

A Note on the Grey Stucco Capitals from Patakā (Swāt)

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Abstract: The stucco capitals and reliefs externally coated with a thin grey layer are occasionally found at archaeological sites in the valleys of Peshawar, Taxila and Swāt. Decorating stucco images with various colours to enhance their beauty was a normal practice of the artists. But decorating them with grey colour is something different, for, dull grey colour could not make them look more beautiful than white/creamy stucco. What then was the reason behind it? Were they meant to pass off as the real stuff of schist, or do they mark a phase of transition from schist to stucco? This note is an attempt to address these questions with particular reference to the capitals found at Patakā (Swāt).

Keywords: Patakā, Stucco, Gandhāra, Uddiyāna, Swāt

The site of Patakā was excavated by Shah Nazar Khan and his team under the guidance of Professor Abdur Rahman of the Department of Archaeology, University of Peshawar, in 1985. It is situated on the western side of the river Swāt in Kabal region of the Swāt Valley. The site yielded sculptures, relic caskets and architectural elements both in stone and stucco.

The monasteries and stupas of the valley were decorated with sculptures and architectural elements by the monks and lay devotees for education and beautification purposes. The major Buddhist sites in the post partition era in the valley were excavated by the Department of Archaeology and Museums Government of Pakistan), Department of Archaeology (University of Peshawar) and IsMEO (Istituto Italiano per il Medio ed Oriente, Rome). Their activities resulted in the recovery of numerous sculptures, which are now housed in the collections of various museums in Pakistan and abroad. It is clear from these excavations that monastic complexes in the Swāt valley continued to grow during centuries and could not be attributed to a single phase of construction. It is important that the sites have been badly destroyed and disturbed by antiquity dealers. The same is the case of Patakā. Nevertheless two relic caskets came to light during excavation at the site. Of these, the larger one contained a coin of the Indo-Greek ruler Apollodotus. As to the stone sculptures, green phyllite and soap stone was used by the artists of the Swāt valley. Later, stone was replaced by stucco in the valleys of Uddiyāna and Gandhāra.

Stucco is a mixture of lime, mud, straw, hairs and granulated stones. It was prepared in dug out

tanks lined with stone slab. First, lime was cooled down in these tanks and then the above-mentioned ingredients were mixed in it. Such tanks were found in the course of excavation at the sites of Butkara I (Swāt) (Faccenna 1980-81: [1]151) and also exists at the sites of Jamālgarhi (Mardān) and Dharmarājika (Taxila) .

The origin of stucco goes back to the Hellenistic art as evidenced at Alexandria (Egypt) where it replaced marble sculptures and, through trade, spread to Afghanistan and Northwest India. Some scholars think that stone and stucco were simultaneously used in all periods of Gandhāra art (Craven 1976: 100; Wheeler 1964: 215). In Gandhāra, lime was used for plaster as early as the first century CE. The reason is that limestone was available in the Margalla hills and the local people still convert it into lime in kilns. Wheeler opines that the heads from Sabratha in North Africa, which belong to the Roman period are copies of the Gandhāran types and techniques (Wheeler 1964: 215).

Stone sculptures became rare and perhaps costly in the 3rd century CE as their demand increased with the spread of Buddhism. Stucco was much cheaper and fulfilled this demand more effectively. In the fifth century CE, it was introduced in or even earlier through Central Asia (Swann 1963: 66-69). The third century CE stucco decoration at the recently excavated sites of Barikot, Amluk-dara and Gumbat have chronological affinities with the Kushano-Sasanian materials from Termez (Olivieri and Filigenzi 2018: 82)

However, at the site of Takht-i Bāhī the well-preserved stupas are decorated with stucco sculptures similar to the third to fifth century

production. Due to the large scale use of stucco various reasons have been presented by scholars but majority of them are of the opinion that an earth quake of high magnitude in the early third century CE causing damages to the sacred complex. These were decorated with stucco, stone broken panel and sculptures whose missing parts were completed with stucco (Behrendt 2009: 20; Taddei 2006: 48). Butkara I excavated by the IsMEO produced large number of stucco pieces during the Period Great Stupa 4 and is dated to the end of the second/early third century CE. The reason given by the excavator was the destruction by an earthquake that required restoration work in stucco (Faccenna 1980-81: [1]77-127). The same time frame i.e. third century CE is also attested for the use of *kanjur* and stucco by the recent excavations carried out at the sites of Barikot, Gumbat and Amluk-dara Buddhist complex (Olivieri and Filigenzi 2018: 80-82). But at the site of Barikot, the excavator on the basis of stratigraphic evidences pre-date the use of stucco and assign its use to the period of economic distress (Olivieri and Filigenzi 2018: 88). But the use of stucco goes back to the time of the Parthian period at Taxila for sculptural decoration (Marshall 1951: 514). Therefore, its use or introduction cannot be attested to a late period in Gandhāra and Udiyyāna. The grey paste capitals found at Patakā are made of stucco without traces of *kanjur* use at the back and the excavators informed that no broken schist pieces were found with these capitals which is a clear indication that these were not used in repair work and predate the use of stucco as a plaster for *kanjur*. The artist must have utilized stucco in the beginning but due to its frequent decay caused by heavy rains, soft and water absorbing nature and to use small quantity of stucco the inner cores were later made in *kanjur*. Therefore, *kanjur* was employed for brackets, cornices and pilasters and later the artists resorted to its use for sculptures in Gandhāra and Udiyyāna. Stucco also replaced the brittle and unsatisfactory blue slate of the Swāt Valley and was in general adopted by the sculptors of northwest India and Afghanistan. Sir John Marshall used the term Indo-Afghan School of Buddhist Art (Marshall 1951: 514).

Sir John Marshall systematically excavated a good number of sites at Taxila and established a chronology that enables us to trace the development of art and architecture from the first until the fifth

century CE. He says that the earliest schools of Gandhāra art utilized stone till the first half of the third century CE and that the later School or the Indo-Afghan School of Buddhist Art appeared during the second half of the fourth century CE (Marshall 1973: 112). Stucco or lime plaster was replaced by unbaked clay and terracotta and through Central Asia it was introduced into China in the 5th century CE or earlier (Rowland 1965: 125).

In his concluding remarks, Marshall refers to a missing link between the early and the later Schools spreading over more than a century (Marshall 1973: 112). The concept of a missing link noticed by Marshall is very interesting.

The use of stucco in Taxila for plastering and architectural decoration started in the Parthian period (Marshall 1951: 514). It was also used for the same purpose in the entire Gandhāra valley. Marshall's idea of a missing link is, however, untenable due to in view of the fact that religious and artistic traditions of a region cannot be completely wiped out; a transitional phase between stone and stucco appears to be logical. With the decline of the Kushan power and consequent dwindling patronage, it seems, the demand for sculptures in stone did not decrease. The artist therefore found a cheaper substitute in the form of *kanjur* to supply this need. It can be evidenced in various stupas of Gandhāra in which *kanjur* covered with stucco is used for architectural members such as pilasters, bases and cornice mouldings. Being porous, *kanjur* needed a freehand treatment. Thus the grooves carved in the capitals of pilasters at Takht-i Bāhī and Jamālgarhi were plastered with a firmer grip. It shows that architectural members were plastered with free hand not made in moulds. The stucco sculptures found at the site of Sahri Bahlol, Takht-i Bāhī and other sites were assigned to the stone reliefs of the Kushan period; but shows similarity to the stucco relief work of the fourth to fifth century at Taxila (Marshall 1951: 514).

During excavation at Patakā, unique stucco sculptures and architectural members were recovered, which were coated with grey stucco in imitation of stone sculptures. These include capitals of Indo-Corinthian pilasters, stepped-merlon of *harmika* and fragment of a *harmika* with Buddha in meditation pose (Figs. 1a, 2, 3) .

Sculptures in grey stucco are rarely found in the Gandhāran sites. Traces of it were found on a *harmika* of a stupa from Takht-i Bāhī, which was made of *kanjur*. The panel from Bhamāla depicts the scene of *Mahāparinirvāna* (Samad 2017: 121) and the surface is coated with a black layer of stucco. The base of a stupa is also covered with this kind of material. Both are on display in the left hall of the Taxila Museum. The existence of grey stucco sculptures in the three most famous regions of Gandhāra, it seems to represent the transitional stage from stone to stucco. The devotees knew the importance of stone sculptures but the high cost in their manufacture acted as a deterrent. The grey coated architectural elements and sculptures/panels shows that donation of stone objects was an act of merit. This gave an incentive to making sculptures, which could pass off as stone

sculptures. The specimen recovered from Patakā is more important as compared to the sculptures from Takht-i Bāhī and Bhamāla because in the former case it is directly applied to the travertine surface of *harmika* while in the latter case, it is in the form of a relief panel completely made from stucco with a grey coating. In the case of Patakā, the Indo-Corinthian capital is made in a mould. In the mould the sculptor applied a coat of grey stucco paste, later, it was strengthened with a thick coat of creamy stucco layer at the back (Figs. 1a-b). This gives the appearance of a real stone sculpture.

Four such samples were scientifically studied in the Centralized Resource Laboratory, University of Peshawar, which shows that grey stucco has extra Carbon 22.59% and Silicon 6.07% as compared to white stucco which showed Carbon ratio of 11.68% and of Silicon 2.42% (see graphs 1 and 2).



Fig. 1a: Gandhāra Corinthian Capital in Grey Stucco



Fig. 1b: Back view of Fig. 1a



Fig. 2: Fragment of Merlon on top of harmika in Grey Stucco



Fig. 3: Fragment of harmika Depicting Buddha in *dhayanamudra* and Gandhāra Corinthian Pilaster

The ratio of Carbon and Silicon is almost double in the grey stucco. The chemical composition shows that grey stucco was more fragile as compared to the white because binding strength of silicon and carbon is less as compared to mud. Therefore, the grey sculptures might have decayed rapidly and are rarely found during excavations or the artists might have replaced it quickly with creamy stucco. The *harmika* core is made of travertine (*kanjur*) covered with grey stucco mortar with free hand. The sculpture finish on the *harmika* is very cruder than the capitals, which were made in moulds (Fig. 3).

From the same site, an Indo-Corinthian capital in creamy stucco shows a very interesting feature. A thin piece of slate is horizontally fixed to the back when the material was poured into the mould. The pilasters at this site were partly moulded whereas

the shafts and base were made with free hand. This shows that various parts of the stucco pilasters were made separately in imitation of stone pilasters and relief panels. The tenons and mortises used in stone pilasters were replaced by slate fragments for fixing stucco capital with the pilasters shaft (Figs. 4a–b).

Some scholars think that the sculptures were painted and gilded as evidenced from some of the available materials; but majority of the stone sculptures have no traces of it. The use of grey stucco for architectural members (e.g. capitals) and sculptures negate the concept that all sculptures were painted and gilded. The grey stucco pieces also indicate that the donation of stone pieces to the monastery were considered by the devotees as an act of high merit. But it was a time-consuming job, which involved hard labour. The dwindling



Fig. 4a: Gandhāra Corinthian Capital in Creamy Stucco



Fig. 4b: Inside of Fig. 4a showing slate piece for fixing to stupa surface

prosperity of Gandhāra and natural calamities forced the artists to choose cheap material (i.e. stucco). Initially they made replicas of the stone sculptures and later employed widely white stucco for architectural or sculptural decoration.

Conclusion

The capitals and other pieces clearly indicate that the artist made copies of stone sculptures. Scientific analysis of the material shows that extra Carbon, Silicon and Aluminum were added to prepare grey stucco. The capitals might have been easily painted with grey colour. The purpose to utilize grey lime paste was to provide a permanent and enduring stone effect. Further archaeological investigations may bring to light similar sculptural pieces together with numismatic evidences, whose scientific study and analysis may resolve the issue of the phase of transition from stone to white stucco in the Buddhist art of Gandhāra. The capitals and merlons were completely made in moulds while in the case of *kanjur* freehand was used. The concept of inserted schist tenon also shows that they were made in mould and then fixed with the body of the stupa. In the present case, moulded pieces were not directly attached to the stupa.

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GRAPH 1

Grey

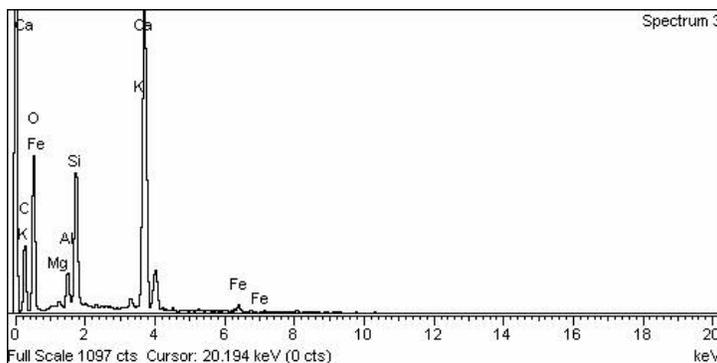
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No peaks omitted

Processing option: All elements analyzed
(Normalized)
Number of iterations = 5

Standard:

C CaCO3 1-Jun-1999 12:00 AM
O SiO2 1-Jun-1999 12:00 AM
Mg MgO 1-Jun-1999 12:00 AM
Al Al2O3 1-Jun-1999 12:00 AM
Si SiO2 1-Jun-1999 12:00 AM
K MAD-10 Feldspar 1-Jun-1999 12:00 AM
Ca Wollastonite 1-Jun-1999 12:00 AM
Fe Fe 1-Jun-1999 12:00 AM

Element	Weight%	Atomic%
C K	22.59	33.23
O K	47.11	52.01
Mg K	0.25	0.18
Al K	1.43	0.94
Si K	6.07	3.82
K K	0.56	0.25
Ca K	21.00	9.26
Fe K	0.99	0.31
Totals	100.00	



GRAPH 2

White

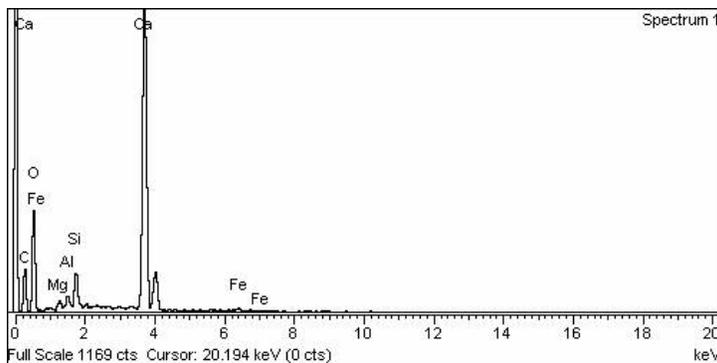
Spectrum processing:
No peaks omitted

Processing option: All elements analyzed
(Normalised)
Number of iterations = 5

Standard:

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O SiO2 1-Jun-1999 12:00 AM
Mg MgO 1-Jun-1999 12:00 AM
Al Al2O3 1-Jun-1999 12:00 AM
Si SiO2 1-Jun-1999 12:00 AM
Ca Wollastonite 1-Jun-1999 12:00 AM
Fe Fe 1-Jun-1999 12:00 AM

Element	Weight%	Atomic%
C K	11.68	18.87
O K	51.70	62.69
Mg K	0.63	0.50
Al K	0.66	0.47
Si K	2.42	1.67
Ca K	31.92	15.45
Fe K	1.01	0.35
Totals	100.00	



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