, and that Marshall was a part of this cultural moment, would further convince the reader that Marshall would have been effected by this event.'

the dawn of the Common Era at Taxila. His analysis in this respect, however, does not show careful seismological assessment, engineering and historical vitality as has been observed above.

Later invocation at Taxila

The earthquake hypothesis is still invoked in Gandhara. It may not be without interest to see the persistence of Marshall's earthquake theory, if any, in Gandharan archaeology. His interpretations in this respect have been retained by subsequent scholars. It is interesting to note that the excavation carried out at Sirkap during Sir Mortimer Wheeler's period makes no reference to any earthquake (Ghosh 1947-1948). Similarly, Wheeler in chapter XIII of his *Rome beyond the imperial frontier* (1954: 154 ff.) treats data from Taxila, Charsadda and Afghanistan vis-à-vis international trade along the Silk Route. He discusses the layout of Sirkap and its political control but does not refer to any earthquake. However, many post-1947 publications about Taxila by Pakistani writers take the occurrence of earthquake for granted. Exclude Sarai-khola and Hathial for being pre-urban sites with respect to the first urbanization. It is Saifur Rahman Dar who mentions earthquake in his study of Taxila especially with respect to destruction of the Jandial temple (Dar 1984: 53). He, though disagreeing on other issue with Marshall, states:

> Marshall has identified Jandial Temple with the temple visited by Apollonius of Tyana in 44 A.D. The identification has generally been accepted. But if the temple was destroyed in 20-30 A.D. *as I am sure it did and as Marshall himself believes*, then it cannot be the temple visited by Apollonius who arrived at Taxila in 44 A.D. (Dar 1984: 53) [our italics].

Similarly, Dani also sees archaeological data from Taxila in the framework of Marshall's earthquake theory. His description and analysis, as scholars observe (Shaheen 2016: 188-189), largely follow the conceptual and structural scheme of Marshall's *Taxila*. He invokes the earthquake in relation to all structures and sites as are found in *Taxila*. It is more than intriguing that Dani does not adopt a critical approach even once in the whole book (Dani 1986/1999). Another report in its introductory part also follows Marshall concerning the great earthquake's devastation. It reproduces Marshall's observations as follows:

> Marshall states that, during the Parthian rule and possibly in the early decades of the 1st century A.D. Taxila was visited by a violent earthquake. The effects of its devastating force were noted by Marshall at Janidal, Dharmarajika and Sirkap (Bahadar Khan *et al.* 2002: 20).

Likewise, Bahadar Khan *et al.* (2008: 12) refer to the Dharamsala earthquake of 1905. They reproduce the exact words of Marshall from both *Taxila* (1951/2006: 3) and the *Guide* (1960: 4).[11] An Urdu book, published long before, also is of the same persuasion (Waliullah Khan, n.d.: 170).

Parallels from Swat

It may also be noted that Italian scholars also present strong observations about occurrence of not infrequent earthquakes. It is, probably due to their own experience in recent years, that they interpret archaeological data from Swat valley in this prism. Declines and abandonments are also often assigned to the combined effects of socio-political crisis and natural disasters. But we may also not downplay the importance of their evidence and its analysis. They have given a detailed treatment to collapses and natural catastrophes at least from 50 BCE to 1000 CE. Earlier studies have shown that structures from period 2 at Butkara I, end of 2nd century BCE-beginning of 1st century CE, saw collapses due to an earthquake (Faccenna 1980). At Barikot (Macrophase 3b, 1st century BCE-1st century CE) the almost total reconstruction and reinforcement of the city wall after quake-related damages have been suggested (Olivieri and others, 2014: 5). It is this catastrophe which has recently led Luca M. Olivieri to recall the 'great earthquake' at Taxila (2012: 157). But the most destructive earthquakes have been seen to have taken place during the 3rd century CE. They not only caused the abandonment of Barikot, as evidence from periods VII-VIII shows, but also severely affected some important excavated sanctuaries e.g Amluk-dara, Saidu Sharif I, Panr I and Butkara I. Collapses at Butkara I, Saidu Sharif I and Panr I as had occurred

[11] "The springs of Margalla spur which used to feed the Tamra [nalla] are said to have been closed by Dharamsala Earthquake of 1905, since when its deep-cut bed has carried relatively little water except in the rainy seasons" (Bahadar Khan *et al.* 2008: 12).

between 350 and 450 CE were also probably produced by earthquakes (?). The Shahi temple on the eastern side of the Barikot hill and the colossal chattravali of Amluk-dara also collapsed due to an earthquake sometime in the later 10th century (see for all this, Faccenna 1980; Callieri *et al*. 2000; Olivieri 2012; Olivieri and others, 2014; Olivieri and Filigenzi 2018). This overall context adds strength in one way or another to Marshall's considerations about the earthquake phenomena at Taxila.

4. Conclusions

In the past two decades the archaeology of Taxila has seen a robust reexamination as necessitated by recent methodological and theoretical developments. Given this, the city of Sirkap has received particular attention (see for example, Coningham and Edwards 1997-1998; Michon 2015: 152-200; Michon and Antably 2013). In line with historiographical notions in relation to archaeology, this study has worked out the trajectory of John Marshall's great earthquake theory. His pre- and post-1935 texts have been quarried for narrativizing his quake considerations. It has been shown that the first group of his works is silent about the catastrophe while the latter formulates it in a vivid manner. One problem, however, is that the timeframe in the suggested disaster is presented in an unwieldy way; Marshall gives no clear timeframe. The academic context of the theory, that a detailed report shall follow completion of an excavation, seems fascinating, but as compared to the Quetta earthquake is less tenable. The earthquake theory also lacks sound scholarly basis as it is not the result of integrated and multidisciplinary investigations. It, rather, seems like the product of intuition and speculations. This assertion is based, moreover, on lack of literary evidence and its analysis, which otherwise has generously been used by Marshall in his study, as to the occurrence of any disaster. All this aside, our analysis shows that archaeological practice has difficulty divesting itself from its immediate socio-political surroundings and environmental developments. The paper has also found how uncritically latter scholars, especially Pakistani writers, have accepted and invoked the earthquake theory in their own works. It may, therefore, be suggested that in future survey and excavation work at Taxila, or reexamination of its structures and other recovered data for that matter, the legacy-like observations about the quake may be

critically reevaluated. As works in other parts of Gandhara have been in progress, particularly to our satisfaction that in Swat by the Italian Mission, special heed needs to be paid to multidisciplinary investigation with respect to understanding catastrophic events and damages.

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Additional Research Papers and Items for Discussion

Approaching the Stupa.
Architectural elements of the 1st stairway
of the Main Stupa of Amluk-dara (end-1st century CE)

Pia Brancaccio

Abstract

The article updates with new material a previous one (annexed to the Amluk-dara excavation report, see Olivieri, this Journal*) discusses the significance of two sculpted pieces which were found at the bottom of the first stairway of the Main Stupa of Amluk-dara. The function of such peculiar elements, identified by D. Faccenna and A. Filigenzi* [Faccenna and Filigenzi 2007] *as "stair-side element", is generally misunderstood in archaeological literature. A recent publication (Kurita 2015) still presents these objects as "stools" or "pedestals", etc. Therefore it has been decided to reprint this fundamental contribution, as unavoidable reference point for any further study on this class of materials.*

1. Introduction

The two carved schist blocks from Amluk-dara, identified here as AKD 97 and 98, were found respectively in SU (54) and on top of the staircase of the main stupa. They are narrow rectangular blocks with curved ends in the shape of a reversed S. The configuration of the sockets on the upper part of the pieces, as well as the many traces of re-cutting, led us to suggest that these sculptures must have been reused as brackets at some point in the life-span of the stupa. This is apparent in AKD 98, where the curved face of the piece is cut down to fit the shape of a bracket. We can single out two phases in the cutting of the sockets: in phase 1 two square sockets were used to connect the blocks to upper vertical elements; in phase 2 a continuous socket was added to support a horizontal upper element. Most probably the two elements originally supported two pillars, i.e. the two lowest elements of the staircase railing ("stair-side element", Faccenna and Filigenzi 2007: 93, pl. 58.2). The presence of Hellenistic depictions is certainly to be associated with the Hellenistic decorative/figurative pattern of the other architectural elements linked to staircases in Gandhara, in particular the step-risers. And furthermore, in addition to the step-risers, also the typical triangular stair string elements always bear a Hellenistic decorative/figurative pattern.

2. The sculptural decoration

The right side of AKD 97 is decorated by an ornamental scroll with pointed leaves while an open flame palmette is carved on the long, rectangular face. Originally each block had two side faces that were curved to echo the profile of a moulding; figures sculpted almost in tondo project out from one of the curved faces.

On AKD 98 we can see a male figure, unfortunately damaged, which seems to be holding a club and a draped mantle.

On AKD 97 there is a well preserved female figure; it leans to the left over a column while a falling drape covers the lower part of her body. Over her bent right arm resting on her hip hovers a small flying Eros.

Unfortunately both the head of the winged creature and that of the woman have been damaged. Reminiscent of the pose of our female figure is a sculpture from the Dharamarajika stupa in Taxila (Marshall 1951: no. 89). The images we see on the Amluk-dara sculptures elaborate upon visual *topoi* rooted in the classical tradition. Their stylistic signature matches the 'flamboyant' style observed on most of the large-size decorative pieces from the Main Stupa [30], which formed the original decoration of the monument in Period I (1st-2nd century CE). In Period II the decoration was modified by the massive use of kanjur and stucco. From Period II the two pieces were re-used most probably as brackets.

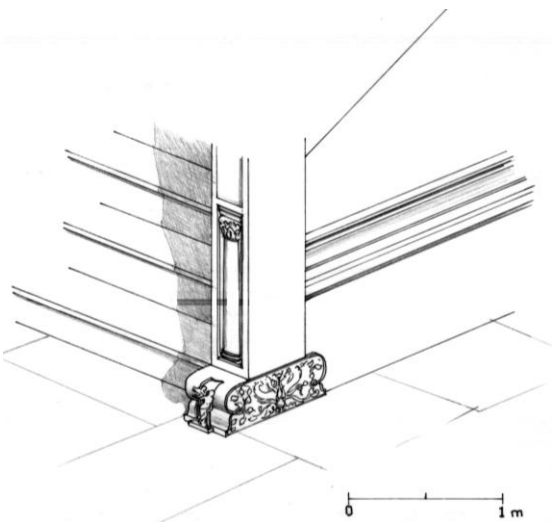

Fig. 1 - Graphic reconstruction of the architectural function (see Fig. 6). (Drawings by F. Martore).

Fig. 2 - AKD 97: A sketch of the front side. (Drawings by FM).

97	Staircase left side (54)	Stair side-element: left. Decorated with Aphrodite.	Fair. Chipped; reused.	80.5, 26.5, 26.0 (h)	Gray schist
98	On top of staircase, right side	Stair side-element: right. Decorated with Herakles.	Bad. Heavily chipped; partly broken and reused.	79.0 max, 21.5 max, 26.5 (h)	Gray schist

Table 1 – Details of the two stair-side elements.

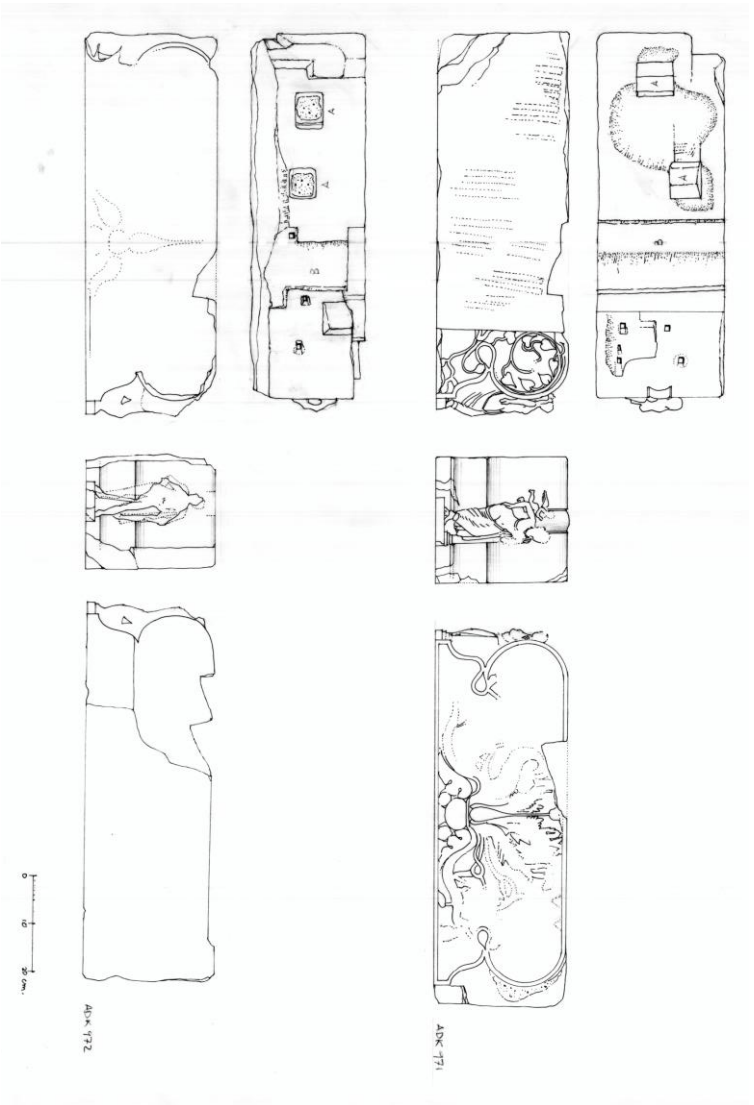

Fig. 3 - AKD 97 (above) and 98: A sketch. (Drawings by FM).

AKD 98 shows a club and mantle falling from the left side, echoing images of Herakles with the leontis ubiquitous of the Graeco-Roman world, even in its easternmost provinces (Ai Khanum). Images of the god holding the club and the leontisare also widely attested in numismatics: they appear on silver issues of the Graeco-Bactrian ruler Demetrius roughly dating to the beginning of the first

centuries BCE, and on early Kushan coins of Kujula Kadphises excavated by Marshall in Sirkap, Taxila. (Marshall 1951: nos. 222-234).

The iconographic formula employed to represent the female figure carved on Amluk- dara AKD 97 is also rooted in the classical tradition. The 'goddess leaning on the column' was especially popular in Hellenistic choroplastics and sphragistics, two artistic traditions that may well have functioned as vectors for the diffusion of iconographic types in antiquity. From Hellenistic gems to Gandharan jewelry, the iconography of Aphrodite leaning on the column seems to have encountered great favor in the Northwest of the Indian Subcontinent where the deity was always shown with wings (see examples from Marshall 1951: nos. 96 and 97).

At this point we can safely conclude that the images from Amluk-dara follow the classical types of Herakles and Aphrodite known in Gandhara through coins and precious objects. The same can be said about the ornamental patterns used in the decoration of the Amluk-dara sculptures. For example, a leafy scroll with heart-shaped leaves, generally identified as being those of the Indian pipal tree, evokes the ivy branches often found in contexts associated with images of the god Dionysos.

3. The architectural function

The architectural elements from Amluk-dara are not unique in Gandhara: in fact they belong to a small corpus of sculptures often misidentified and overlooked by scholars. I have been able to trace several examples similar in shape and iconography, and, for the sake of simplicity, I have grouped them in three broad categories based on their ornamentation. We should keep in mind, however, that the published images offer only partial views of these unusually shaped pieces.

The first group consists of sculptures decorated with palmettes and leafy scrolls similar to the ones from Amluk-dara.

1. From Mian Khan, Peshawar district, now in the Lahore Museum, is a fragment decorated with a closed flame palmette and a pot shaped tuft. The curved edge of the piece, now broken, was in the form of a lion's paw. Size: H 15 cm. Photographic documentation in the British library, no. 10031082.
2. From the Swat Valley. Fragment with a palmette. Photographic record by Alexander Caddy, 1896, British Library no. 10031169.
3. No provenance, Peshawar Museum: architectural piece decorated with a scroll of pointed leaves tied in a central, Herakles-type knot. From the curved edge of the piece a female figure projects outwards leaning over a column just like the one in Amluk-dara B. Size: 22 x 50 x 9.5. Provenance unknown (presented by

the Church Mission Society, 27/1/1914), Inv. No. PM-2967 9 (old 15L). (Jansen and Luczanits 2008: cat. no. 240).

4. Several pristine examples are published in Kurita (2003). These panels are apparently all in private collections in Japan and display iconographic variants of the palmette seen at Amluk-dara.

The second group consists of architectural elements decorated with figures mostly associated with drinking and wine:

5. Unprovenanced piece now in the Lahore Museum depicting two seated couples. On the left, a half naked woman holds out a crater of wine to an old bearded male wearing a fillet of grapes over his head; he can be possibly identified as a member of Dionysos' thyasos or the god himself. On the right is a seated woman who reaches over the shoulder of her male partner; behind him are traces of a crater and grape leaves. The curved edges of this piece are in the shape of lion's paws. Size: 24 x 52 x 10 cm; Inv. No G-167 (old 1914). (Jansen and Luczanits 2008 cat. no. 35).
6. From Mala Tangi, Peshawar district, small fragment with heads of figures, one maybe portraying a satyr. Photographic record attributed to Henry Cole, 1883, British Library no. 10031078.
7. From Nullah, Sanghao, Peshawar district, two fragments. Photographic record attributed to Henry Cole, 1883, British Library, no. 10031125.
   The larger and more badly damaged fragment depicts two standing figures, while the smaller fragment portrays the upper body of a winged creature and a reclining figure.
8. From Hadda, formerly in the Kabul Museum. Small fragment with grapes, vines and the head of a drinking figure. Size; H 11.5 cm.
9. The last element is from Tokyo, National Oriental Museum. The piece is decorated with a figure of Dionysos possibly riding a panther, vine-scrolls, and female figures (menades) (Peterson 2011-2012: fig. VII).

The third group depicts marine deities:

10. Unprovenanced piece from the Peshawar Museum representing two triton-like sea gods. On the left is a sea creature with the left hand pointing towards the viewer; on the right is a marine deity carrying a leafy branch and touching the coiled tail with its left hand, On the top is an ornamental row of stylized inverted trifled calices. The curved edges of the sculpture are in the shape of lions' paws. Size: 21.3 x 42.6 cm.

11. From Andhanderi (Dir), no. 20. A winged triton with coiled fish tails. The curved edges of the sculpture are in the shape of lion's paws (Dani 1968-69: pl. 19, b).
12. From Shotorak, no. 205. Fragment with crouching lion facing left and a river deity. The remaining curved face (right) is decorated with a sea monster; from stupa F6 (Meunié 1942: pl. XXXV, 114).
13. From Shtotorak, nos. 192 and 193. Two pairs with tritons found in situ on the stairway of the stupa F1 (Meunié 1942: pl. XXXVII, 119 and 118).

A fourth group depicts lions:

11. From Mian Khan, Peshawar District; Photographic record by M. Serrot, 1883 taken at Mardan for Henry Cole. Two matching panels, one now conserved in the Calcutta Museum. Each panel depicts a figure riding a lion, turned three-quarters to the left to hold up the tail of the animal. The crouching lion has a flowing mane and an open mouth with the tongue sticking out. The curved faces seem to be plain. These sculptures are very similar in shape and iconography to the one from Taxila in the Karachi Museum.
12. From Taxila, in the Karachi Museum: panel identical to the one on the left from Mian Khan photographed by Serrot, representing a figure riding a lion, turned three-quarters to the left to hold up the tail of the animal. The crouching lion has a flowing mane and an open mouth with the tongue sticking out, possibly for the purpose of taking a drink. The curved faces of the piece seem to be plain. Size 17.78 x 30.48 cm.
13. From Swat, in the British Museum. Lions standing on their hind legs, their forepaws touching as they face each other. Under their joined front legs is a goat, on the sides are grape vines. Size 24 x 43 x 6.1 cm; Inv. No. OA 1904.12-17.2. Purchased from Lieutenant Colonel F.G.L. Mainwaring.

14. *Addendum: Musée Guimet no. 17049 (with elephant on the front face).*
15. *Addenda: six pieces illustrated as nos. 30-34 in* Kurita 2015.

Some information on the original placement of these pieces within the architectural layout of the stupas is provided by several archaeological excavations conducted in different parts of ancient Gandhara. In Sirkap Block G Marshall documented an in situ sculpture similar to the ones from Amluk-dara. It was positioned at the base of the stairs (Marshall 1951: pl. 27b and 30b) leading to the plinth of a small stupa. This is what Marshall reports: 'the stupa is ascended by a flight of five steps to the west, adjoining the foot of which on its southern side is a small square podium' (Marshall 1951: 167).

Excavations conducted by D. Faccenna at Panr in Swat also brought to light a similar in situ piece at the bottom of the flight of stairs leading to the square podium of stupa 16 (Panr I, Stupa (5) 16, Faccenna et al. 1993: 163, figs. 31- 33, pl. 83a, b (F2=mid-second half of 1st-2nd CE).

The architectural fragment was unfortunately abraded and its decoration has not survived. According to Faccenna, the archaeological context would suggest an early date for the panel that can be attributed to the first period of activity at Panr during the first century CE.

It seems that our stair pieces continued to play a role in stupa architecture until later times, as one piece was then discovered at Shotorak in Afghanistan (Meunié 1942: 14, figs. 118-119, pl. XXXVII).

The ample evidence leads us to conclude that this category of sculpted architectural elements, including those found at Amluk-dara, can be certainly identified as ornamental panels forming a pair. Consistently they were installed beside the first step of the staircase leading to the podium of the stupa. Moreover, they seem to have been part of the stair decoration from an early period and their placement explains the unusual layout of their ornamentation: for example, in the case of the Amluk-dara stair side B, the face of the sculpted block adjoining the staircase was left undecorated while the palmette was on the exposed side of the piece. The actual front of the sculpture was the curved edge with the projecting figure of Aphrodite that was viewed frontally by devotees approaching the stair to climb to the dome [1].

[1] Rarely footstools can have a shape similar to the stair-side elements. If the relief no. 28 in Kurita 2015 (fig. 29) is genuine, the similarity between the footstool for the Buddha and the bases of the staircases of the main stupas cannot be casual [Note by the Editors].

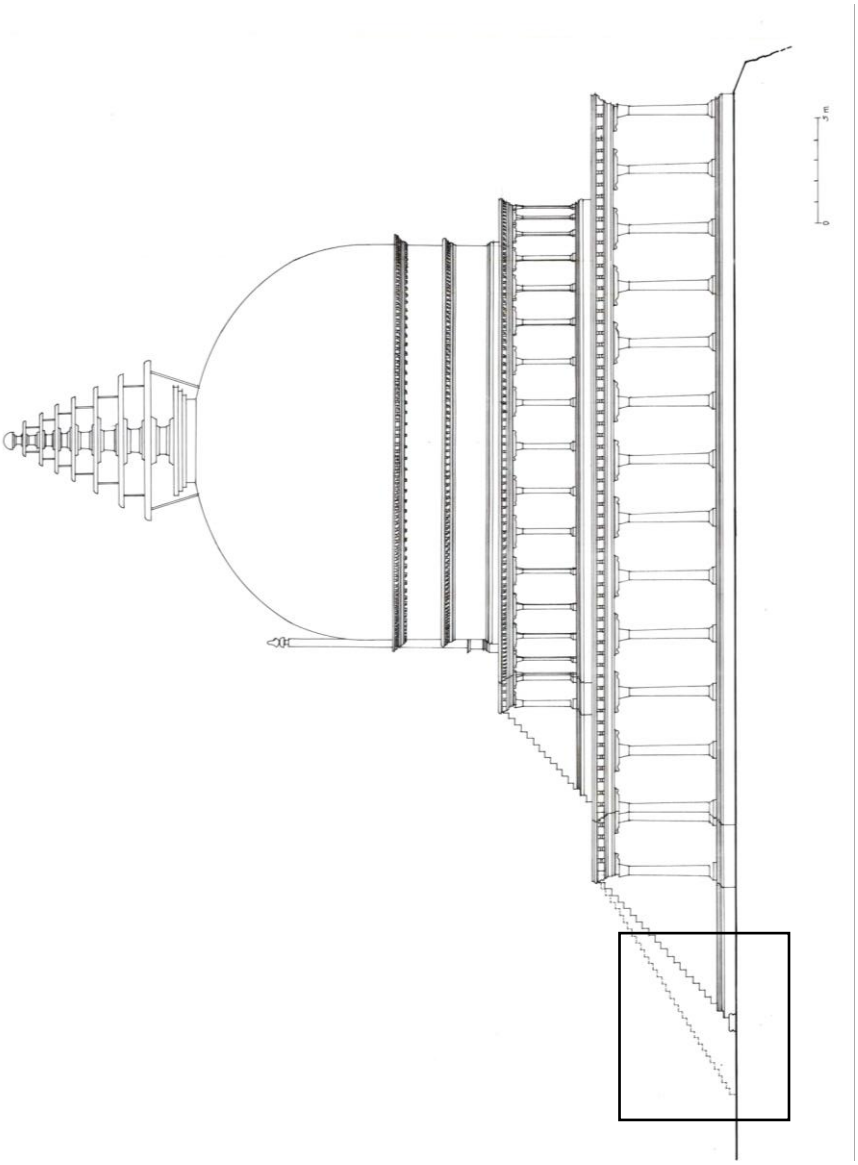

Fig. 6 – The Main Stupa of Amluk-dara
with position of the stair-side element as in Fig. 1. (Drawings by FM).

Fig. 7 - AKD 98 and 97: Frontal view. (Photo by L.M. Olivieri).

4. Conclusions

1. Images like those of Herakles and Aphrodite placed by the entrance of the stupa would have also performed a role comparable to that of yakshas and yakshis carved on the toranas of Indian stupas, functioning as guardians of the relics and supporters of the dharma. Yakshas and yakshis placed at the threshold of the sacred space embodied a notion of protection and safekeeping that was also inherent to the western mythological creatures represented on the stair sides and stringers.
2. Auspiciousness must have been another meaning conveyed by our classical imagery – the palmette with a vase like knot represented in sculpture A from Amluk-dara clearly references the *purnaghata* or vase of plenty ubiquitous in the decoration of North Indian stupas; likewise the Herakles knot that appears on another stair piece now in the Peshawar museum must have alluded, in a classical language deemed appropriate for the Gandharan stupa podium, to the auspicious knot known as *srivatsa* ubiquitous in the Indic world.

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Game boards and counters from Amluk-dara

Ulrich Schädler

Abstract

The study of game boards associated to cultic areas and monuments in South Asia is just at its beginnings. Very few data come from Early Historic Gandhara, and amongst those, there are two slabs from the Main Stupa of Amluk-dara. The objects, now on display in Gallery 6 of the Swat Museum, were originally presented in the Amluk-dara excavation report, which is about to be out of print [Olivieri et al. 2014]*, see* Olivieri, this Journal*).*

Two large sub-rectangular phylladic stones Inv. nos. 19 and 20 (respectively 0.44 and 0.50 l) were recovered as part of the debris included in SU (3), in the sector W of [17]. The stones have a flat upper surface and clearly belong to the original floor of the 1st landing of the Main Stupa, as they match the few original elements found in situ in the floor (Period I-II=2nd/3rd century CE). The upper surface is in both cases carved into a rough and ready sketch of what appears as a game board. The drawings consist of three concentric squares connected by lines in the centre of each side. The pieces are now on display in the Swat Museum, Gallery 6.

This pattern is used as a surface to play the board game 'Nine Men's Morris' or 'Merels'. The game is performed by 2 players, each with 9 counters – variants with 12 counters do also exist – who try to put 3 counters in a straight line and by doing so remove an opponent's counter. The aim of the game is to leave the opponent with less than 3 counters on the board. The counters should be of two different colors. More than two dozen round counters, black (made of stone) and red (cut out of potsherds), have been documented at AKD. 'Nine Men's Morris' boards, for a game called *navakankari*, are frequently found in India, inside temple precincts and elsewhere. The popularity of the game is attested also by modern specimens, like the *naotin* boards documented in Thar desert, Sindh (Mallah and Talpur 2011: 85), and testify to the popularity of the game which continues still today in different regions (Bhattacharya, Finkel, Lok Nath Soni, eds. 2011; Vasantha 2003: 26-27; Ray and Amitabha Gosh, eds. 1999; or the role of board-games in Buddhism, see for instance Schlieter 2012).

The origin and antiquity of the game, regarded for a long time as the Methuselah of board games, have in recent years been a matter of discussion

(Schädler and Calvo 2009; Parlett 1999: 109-112, 118-121). As a matter of fact, datable boards of this type are rare. A similar board was documented in the Harappan port of Lothal (Rao 1985: fig. 104; Kenoyer 1998: 121, fig. 6.39).

The often cited board discovered among numerous other patterns on the roof of the temple of Sethi at Gurna (Egypt), which has been used as a proof that the ancient Egyptians already played the game, can simply not be dated because of the presence of Coptic symbols on the same roof. Boards that can be clearly identified as game boards do not appear to be attested in ancient Greece nor in Rome. In Roman Asia Minor, 'Nine Men's Morris' boards seem to be unknown in the West before Byzantine times, and may even have been introduced by the Arabs (Schädler 2012: 21). It is since Medieval times that similar patterns can be found in Europe (as for example on the Gokstad ship from around 900 CE), and, introduced by the Europeans, on the American continent. When exactly the pattern appears in Asia including India, is still to be determined. The two boards from AKD may therefore have some importance. Nevertheless, from examples being carved into vertical surfaces and other contexts it is clear that the pattern not only served as a game board, but obviously also had a symbolic meaning, especially in religious contexts such as cathedrals and cloisters (Berger 2004, Umberti 2012). As for the boards from AKD one might draw the attention to the obvious resemblance of the pattern with the ground plan of the Great Shrine even if the latter consists of only one square and two circles instead of three concentric squares.

142	**19**	(3)-(4) W of [17]	Game board roughly carved on a plain stone.	Good.	42x48.5x7	Sandstone
144	**20**	(3)-(4) W of [17]	Game board roughly carved on a plain stone.	Fair.	43x38x7.5	Sandstone

Figs. 1-2 – From top: AKD 19 and 20. (Photos by E. Loliva)

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- 6 -

The double-domed Great Shrine of Gumbat/Balo Kale
Note on the xilotomic analysis for the wood identification

Giuseppina Di Giulio/Giulia Galotta*/Giovanni Signorini/Marco Togni

Abstract

*This short article updates the information given in a note appeared in the Gumbat/Balo Kale excavation report (*Olivieri et al. 2014*). The new note it has been accepted in this Journal (with the courtesy of ACT/ISMEO) in recognition of its seminal importance. In fact, it is one of the first instances where modern xilotomic analysis is applied to archaeological remains of historic period in Pakistan. A study model that the Editors of this Journal hope may be replicated in future in other important sites of Greater Gandhara.*

1. Introduction

Fieldwork at Gumbat/Balo Kale (GBK I) was conducted in 2011-12 within the framework of the ACT Project (Meister 2011; Meister and Olivieri 2012; Olivieri et al. 2014; Meister, Olivieri and Vidale 2016). During the campaigns the Pakistani-Italian team conserved the monumental shrine at Gumbat [Great Shrine], excavated the terrace on which the shrine was erected, and conducted technical analysis on the wooden elements still embedded within the architectural structure of the monument. The four load bearing timber elements found in the lower inner dome of the Great Shrine of Gumbat/Balo Kale are important components of its carpentry. They are the wooden joist-like element (called element 4), the three crossed beams supporting the SE corner of the inner ceiling (labelled as elements 1, 2, 3). Samples of all the elements were taken for anatomical analysis.

2. Wood identification

In order to identify the species of the timber members, observation of macro- and microscopic features of wood has been carried out. The anatomical examination

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has been developed on four different specimens sampled one from each beam, labelled as for radiocarbon datation, and compared each other.

Fig. 1 - The terrace of GBK I seen from N. (Photo by E. Loliva).

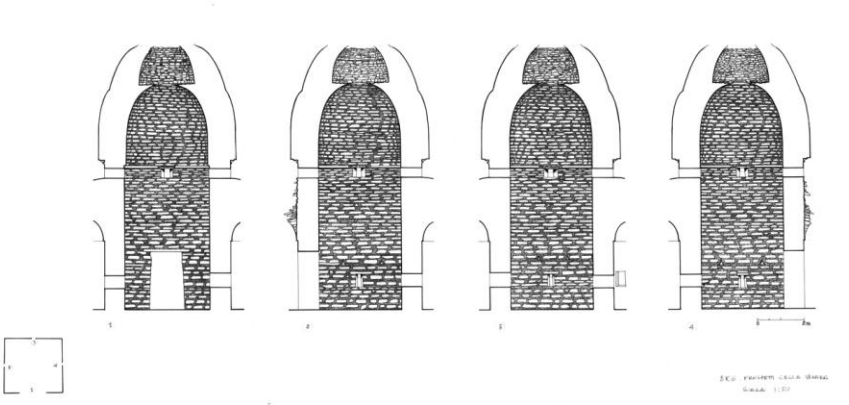

Fig. 2 - Sections of the cella of the Great Vihara (clockwise from E).
(Drawings by F. Martore).

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Figs. 3-4 - Conservation in progress (below: a detail of the double domes).
(Photos by F. Martore).

The wood identification was carried out with the typical methodology used in the wood anatomy science, according to the IAWA principles (www.iawa-website.org). Thin slices of wood were cut by means of a cryostat microtome and prepared to be observed to the light microscope. Through the comparison of the four specimens, no significant differences were found, disregarding the natural individual variability, therefore it can be stated that all the analysed beams belong to the species *Acacia modesta* Wall., a hardwood of Fabaceae Family, where *Acacia modesta* Wall. is the basionym of the new name *Senegalia modesta* (Wall.) P.J.H. Hurter (Dyer, 2014) .

More than 1300 species of the genus *Acacia* have been described all around the world, and twelve in Pakistan (Sheikh 1993). *A. modesta* and *A. nilotica* are very similar, from the point of view of the anatomical properties. Both are native of Pakistan, but in different habitats (Sheikh 1993). On the basis of geographical distribution, the species *A. modesta* has to be considered the most likely choice.

The main microanatomical features of diagnostic relevance are: wood diffuse-porous; vessels with simple perforation plates and shape of alternate pits polygonal; vestured pits in vessels (a particularly noteworthy character); gums and other deposits abundant in heartwood vessels; axial parenchyma vasicentric, aliform, confluent and in marginal or in seemingly marginal bands; larger rays commonly 4- to 10-seriate; all ray cells procumbent; prismatic crystals in chambered axial parenchyma cells.

The microscopic analysis by polarized light microscope showed a high bi-rifrangence of cellulose in cell walls, associated with an excellent state of preservation.

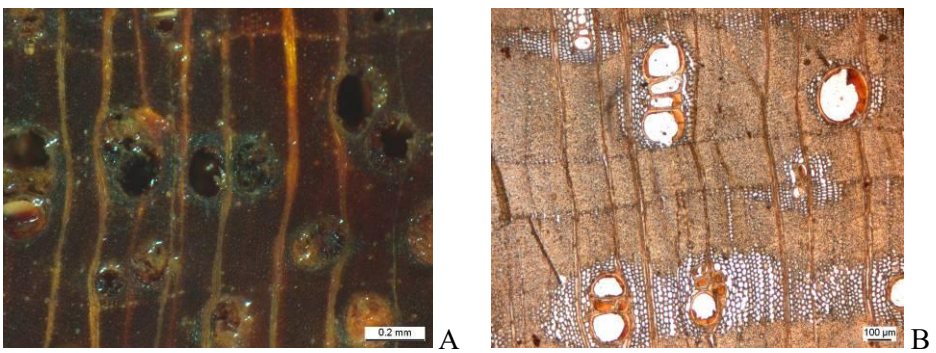

Fig. 5 - Cross section. A: element 4, stereomicroscopy. B: element 3, transmitted light microscopy. (Photos by GG).

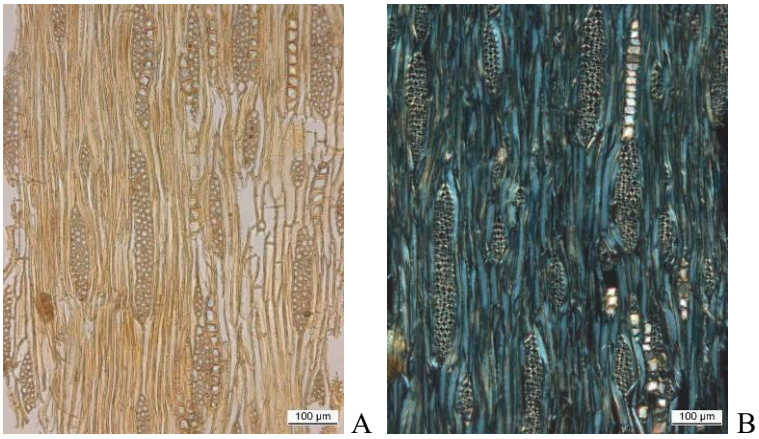

Fig. 6 - Tangential section: element 4, light microscopy. A: normal transmitted light. B: polarized light, that highlights the presence of crystals chains in axial parenchyma. (Photos by GG).

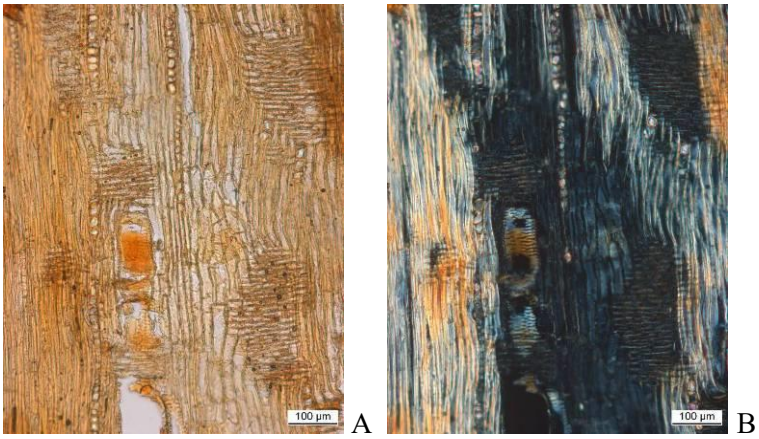

Fig. 7 - Radial section: element 4, light microscopy. A: normal transmitted light. B: polarized light. (Photos by GG).

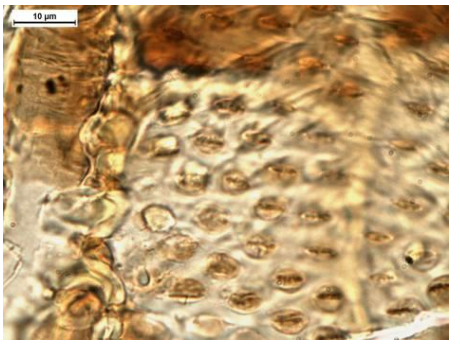

Fig. 8 - Vestured pits visible on longitudinal section (element 3). Transmitted light microscopy at high magnification. (Photo by GDG and GS).

Density of the specimens

As an additional diagnostic element, the density of some specimens was determined. Due to the irregular shape, the volume of each specimen was measured through the buoyant force (according to the Archimedes' principle). Both for the measure of the load of the specimens and of the force generated by the distilled water moved by the body in it immersed, an analytic balance was used. Results showed a density very similar to the value coming from literature.

Description	Density [kg/m³]
Element n. 1	971
Element n. 2	995
Element n. 3	970
Element n. 4	1003
Reference density (mean value of the species)	
Sheikh 1993	960
Pearson & Brown 1932	993

Wood density at 12% of moisture content

Properties of the species

Common names for *A. modesta* are Phulai and Palosa, depending on the geographic area. As Sheikh wrote, this species is native to Pakistan, Afghanistan, and India. Nizami (2012) indicated that *A. modesta* is one of the two dominant species in the subtropical broadleaved evergreen forest of Kherimurat and Sohawa with a medium stem density close to 190 trees on one hectare.
In Pakistan it is found below 1200 m in the foothill ranges of the Himalayas, Salt Range, Sulaiman Hills, Balochistan, and Kirthar Range and it is also found in the plains close to these mountains. A schematic representation of the growth area is reported in the next *ad hoc* drawing.

Fig. 9 - Map of the natural growth area in Pakistan of *Acacia modesta* Wall. Red dot: site of Gumbat. (Drawings by GS and GDG).

A. modesta is a deciduous, thorny moderate-size tree, 3 to 9 m tall. Diameters up to 2 m have been recorded (Sheikh 1993).
The wood was historically described by Pearson and Brown (1932) as '*light russet with a faint greenish cast, ageing to dark brown, often with darker streaks somewhat lustrous fairly even and straightgrained, medium-textured. It is a strong and extremely hard wood. Certainly the hardest acacia timber examined durable, even in exposed positions, and in contact with water'.* In a more recent description, its properties are summarized as follows: close-grained wood with heartwood sharply distinct from the white sapwood, heartwood is dark brown with typical black streaks (Sheikh 1993). Wood specimens, mechanically

extracted from the beams, exhibit greasy and blackened surfaces, caused by the repeated exposition to the carbon black originated by bonfires lit inside the dome during its long-life history. Despite the age and exposition conditions, wood shows a very good preservation state so that, a few millimeters under the surfaces, the original natural colour can be observed (figure below).

Figs. 10-11- Particular of the sampling point from beam 4, on the SE corner.
(Photos by E. Loliva, processed by GG).

3. Conclusions

This plant has been recognized a significant ethnobotanical value: extraction of leaves, as well as extract oil and gums are used in popular medicine for different purposes (Yaseen et al. 2015). Foliage is used as fodder, fencing/hedge plant and

locally as timber: because of its hardness and resistance, it is used in the manufacture of ploughs and other agricultural tool, but also as roof beams and in the frame of doors (lintels) (Faiz Ul Haq et al. 2010; Sher et al. 2012). Many authors described as relevant the use as fire wood (Faiz Ul Haq et al. 2010; Tahir et al. 2010; Groninger 2012; Sher et al. 2012).
The wood is very heavy, with an average density close to 1000 kg/m³ (960 kg/m³ Sheikh 1993, and 993 kg/m³ Pearson and Brown 1932). The same authors agreed considering the wood as heavy, hard and very strong, durable even in exposed positions and in contact with water (meaning the heartwood only). The characteristics listed above, combined with the particular colour (described as '*decorative wood'* by Pearson and Brown 1932) and the potential growth dimensions of the trunk, are all favourable reasons for the use as structural timber in the studied building (see the data, partly coeval with Gumbat, collected at Ahichchhatra, Srivastava 2004). As demonstrated by the data collected, the specimens have the mean value typical of the species and they do not indicate any sign of mass lost, notwithstanding the exceptionally long service life.

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In Memoriam

Harald Hauptmann
1936-2018

Sitara-i-Imtiaz Pakistan

Note

When this issue was nearly ready for press, we came to know that our colleague Harald Hauptmann had passed away. It was therefore decided to add to the volume some remembrances by his colleagues and friends.

Harald Hauptmann (1936-2018)
(Photo: Deutsches Archäologisches Institut, Istanbul).

Remembering Dr. Harald Hauptmann and his unfinished mission[1]

J. Mark Kenoyer

The passing of Dr. Harald Hauptmann is a great loss for the archaeology of northern Pakistan. The work that Dr. Hauptmann began in 1984 under the sponsorship of Heidelberg University was the continuation of a project begun by Dr. Karl Jettmar (Jettmar and Thewalt 1984). In the 1980s as the Karakorum Highway began to open up the region to more researchers, Dr. Jettmar and Dr. A. H. Dani established a more intensive documentation program under the Pak-German Study Group (Dani 1995; Jettmar 2002). As a leading member of this study group, Dr. Hauptmann accomplished a great deal during his many periods of field work in Pakistan (Hauptmann 2007), but there was so much more that he wanted to accomplish in the field of rock art studies of the upper Indus River Valley.

My introduction to Dr. Hauptmann came during various international conferences in Europe and also chance meetings in Pakistan. As a young scholar working on the Indus Civilization and focusing on the cities in the alluvial plain, my main interactions with Dr. Hauptmann were to find out if there was any evidence of Indus Civilization related rock art in the upper Indus River Valley. I was lucky to be able to sit and speak with him about his recent discoveries of prehistoric rock art in numerous locations, and particularly in the region around Diamer (Hauptmann 1989). I was hoping that he would be able to tell me about discoveries of the Indus script or other motifs, such as the famous "unicorn" that is so common on the Indus seals. While there are some geometric images such as the swastika symbol or mandalas that are similar to those seen in the Indus (Fig. 1) these all appear to be the continued use of earlier symbols
during later periods. His extensive research has documented Palaeolithic rock art and examples from many subsequent time periods (Hauptmann 2007), but the lack of motifs and writing associated with the Indus Civilization (2600-1900 BCE) is quite intriguing.

[1] All the phots are by the Author.

When I had the opportunity to visit the rock art sites myself in the 1990s, I began to question the ways in which the rock art had been documented and the lack of any excavation at the base of the large boulders which is where people would have camped while carving the many complex designs on the rocks (Fig. 2). It is also possible that changing river levels and accumulations of sand have buried rock art associated with specific time periods, such as that of the Indus Civilization. The sacred rock along the Hunza River would be an excellent place to excavate, but a highway has been built right up to the edge of the rocks and modern construction and mining is taking place all along the opposite edge of the highway (Fig. 3). It is in this context that I remember discussing with Dr. Hauptmann if it was possible that there were other periods of rock art buried beneath the sands at the base of the massive boulders. As I recall, his response was very positive. He agreed that it would be very important to actually excavate around the boulders to fully expose the carved surfaces and document the archaeology as well as the art. When I asked why he did not do this, he pointed out that they first needed to fully document whatever was visible above ground and after that was completed, they could think about excavation.

Although there have been numerous rock art surveys along the Indus River and its tributaries (Hakal 2015) it is unfortunate that even the full documentation of the rock art that is visible above the sands has not been completed. Many sections of the Indus are difficult to access and the side valleys leading to the Indus have not been fully surveyed. And as far as I am aware, no excavations have ever been done at the base of the rocks that have been documented, even in the relatively accessible sites such as at the sacred rock in Hunza or the sites near Chilas and Thalpan. Excavation around the base of the rock art panels is something that needs to be done as soon as possible to try and recover any archaeologically relevant information before the regions are buried under the waters of various dam projects.

Dr. Hauptmann was one of the outspoken scholars who urged the full documentation of the rock art sites before the construction of dams that would make them inaccessible for future research (Hauptman 2008). He was also working with local scholars in the Gilgit region to try and project the important site of Kunodas that was badly damaged by construction of a nearby sports field near Karakorum International University (Figure 4). Due to his untimely death, he was not able to complete his documentation. It is important that the next generation of scholars take up this task and implement detailed documentation, excavations and conservation projects to protect and preserve these sites for future generations. The availability of new technologies, such as Lidar Imaging and 3D imaging could be implemented at major sites. Through these technologies, it would be possible to preserve the record of the sites for future research.

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Captions (all the pictures are by the Author)

Fig. 1 - Mandala and Womb shaped maze motif at Chilas.
Fig. 2 - Petroglyphs at Kunodas, Gilgit that are partly buried.
Fig. 3 - Large rocks with petroglyphs that have been moved from their original location to make space for a sports field, Kunodas, Gilgit.

Fig. 1

Fig. 2

Fig. 3

Una breve nota in ricordo di Harald Hauptmann
La lastra BI 3818 da Butkara I

Luca M. Olivieri

Il mio primo incontro con Harald Hauptmann avvenne a Bonn al *Wissenschaftszentrum* nel luglio del 2003 durante la XVII South Asian Archaeology Conference. In precedenza era stato Domenico Faccenna – che incoraggiava le mie ricerche sull'arte rupestre dello Swat – a indirizzarmi verso il prof. Hauptmann e le scoperte di una loro comune amica, Anneliese Peschlow-Bindokat, sul Monte Latmos in Turchia. Fino al 2003 i miei rapporti con Huptmann erano stati "bibliografici", in particolare per le mie recensioni per *East and West* ai volumi da lui editi con cura magistrale (vedi sotto).

Negli anni successivi - fino al 2008 - Domenico, Harald, Anneliese ed io ci trovammo al centro delle reciproche richieste di notizie e di da saluti da mandare, dall'uno all'altro, all'altra e viceversa. Sarebbe meglio dire, che fui ammesso al cenacolo che, con diversi gradi di confidenza, i miei tre maggiori coltivavano da tempo. La morte di Domenico prima, poi la chiusura delle attività di Harald in Pakistan (2012), dovuta alla improrogabile conclusione di un 25ennale ciclo di fondi governativi tedeschi, modificarono, ma non diminuirono il tenore dei nostri incontri.

Per un lustro, dal 2005 fino a tutto il 2010 e poco oltre, la collaborazione tra chi scrive e l'unità di ricerca diretta di Harald, la Felsbilder und Inschriften am Karakorum-Highway della Heidelberger Akademie der Wissenschaften, fu assai stretta. Regolarmente i volumi delle loro magnifiche pubblicazioni (*Antiquities of Northern Pakistan* e la serie *Materialien zur Archäologie der Nordgebiete Pakistans*) raggiungevano la Biblioteca dell'allora IsIAO, e la biblioteca della Casa della Missione a Saidu Sharif. Copia di tutti i disegni delle incisioni e pitture da noi documentate in Swat venivano date in custodia agli archivi di Heidelberg. Nel 2008 Harald fu tra i firmatari insieme al suo collaboratore Martin Bemman della petizione internazionale al Presidente della Repubblica Italiana a sostegno dell'IsIAO che allora rischiava la chiusura (cosa poi accaduta alla fine del 2011).

Harald ed io ci facemmo reciproche e frequenti visite a Saidu Sharif, Chilas e Gilgit, come a Berlino e Roma, Heidelberg e Frankfurt am Main. Diventammo amici, Salwa Hauptmann e Harald vennero al mio matrimonio, diventammo - direi - di casa gli uni con gli altri. Ci teneva vicini oltre che

l'amicizia, anche una visione comune delle cose e dell'etica scientifica, mentre la differenza di età tra noi non sembrava significare molto. Harald sapeva essere – ed era intimamente – molto giovane d'animo.

La lastra BI 3818 da Butkara I

Un calco in gesso della lastra in scisto BI 3818 è conservato negli archivi della Missione (attualmente presso Claudia Primangeli, fotografa della Missione). La lastra originale è conservata – come l'altra di cui abbiamo un calco BI 3025 in Faccenna and Taddei 1997, figg. 1-3) nello Swat Archaeological Museum a Saidu Sharif (Swat). Il calco in positivo fu ottenuto da un calco in resina eseguito da Francesca Callori di Vignale, allora restauratrice della Misssione. La nota dattiloscritta conservata negli archivi della Missione[1] così descrive l'oggetto:

> Blocco con poverissime tracce di lavorazione scalpellato e squadrato. Su una delle facce maggiori è incisa la sagoma di uno stupa con largo basamento quadrato, basso cilindro, cupola allungata, harmika e altissimo ombrello a sette dischi. Più sopra è un segno inciso. Sulla faccia opposta sono visibili la sagoma di uno ombrello di stupa simile al precedente e accanto, la estremità appuntita di un altro ombrello.
> Schisto. H. 0,205x0,09x0,05 [m]. Scheggiato
> Provenienza: CMN (1)

L'oggetto, nonostante la sua povertà formale, in confronto alla ricchezza artistica dei materiali del sito, conserva un duplice elemento di interesse. Da una parte, l'elemento tecnico – trattandosi un un abbozzo, o di una prova oppure di un *divertissement* dello scalpellino. Dall'altra, quello formale, giacché il tipo di stupa rappresentato risulta ben diverso da quelli generalmente raffigurati nell'arte del Gandhara e a Butkara in particolare.

L'aspetto tecnico interessò subito Domenico Faccenna, che infatti ne fece eseguire il calco. L'interesse di Domenico per questi aspetti è testimoniato in due studi pionieristici (Faccenna 1997, Faccenna and Taddei 1997). Tecnicamente il pezzo non appartiene alla serie dei graffiti, in quanto realizzato con uno scalpello (prova ne è anche la zona scalpellata *ad libitum* sul lato sinistro), ma neanche a quella degli abbozzi (per le ragioni che diremo più avanti), quindi si

[1] Dalle schede dattiloscritte di Domenico Faccenna e Maurizio Taddei (inventario preliminare, Archivio MAIP – ISMEO // Museo Nazionale di Arte Orientale "Giuseppe Tucci", Roma).

tratta piuttosto di una prova o di un *divertissement*[2].

L'aspetto formale rimanda in parte alla ragione per cui Domenico mi affidò "in cura" il calco, ovvero la sua somiglianza con alcuni stupa raffigurati nell'arte rupestre del Karakorum documentati da Harald Hauptmann. Qui mi riferisco in particolare agli stupa A, B e C di Thalpan I (Maillard and Jera-Bezard 1994: figg. 3-5), allo stupa 144 di di Shatial (Fussman and König 1997; Bruneau 2007: fig. 14), e allo stupa 36 di Chilas Bridge (Bandini-König 2003; Bruneau 2007: fig. 21). Al di fuori dell'area del Karakorum, si possono citare confronti con lo stupa del gruppo pittorico della grotta 165 del santuario rupestre C 4 di Bamiyan (Maillard/Jera-Bezard 1994: 179, fig. 10), ma anche con due modelli in bronzo forse dal Kashmir, o dallo Swat, di cui uno è ora al Museo di Peshawar (ibid.: 178, fig. 6), l'altro al Museo di Roma (Faccenna 1986: 66, 512, fig. 21; 67-68, 514, fig. 26).

Sia gli stupa di Thalpan che i modelli in bronzo e la pittura di Bamiyan si riferiscono ad un periodo tardo, *post*-VI secolo d.C. (con un possibile antecedente nello stupa monolitico della grotta XIX di Ajanta [Maillard/Jera-Bezard 1994: fig. 13]. Con riguardo alla cronologia, i dati archeologici del nostro pannello non ci dicono molto. Il settore CMN si trova nella zona immediatamente a WNW del GSt (Grande Stupa) e lo strato (1) corrisponde al livello più superficiale del sito, che sigilla le fasi di abbandono (X-XI sec. d.C.).
Le caratteristiche formali dello stupa della lastra BI 3818 si possono riassumere nella sua verticalità inusuale e nella forma subglobulare dell'*aṇḍa*. Con riferimento ai tipi stabiliti da L. Bruneau, si tratterebbe del tipo 4 del *tableau* 1 (Bruneau 2007: 64).

Quanto al simbolo superiore, un cerchio, verrebbe da vedervi un sole. Si tratterebbe di una rappresentazione piuttosto insolita, che basterebbe da sola a far includere questo pannello nella serie dei *divertissements* estemporanei (come il graffito BI 3025, vedi sotto) più che tra i pezzi non finiti, o tra le prove scultoree. Un'ulteriore testimonianza a riguardo sarebbero proprio gli accenni graffiti non finiti sulla faccia posteriore della lastra[3].

Addendum

L'elenco completo dei graffiti, abbozzi o "sculptors' trials" da Butkara I finora pubblicati (otto pezzi incluso il presente) è il seguente:

BI 664 – Graffito con Buddha seduto, leone inciso lateralmente (Faccenna

[2] Vedi anche Rockwell 2006 e Vidale et al. 2015.

[3] "Sulla faccia opposta sono visibili la sagoma di uno ombrello di stupa simile al precedente e accanto, la estremità appuntita di un altro ombrello".

1997: figg. 1-5);

BI 3025 – Graffito con Buddha in *abhayamudrā* (Faccenna/ Taddei 1997: figg. 1-3);

BI 3780 – Graffito con motivi circolari, circolari-radiali (ibid.: figs. 6-8);

BI 3818 – Abbozzo con stupa con segno circolare (questo contributo);

BI 4215 – Abbozzo scolpito con figura maschile (Faccenna 1997: fig. 9);

BI 6083 – Abbozzo scolpito con figura maschile (ibid.: fig. 10);

BI 6219 – Abbozzo scolpito con erote volante e ghirlanda (fregio figurato) (ibid.: figg. 12-13).

Non inv. - BI struttura n. 64 (muro E) – abbozzo con Buddha in *abhayamudrā* (ibid.: fig. 11).

Altri tre pezzi provengono dal Monastero di Saidu Sharif e sono pubblicati in Faccenna 1997 (figg. 17-25). Due di questi pezzi sono stati inventariati dal collega Antonio Amato nel 2018 come SS I 169 (*ibid*.: figg. 24-25) e SS I 206 (*ibid*.: figg. 18-23) e consegnati da chi scrive al Museo dello Swat.

Un altro pezzo viene dalla valle del Jambil (vicino Butkara) e rappresenta uno *śivaliṅgam* (V 6210, Faccenna/Taddei 1997: figg. 4-5)[4].

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[4] Pezzi di questa natura sono presenti in molti altri siti, ma ne manca una ricognizione completa. Sappiamo ad esempio che un altro pezzo viene da Takht-i Bahi (Rockwell 2006: figg. 8-10 [da H. Ingholt, *Gandharan Art in Pakistan*, New York 1957, pl. 263]), un altro da Hadda (Kabul Museum, comun. pers. di Pierre Cambon, 2017).

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English Summary

Harald Hauptmann (1936-2018) have been a close friend of many members of the Italian Archaeological Mission in Pakistan, and in particular of Domenico Faccenna. The reserch unit of the Academy of Sciences of Heidelberg led by Harald Hauptmann and the Italian team maintained a long and fruitful collaboration over more than two decades. This note in memoriam *includes a quick overview on an incised slab from Butkara I excavated by Faccenna in the late 50s. The slab features the drawing of a tall towered stupa, of the same type we encounter frequently in the rock carvings of the Karakorum Highway where Harald Hauptmann's team has been active for 25 years.*

Fig. 1 – BI 3818 (calco/moulding)
(C. Primangeli/ISMEO).

Hommage à Harald Hauptmann

Fazal Dad Kakar

Il y a quelques semaines disparaissait en Allemagne**,** Professeur Harald Hauptmann, membre de l'Heidelberger Akademie der Wissenschaften, et Directeur de la Mission archéologique sur les pétroglyphes et inscriptions de la Route du Karakorum au Pakistan dont j'ai eu l'honneur de faire la connaissance en 2004 en ma qualité de Directeur Général de l'Archéologie et des Musées du Pakistan.

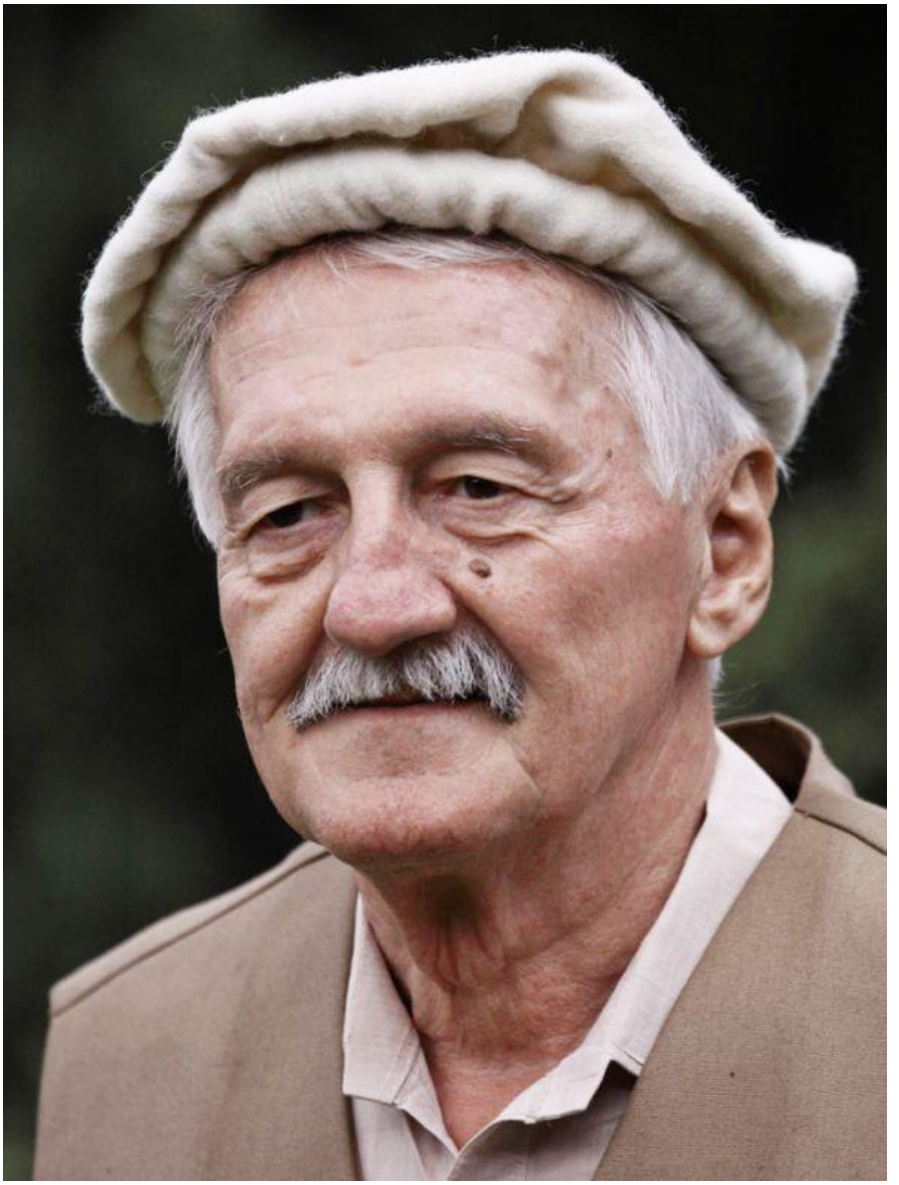
Harald dirigeait à cette époque la recherche sur les pétroglyphes dans les régions du nord du Pakistan dans la région de Gilgit-Baltistan (Chilas, Thalpan), mission financée par le Ministère des Affaires Etrangères allemand en collaboration avec le Département d'Archéologie du Pakistan et initiée par le Professeur Karl Jettmar, une autre grande figure de l'archéologie.

Ce fut le début d'une collaboration professionnelle très fructueuse, qui se transforma au fil des années en amitié où j'ai appris à apprécier son professionnalisme, son expertise, sa grande culture mais aussi sa grande gentillesse, son humour et sa sincère amitié pour le Pakistan.

Il faut rappeler quelle fut sa contribution à l'étude des pétroglyphes et des inscriptions qui est considérable et sans pareille. Ses recherches et son travail acharné ont permis à cette mission de rédiger de nombreux catalogues où sont répertoriés plus de 50000 pétroglyphes et 5000 inscriptions en langues diverses, notamment en Sogdian, en Chinois, en Kharoshti et en Brahmi, qui constituent une contribution sans pareille et une référence pour les archéologues du monde entier.

Ces vestiges du passé appartiennent désormais à l'héritage de l'humanité grâce à sa mission. Mais je ne peux rappeler la mémoire de Professeur Hauptmann sans mentionner son épouse Salwa, qui fut durant toutes ces années un soutien précieux et se trouvait toujours à ses côtés durant ses campagnes au Pakistan et ailleurs. Nous la gardons dans nos pensées.

Nous chérissons les moments partagés avec lui et lui gardons une place spéciale dans notre cœur.



Professor Harald Hauptmann
(Ratkau 1936 – Heidelberg 2018)

Paolo Biagi

I met Harald Hauptmann for the first time in 2011, during one of my many visits to Taxila Institute of Asian Civilisations of Quaid-i-Azam University, Islamabad. He had just come back from an archaeological fieldwork season he had conducted near Gilgit to record and study the prehistoric and historic rock engravings of that region that were already in danger in those years. Together with his wife and one colleague he was in Islamabad for a few days before flying back to Germany. Occasionally I was there to deliver a lecture, whose topic regarded the research I had conducted for many years in the Indus Valley of Sindh, to my colleagues and students of Quaid-i-Azam University.

On that occasion I met him for the first time. I enjoyed the company of a colleague of great experience he had developed in many years of archaeological work in the Near East and the northern areas of the Indian Subcontinent, a region, this latter, of which I knew and still know too little to ever compete with his deep knowledge of the prehistoric antiquities of that territory. We met there for the first time, though we promised each other to meet again as soon as possible, to talk a bit more about our research in two so different regions of Pakistan.

Two years later I met him again in Venice after writing many letters we exchanged by mail. Finally, we fixed an appointment in Venice in the winter of 2013. In January 2013 an international conference on the Bronze Age of the Caucasus and Anatolia was organised at Ca' Foscari University. Of course, Harald had been invited to give a talk as an experienced scholar also on that topic of the Near East. We gave each other an appointment in front of the church of Campo San Polo, where the narrow lane that takes to my former Department opens. He was already there when I got out of my office, waiting for me in the main square (campo, in Venetian) of the city. I showed him Ca' Cappello, where part of my former Department is located, I told him about the palace that, among other things, was the Italian residence of Henry Layard, the diplomat and archaeologist who had discovered, among many other sites also the historical city of Nineveh in Mesopotamia. We had a brief talk, exchanged some books, and then I accompanied him straight to the conference hall, where we met many other colleagues from different countries and also Germany.

He enjoyed the visit he paid at Ca' Cappello, where he presented me with the impressive volumes in German he had published in Heidelberg regarding his expedition to the northern territories of Pakistan. He told me about his long experience there, and the problems he had to face recording all those incredible engravings located in a quite remote mountain region. Then we promised each other to meet again either in Germany or in Islamabad soon. The year after he told me with enthusiasm about a project he intended to promote in Baltistan, though I do not think that he ever developed it.

In the spring of the present year I went to Heidelberg from the Ukraine, where I was to deliver an Erasmus archaeology course at P. Mogila University of Nikolaev, to attend a PhD meeting jointly organised by Heidelberg and Ca' Foscari Universities, of which I had informed him promptly. I was sure to meet him there, even though those were quite hot days, but Harald strangely did not appear, though he knew I was there. A few months before he had written to me that we would meet either in Europe or in Islamabad, soon.

In contrast, a few months after, in early August, I was informed by a colleague that he had silently and sadly passed away.

Harald was an extraordinary archaeologist with a great experience in may archaeological fields spanning from the last hunter-gatherers to the metal ages and also prehistoric art and historic rock engravings. His experience spanned from Mediterranean Greece to Anatolia and the Near East and finally the Indian Subcontinent. His studies regarding all the above regions, and the excavations he carried out at very important prehistoric sites, especially in south east Anatolia, are worldwide recognised as being of major importance for the development of our knowledge of the first farming communities of the Near East and their spread toward Europe. Among the important sites he excavated and published are the settlements and shrines of Nevali Çori and Göbleki Tepe, well known all over the world thanks to his researches in present-day south-east Turkey.

Apart from being an outstanding scholar, Harald was also a very skilled field archaeologist. The techniques he developed to carried out large-scale excavations are worldwide known for their precision and accuracy.

Moreover, again regarding Pakistan, he formed a small group of skilful archaeologists who at present work at important universities and archaeological services of antiquity departments.

Sadly, he left us in the summer of this year. We all will miss his talent, knowledge, his cheerful pleasant character and smile.

Harald Hauptmann

Between Anatolia and Karakoram

Stefano Anastasio

Prof. Dr. Harald Hauptmann passed away on 2 August 2018. He was Professor Emeritus of Prehistoric and Near Eastern Archaeology at the Ruprecht-Karls University of Heidelberg, former Director of the German Archaeological Institute at Instanbul, and Member of the Heidelberg Academy of Humanities and Science.

Harald Hauptmann was born on 19 April 1936 in Ratkau, County Truppau, Czechoslovakia (once Sudetenland). He studied archaeology at the Eberhard Karls University in Tübingen, the Saarland University and the Ruprecht-Karls University of Heidelberg. He received his PhD from the latter University in 1964, with a dissertation on the Late Neolithic of Thessaly ("Die Funde der früheren Dimini-Zeit aus der Arapi-Magula Thessaliens"). Immediately after, he held a post as Research Lecturer in Prehistory of Anatolia at the Archaeological Institute in Istanbul until 1971. He started his academic career as Assistant Professor at the Freie Universität of Berlin in 1972 and obtained his Habilitation here in 1978. Being a former student of Vladimir Milojčić, in 1980, Hauptmann was chosen as his successor as Professor of "Prehistory and Near Eastern Archaeology" at the University of Heidelberg. He was Director of the German Archaeological Institute in Istanbul between 1994 and 2001. In 1992, he became Member of the Heidelberg Academy of Humanities and Science, having been Director of the research cell "Rock Carvings and Inscriptions along the Karakoram Highway" of that Academy since 1989. His academic affiliations included memberships to the Serbian Academy of Sciences and Arts and to the Sudeten Academy of Sciences and Arts. His research activity spanned across several topics: from his initial studies on Greek and Balkan prehistory, he moved on to dealing especially with Anatolian prehistory. Among his major contributions in this sector are the important archaeological excavations of Norşuntepe, Lidar Höyük and, above all, Nevalı *Ç*ori. The extraordinary Pre-Pottery Neolithic finds discovered at this latter site, together with those of nearby Göbekli Tepe (where he started the excavations which were then continued by his former student Klaus Schmidt) are one of the most significant archaeological discoveries of the late XX century. In 1989, he was appointed Director of the research cell "Rock Carvings and Inscriptions along the

Karakoram Highway," previously set up by Karl Jettmar. This project was certainly very dear to Hauptmann, who threw himself passionately into it, and led to a large number of yearly fieldworks in the region of Gilgit-Baltistan, allowing him to build a solid and fruitful relationship with his Pakistani colleagues. The results of his work on the rock carvings and inscriptions in the Upper Indus Valley were published in detail in the MANP ("Materialien zur Archäologie der Nordgebiete Pakistans") series volumes, in addition to a number of articles in exhibition catalogues and scientific journals. As a result of his efforts in safeguarding Pakistan's cultural heritage, he was awarded the "Sitara-i-Imtiaz" (Star of Distinction) medal by the President of Pakistan and, after the research cell was closed in 2012, he became a consultant for the Pakistani authorities for the protection of rock carvings.

These brief notes clearly show how one of Hauptmann's main qualities was his incredibly wide range of interests. Stretching from the Balkans to Pakistan, he dealt with a large variety of topics, combining enthusiasm, curiosity and methodological rigour, which are at the basis of his important discoveries and of the fundamental contributions he made to prehistoric science. However, the most remarkable trait I will always remember about him was his extraordinary ability to teach and pass on his enthusiasm and method to those who, like me, were fortunate to have him as a teacher. I remember meeting him many years ago in Heidelberg, to begin a Promotion under his guidance for a research project in Syria. Unfortunately, I had to give up the research just a few months after its start owing to unexpected difficulties. Given the situation, I was convinced that I would have had to give up the entire Promotion project and try taking other directions, even unrelated to archaeology. If this did not happen, it is only thanks to Professor Hauptmann's "energetic" insistence and his ability to motivate what was then a young student, guiding him towards a slightly different research which, over time, proved to be the right one. If I am still an archaeologist today, I owe it mainly to him, and it is for this reason that in writing these notes I realise how important his teachings have been: foremost, being aware of the need to apply sound methodological rigour, whilst remaining curious and open to new experiences, and keeping one's horizon as broad as possible. Throughout his extensive career as a teacher, Hauptmann trained a truly high amount of students who today are archaeologists in many countries across the globe. They will certainly remember him with the same sorrow deeply felt by myself and the many colleagues and staff that had the fortune to meet him. However, it is nice to think that thanks to his extraordinary ability to convey his knowledge, in some ways his research is still continuing in the activities of all of his pupils.

My Interactions with Harald Hauptmann

Mueezuddin Hakal

Two German names, Jettmar and Hauptmann, I heard from my father Muhibuddin[1], since the beginning of my memories as predecessor and successor respectively in the archaeological studies of Gilgit-Baltistan. Initially, I started to learn from their contributions as a student of archaeology, since 2007. I learned that Karl Jettmar was conducting archaeological explorations in Gilgit-Baltistan since 1950s, following Adolf Friedrich, and offered series of publications (Jettmar 1961, 1967, 1974, 1975, 1977, 1981, 1982, 1989, 1993, 2001 and 2002) on the studies of Gilgit-Baltistan. In this connection, Pak-German Archaeological Mission formed as a result of collaboration of Karl Jettmar and Ahmad Hasan Dani in 1979. After conducting random explorations in Gilgit-Baltistan, Jettmar started an edited series of reports and studies under (ANP) *Antiquities of Northern Pakistan* (1989, 1993, 1994, 2000), which was continued by Hauptmann as the editor (2004). As the Director of Pak-German Archaeological Mission, Hauptmann continued the explorations in the mountain areas of Gilgit-Baltistan and played a leading role in the systemetic documentation and publication of rock art concentrations at Chilas Valley in particular and Gilgit-Baltistan in general (Bandini-König *et. al.* 1997). In this connection, a team of Geman archaeologists produced a series of catalogue publications under the title (MANP) *Material zur Archäologie der Nordgebiete Pakistans* (Bandini-König 2003, 2005, 2007 and 2009).

However, my interactions with Harald Hauptmann transferred from books to real on June 18th 2010, when I met him for the first time at his place in Chilas (Gilgit-Baltistan, Pakistan), in the presence of my father. This meeting encouraged me to continue my academics in archaeological studies. In the beginning, I was more focussed on exploring a space in his research area, to place my contributions in rock art and inscriptions in Chilas valley. Therefore, I was regularly getting guidance from him. In the beginning, he moved my focus towards the decorative patterns depicted on different monumental examples of wooden architecture. In this regard, he mentioned in his email on July 12, 2010.

> The subject "Vernacular architecture in Gilgit-Baltistan" represents both a highly interesting and most challenging comprehensive project which affords not only a lot of preliminary work but also knowledge in architectural and art

[1] Worked as Photographer in Department of Archaeology and Museums, Government of Pakistan, at Gilgit Sub Regional Office from 1986 to 1991.

> history of the high mountain region beyond Gilgit-Baltistan. An interesting theme would be the collection and study of the ornaments and decorative motives in vernacular architecture, their origin and spread in the different regions.

Meanwhile, I was working on a research project on Altit Fort Hunza with Aga Khan Culture Service, Pakistan (AKCSP). Later, I shared the produced report with him[2]. He mentioned in reply to my email on September 13, 2010.

> I have to read it first, before I will give comments on the subject, but I have a very good impression about your work. I think, the theme vernacular architecture is worth to concentrate on it.

I met him again at Serena Hotel Gilgit in summers of 2012. We discussed there on different matters including Hatun Inscription and other monuments in District Ghizer. He was also planning to have a survey project in Baltistan. He offered me some of publications and said to me, in reply of some disappointments I faced, I still remember his face uttering those words, "*money makes nothing, man makes history*".

His emails realised me that he was always keen to visit Pakistan, particularly Gilgit-Baltistan. I was regularly informing him about the developments here in Gilgit-Baltistan and getting guidance regarding Diamir-Basha Dam project and heritage at this site, he mentioned on May 19, 2015.

> …it is always a pleasure to be in contact with you, and I hope you are fine. Unfortunately, we were not able to participate in the workshop ESIA in Islamabad. The invitation came by far too late, since I had during these days a longer invitation to present an opening lecture at an archaeological symposium in the Hacettepe University in Ankara. I asked the organizer if he could postpone this meeting concerning Cultural Heritage for some days or to a later date, since there is only the DG Dr. M. Arif who knows the Northern Areas. But, I hope a later meeting would be possible, since there are too many utopic ideas what should be done for the preservation of the historical heritage. I wonder, why my colleague Professor Nasim Khan was not present during this meeting: he worked along the Upper Indus for some seasons, and he is both aware of the history and the problems of the Diamer-Basha region. I hope, we will be able to visit also Peshawar in near future: I have to bring MANP 11 to the library at the University (the sites east of Thalpan - Gor). We are really missing our second home - Chilas and the Upper Indus!

[2] A portion of this work, with some additions, published for the readership later (Hakal 2015).

In this connection, he was happy to hear about the establishment of Karakoram Centre of Cultural Studies and Heritage at Karakoram International University in Gilgit. In reply he mentioned on July 3, 2015.

> …it is a really good news about the establishment of the Karakorum Centre for Cultural Studies and Heritage (KCH) - it has been an old dream of us and our late friend Adam Nayyar to create such an institution, Northern Areas or G-B Cultural Centre at Jutial (GBCC).

My academic journey at Peshawar ultimately resulted my PhD (Hakal 2015a) under the kind supervision of Meritorious Professor Dr. M. Nasim Khan (TI). The valuable comments of Hauptmann on my research, as an external examiner, let me add more to my work. On the invitation for participation on public defense of my PhD he replied on November 24, 2015.

> …it is a pleasure to receive your message, and I send my best wishes for your PhD defense this month. Unfortunately, I am not able to attend to the soutenance, since we will not be in Pakistan…
>
> … It should be a main issue for the next years to establish a special library with all the relevant literature about the Northern Areas in Gilgit. A first step was made by H. Kreutzmann in Baltit Fort, but we should discuss this issue during a future meeting about Diamer-Basha, Inshallah. But, such a GB Cultural Centre is a fata morgana since more than a decade (this idea died with the untimely death of our friend Adam Nayyar). I am really glad to see now a better future for the still unknown early history in your home region.
>
> Again, my best wishes for the PhD defensio: and good luck for your future in beautiful Gilgit-Baltistan (my past second home).

All my correspodences with Hauptmann provides a direction for the development of archaeology in Gilgit-Baltistan, and gives a vision to set our mission and direction. It was shocking news for me that Professor Dr. Harald Hauptmann (SI) is no more with us and passed away on August 2, 2018, at the moment when I joined Taxila Institute of Asian Civilizations as Assistant Professor. This day I pray for his soul to rest in eternal peace! I believe the legacy he continued from Jettmar not ends here, but safely transferred to the scholarships of generations to come.

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History of Pak-German Study Group for Anthropological Research in Northern Pakistan

Sadeed Arif

I am not going into the outcome of the Pak-German joint Project which is huge topic to deal with, but have only focussed here on the historical background of this significant project. The history of the project has been shared by late Professors A.H Dani[1] and Harald Hauptmann. At the time when I joined Taxila Institute of Asian Civilizations, Quaid- i- Azam University Islamabad in March 2006, I met Prof. Haralad Hauptmann and his wife in Dr. A.H Dani office. During the meeting the developments of the project were under discussion. The preservation and conservation of the Rock Art sites was also discussed by the Professors. He also discussed with me about the obituary of Jattmar in the Journal of Asian Civilizations which was published later on. In the same years, he arranged a seminar in the Serina Hotel Islamabad for the preservation and Conservation of Rock Art of Northern Pakistan[2].

Acquainted with the discoveries of Mr. Ghulam Mohammad and Sir M. Aurel Stein, Jettmar had been aware of and fascinated by the existence of rock-carvings in the region ever since. The interest has been increased when he made own observations during the expeditions since the 1950s. He was very surprised and thrilled when he reported rock carving at Minargah exposing the Eurasian Animal Style in 1973. This discovery has motivated him to devise a scheme to systematically document the abundance of rock-carvings and inscriptions of the area and to use his own ethnographic data as a source for the reconstruction of the social as well as cultural history of the region. The project took him and his Pakistani colleague and friend Ahmad Hassan Dani, Professor at Taxila Institute of Asian Civilizations[3], Quaid-i-Azam University, Islamabad, took six years of negotiations, fund raising, and other necessary preparations and arrangements. After the opening of the Karakorum Highway in 1978, he and Dani, both co-operating in the jointly founded "Pak-German Study Group for Anthropological Research in Northern Pakistan", could start their endeavour. In 1979, during their first expedition to the Northern Pakistan the so-called 'sacred rocks' of Haldeikish near Ganesh in Hunza were reported and scientifically documented.

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[1] The auther has worked as Research Fellow with A.H. Dani at TIAC and shared many historical facts about the Pak-German project

[2] The author has been invited by Prof. Hauptmann to participate in this Seminar.

[3] Prof. A.H Dani first Joined History department and then 1080 joined TIAC, Qauid-i-Azam University Islamabad

These rocks covered with inscriptions should become the first epigraphic evidence of the western Himalaya to be documented and, thus, one could say that the year 1980 marks the beginning point of the project's activities scientifically. After almost one year later, in 1981, the research in Diamer district started in the areas titled "fairy-land of rock-carvings" by Jettmar.

In 1980 the project was financially supported by the German Archaeological Institute, followed by funding through the German Research Foundation from 1981 to 1983. Since 1984 the studies have been part of the scientific program of the Heidelberg Academy of Sciences and Humanities. In close collaboration with scholars from Pakistan, England, and France the research unit "Rock-Carvings and Inscriptions along the Karakorum Highway" continues the systematic documentation and publication of the rock-carvings and inscriptions of the various galleries along the banks of the upper Indus which is one of the world's largest rock-art area. Jettmar headed this research unit until 1989 and remain a member of the respective scientific commission until his last days.

Jettmar and Dani started this scientific research on the rich cultural history of the high mountain areas of Pakistan. Jettmar and Dani both successfully co-operated in an excellent manner to execute the project in the perception of the highly interested international and interdisciplinary community of scholars working on South and Central Asia. Jettmar scientifically covered the disciplines of ethnology, anthropology, history of religions, art history, prehistoric archaeology, epigraphy, and linguistics of the Northern Pakistan. The work of Jettmar attracted scholars from other disciplines in the Northern Areas of Pakistan, for instance in the interdisciplinary Pakistan-German Research Project "Cultural Area Karakorum".

From the beginning, Karl Jettmar perceived his project in the Northern Areas as an interdisciplinary one. As he had an extraordinary knowledge of the results of archaeological research, he was not an archaeologist himself therefore he was in search of an experienced archaeologist to collaborate with his team. In 1982 he invited Prof. Harald Hauptmann to the area by keeping in mind his keen interest in the archaeological field research. This was his first visit to the Northern Areas and in the company of A.H. Dani who, in the absence of Jettmar, introduced him to the region as well as upper Indus up to Baltistan. He was attracted by the high peaks, the narrow gorges, the water falls, and vast open plains. Prof. Dani facilitated his understanding of the diverse cultural history of this region which connects Central Asia with the Indo-Pakistani subcontinent. This visit along with Dani convinced Prof. Harald Hauptmann to switch off archaeological field activities in Anatolia and agreed to succeed him as head of the research unit "Rock-Carvings and Inscriptions along the Karakorum Highway" at the Heidelberg Academy of Sciences and Humanities in 1989. Since

then the "Pak-German Archaeological Mission to the Northern Areas", a project inaugurated by Jettmar and Dani to explore the archaeology of the region, has been trying its best to accomplish the life's work of the exceptional scholar Karl Jettmar. Prof. Harald Hauptmann continued the lagacy of Jattmar and regularly involved in the field research till his death. After the death of Prof. A.H. Dani in 2009 when Dr. M. Asraf Khan became the director of the Taxila Institute of Asain civilizations he visited many times to his office and discussed various issues related to the rock art of Northern Pakistan. The local guide of Prof. Hauptmann Mr. Akhter from Chilas played a very active role in his field activites and always remained with him during field activity. So in the last the outcome of the joint Pak-German Project is the glorious chapter of the ancient history of Pakistan and I hope the legacy of Jettmar, Dani and Hauptmann will continue in future.

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Acknowledgement to Harald Hauptmann for his Archaeological Research in Northern Pakistan

Ghani-ur-Rahman

Late Professor Harald Hauptman, the renowned German researcher in Pakistan, was in collaboration with my institute since 1979, under the supervision of German researcher Karl Jettmar when he collaborated with Ahmad Hassan Dani, Centre for the Civilizations of Central Asia at Quaid-i-Azam University, which was later renamed as Taxila Institute Asian Civilizations. The mission was working on the then Northern Areas now called Gilgit-Baltistan. This collaboration on research was continued by Harald Hauptmann after Karl Jettmar. As a result Ahmad Hassan Dani produced series of Publications focusing on archaeology of Gilgit-Baltistan, alongside that produced by German team of archaeologists in Gilgit-Baltistan.

As a faculty I joined this Institute in 2007. Since then I was in contact with Professor Hauptmann. Our official correspondence with him was mostly related to matters of the research publication of Journal of Asian Civilizations (me as Editor and him as Evaluator), arranging an important workshop and seminars on his researches in this institute. In connection to a workshop on the Gandharan Cultural Heritage, he offered an inspiring abstract, under the title of a paper, "The Lords of the Mountains between Gandhara and the Trans-Himalayas: Buddhist Traditions in the Rock Art of Gilgit-Baltistan", which appears as the best conclusion of researches on Gilgit-Baltistan, which I want to add here for the readership:

> In the high mountains of northern Pakistan, in adjoining Hindukush, the Karakorum, and the Western Himalayas, one of the world's largest rock art provinces is spread along the banks of the Upper Indus and several of its tributaries as well as along main pass routes leading across the mountain barrier to Central Asia. Petroglyphs of unique diversity and abundance are found in clusters between Shatial in Indus-Kohistan and the Raikot Bridge in the Diamer District along the Indus, around the Alam Bridge at the junction of the rivers Gilgit and Indus, in the Yasin valley, in Hunza, and in Baltistan. The significant historical and cultural importance of Gilgit-Baltistan as mediatory region between the great cultures and empires of Central and East Asia and the subcontinent has been widely unknown to the scientific world until the last quarter of the last century. The exploration of the rock art assemblages was inaugurated by the ethnologist Karl Jettmar and the archaeologist Ahmad Hasan Dani in 1980. Since then as a result of the work of the Pak-German Archaeological Mission to the Northern Areas more than 50,000 petroglyphs and 5000 inscriptions in nearly a dozen different scripts have been discovered

and are currently published. On the basis of earlier researches by Sir M.A. Stein, the culture and history with ethnic and religious changes could be reconstructed from the Late Stone Age to the coming of the Islam since 16th century. Since there has been unfortunately no systematical excavation in the whole region to regain the long settlement history, the rock art galleries with their stone inscriptions, some monumental Buddha reliefs and references in Tibetan and Chinese annals and pilgrim's reports represent the only medium to comprehend the history of various ethnic and linguistic groups with their different social-cultural and political traditions as well as religious beliefs. The different stages of development with changing influences from the surrounding cultural regions since the 10th/9th millennium B.C. could be regained as well as the entry of the Upper Indus into history with the intrusion of Buddhism. The new religion penetrated into the Upper Indus from Swat (Uddiyana) through the Gilgit Ranges or from Gandhara across the Babusar Pass during the era of Great Kusana and was adopted in the beginning only by a part of the local population. Rock carvings of the early Buddhist period (50 B.C. – 3rd century A.D.) from the Diamer District depict "submission scenes" showing the enthroned ruler of "Indo-Scythian origin" with musicians in front of him. Other scenes render the veneration of stūpas by pilgrims or dismounted horsemen in Saka dress, but Buddha himself is never attested in the carvings, only his name occur in the dedications in Kharosthi. This group of images clearly reflects Gandharan influence. After the 4th century A.D. the emergence and florescence of three great Buddhist principalities Great and Little Palur (Bolor) and Daradas are reflected by delicate images of stūpas and Buddha as well as by episodes of his former lives, the jataka scenes. Chilas-Thalpan during the climax of Buddhism as rendered also by Brahmi inscriptions represents both a political and sacral centre of the Daradas Empire. The role of the Palola Sahi Dynasty between the big powers China and Tibet has been enlightened as well as its decline during and after the 9th/10th century. Tibetan influence in the region around Gilgit and especially in Baltistan is clearly apparent in the monumental Buddha reliefs and numerous "cross-shaped" stupa images which are accompanied also by Tibetan inscriptions. Starting from the 9th century the lower part of the upper Indus region saw an invasion of the so-called battle-axe people which brought the Buddhist period there to an end.

It was a shocking news for me on August 2, 2018, knowing that we have lost a friend, colleague and an important scholar on Pakistan Archaeology. I pray for his soul to rest in eternal peace. As the Director of this institute, I acknowledge his services on the researches in Pakistan in collaboration with this Institute. His contributions will not end here if we collectively continue his legacy with the emerging German scholarship in the field of archaeology and particularly in the studies of rock art.

Professor Harald Hauptman:
An Outstanding Research Scholar

M. Ashraf Khan

Our beloved colleague Harald Hauptmann was born in the city of Ratkau (Radkov), today in the Czech Republic, on the 19th April of 1936. He left us on the 2nd August 2018.

Prof. Dr. Harald Haupmann is remembered for his excavation work in East and South-East Turkey, and his tremendous contribution to the archaeology of Gilgit-Baltistan in Pakistan. He was a member of many Foreign and German Academies, former Director of the Deutsches Archaölogisches Institut in Istanbul, Professor and Honorary Professor at the University of Heidelberg. In 2009 he was awarded of the Sitara-i-Imtiaz by the Islamic Republic of Pakistan.

I met Professor Hauptman in 2009 during my tenure as the Director of Taxila Institute of Asian Civilizations, Quaid-i-Azam University, Islamabad, while he was on his way to resume his annual field work in Gilgit-Baltistan for the documentation of rock art and inscriptions. During our first meeting we immediately discussed the possibility to arrange at our Institute a "Gandhara Workshop". Later on, our two Institutions materialized that idea by arranging in 2010 a workshop under the title "International Workshop on Gandharan Cultural Heritage". During the workshop, Prof. Dr. Harald Hauptman presented a keynote message, and called for promotion and projection of the Gandhara cultural heritage and the rock art of the Northern area of Pakistan, located along the ancient Silk Route. In 2011, Professor Hauptman visited again our Institute and, on my request, he delivered a talk on the "Preservation and Documentation of the Rock Art of Northern Areas of Pakistan". During that talk, the Professor presented the new 3D research methodology for the documentation of rock art and inscriptions. In 2012, he has organized a successful photographic exhibition at the Pakistan National Council of Art on "The Rock Art of Gilgit-Baltistan", with the collaboration of our Ministry of Culture.

Professor Hauptman was an outstanding archaeologist, and a true gentleman, and contributed extraordinarily to the promotion and projection of the culture heritage of Pakistan. He has left us in Summer 2018, but I believe that his legacy will be continued by the generations to come.

Book Reviews

Zulfiqar Ali Kalhoro (2018) *Archaeology, Art and Religion in Sindh*. Karachi: Culture and Tourism Department, Government of Sindh, Karachi, pp. 189 (Rs. 400).

Sirat Gohar

The heritage of Sindh, entailing tremendous diversity, has been thoroughly examined by both foreign and local scholars. More data, though, have surfaced recently, and there is still more to be explored.

Recently, the "Culture, Tourism and Antiquity Department" of the Government of Sindh has published a book entitled *Archaeology, Art and Religion in Sindh* which is authored by Zulfiqar Ali Kalhoro. The book garners significance due to the fact that it gives light to unknown aspects of the archaeology, art and religion of Sindh. The author of the present work is a well-known anthropologist of Pakistan who has been profusely writing on the various aspects of Sindh heritage. *Archaeology, Art and Religion in Sindh* presents nine research papers which are thematically intertwined as the Author notes in the introduction (pp.11-14). Four of the papers were presented in international conferences; the other two have been produced from the Author's MPhil dissertation and the rest belong to other academic and research activity.

The title of the book, *Archaeology, Art and Religion in Sindh*, truly reflects its contents:

(i) Prehistoric circular tombs in Mol valley, Sindh-Kohistan
(ii) Megaliths in Karachi
(iii) Human and environmental threats to Chaukhandi tombs and role of civil society
(iv) Jat culture
(v) Camel art
(vi) Role of holy shrines and spiritual arts in people's education about Mahdism
(vii) Depiction of Imam Mahdi in Sindhi poetry of Sindh
(viii) Between Marhi and Math: the temple of Veer Nath and Rato Kot
(ix) One deity, three temples: a typology of sacred spaces in Hariyar village, Tharparkar.

The first three articles deal with archaeological themes. On the basis of grave goods (pottery) and extant stone circular structures, in the first article, the Author has announced the discovery of the prehistoric stone circular tomb in the Mol Valley, Sindh-Kohistan. Mol Valley's circular structures belong to the Kot Dijian period but, the author observes, "the site of Bapro Rek was later occupied by people in the Iron Age" (p. 19). These vestiges give a sense of the religious history of the valley. The second article discusses the megaliths in Karachi which have also been assigned to the Bronze and Iron Age (p. 30). While interpreting archaeological material the Author has considered the perceptions of local people towards archaeology. The next article highlights the human and environmental threats to Chaukandi tombs – a World Heritage Site. The Author has made observations about events which spoiled the site. Also, the Author correctly argues that civil society can play the central role in the preservation this and other endangered heritage sites.

Jats are believed to be one of the oldest inhabitants of Sindh. The following two articles deal with the art, culture and history of this tribe. The first one discusses Jats and their social and cultural history in detail, while the second one particularly deals with the camel art.

Religion in Sindh has been discussed in the last four articles of the book. Two of them discuss beliefs and practices of the Shia community, while the other gives insights about the Hindu religion in Tharparkar district.

Altogether, the book contains firsthand information. One should acknowledge the incredible Author's efforts, especially his fieldwork commitments that led him to collect an amazing amount of crucial information on otherwise almost neglected fields.

The book argues that there is a dire need for reexamination of the history and cultural legacies of Sindh. It may also be said that the book sets a series of topics for further research and analysis. If more extensive studies were planned on the subject, it would be a great service to the cause of knowledge and research. And Z.A. Kalhoro's book will play a seminal role in such subsequent works.

I am sure that Zulfiqar Ali Kalhoro's book not only has a paramount importance for the present, but it will remain for long time a crucial work for whoever is interested on the study of the archaeology and anthropology of Sindh.

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