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Editorial

The area comprising presentday Pakistan is a transational land connecting Subcontinent with rest of the world through north and North Western mountain passes on one side and harbours of Arabian sea on the other. This geographical location allowed deffusion and exchange of beliefs, cultural traits and crafts with the other regions situated on the above trade rouits. Present issue contains an excellent study of the Red Burnished Ware (RBW) recovered from the port city of Banbhore, countributed by Dr. Muhammad Rafique Mughal. The study establishes and identifies Banbhore with the port city of *Barbarikon* which was an active participant of the Indo-Roman trade network which included the cities of Arabian/ Persian Gulf and the Red Sea regions where comparable ceramics have been found.

An exhaustive report of the archaeological excavations and restoration of the Buddhist site of Gumbat-Balo Kale, Swat by Italian Archaeological Mission under the leadership of Dr. Luca Oliveri is also part of this issue. The report provides results of the recent preliminary excavations around the standing monuments, restoration of great viharas alongwith overview of the previous archaeological research and conservation activities at the site.

Reserve collection of the Department of Archaeology, Islamabad contains a large number of confiscated antiquities which were apprehended by the Pakitan Customs and other agencies from the antique smugglers. Provenance and chronology of this confiscated material is yet to be established. Mr. M. H. Khan Khattak and Dr. Abdul Azeem selected a small figure of Vishnue in grey schist from the collection for comparative study to place it in proper context and assign it to a definite timeframe. Results of their joint research is part of this issue.

Paper countributed by Dr. Tahir Saeed presents results of the comparative study of the Buddhist sculptures kept in reserve collection of Peshawar Museum with the Sir John Marshall's Archival Photographic Collections of Buddhist sculptures recovered during his excavations at Taxila and other sites to establish provenance and chronology of the unprovenanced Buddhist sculptures of Peshawar Museum.

Egyption Civilization emerged on the banks of Nile River during the last century of the 4th millinneum B.C. Ancient Egyptions had marvellous skills construction of monumrntal structures, metallergy and use of hardware technologies. Article of Dr. Parvaiz Habibullah provides an overview of the hardware technologies, metallurgy, metal casting and many other arts grew step by step in archaeology of old, middle and new kingdoms of ancient Egypt.

Maryam Zamani mosque is one of the most beautiful monuments of early Mughal period, famous for its surface decoration. Article of Ms. Saira Ramzan discussed conservation problems of the mosque, modern additions to the old structure, and damages caused by encroachment and other harmful human activities in the proximity of the mosque.

(Mahmood-ul-Hasan)
Editor

The Scytho-Parthian Red Polished Ware (RPW) from the port city of Banbhore *(Barbarikon),* southern Pakistan

Mohammad Rafique Mughal

Banbhore is located on an ancient shore of the Arabian Sea in southern Sindh. The site has been extensively excavated by several archeologists ever since it was reported by Henry Cousens in 1929 and excavated by N. G. Majumdar in 1930 and again by Leslie Alcock in 1951. Between 1958 and 1966, extensive excavations were undertaken by the Department of Archaeology, Government of Pakistan, the diggings have exposed a large fortified city, some 1000 feet north-south and 1200 feet east-west and outskirts on north and east covering nearly 60 ha. It was built of locally available stones mostly used in the foundations to support mud brick walls and had four well designed gateways with elaborate steps made slabs of sandstones, one of which faced an anchorage now almost submerged in the silt of Gharo Creek of the Arabian Sea. An industrial area was located on the northern outskirts of the city but close to the fortification wall while those associated with manufacturing of glass, ivory, coins and pottery were found in the city at occupation levels. A cemetery site exists on the eastern side outside the fortified area and occupies an elevated place between an artificial lake and Gharo Creek. The excavations done by the erstwhile Federal Department of Archaeology initially led by Dr. Fazal Ahmad Khan have been reported on briefly on different aspects of the site but not yet published fully [1].

In the early years of excavation directed by Dr. Fazal Ahmad Khan, Director of Archaeology and teacher and mentor of several archaeologists of the Department of Archaeology and Museums in Pakistan, deep trenches were dug down to the natural soil. The writer had an opportunity to dig the first deep trench (GV/6) at the Northern Sector of the site located west of the Great Mosque of Banbhore and correlated the evidence with that found in other trenches. It was the first of nine deep trenches laid at the site at different places which provided a sequence of occupations some of which could be dated with numismatic evidence and some diagnostic finds such as ceramics. The combined evidence of coins, ceramics of distinctive types, inscribed materials and other

objects established a firm chronology of the site from the beginning of occupation to the abandonment of Banbhore from circa 1st century BCE to early 12th century CE at least. At present, being unable to access any field notes including my own, any drawing and photograph of any trench of any year of digging at Banbhore, only one category of ceramics is chosen as a subject of this paper which is based mostly on memory and observations on the pottery displayed at the site museum of Banbhore made through the courtesy of the Museum staff at Banbhore, now under the Antiquities Department, Government of Sindh [2].

The earliest levels of Banbhore yielded mostly red wares among which one category of pottery stands out due to the vessel forms and surface treatment. It is called the Red Burnished Ware (RBW), characteristic of the 1st century BCE to 2nd century CE ceramics of Banbhore, (Fig. 1), otherwise bracketed into the Scytho-Parthian period of southern Pakistan, western and northern India (Schenk 2007). It has been reported from the sites of later period too in India and is generally mentioned in connection with the Indian Ocean trade network. Its distribution in South Asia and beyond almost follows what is generally labelled as the Parthian Ware period beginning slightly earlier than the first centuries BCE with a mix of glazed wares not yet found or identified at Banbhore in the earliest horizon containing RPW. However, it does have comparable forms with identical burnished or polished surface treatment of the pottery found in Stratum II of Bhir Mound at Taxila [3], dated by the Sir John Marshall to the Maryann Period of 3rd century BCE (Fig.3).

The Red Polished Wares (RPW) from Banbhore were recorded from nine deep trenches. As stated above, one of which numbered GV/6 of the site grid was the first to reveal ceramics characteristic of RPW from the first occupation of the site. It was lying above a deposit of wind-blown reddish-brown coloured sand (as examined under a microscope) and below a hard floor of rammed earth containing small calcite nodules. It was clear that the site of Banbhore was abandoned at least in the area where excavation was done, if not the entire site. The stratigraphy and cultural contents of the early levels also strongly suggested an interval of some years if not centuries between the first and the second settlers at the site.

The form of characteristic Red Polished Pottery from Banbhore is bottle-necked sprinkler without curved rim and a vertically perforated knob. The joint between the neck and globular body below is only shown on the interior. Some spouts of similar fabric and several red polished potshards were also found at the same level. The spouts have perforation on their junctions with the body. These are made of well levigated and fine clay and evenly fired in the properly controlled kiln, resulting into a light red colour of the body. The graceful shape of thin textured body reflects an advanced knowledge of pottery making and firing technique resulting in a fine and delicate vessel. The most striking feature of this type of pottery is the slip on the external surface, applied and fired with the technique which produced a bright glassy surface. The slip is mostly in red or light- red colour, but light brown and brown colours are also used. In almost all the cases, light-brown wash was applied on the interior of the vessels. Moreover, finger marks all over the inner surface are quite distinct, obviously produced in the process of creating a smooth outer surface when the clay was still wet.

A reconstructed sprinkler of RPW has a distinctive form of elongated globular body with a hollow pedestal and long neck ending with a perforated knob and a vertical sided spout (Fig. 2). This type and associated pottery was recovered from varying depths below the surface level some 21 feet deep. Almost in all trenches, the RPW was found below a deposit of hard floor and above a thick deposit of reddish-brown wind-blown sand of varying thickness. In the upper levels of RPW horizon, some potsherds showed red slip applied unevenly as if it was done only when the vase was on potter's wheel and thus lacked final finish. The shape of the neck shows a gradual change through time. The graceful curves of the neck of sprinkler show a change to obliquely cut rim and a thick shoulder. The rim became slightly curved. Its conical knob in the most specimens is slightly rounded at the top. Highly polished or burnished surface of pottery constitutes about five percent of total number of red pottery, plain or red slipped wares in the earliest levels of Banbhore.

The occurrence of a developed ceramic form with burnished surface (above the barren sandy deposit), is suggestive of import of sprinkler, if not all the associated pottery. The form of vessel and surface treatment persisted for some time in the upper later levels but with distinctive changes in the fabric and surface of pottery. Instead of polish with red color and fine fabric, the later

levels clearly show thick body, lack of burnishing and changes in the vessel forms, suggesting loss of high-quality pottery production. At Banbhore, the spouted sprinklers with red polish were found in association with open mouthed bowls with sharply carinated and out-turned rim and curved if not ledged pedestalled base (Fig. 4). This type of pottery is also fired to red colour and shows well levigated clay and surface marked by lines of burnishing produced by rubbing surface instead of polish so distinctive of the spouted vessels of sprinkler types.

An overwhelming number of potsherds associated with the RPW and burnished wares consisted of plain bowls with flared-out sides and disc or flat base. There was no slip on the inner or outer surfaces except traces of wash on the external surface. The bowls show finger marks and grooves which appeared to have been made in large numbers (Figs. 5 and 6). Included in the ceramic collections of the RPW, were fragments of very heavy thick storage jars of fine clay and slipped on the external surfaces with red. Few pieces of dark red slip were also found (Fig. 7 top left).

Timeline and geographical extent of the RPW

At the time of discovery of Red Polished Ware at Banbhore, its date was indicated by comparison of pottery similar in form and surface treatment with that from Bhir Mound, Stratum II ,the first city of Taxila which Sir John Marshall dated approximately to the 3rd century BCE (Marshall 1951, volume 2: 414). Its discovery at a number of coastal sites in India and Sri Lanka in particular, where imported Roulette Ware (RW) and “Parthian Ware” were reported, was thought to reflect a product of western ceramic tradition which persisted for a considerable length of time. The RPW was initially believed to be an “imported ware or at least an imitation of Roman – Samian ware” as quoted by Schenk (2015) who says that an imitation of the Western pottery tradition seems acceptable because of similarities in clay of the RPW based on analyses of the pottery specimens from Amreli and other sites. The spouted and red wares with red slipped or red burnished surface have been reported from several sites in northern and western India (Fig. 8) including Sri Lanka and South East Asia. These are considered to be “diagnostic markers of Indo - Roman trade” (Schenk 2005:160). Even though its use has been found in later contexts, extending to the 7th century CE, the circumstantial evidence would place the beginning of

RPW between the 1st century BCE and 1st century CE. The evidence from northern Pakistan comes from Bhir Mound, Stratum II at Taxila as already stated above. Elsewhere, it is dated between 50 BCE and 200 CE for example, at Nevasa[4], Kumrahar [5] (Fig. 9), Brahmaputri, [6] Rang Mahal[7], (Figs. 10 and 11), Hastinapura [8], Devnimori [9] (Fig. 12) and Shamalaji [10] (Fig.13).

The evidence so far gathered from several sites and the coastal city of Banbhore would suggest a date approximately between the 1st century BCE and 2nd centuries CE for the Red Polished Ware which is also reported from a number of sites connected with the Indo-Roman trade. Banbhore on the basis of its location and discovery of RPW from its earliest levels, could be identified with the famed port city of *Barbarikon* which was an active participant of the Indo-Roman trade network which included the cities of Arabian/ Persian Gulf and the Red Sea regions where comparable ceramics have been found. Lionel Casson's translation of *The Periplus Maris Erythraci* (1989), a Roman treatise written as a guidebook for trade and sea travel from the Red Sea to eastern India, refers to the west coast of ancient India as the prime trading area which included two trading centres: Barbarikon (or Barabican) and Barygaza, respectively referring almost certainly to Banbhore in Sindh, southern Pakistan and Broach in Western India. The port of Barbarikon (Banbhore) imported glass wares, figured (printed?) linen, silver, gold, incense and topaz and exported raw silk, cotton yarn, furs and perfume from China as mentioned by several writers including Casson (1989: 22). The merchants travelled along the Silk Route which from Kashgar went to Bactria and then followed the Indus River down to *Barbarikon* or Banbhore. On the present evidence from several sites, a central date of 1st century BCE and 1st century CE would be an accurate conclusion for the Red Polished Wares found at the first settlement of Banbhore or *Barbarikon* of the Roman traders.

NOTES

1. Ashfaque 1969; Ghafur 1966; Khan, F. A. 1960, 1964, 1968 and 1976; Khan, M. I. 2003; Mughal 1986, 1990, 1998 and 2012; and Nasir 1969.

2. This paper is based on author's unpublished paper entitled, "Scytho-Parthian Pottery of Period I at Banbhore" read at the *Annual Conference of the Museums Association of Pakistan* held at the National Museum of

Pakistan, Karachi 1964. Original records of excavations consisting of field notebooks, measured drawings of pottery, antiquities, structures and stratigraphy of trenches were not available to the author, all of which were said to have 'disappeared' from the Explorations office of Sindh Antiquities Department at Karachi recently. It was said that some foreigners and local persons had been digging at Banbhore since 2010. Ironically, *"The Sindh Cultural Heritage (Preservation) Act 1994*" unlike the heritage laws of other provinces of Pakistan, does not contain any provision to conduct archaeological excavations at a heritage site in Sindh. An Advisory Committee required to be constituted under Article 3(1) of the *Sindh Cultural Heritage Act*, *1994* does not exist at all. As such, all records of thousands of antiquities, the state of preservation of thousands of ceramics and works of art, their location in Sindh or elsewhere remain unknown. The recent alleged "disappearance" of all excavation records of previous years may be just a coincidence.

3. Marshall (1951), Volume II, p.414, Type b, Plate 123, No. 66 from Bhir Mound, Stratum II.
4. Sankalia *et al*. (1960), "The Red Polished Ware", pp.307, 310; Fig. 142, Nos .1,3 and 4, Period V, circa 50 BCE – 200 CE.
5. Altekar and Mishra (1959), page 82, No.17; Figs 35, Nos. 17 to 19. Period IV, circa 300 BCE to 450 CE.
6. Sankalia and Dikshit (1952), page 82, Fig. 22, No.4. 'Satavahana period', circa 200 BCE to 200 CE.
7. Rydh (1959), Fig 68, 4 and 5; Plate 50, Nos, 1 to 10, Circa 200 CE.
8. Lal (1954-55), Fig 20; Type XV. Period IV, early second century BCE to the end of the third century CE.
9. Mehta and Chowdhary (1966), Figs. 32, No.73 and Fig. 36, Nos. 112 and 113.
10. Mehta and Patel (1967), Fig. 17, No. 138. Period II 50 -400 CE.

Bibliography

Alteker, A.S. and V. Mishra (1959)

Report on Kumrahar Excavations, 1951 – 1955. Patna: K. P. Jayaswal Research Institute.

Casson, Lionel (1989)

The Periplus Maris Erythraci (Text with Introduction, Translation, and Commentary). Princeton University Press.

Gote, Vishwas D. (2002)

Ancient maritime trade in the Indian Ocean: Evolution of scientific studies of pottery, *Man and Environment* (I), Pune: 58 – 69.

Khan, F. A. (1960)

Preliminary Report on Banbhore Excavations. Karachi: Department of Archaeology.

Khan, F. A. (1964)

Banbhore. Department of Archaeology, Karachi, Number 1: 49 – 55.

Khan, F. A. (1968)

Banbhore. Department of Archaeology, Karachi, Number 5:176 - 185.

Khan, F.A. (1976)

Banbhore: A Preliminary Report on the Archaeological Excavation at Banbhore. Karachi: Department of Archaeology and Museums.

Khan, Muhammad Ishtiaq (2003)

The Grand Mosque of Banbhore: A Reappraisal, *Ancient Pakistan*, Volume XV, Peshawar: 1- 10.

Lal, B.B. (1954-55)

Excavation at Hastinapur and all other explorations, *Ancient India*, Nos. 10 and 11, New Delhi.

Marshall, Sir John (1951)

Taxila. 3 volumes. Cambridge: Cambridge University Press.

Mehta, R. N. and S. N. Chowdhary (1966)

Excavation at Devnimori. Baroda: M. S. University of Baroda.

Mehta, R. N. and A. J. Patel (1967)

Excavation at Shamalaji. Baroda: M. S. University of Baroda.

Mughal, Mohammad Rafique (1986)

The Islamic Glass Wares from Banbhore, *Pakistan Pictorial*, volume x, No. 3, Islamabad:56-59.

Mughal, Mohammad Rafique (1990)

The Sgraffiato Pottery in the Lahore Museum, *Lahore Museum Bulletin*, Lahore**:** Vol. III, (l): 55-61.

Mughal, Mohammad Rafique (1998)

The Archaeology of Sindh (since 1930). In, *Antiquities of Sind*. Third Edition. Karachi: Department of Culture and Tourism, Government of Sindh: 153-208. (Banbhore, pp.158-161)

Mughal, Mohammad Rafique (2012)

Early Islamic Glazed Pottery from Banbhore and its Connections with Contemporary Cities during 8th to 11th centuries CE. In, Mokammal H. Bhuiyan (ed.), *Studies in Heritage of South Asia* (Essays in Memory of Dr. Harunur Rashid). Dhaka (Bangladesh): Heritage Management and Research: 332 – 341.

Rydh, Henna (1959)

Rang Mahal. Lund, Sweden

Sankalia, H.D. and M. G. Dikshit (1952)

The Excavations at Brahmapuri. (Kolhapur). Poona: Deccan College.

Sankalia, H.D., S. B. Deo and Z. H. Ansari (1960)

From History to Prehistory at Nevasa, (1954 – 56). Poona: Deccan College.

Schenk, Heidrun (2007)

Parthian Glazed Pottery from Sri Lanka and the Indian Ocean trade, *Zeitschrift fur Archaeologie Aubereuropaischer Kulturen,* 2: 57- 90.

Schenk, Heidrun (2015)

Role of ceramics in the Indian Ocean Maritime Trade during the Early Historic Period. *In,* Sila Tripati (ed), *Maritime Contacts of the past: Deciphering Connections Among Communities.*New Delhi: Delta Book World: 143 – 181.

APPENDIX

List of pottery belonging to the Scytho-Parthian levels assigned to Period – I at Banbhore (prepared in 1964). These potsherds came from various deep trenches. The photographs and line drawings of pottery are not available for illustration.

1. Fragment of red ware, thick fabric, treated with red wash and externally thickened rim. From an early level.
2. Variant of No. 1 above, but differs from in having medium fabric and light- brownish colour of the body. From a mid-level.
3. Fragment of red ware with externally thickened grooved rim. It is treated on the external surface with red slip around the neck. From a late level.
4. Fragment of dull- red ware with an out-turned, externally thickened multi- grooved rim. A red band is painted around the rim. Internal and exterior surfaces are without wash or slip. From a late level.
5. Fragment of a pale-red ware with an out-turned, nail head like rim and grooves on the neck. It is treated with a pale-red wash both externally and internally. From a mid-level.
6. Fragment of a red ware with an out-curved nail head like rim, pressed on the head. It is treated with deep-red slip externally. From a mid-level.
7. Fragment of a dull-red ware with an out-curved rim. It is treated with a pale- red wash on the external and internal surfaces. From a mid-level.
8. Fragment of a red ware with a horizontal splayed- out rim, having grooves on the inner side. Its external and internal surface are treated with pale-red wash. From a late level.

9. Dish fragment of light-red ware with incurved and internally-thickened flat rim. It is treated with pale coloured wash internally. From a late level.
10. Fragment of a bowl of light-red ware, rough surface with internally thickened, multi grooved rim and corrugated tapering sides. From a late level.
11. A piece of dark-brown ware with incurved rim and a prominent flange. It is of medium fabric and treated with brown slip both internally and externally. From a mid-level.
12. Fragment of a bowl of red ware with vertical nail-head like rim and carination near the base. It is unevenly fired and shows pale-red wash on the exterior surface. From a mid-level.
13. Bowl of a red ware with an in-turned nail-head rim. It is well fired and treated on the external and internal surfaces with deep-red slip and a black band is painted on the rim.
14. Fragment of a light-red ware with an out-curved nail-head like rim and treated on the external surface with pale coloured wash. From an early level.
15. Differs from that of No.14 above in having thicker body and out turned rim. It is devoid of slip or wash. From a mid-level.
16. Fragment of a red ware with an out-curved, internally thickened and elliptical collared rim. It is well fired and is treated on the neck with pale-red wash. From a late level.
17. Fragment of a red ware with an out-turned nail-head like rim and a groove on the neck. It is well fired and shows reddish slip on the exterior surface. From a mid-level.
18. Fragment of a red ware with an out-curved externally thickened, obliquely out collared rim, treated on the external and internal surfaces with pale wash. From an early level.
19. Fragment of a dull red ware with an out-turned and externally thickened rim, globular body and having grooved lines on the shoulder. It is treated on the external surface with pale wash. From an early level.
20. Fragment of a handmade cooking pot of red ware with a flange at the junction of shoulder, lower part shows soot marks. It is of medium fabric, has coarse body and is treated on the shoulder with red slip. From a mid-level.

21. Bowl of a dull-red ware with flaring corrugated sides and slightly concave base. It is of medium fabric and devoid of slip or wash. From a mid-level.
22. Fragment of a bowl of dull-red ware with flaring but corrugated sides and flat bottom having circular perforation. It is of coarse and thick fabric and is devoid of wash or slip. From a mid-level.
23. Variant of above in having a similar perforation in the bottom. It is of pale-red ware and has coarse exterior surface. From a late level.
24. Bowl of a dull-red ware, unevenly fired. It has flaring sides, featureless rim and flat, thick base. It is of medium fabric and both the external and internal surfaces have traces of light-red slip. From a late level.
25. Fragment of a bowl of red ware with slightly in-curved featured rim. It is treated on external and internal surfaces with deep-red slip. From late level.
26. Fragment of a bowl of light greyish ware with externally thickened sharp rim and corrugated sides. It is of thin fabric, under- fired and comes from mid-level.
27. Fragment of a shallow bowl of greyish ware with beveled rim. It is of medium fabric under-fired and has no slip or wash. From a late level.
28. Fragment of dish of light-pinkish ware with sharp and featureless rim. It is of medium fabric and treated with pale-red wash on both the inner and outer surfaces. From a late level.
29. Fragment of a bowl of light-red ware with externally thickened and featureless rim, and corrugated tapering sides. It is of medium fabric and devoid of slip or wash. From a mid-level.
30. Vertical sided, loop handle, rectangular in section, of light-red ware and having rough surface. From a late level.
31. Bowl of light-red ware, out-curved sides, externally thickened and obliquely pointed rim and a carination at the base. It is of medium fabric and treated with wash. From a mid–level.
32. Bowl (?) of red ware with internally thickened and ledged rim and corrugated sides with circular perforation in the base. It is of thick fabric and treated with wash. From mid –level of period-I. (compare with Nos. 21,22 and 23).

33. Fragment of a vessel of deep-red ware with a raised cordon below the shoulder with crossed line. It is of thick fabric, has blackish (under fired) core and exterior is treated with light-red wash. From a mid –level.
34. Fragment of a vase of light-red ware with externally thickened and elliptically collared rim. It is of thick fabric. The exterior surface is treated with buff wash and the interior is coated with some black substance. Its body is coarse and shows very rough external surface. From a late level.
35. Variant of the above No. 34. It has internally thickened, out-curved and featureless rim. The fabric is of light-brownish colour. The exterior shows rough surface which has pale wash and some black substance is sticking on the inner surface. From a late level.
36. Variant of the main type No.34 above. It has a nail-head flat rim and is of thin fabric. From the last level.
37. Bowl of pale-red ware with flaring corrugated sides and convex base. It is of thick and heavy fabric and shows rough external surface. From a mid-level.
38. Fragment of an oil lamp of light-red ware with externally thickened rim. It is of thin fabric and treated on both the external and internal surfaces with wash. From a late level.
39. Fragment of a vessel of red ware with internally thickened collared rim having a row of painted semi-circular incised decoration. It is of thick fabric, well fired and treated on the outer surface with light-red wash. From a mid-level.
40. Fragment of a vase of light-red ware with nail-head and out-curved rim. It is of thin fabric and comes from a mid-level.
41. Fragment of a vase with in-turned and obliquely out rim and flange at the carinated neck. It is of thick fabric and painted on the exterior with black horizontal bands on deep-red slip and black lines on the rim. From a mid-level.
42. Bowl of red ware with an in-curved, externally thickened sharp rim and corrugated tapering sides. It is of thick fabric and devoid of any wash or slip. From a late level.
43. Sprinkler of red ware with vertically perforated neck having a flange and a conical knob. It is of fine fabric, made of well levigated clay and exterior surface is treated with bright red slip. From a mid –level.

44. Neck of a sprinkler with obliquely-cut flange and a knob. It is well fired and external surface is treated with bright red slip. From a mid–level.
45. Spout of a red ware with perforations at its junction with globular body (of sprinkler). From a late level.
46. Neck of a sprinkler with wide flange and less pronounced knob. It is of fine fabric and treated on the exterior surface with red slip. From a late level.
47. Bowl (?) of pale red ware with flaring sides and externally thickened rim. It has no slip either on the exterior or interior. From a late level.
48. Fragment of vase of red ware with externally thickened rim and having a cordon below the rim. From a late level.
49. Neck of a vase of light-red ware with an out-curved and externally thickened rim. From a late level.
50. Fragment of a vase of red ware with splayed-out and externally thickened rim and carinated neck. From a late level.

Figures

Fig. 1. Elongated and perforated necks and a spout of Red Polished Ware sprinkler from Banbhore.

Fig. 2. Restored sprinkler with pedestal base of Red Polished Ware from Banbhore.

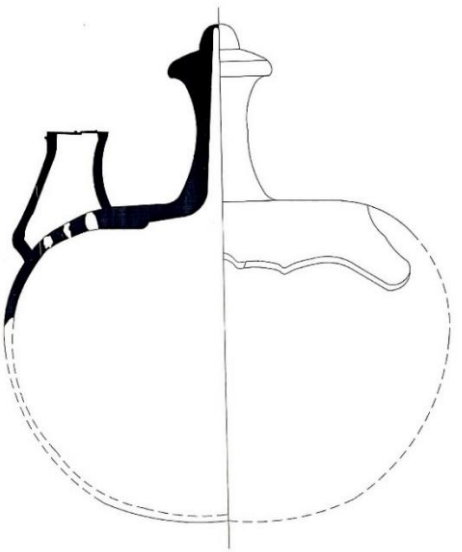

Fig. 3. Red Ware sprinkler with a spout and perforated long neck from Taxila *(after Marshall 1951: Pl. 123, No. 66. Height 5.5 inches).*

Fig. 4. Banbhore. Red Polished Ware bowl with hollow pedestal base and burnished exterior surface.

Fig. 5. Banbhore. Plain red wares without slip or wash found in association with the Red Burnished Wares. The base is flat. Finger grooves on the exterior.

Fig. 6. Banbhore. A bowl of light-red ware, uneven convex base and without slip.

Fig. 7. A piece of rim of heavy and thick-textured storage jar, red fabric and with deeply pressed line on the rim. It is associated with the Red Burnished pottery displayed with it.

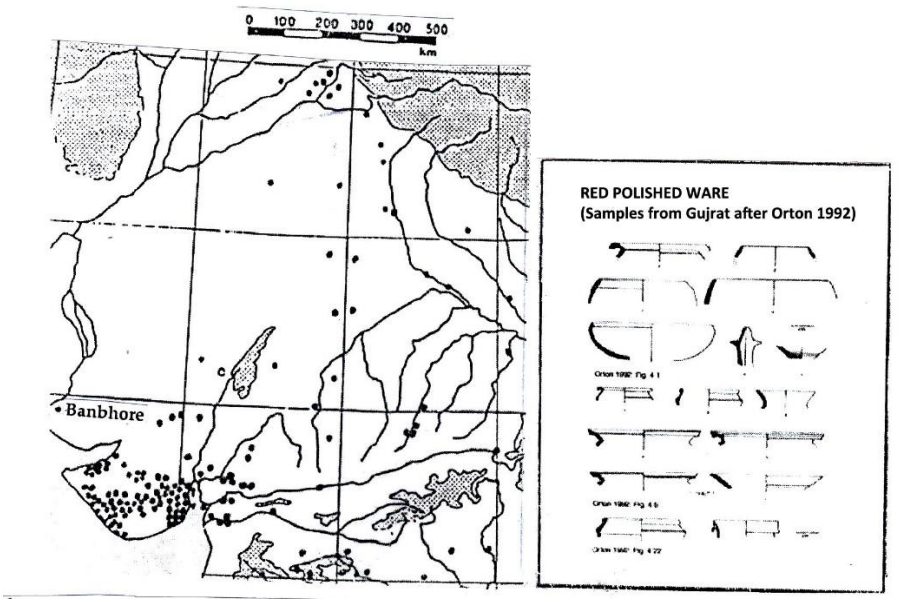

Fig. 8. Select distribution of Red Polished Wares and associated pottery in Pakistan and northern and western India (*after Schenk 2015: Fig 11).*

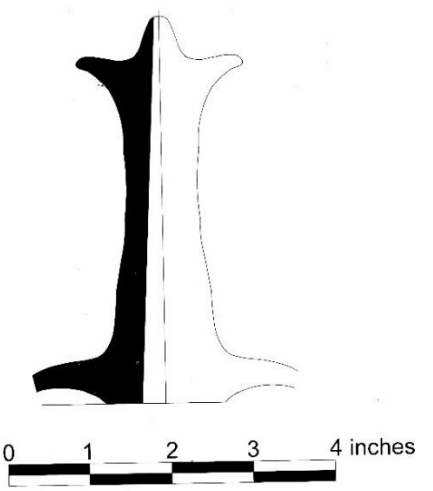

Fig. 9. Neck of sprinkler from Kumrahar (*after Altekar and Mishra 1959: Fig. 17).*

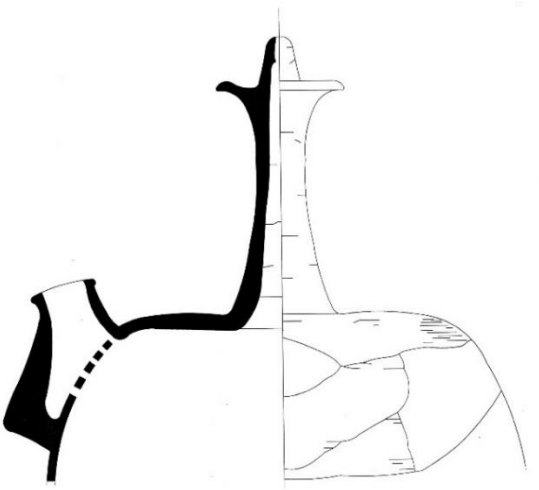

Fig. 10. Red Polished Ware sprinkler from Rang Mahal *(after Rydh 1959: Fig. 68, 4).*

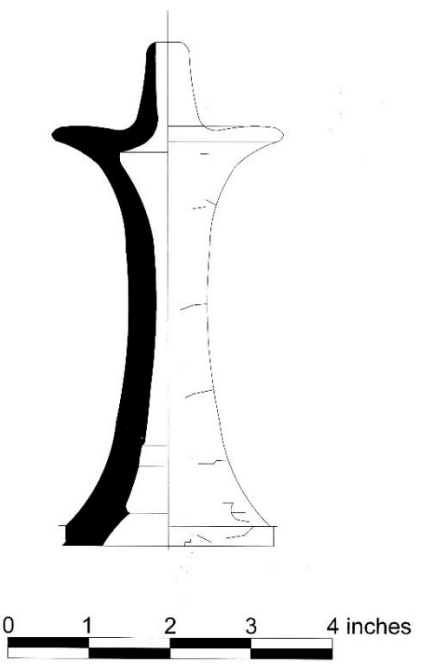

Fig. 11. Neck of sprinkler from Rang Mahal *(after Rydh 1958: Fig. 68, 5).*

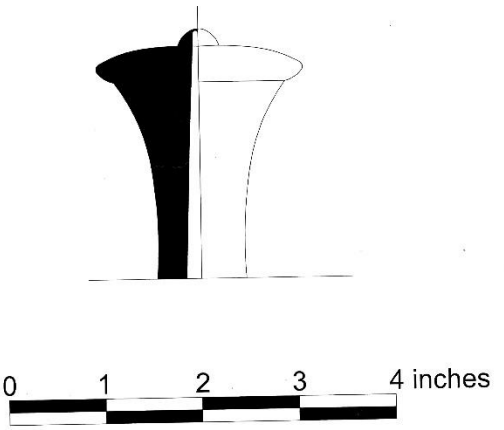

Fig. 12. Fragment of perforated neck of sprinkler from Devnimori *(after Mehta and Chowdhary 1966, Fig. 32, No. 73).*

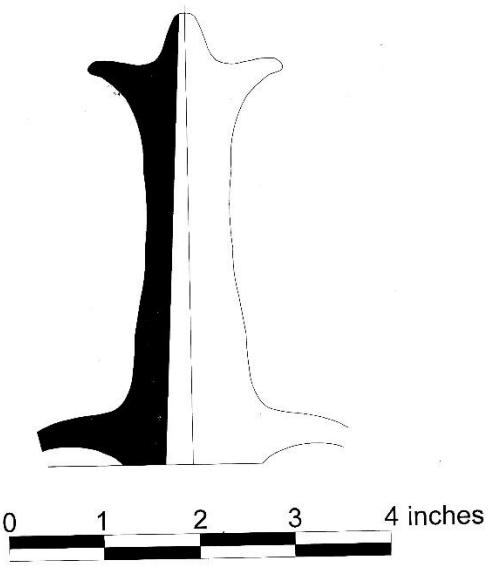

Fig. 13. From Shamalaji *(after Mehta and Patel 1967: Fig. 17, No. 138).*

Gumbat-Balo Kale, Swat (GBK 1)
A Revised Excavation Report 1

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With the collaboration of F. Martore, M.W. Meister, Noor Agha Noori,
M. Vidale, and E. Loliva

With a note by R.A. Hatfield

The area of GBK 1

The site is located at the center of the Kandak valley, on the left side (34°37'51"N, 72°10'46"E), at an altitude of approx. 986.00 m asl. The archaeological terraces rise c. 130.00 m above the village of Balo Kalai or Balo Kale, along an ancient track leading SW up to the pass of Kakai-kandao (see on that Biagioli et al. 2016). After the pass the track enters the valley of Kotah at the height of Talang and Sandoka, where other major Buddhist sites were discovered in the recent past (Olivieri, Vidale et al. 2006).

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[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; asl='above the sea level'; compass points are always abbreviated (N, S, E, W).

Part of the sculptural material has been studied in Brancaccio and Olivieri 2019, and in Iori and Olivieri 2020.

Earlier versions of this Report were published in Olivieri ed., 2014, Meister and Olivieri 2012, Di Giulio et al. 2018.

The site of Gumbat (Pashto for 'stupa') was first visited by Sir Aurel Stein in 1926 (Stein 1930), irregularly dug by Barger and Wright twelve years later (Barger and Wright 1941), and then systematically looted for almost a century; it is still potentially a unique heritage resource (Faccenna 2006; Olivieri, Vidale et al. 2006; Spagnesi 2006; Meister and Olivieri 2012; Faccenna 2014; Meister, Olivieri and Vidale, 2016).

The activity reported in this article were part of the 'Archaeology, Community, Tourism – Field School Project' (ACT), a project of the Pakistan-Italian Debt Swap Agreement (PIDSA) managed by the Economic Affairs Division, Govt of Pakistan, and the Italian Embassy in Pakistan, executed by the Italian Archaeological Mission (IsIAO/ISMEO) and by the Provincial Directorate of Archaeology and Museums, Govt of Khyber-Pakhtunkwa, under the vigilance of the Department of Archaeology and Museums, Govt of Pakistan. The project started in 2011 and ended in 2016.

The site is known also as 'Gumbat 1' and labeled as Site 139 in the database of the Archaeological Map of Swat Valley Project (or AMSV; Phase 1; Olivieri, Vidale et al. 2006).

The standing monument, a Buddhist shrine (the Great Shrine, also called 'Great Vihara'), originally hosting a relic, cult statue or votive stupa, has a partially preserved double dome, rising on a monumental platform in a beautiful mountain scenario. In danger of sudden collapse, the shrine was urgently restored in 2011, first by the Pakistani army under the auspices of the ACT project and Zain-ul Wahab, a conservator from Hazara University, and later on by the ACT (whose intervention focused on restoring the staircase) (Spring and Autumn 2011). During the same year in November, we completed a preliminary excavation around the standing monument (GBK 1), the results of which will be illustrated in the following pages. The excavated area underwent extraordinary maintenance works in Spring and Autumn 2012.

The stupa terraces **(Plate I)**

The area was already known as Gumbat 1, Site 139 (in Olivieri, Vidale et al. 2006). The site covers an area of approx. 14,000 m^2. The site can be subdivided in three areas (Terraces I-III; see Pl. I). The target of the 2011 excavation was Terrace I (approx. 5,000 m^2). The N and W limit of Terrace I is marked by a

stepped retaining wall [100] (c. 54 m l), along the course of a small stream. According to Stein, a major stupa stood in the vicinity on the SE corner of the Terrace I (now Terrace II, see below), while minor stupas lay along the S portion of the terrace. At that time also 'massive walls' were visible to the N section of Terrace I (and Terrace III, see below), possibly the remains of a monastery (Stein 1930: 13-14).

At the time of Stein's visit the site had been already heavily looted by robbers headed by gangs from the village of Nal (Malakand Agency), a place still famous in the region for the 'archaeological' skills of its villagers.

According to Barger and Wright, who hastily excavated some portions of Terrace I in 1938, there were stupas on both the N and S sides of the shrine: a major stupa (w. c. 31') was discovered on the N side (Barger and Wright 1941: 16-18). The two stupas were documented in 2011 (stupa [13] to the N, and stupa [3] to the S of the Great Shrine). In 1938, during the clearance of the site, many sculptural pieces were discovered: 40 were selected and brought to England. 16 of them are now in the Victoria and Albert Museum in London (Ackermann 1975).[2] According to Barger and Wright, the quality and quantity of the sculptural decoration found at Gumbat was higher than the average found in the area, a fact we confirmed by the recovery in 2011 of a further 110 pieces — even after nearly a century of looting — from the surface of Terrace I.

Terraces II and III were documented during a more detailed survey carried out in Autumn 2000.

Terrace II lies just S of Terrace I, and may be subdivided into two sectors: 'the W [sector] houses also the remains of three stūpas, two of which are large (about 10.00 [m])' (Olivieri, Vidale et al. 2006: 108); the E sector houses the remains of what probably was the Main Stupa.

Terrace III is situated W of the previous one, where the monastery was probably located. 'On Terrace III, more than elsewhere, a substantial amount of pottery has been recorded and sampled. This presence of pottery was probably due to

[2] Among the many interesting pieces recovered, there was also a metal bell (Barger and Wright 1941: 18, pl. VIII, 3).

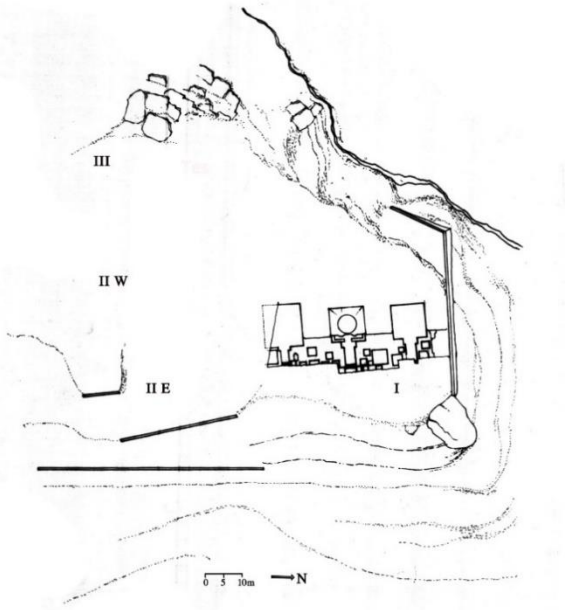
the existence of two dwelling units to the S and W of the complex, each about 3,000 $m^{2'}$ (ibid.).

On the other bank of the stream we documented some isolated monastic buildings (Site 601) (Olivieri ed., 2014), while ancient quarry areas utilized for the construction of the cultic monuments have been located along both banks of the stream, W of the stupa terraces (Site 602) (ibid.).

[With MV]

Fig. 1 - Autumn 2011: The Kandak Valley (the hill of Barikot in the background) (Photo by EL).

Fig. 2 – Autumn 2011: The terrace of GBK I seen from N (Photo by EL).



Pl. I - The three Terraces of GBK 1 (Drawings by FM).

Fig. 3 - Inv. No. GBK 1 (gray schist) (Photo by EL).

Introduction to the excavations

In November 2011 we dug a long trench 10x50 with the main axis aligned N-S across Terrace I, and having the Great Shrine as a focus. The trench exposed practically the entire area in front of the monument, including its stone paved floor, including the truncated bases of two other major stupas aligned with the shrine. We excavated the base of the original staircase of the Great Shrine and reconstructed the steps, following the original plan. In addition, we documented twenty minor monuments crammed into the surrounding space.

The site, particularly in the lower stupa-terrace, had been looted for almost a century, given that, already at the time of Stein's visit, the site appeared to have been spoiled by local treasure hunters (Stein 1930: 13). During the excavations we documented fifteen pits recently opened in past and covering almost 90% of the excavated area. In particular the N sector turned out to be disturbed by a cluster of eight large pits, most probably opened and filled up by Barger and Wright in 1938 (Barger and Wright 1941: 17). Only the northernmost sector of the trench had an intact stratigraphy, in an area free of constructions (GBK N). In this area we endeavoured to reach the lowest levels by opening a small trial trench. During the excavation we documented various layers associated with the filling of the artificial terrace. Apparently, the construction of the terrace had obliterated the evidence and structure of protohistoric periods, with the exception of a residual stone platform whose corner was associated to a few protohistoric potsherds (see below). Among the recorded fragments (1492), 185 major decorative and figurative reliefs were inventoried and handed over to the Directorate (from 2011 to 2016). Some of them show close affinities with the pieces collected on the spot by Barger and Wright in 1938.

The Great Shrine [30] (Pls II-IV)

The domed shrine of GBK I is one of the most interesting and best-preserved ancient monuments of the Swat valley. The monument was studied in the 1960s by Domenico Faccenna (Faccenna 2006: figs. 10-11). Later, Abdur Rahman (Rahman and Sardar 1984) suggested a possible link with later temple constructions in the Salt Range and proposed a possible date of 8th-9th century for the monument. Faccenna (2006) associated this monument with the excavated ruins of the 'Great Building' at the N entrance of Butkara I sacred

area, thus indirectly proposing an early-1st century CE chronology for the Great Shrine of GBK 1. The latter is a shrine-category chapel with a square plan and enclosed cloister set on a high podium; its entrance lies to the E. The external walls are separated from the inner cells by a vaulted corridor with windows (one each on S, W, and N sides). This cloister is covered by a sloping lower roof supported by a row of cyma reverse-type brackets.

The square sanctum chamber rises through a cylindrical necking (with slit windows) above the cloister roof, supported by a row of cyma reversa-type brackets, culminating in an oval-outlined dome.

The external ovate dome is thus actually formed by a superimposed double vaulting, a major architectural peculiarity of the monument (see Harle 1994: 522, n. 3). The upper part of this oval vault - which was still visible during Stein's field research (Figs 5, 7) - is missing, and the present external dome ends with a flat horizontal surface. Most probably the missing part was made of perishable materials heavily plastered on the exterior.

The Great Shrine was supposed to host stupa-reliquary (Behrendt 2006: 87), or a large votive stele or statue, 'modelled in stucco' as suggested by Stein (1930: 13; see also Faccenna 2006: 191). Fragments of superimposed blocks of a coarse travertine (kanjur), with poorly preserved remains of stucco modelled on surface, were recovered in the robbing pits and in the associated deposits. These fragments, although almost shapeless and difficult to document, may indicate that large images were worshipped inside or outside the main building.

The only existing architectural comparison in the area is shrine F of Abbasaheb-china (AMSV 208; Tucci 1958: fig. 33; Spagnesi 2006: fig. 11). This somewhat smaller shrine has the same profile as the Great Shrine of GBK 1, with a tall ovate central tower and lower curved roof, but with no interior cloister. The square sanctum was roofed by a hemispherical ceiling within a taller ovate tower. Stein made measured sketches of the ground plan and section of the Great Shrine, which may be compared with an elevation and section prepared by the Italian Archaeological Mission in 1964. Height discrepancies appear, however, when the widths of both sectional drawings are correlated with Stein's measured ground plan. Reducing the height of the upper dome in the 1964 section made by the Mission would make the inner dome more nearly

hemispherical and the height and profile a closer fit to the one documented by Stein's sketched elevation and photography. This discrepancy may depend on whether the total height of the monument in the 1964 drawing included the 'reconstructed' vs. 'conserved' heights (Faccenna 2006). Stein in 1929 was not aware that there was an upper constructional chamber in the tower, used perhaps to reduce mass and increase height. The 1964 elevation proposed an entry portico and 16-step staircase (Faccenna 2006: fig. 10), which are fully compatible with the surviving structural remains.

Lime plaster samples from the cylindrical necking of the Great Shrine showed the presence of clay binder added to the calcite, while "traces of proteinaceous material have been highlighted as binder in the red painted layers" (Rosa et al. 2019: 50; Olivieri 2019). "Probably the granulose plaster of many artefacts was smoothed with the addition of lime without inerts (*grassello*); later the surface could be painted with pigments. In the sample from Gumbat, GBK 17 B, we noted that the finishing layer is rather thick (1 mm), made with lime but almost completely lost, spread dry (*a secco*) on the surface and then smoothed" (Festa and Pannuzi 2019: 105).

[With MWM and MV]

Table 1. Dimensions of the Great Shrine

podium		staircase		body		corridor	
base		landing		w at base		S side	
S	8.88	w	3.68	S	8.80	w	1.00
E	9.10	l at base	1.50	E	8.95	l	7.25
N	9.25	h	3.50	N	8.80	W side	
W	9.10	flight of		W	8.58	w	0.95
base h	0.32	steps		cornice h	0.32	l	7.25
wall h	2.82	l at base	5.10	wall h max.	5.78	N side	
cornice h	0.10	w	2.50	cornice h	0.15	w	1.00
		h	3.30	proj.	0.22	l	7.90
		steps		door		windows	
		riser	0.20	w	1.55	h	0.52
		tread	0.30	h	2.45	w/w	0.25/0.37
		nos. of	16	jamb t	0.92		0.30/0.54
		steps				vault	
				lower roof		h	0.80
				w	5.87		
				h max.	2.68		
cell		intermediat		intermediat		dome	
S	3.52	e cylindrical		e cylindrical		(external)	
E	3.60	body		body		d	5.90

N	3.60	(internal)		(external)		h	4.80
W	3.55	d	5.90	d	5.30	dome	
h	6.30	h	0.50	h	0.80	(internal)	
lower		windows		cornice h	0.20	lower dome	
window		h	0.35	cornice		d	5.00
h	0.52	w/w	0.60/	proj.	0.30	h	3.45
w/w			0.25			upper dome	
S	0.20/0.35					d	2.40
N	0.20/0.45					h	1.50
upper							
window							
h	0.35						
w/w	0.25/0.60						

Figs 4-7 - The Great Shrine (clockwise from top left): (Fig. 4) 2010 (photo by LMO); (Fig. 5) 1926 (Stein 1930: fig. 6); (Fig. 6) 1938 (© British Library Board, Barger and Wright 663_1_66); (Fig. 7) 1926 (Stein 1930: fig. 7).

Detail of lower inner dome carpentry in situ

The lintel of the S upper clerestory of the cell consists of two parts, one made of stone, the other made of wood. The two parts are juxtaposed. The wooden joist-like element (labeled as Lintel 4) appears quite interesting, since it is possibly associated with the construction of the cell, and not inserted *ex post*.

Three wooden boards used as cross beams were found supporting the SE corner of the inner ceiling. From the outside they are labeled as Beam 3, 2, 1. The three boards appear to be in physical connection: Beam 3 covers Beam 2 and Lintel 4; Beam 1 is apparently independent. All the wooden parts were made of *Acacia modesta* Wall. (see Di Giulio et al. 2018).

Samples of all the wooden elements were taken for absolute dating and determining the wood species. (see below: *Radiocarbon dating*; Meister and Olivieri 2012; Meister, Olivieri and Vidale, 2016; Brancaccio and Olivieri 2018; Di Giulio et al. 2018).

Conservation Activities

Prominent among the ACT project's several goals is the conservation of the monument, labeled as 'Site 8' in the ACT-Field School project's documents.
Judging from the photographs published by Stein, the general condition of the monuments in 2000 had not changed much since 1929 (apart from the top of the external dome, see below). Most of the masonry structures related to the E front (corners, front lower roof, and parts of the aisles) had already collapsed, exposing part of the corridor and inner cell. Severe cracks were already visible in 1929 along the external dome, but in the decade following 2000 the monument's physical condition worsened considerably. Cracks along the dome became longer and wider, and the corridor became partially inaccessible. Furthermore, the architrave of the inner chamber's entrance collapsed. After a survey (September 2010) the structural health of the building was considered at serious risk. A plan of intervention was drawn up by ACT together with the Army authorities. In February 2011, a restoration project was launched. The first step of the work was directed by Dr. Zain-ul-Wahab of Hazara University, Department of Conservation Studies. The project followed the standard of the Italian Mission's 'quick intervention' guidelines. The typology of the intervention focused on cleaning and conservative reconstruction, involving in particular the

filling of all the structural parts at risk of collapse. Therefore: a) the vertical profile of the external walls and related lower roof was reconstructed in order to strengthen the overall structure; b) the inner cell door's architrave and upper masonry wall were reconstructed for the same purpose; c) the podium's missing parts (lateral and frontal) were reconstructed, both to support the building's elevation and to indicate the possible extension of the original plan; d) a new access staircase was built on the E side, in place of the original one, which is now missing, following a sculptural model suggested by both Foucher and Faccenna (Foucher 1905-51, I: fig. 41; Faccenna 2006), in order to provide current access to the monument; e) both the inner cell and corridor were provided with new paved floors to facilitate the visit; f) cross-corner wood pieces that had supported construction of the interior dome - indicated by two surviving examples (SW beam; and part of the SE beam), a rare case in Gandhara - were replaced where they were missing (SE, NW, NE); g) both the inner and outer surfaces of the dome were cleaned; h) the N retaining wall was also cleaned. The standard guidelines provided for the preliminary conservation were basically related to two simple but essential aspects: a) new/reconstructed portions of masonry wall should be distinguishable from old/existing ones by means of offsets; b) use of cement should be avoided in favor of lime mortar.

[With FM]

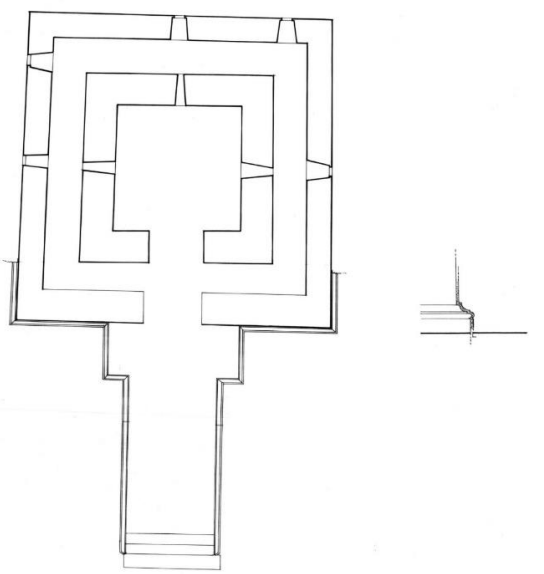


Fig. 8. The Great Shrine. Plan with detail of the podium's moulding. For dimensions and scale, see *Dimensions* above, and Pls III-IV (Drawings by FM).

Figs 9-10 - Conservation in progress (below: a detail of the double domes) (Photos by FM).

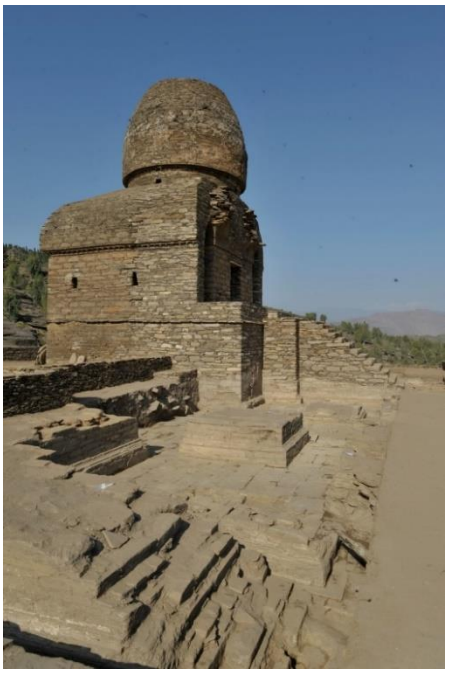
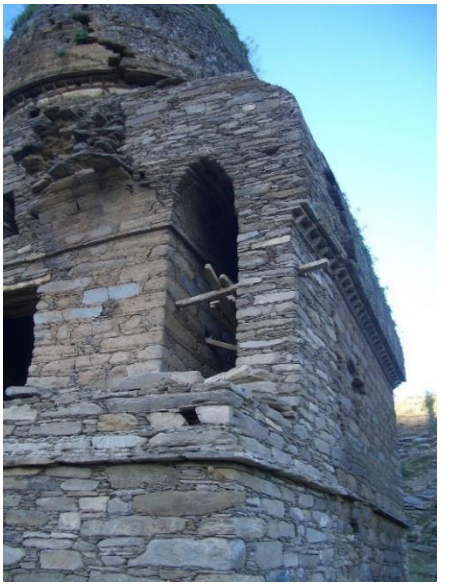
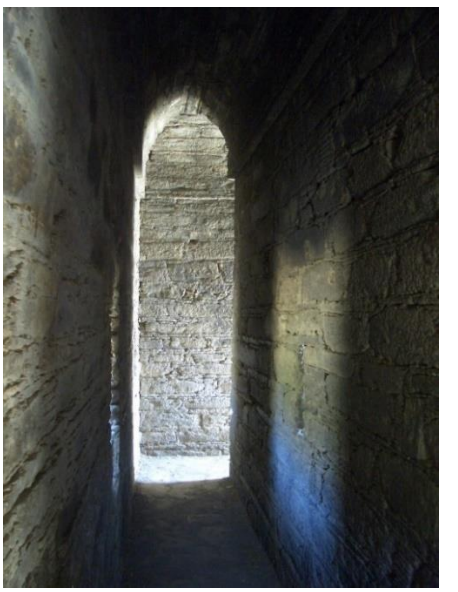


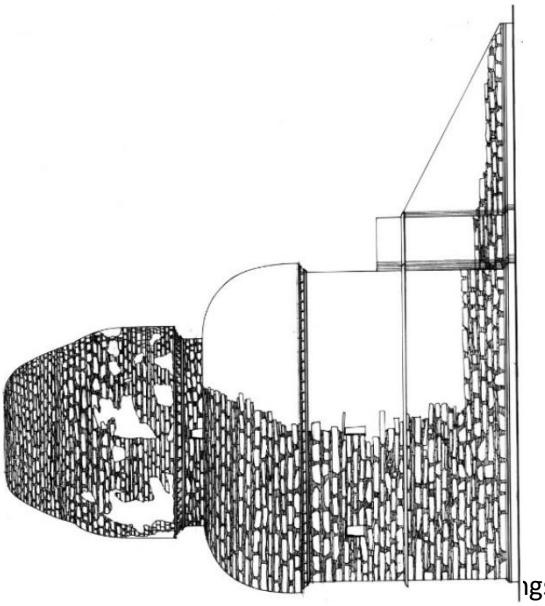
Fig. 11 - The Great Shrine at the end of conservation activities (view from SSE) (Photo by EL).

Fig. 12 - The Great Shrine at the end of conservation activities (view from NNE) (Photo by LMO).



Figs. 13-16 - After the conservation: detail of the set-back masonry and of the corridor (Photo by LMO).



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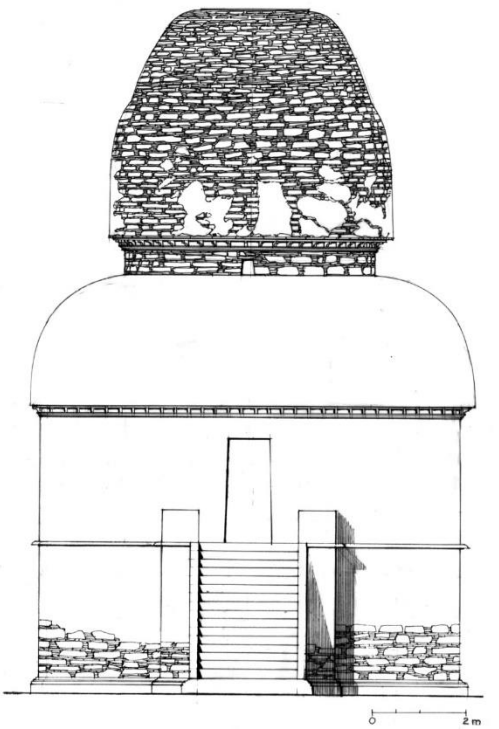
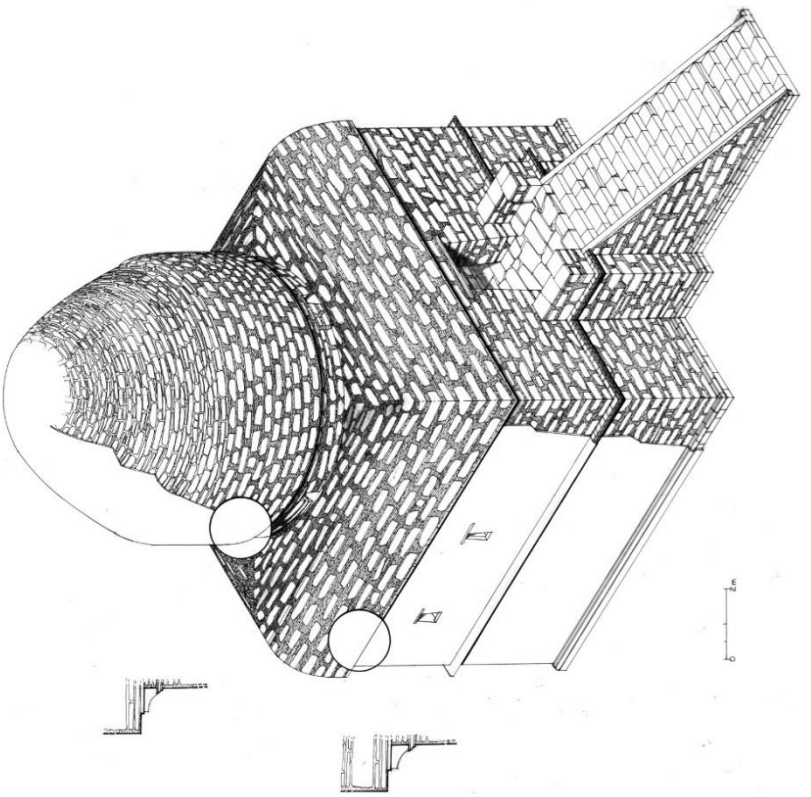


Pl. III. - Great Vihara, frontal prospect (E) (Drawings by FM).



Pl. IV - Great Vihara, axonometry (SSE) with details of coping (Drawings by FM).

Post-intervention Architectural Analysis

The monument has few parallels with other sites in Swat or Gandhara. Faccenna (2006) suggested it could provide a model for the ruined 'Great Building' excavated at Butkara I. Above we have cited the shrine F of Abbasaheb-china (Tucci 1958: fig. 33; Spagnesi 2006: fig. 11) as a possible comparison because of its square sanctum, crowned by a hemispherical ceiling set within an ovate tower, with a secondary external curved roof (without, however, an internal circumambulatory corridor as at GBK 1). We know of at least two sculptural reliefs from Mardan and Ranigat (Faccenna 2001: pl. 158e) - that represent somewhat analogous shrines, the first with a semicircular dome, corner towers, and attending devotees, the second with a lower roof and taller tower. A small clay model of a circular chapel found at Pir Pai in Gandhara (Nasim Khan 2009: pls 18.1, 18.2) represents a sanctum with a hemispherical interior ceiling set within a taller ovate cap, but lacking a lower roof.

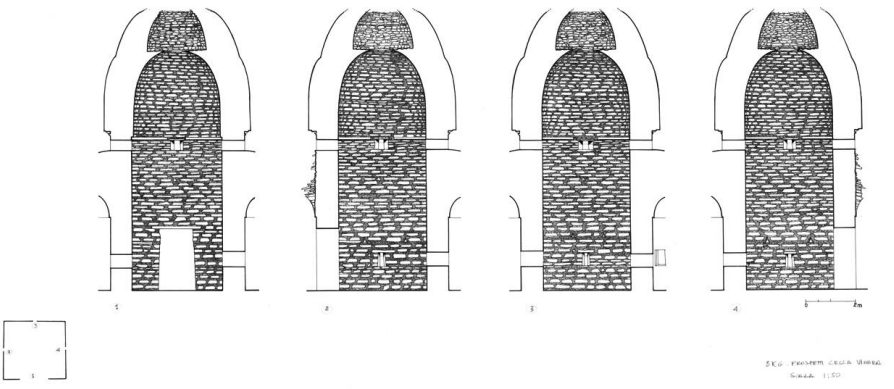
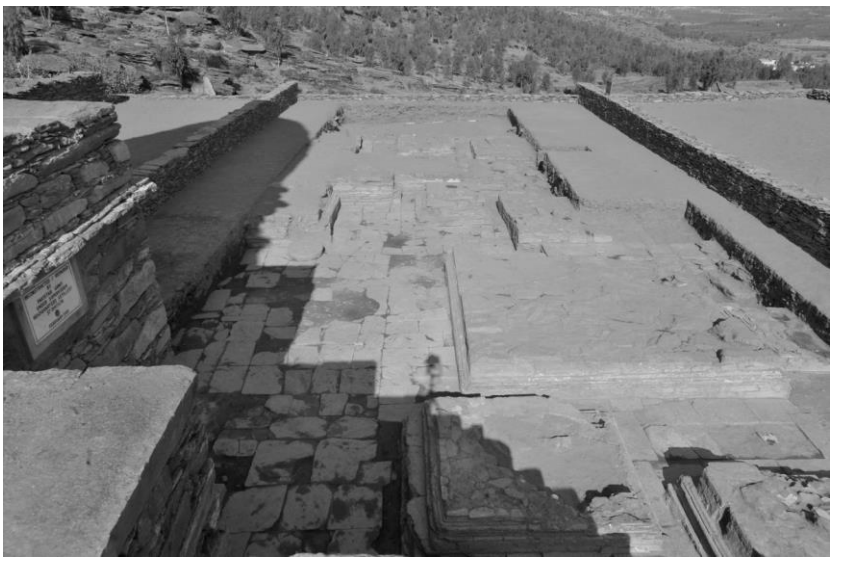


Fig. 17 - Sections of the cella of the Great Vihara (clockwise from E) (Drawings by FM).

The monument's mouldings, ashlar masonry, sloping window slits, and interior dome (constructed above a cantilevered stone ring and corner beams, without squinches) seem compatible with the Gandharan constructional techniques analyzed and documented by Foucher at the beginning of the 20th century (Foucher 1905-51, I). The tall, narrow, vaulted cloisters, however, may well have set a local precedent for those used around the upper domed chambers in Shahi temples built in Swat and the Salt Range in the 10th century (Rahman and Sardar 1984, Meister 2010a, Meister 2010b).

New graphic documentation, conservation of the monument and restoration of the profile of the lower roof and ambulatory walls have considerably simplified and expanded the analysis of the shrine. The monument was originally entirely plastered and colored. Ample traces of plaster are preserved at the base and over the various elements of the roofing. The base of the Great Shrine was finished with white-painted stucco, while the exterior of the ovate dome bears traces of coarse thick red-colored plastering (an analysis of plaster samples is under way with the ISCR). The base is moulded with plinth superimposed by a torus and cavetto. Even when conserved, it is still a truncated monument, with still visible fragmentary remains of the missing E ambulatory aisle and its roofing. It is now quite possible for me to reconstruct the frontal aspect of the original structure photographically, providing a closer parallel to the two Gandharan sculptural models previously proposed, except for the heightened, ovate, double-chambered elevation of its outer dome.



Figs 18-19 - The exposed floor with the other monuments N (top) and S of the Great Vihara (Photos by EL).

Note by LMO: the asymmetric position of the sloping window slits in the corridor seems to be designed to give light in front when one walks in the corridor clockwise.

[With MWM]

The other monuments of Terrace I

Stupa [13]

N of the Great Vihara [30]. Most probably a stupa, the monument is square in plan, with staircase (staircase and landing) on main axis. The axis follows the orientation of the Great Vihara [30] (E). Only part of the 1st storey is preserved. The base is decorated with plinth, torus and cavetto; traces of plaster.

1st storey	
w at base	8.90
base h	0.58
w at base	3.70
wall h max.	0.30

Base	
w at base	
S	11.34
E	10.32
N	11.34
W	10.32
base h	0.50
1st storey	
w at base	
S	11.10
E	10.08
N	11.10
W	10.08
wall h max.	0.44

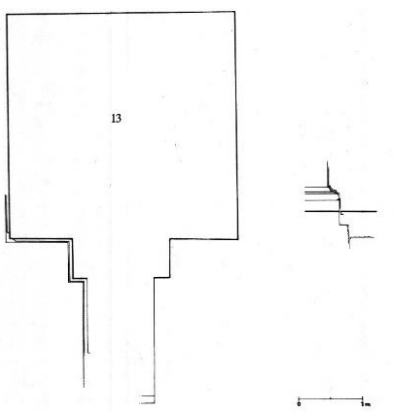


Fig. 20 – Stupa 13: Plan with detail of the podium's moulding (Drawings by FM).

Stupa [3]

S of Great Vihara [30]. Most probably a stupa. As the monument is rectangular in plan, one may hypothesize the existence of a second staircase. Lower staircase (staircase and landing) on the main axis. The axis follows the orientation of the Great Vihara [30] (E).

Only part of the 1st storey is preserved. The base is decorated with plinth, two tori and cavetto; traces of plaster (see figure next page)

Stupa [9]

The monument is preserved only in its base, square, moulded.

The base is decorated with plinth,

two tori and cavetto; traces of plaster.

1st storey	
w at base	3.42
base h	0.43
w at base	3.70
wall h max.	0.32

Structure [43]

Only the base (for a votive colums?) is preserved: square, moulded and with traces of one pilaster per side, in addition to the corner pilasters. The base is decorated with a plinth, two tori and a cavetto; traces of plaster.

W at base	1.63
base h	0.31
w at base	1.97
wall h max.	0.34

Stupa [27]

The monument is preserved only in its base, square, moulded.

The base is decorated with plinth, two tori and cavetto; traces of plaster.

1st storey	
w at base	1.70
base h	0.33
w at base	1.94
wall h max.	0.43

Stupa [11]

The monument is preserved only in its base, square, moulded.

The base is decorated with plinth, torus and cavetto; traces of plaster.

1st storey	
w at base	2.25
base h	0.37
w at base	2.55
wall h max.	0.33

Stupa [25]

The monument is preserved only in its base, square, moulded.

The base is decorated with plinth, torus, fillet, torus and cavetto; traces of plaster.

1st storey	
w at base	2.35
base h	0.28
w at base	2.57
wall h max.	0.42

Structure [19]

The monument is not preserved.

Stupa [39]

The monument is preserved only in its base, square, moulded.

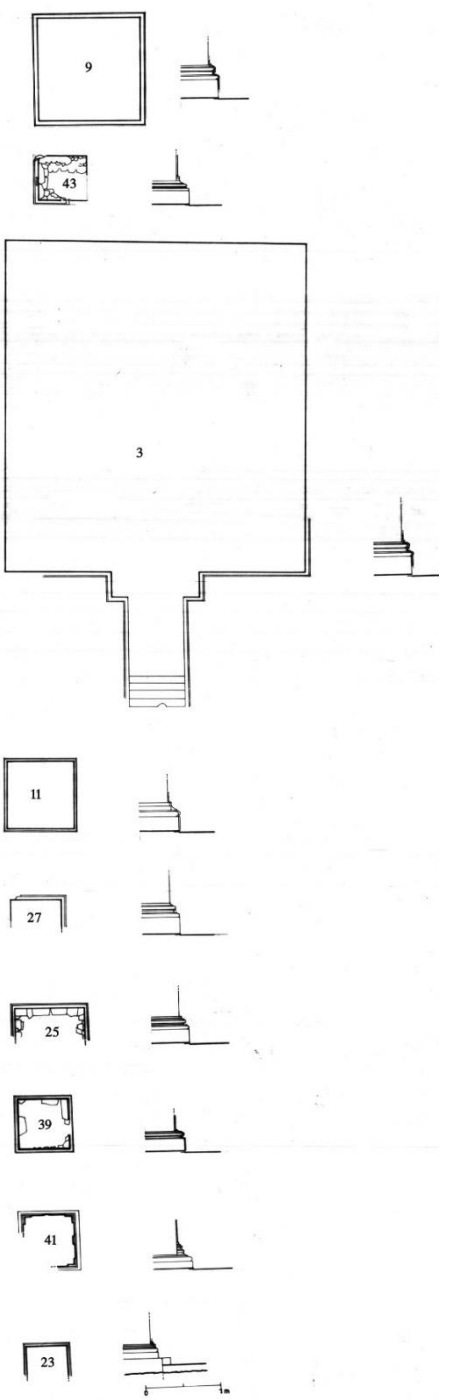
The base is decorated with plinth, torus and cavetto; traces of plaster.

1st storey	
w at base	1.68
base h	0.26
w at base	1.94
wall h max.	0.20

Structure [45]

The monument is not preserved.

To the left: Fig. 21 – Stupa 3 and other monuments (9, 43, 11, 27, 25, 39, 41, 23) (Drawings by FM).



Stupa [41]

The monument is preserved only in its base, square, moulded. The base is decorated with plinth, torus, cavetto and traces of 2 pilasters (torus, cavetto, cavetto); traces of plaster.

Structure [69]

The monument is not preserved.

1st storey	
w at base	1.72
base h	0.18
w at base	2.14
wall h max.	0.46

Stupa [29]

The monument is preserved only in its base, square, moulded.

The base is decorated with two plinths; the lower one with scotia and carinated torus; the upper one with scotia and inverted cyma; traces of plaster.

1st storey	
w at base	2.16
base h	0.12
w at base	2.32
cornice h	0.10
coping h	0.02
cornice proj.	0.06
wall h max.	0.12
2nd storey	
w at base	1.80/1.60
base h	0.24
wall h max.	0.10

Structure [31]

Only the base (for a votive colums?) is preserved: square, moulded.

The base is decorated with plinth, torus and cavetto; traces of three pilasters on each side; traces of plaster.

W at base	1.67
base h	0.22
w at base	1.89
wall h max.	0.25

Stupa [23]

Only base preserved: square, moulded. The base is decorated with plinth, torus and cavetto; traces of plaster.

1st storey	
w at base	1.38
base h	0.38
w at base	1.68
wall h max.	0.32

Stupa [21]

Only base preserved: square, moulded. The base is decorated with plinth torus, scotia, torus and cavetto; traces of plaster.

1st storey	
w at base	1.25
base h	0.35
w at base	1.53
wall h max.	0.21

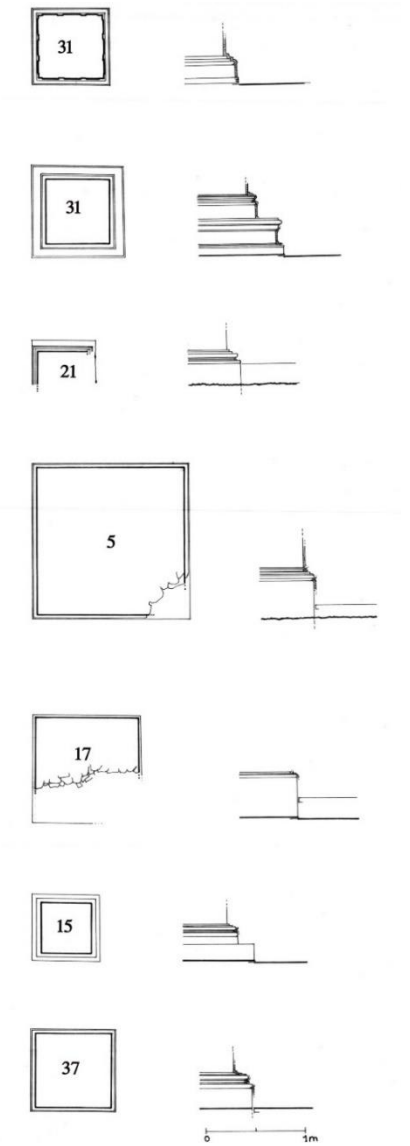


Fig. 22 – Stupa 5 and other monuments (31, 29, 21, 17, 15, 37) (Drawings by FM).

Stupa [5]

Only base preserved: square, moulded. The base is decorated with plinth, scotia, carinated (?) torus and cavetto; traces of plaster.

1st storey	
w at base	3.73
base h	0.50
w at base	3.93
wall h max.	0.22

Stupa [17]

Only base preserved: square, moulded. The base is decorated with plinth, and traces of torus; traces of plaster.

1st storey	
w at base	2.65
base h	0.46
w at base	2.75
wall h max.	0.46

Stupa [15]

Only base preserved: square, moulded. Decorated with double stepped plinth, torus, scotia, torus and cavetto; traces of plaster.

1st storey	
w at base	1.28
base h	0.36
w at base	1.60
wall h max.	0.20

Stupa [37] Only base preserved: square, moulded. Decorated with plinth, torus, scotia, torus and cavetto; traces of plaster.

Structure [35]

The monument is not preserved.

Structure [63]

Floor related to a destroyed structure, a sort of small absidal shrine or precinct.

Note: Almost all the stupas' bases and cornices also show traces of painted stucco decoration. White, red and blue in that order are the dominant colors. [With FM]

List of the Stratigraphic Units

Surface

SU (1) Surface with mixed materials: pottery, architectural fragments, and a protohistoric levigated axe.

Recent pits

SU (6) Blackish mixed clay. Re-filling of <106>.

SU <106> Pit opened from the bottom of <105>; it cuts [3] and [9]; at the bottom a group of decorative fragments labeled as SU (10) was found.

SU (18) Blackish mixed clay. Re-filling of <107>.

SU <107> Pit; extension of <105>.

SU (10) Blackish mixed clay. Re-filling of <105>.

SU <105> Pit; it cuts [3] and [9].

SU (14) Yellowish mixed clay. Re-filling of <100> and <111>.

SU <110> Pit dug around the S side of the staircase of [30].

SU (2) Agricultural layer; recent. Materials as above.

SU <111> Pit dug E of the staircase of [30]. Extension of <110>.

SU (22) Re-filling of <115>.

SU <115> Pit. It cuts [55], (49), (51) and (53).

SU (20) Yellowish mixed clay. Re-filling of <114>.

SU <114> Pit dug around the N side of the staircase of [30]. Extension of <115>. It cuts [29].

SU (14) Blackish mixed clay. Re-filling of >113>.

SU <113> Pit dug around the N side of the staircase of [30] from inside <114>.

SU (4) Blackish mixed clay. Re-filling of <109>.

SU <109> Recent pit; it cuts [39], [19], [11], [25] and the previous pit <108>.

SU (8) Blackish mixed clay. Re-filling of <108>.

SU <108> Pit; it cuts [3] and [11]; cut by <109> and <106>.

SU (12) Blackish mixed clay. Re-filling of <117>.

SU <117> Cluster of various pits. It cuts [29], [31], [69], [23], [21], [5].

SU (34) Yellowish mixed clay. Re-filling of <118>.

SU <118> Pit. Inside <117> it cuts and totally destroys the stupa [33].

SU (36) Mixed soil with gravel and sand. Re-filling of <112>.

SU <112> Pit cut from the bottom

of <114>. It cuts [55], (49), (51) and (53).

SU (28) Blackish mixed clay. Re-filling of <122>.

SU <122> Pit. It cuts [13].

SU (26) Blackish mixed clay. Re-filling of <119>, <120>, <121>, <123>, <126>.

SU <119> Pit. Extension of <122>. It cuts [17].

U <120> Pit. Extension of <122>. It cuts [15].

SU (30bis) Blackish mixed clay. Re-filling of <116>.

SU <116> Pit. Extension of <120>.

SU <121> Pit. Extension of <120>.

SU (16) Blackish mixed clay. Re-filling of <125>.

SU <123>=<125>=<126> Pit. xtension of <122>. It cuts [35], [37],

SU (24) Blackish mixed clay. Re-filling of <124>.

SU <124> Pit. Extension of <123>.

SU (38) Reddish mixed soil. Re-filling of <127>.

SU <127> Large pit. Extension of <126>.

Note: Pits <110> and <111> are probably earlier than all the others in the sector S of the trench. Pits <119>, <120>, <121>, <123>, <126> and their re-filling (26) may correspond to the pits

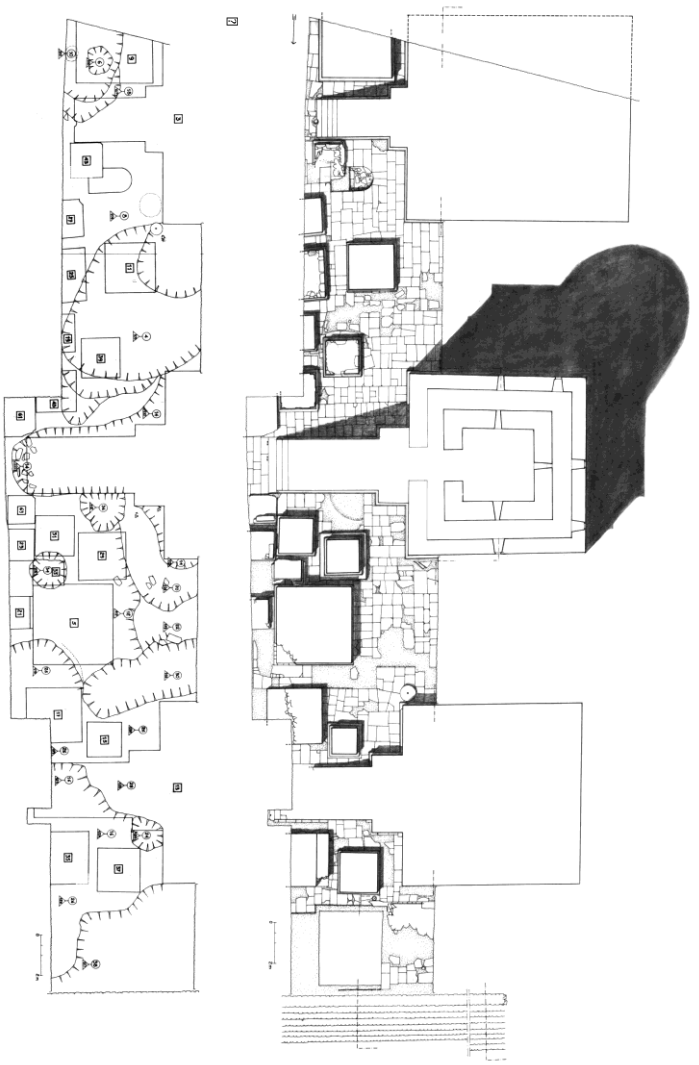
Fig. 29. (reproduced also below): One of the authors walking on the side of the trench N of the Great Shrine (Photo by MV) excavated by Barger and Wright in 1938 (see below).

Figs. 24-27 - Excavation of recent pits (Photos by MV).

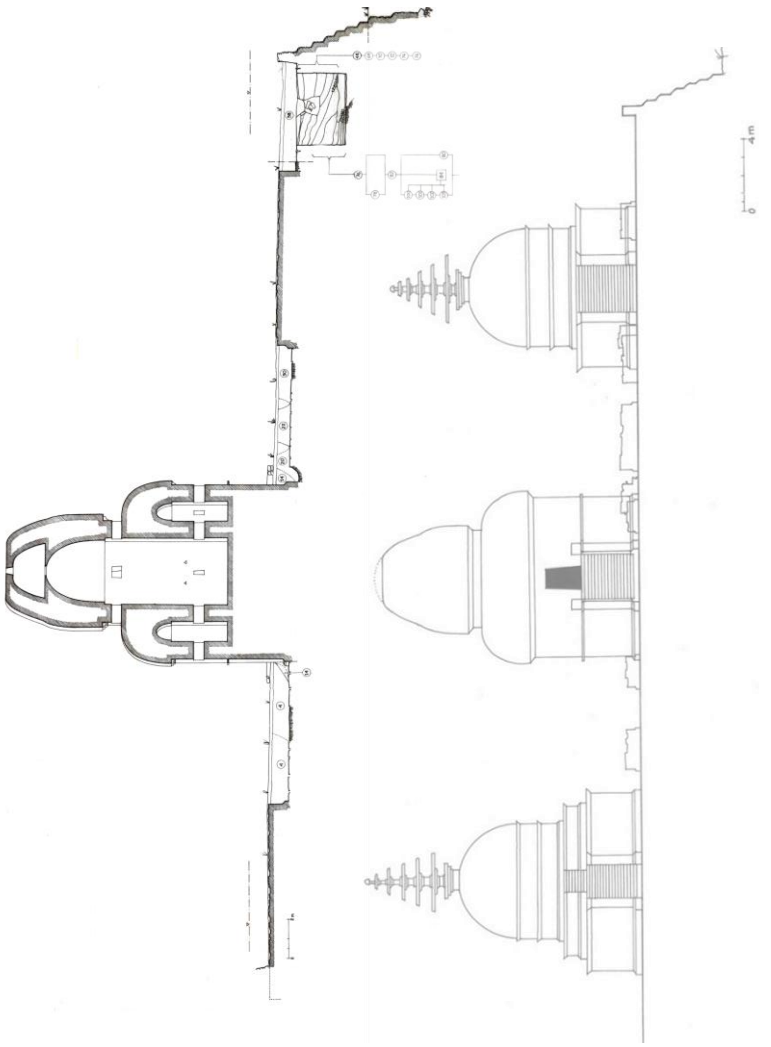
Figs. 28-31 - Pictures from the excavations (clockwise from top left): Trench GBK I side N, and S; the filling of the terrace and the protohistoric layers inside trench GBK N; the same with Pit <58>.

Fig. 32 - Bottom right: the foundation of the floor inside the cella.

(Photos by MV and LMO



Pls V-VI - Plan of the excavated area (top) and of the robbing pits (bottom) (Drawings by FM).



Pls VII-VIII - Section of the excavated area and graphic restitution of the monuments (view from E) (Drawings by FM).

Late ancient evidence

SU (60) Mixed clay. Ample traces of ash. Filling of <58>.

SU (62) Mixed materials: stones in sub-vertical position, organics and food waste (bones, eggs, charcoal). Covered by (60). Filling of <58>.

Floors

SU (32) Very limited portion (<0.20 w) of a possible anthropic layer in the NE corner of [30] with minuscule non-diagnostic fragments of potsherds.

SU [91] Raised paved floor. Documented only between votive stupa [31] and [33], in phase with the first.

SU [47] Raised paved floor. Documented in various parts in the N side of the trench. Covered by [47].

SU (48) Reddish clay. Subsurface of [57]. Cut by <58>

SU (66) Thick lens of ash. Covered by (60). Filling of <58>.

SU <58> Small pit excavated in ancient times. It cuts (48), (64), (70) and (72).

t was bordered on both N and S sides by vertical slabs, which stepped down from the level of [47]. The level of [57] is the same as [55].

SU [57] Paved platform partially removed below the level of floor 7].

SU [55] Paved floor. Covered by [47] and [91].

Final levelling of the terrace I. Preparation for (49).

SU (49) Yellowish silty clay with sand. Subsurface of [55].

SU (53) Base platform made of broken stones. Foundation for [30].

SU (51) Layer with gravel and sand.

Substruction of the Terrace I (limited by N retaining wall [100])

SU (64) Yellowish clay mixed with gravel.

SU (76) Reddish clay mixed with stones at its bottom.

SU (70) Yellowish clay, rather sandy.

SU (78) Brownish clay and stones.

SU (72) Yellowish clay mixed with gravel.

SU (82) Reddish compact clay.

SU (74) Brownish mixed clay.

SU (100) Dark brownish silty compact clay with few stones.

SU (101) Dark yellowish silty compact clay, with flat stones.

SU (102) Dark yellowish silty compact clay, pure, no inclusions.

Protohistoric layers (below the filling of Terrace I)

SU (80) Yellowish fine sand, nearly pure. Abandonment.

SU (103) Brownish clay layer(s) with flakes of stone. Anthropic layer. It contains potsherds

SU [84] Stone platform made of two-ee courses of undressed stones.

SU [86] Phyllitic bed-rock. partially crumbled.

[With NAN and MV]

Interpreting the stratigraphy

The building periods of the excavated area can be summarized as follows:

Period I: Protohistoric. We dug a deep test trench below the great Buddhist terrace (GBK 1 N: Fig. 31). Below a series of thick sloping fillings, at the bottom of the trench, we found the edge of a platform ([84]), consisting of two or three courses of angular rocks filled with a layer of light-coloured, pure phyllitic sand and clay. Platform [84] was constructed on the original bedrock and had the same general orientation of the later Buddhist terraces. This platform seemed to have been purposefully truncated and possibly infilled during the later re-building activities of the Early Historic periods. On top of its surface, and in the layers immediately above the bedrock, we found a scatter of protohistoric sherds apparently datable to the late 2nd/mid-1st millennium BCE, and few Northern Neolithic potsherds, hypothetically dated to the 3rd-2nd millennium BCE (see Figs 35-36)[3]. Period I may correspond to Macrophase 1a of the Barikot sequence (see Olivieri and Colliva 2018, this Journal).

[3] In this small assemblage, the most common diagnostic form seems to be the mouth fragment of a coarse globular cooking pot having a distinctively sharp angle in the inner corner point. Similar vessels were common in Stacul's Period I of the Ghalegai sequence (Stacul 1987: fig. 7.a); in the graveyards of Gogdara and Udegram the same form was dated by the means of 14C cal. to the last centuries of the 2nd millennium BCE (Vidale et al. 2015). One of the sherds is definitely the wall of a basket-marked small vase, a production dated by Stacul to Ghalegai Periods III and IV (Stacul 1987: pls IX and XXVII); but similar vessels might be fairly more ancient. Materials of (Ghalegai) Periods III-IV had been previously collected on the surface of GBK (Olivieri, Vidale et al. 2006).

Period II: Construction phase of the stupa-terrace. During this period the N retaining wall [100] was completed, as well as the filling of the terrace. In one of the various layers, we found an erratic fragment of Iron Age pottery (dish-on-stand) (Fig. 37).

Period III: It corresponds to the first stone floor of the terrace [55]: in this period the monuments [30], [3], [13] and [5] were built (early-2nd Century CE, or earlier? See below). Wooden samples for AMS-14C analysis were taken from 4 wooden beams still in situ as part of the construction of the dome of [30] (for the results see below, *Radiocarbon dating*). Period III in terrace I is characterized by three large buildings aligned with their staircases facing E (from S: [3], [30], [13]). The excavated area corresponds only to 1/3 of the ancient terrace, but, given its central location, it can give us a rough idea of the original appearance of a monumental terrace visually marked by three major monuments. This feature resembles closely the Nimogram site stupa-terrace (Raducha 2009). Here the excavations documented three square major monuments, aligned and facing WSW; from N: a stupa-chapel (I), a stupa (II), a shrine (III). Other examples in Swat of stupa-terrace marked by three parallel major monuments are Baligram (Ashraf Khan 1993) and Marjanai (Shah Nazar Khan 1995).

Fig. 33 - The excavation area viewed from W (Photo by EL).

Excluding the Great Shrine, what can we say about the features of the two other major buildings of Gumbat-Balo Kale? Building [3] is rectangular and building [13] is square in shape; unfortunately both are preserved solely to the height of their first storey or podium, so no material elements are available from which to determine whether they were stupas or shrine-class monuments.

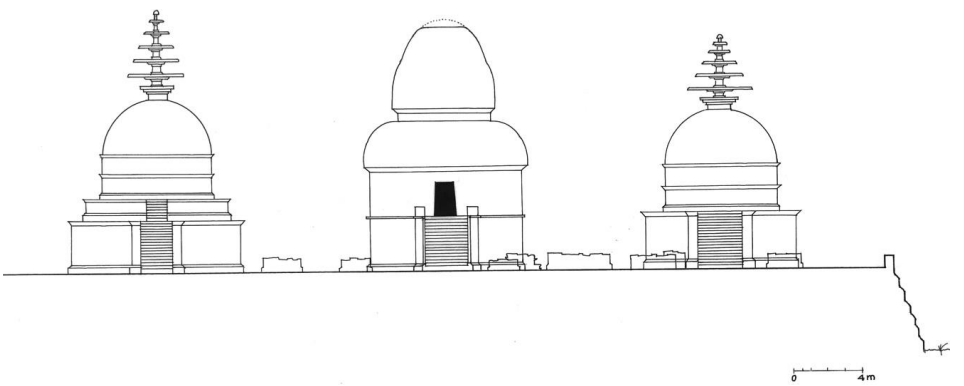


Fig. 34 (= Pl. VIII) - A conjectural reconstruction of the GBK I stupa terrace viewed from E (Drawings by FM).

Any discussion of the typology of these monuments must consider that they were totally destroyed, while the Great Shrine remains preserved. A possible reason for this aspect could be found in the fact that the Great Shrine is an empty monument with an inner cavity. This is a factor that may have contributed to the maintenance of the site, either for physical reasons (it was used as a stable and a shelter for humans; see Stein 1930: 13; Barger and Wright 1941: 16), or for metaphysical reasons (such as fear of *perian*): it is worth noting that in the recent past the *qibla*-oriented cell was used as a mosque by the Gujars, to offer special prayers against drought (see similar re-use of ancient painted shelters in Hazara region in Olivieri 2015).

A possible chronology for the GBK Great Shrine was first proposed by Barger and Wright who, on the basis of their studies of the masonry technique, suggested the date of 2nd Century CE (ibid.: 35). Unfortunately, the Great Shrine, despite its unique features and survival, has been neglected by most scholars, with the exception of H.C. Ackermann, D. Faccenna, H.G. Franz (Franz 1984) and Abdur Rahman. Ackermann studied 16 reliefs from Gumbat: 6 attributed by him to an early Hellenistic group' dated to around mid-1st century

CE, and 4 to a 'late Hellenistic group' he dated to the 2nd half of the 1st century CE (Ackermann 1975: 19, 23). Faccenna was of the opinion that the Gumbat shrine could be linked to the so-called 'Great Shrine' of Butkara I (i.e. Great Stupa Phase 3: c. 20 CE) and therefore inferring an early 1st-century chronology (Faccenna 2006: 189-190, fn. 4); Abdur Rahman was inclined instead to assign it to a later chronology on the basis of elements of composition and construction — narrow vaulted ambulatory aisles, etc. similar to the ones he found in later Hindu-Shahi temples (Id. 1983). MWM's assessment of these common elements, and his comparison with a structure such as the 10th-century 'Gumbat', Talash Valley, Dir (Meister 2010a) led him to the conclusion that the 'earlier tradition may have contributed to the unique configuration of later temples in the region'. Temples at Bilot and Kalar, however, have wooden beams across the corners below their interior domes, and samples of these may eventually make a C14 comparison possible.

On the basis of the data of the recent fieldwork, the hypothesis of two building phases for this double dome has been discussed amongst the authors of the present report. The chronology of **Phase 1 = Period III** is suggested by the C14 age of the wooden lintel of the upper S clerestory window (Lintel 4 = 1840 +/-30 BP = 110 CE), and of a second phase of rebuilding (including the construction of the upper dome?) in **Phase 2 = Period V** (?) as inferred from the C14 ages 1760/1790/1800 BP = mid-3rd Century CE of three wooden planks used as support below the SE corner of the inner dome (= Beams 1-3). Period III may correspond to Macrophase 4a of the Barikot sequence (see Olivieri and Colliva 2018, this Journal).

We admit that, although a close analysis of the inner dome has revealed a difference in the masonry techniques, we have not found any definitive element (such as traces of plaster on the external vaulting of the lower dome) to prove that the dome was doubled in a Phase 2 [1].

[1] "According to R.E. Hatfield (Beta Analytic) [see the Note below in *Radiocarbon dating*] the identical 2σ _statistics of the three surviving planks of the lower dome mean that they appear to represent the same time (median age c. 240 AD; Olivieri et al. 2014: 311; Meister, Olivieri, and Vidale 2016: 556). The dating suggests the possibility that the dome might have been reconstructed after one of those two destructive earthquakes that shook Barikot and Amluk-dara (see Olivieri and Filigenzi 2018: 80)." (Brancaccio and Olivieri 2019: 127, fn. 13).

Period IV: Corresponding to the second stone floor (layer 47), the one which is visible over the entire excavated surface. During this period the majority of the minor cultic monuments crowding the space around the three major buildings were built, including a small absidal monument (a chapel?), whose lay-out is revealed by a negative outline of the paving slabs.

Period V: The stone floor (layer 91) was raised a few cm in correspondence with monument [31]. In this phase the dome might have been either doubled or repaired (see above, and fn. 4). Period V should correspond to Macrophase 5b of the Barikot sequence (ibid.).

Period VI: Late occupation (14th Century CE), documented by the pit <58> and its contents (for the results see below, *Radiocarbon dating*) (Fig. 28).

Period VII: Abandonment (the relative layers were destroyed by early looting activities, *ante*-1929, to which may be ascribed the pits <110> and <111>).

Period VIII: Early excavation (1938). The pits <119>, <120>, <121>, <123>, <126> and their refilling (26) quite certainly correspond to the pits excavated by Barger and Wright in 1938: '[...] It was impossible to clear any of the stūpas on the southern side of the shrine as they were surrounded by fields under cultivation. Accordingly, operations were confined to the stūpa mound to the north of the shrine. Its top had long since been trodden down and was used by the Gujars as a milking place for their cattle. Lower down, patches of wall made it possible to trace the line of the stūpa base which was 31' square. It was found to be surrounded by small stūpas, standing on a pavement which was reached at 5' below the surface' (Barger and Wright 1941: 17). Clearly the latter stupa is our stupa [13], the surrounding stupas were [15], [17], [35] and [37]. In consequence all the materials found in layers (24), (26), (28) and (16) have to be considered as discarded by the two British explorers.

Period IX: Recent activities (including the 1938 fieldwork).

[With MV]

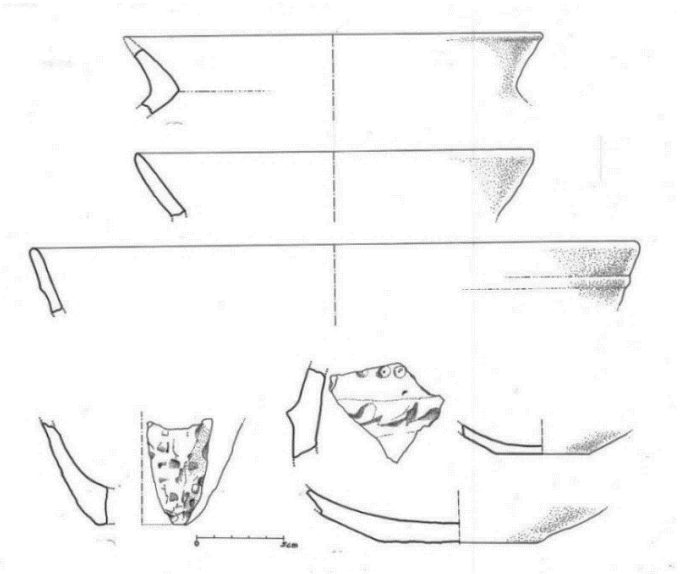


Fig. 35 - Protohistoric pottery from structural Period I, but found in Period II SU (82) (Sketch drawings by MV and FM).

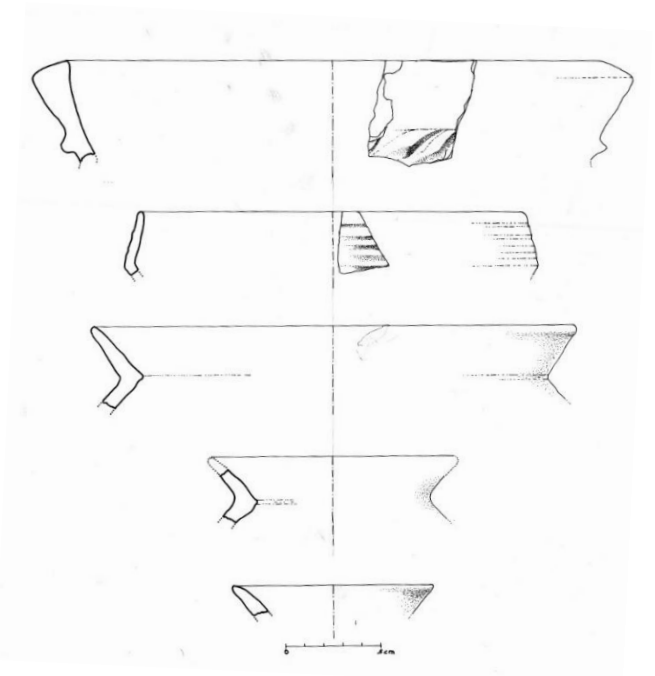


Fig. 36 - Protohistoric pottery from structural Period I, but found in Period II SU (82)

(Sketch drawings by MV and FM).

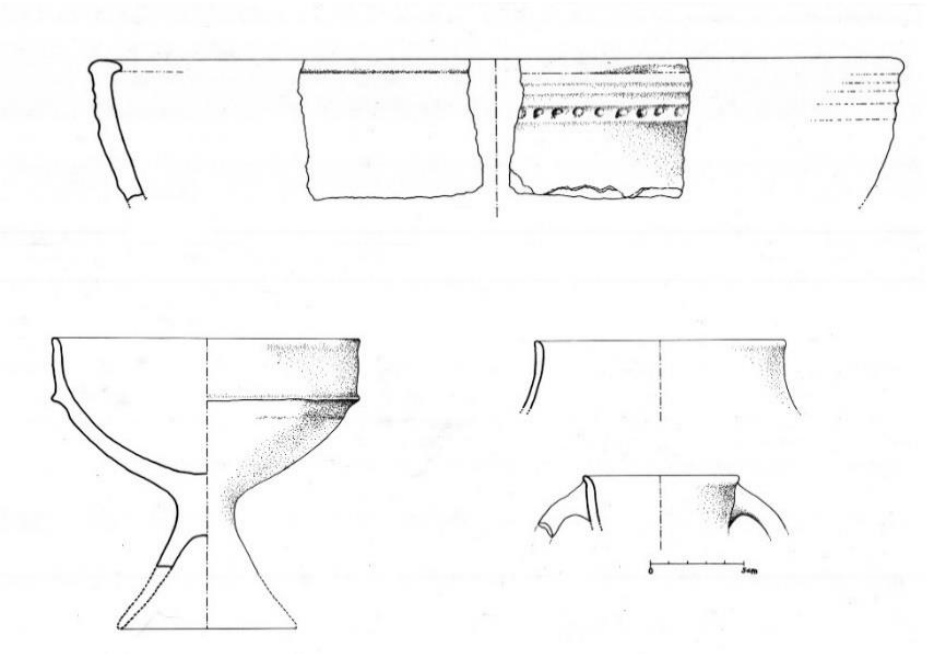


Fig. 37 - Protohistoric pottery from structural Periods I, but found in Period III SU (82) and II (bottom, left) found in Period II SU (64) (Sketch drawings by MV and FM).

Fig 38 - Period III-IV. Jar from Stupa [3] in its original position
(Photo by MV).

A Note on some of the finds

A jar from Stupa [3]

In front of Stupa [3] we found a small jar inserted in the center of a circular hole cut out of the floor [47], just in front of the staircase. The jar belongs to the CAc 1-3 class type, which is common in Gandharan Buddhist devotional contexts (see Callieri and Olivieri 2020: 163-164, fig. 56). This association between shrines, staircases and offering jars had been observed in other Buddhist sacred areas. At Butkara I, two jars were documented at the side of the staircase (respectively on its right and left) of the Great Building 57 (Faccenna 1981-85: 158, fn.3, pls. 353a-b), a shrine-class monument which was associated by Faccenna to the GBK Great Shrine (Faccenna 2006). At Saidu Sharif I, two jars (S 2354 and 2355) were found respectively on the right and left in front of Shrine [35] 28, another one close to the staircase of the Great Stupa (Faccenna 1995: 264-269, figs. 88-91, fig. 84). However, the association is ambiguous. Offering vessels are sometime found near minor stupas. and in front of major stupas, as in the case of the green schist basin in front of the Stupa 1 at Panr I; (Faccenna et al. 1993:154); as well as in the case of the jar S 2257 fixed near the right-hand corner of the 1st staircase of the Main Stupa; (Faccenna 1995: figs. 184-185) (see also Callieri 1997; Callieri and Olivieri 2020).

A curious feature of both pots (Figs. 15-47) is the absence of the bottom: the latter was intentionally removed (to facilitate the drainage of the liquids poured in during rituals?).

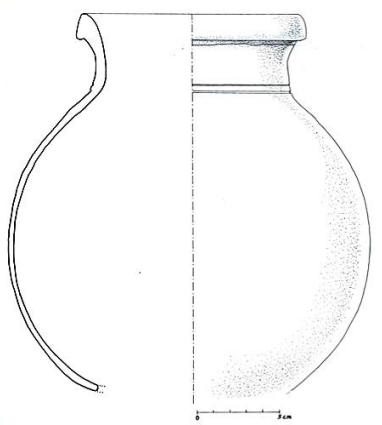


Fig. 39 - Period III-IV: Jar from Stupa [3] (Drawings by MV and FM).

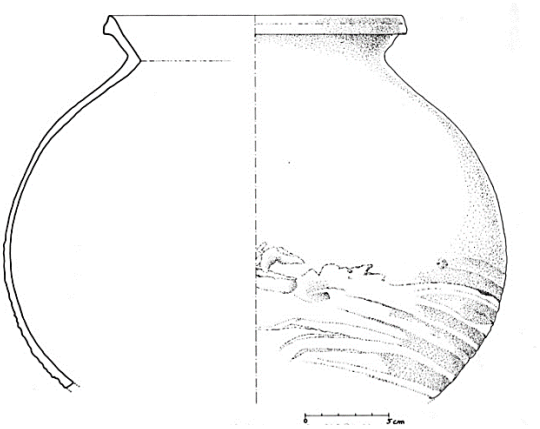


Fig. 40 - Period VI: Jar from Pit <58> (Drawings by MV and FM).

Comparison with the sculptural material recovered in 1938:

The fragments Inv. nos. GBK 4, 5 and 6 found near Stupa [3] apparently belong to the same frieze of I.M. 89-1939 (Victoria and Albert Museum; Ackermann 1975: pl. Vc) and the fragment GBK 7 (surface), belongs to the frieze of I.M. 88-1939 (ibid.: pl. Vb); GBK 19 (surface) clearly belongs to a monument similar to those of I.M. 111-1939 (ibid.: pls. XXIIa-b); GBK 22 (SE of the Great Shrine), can be compared to I.M. 79-1939 (ibid.: pls. XIIb); GBK 24, 28, 30 and 31 have the same features as the frieze I.M. 86 and A-1939 (ibid.: pls. Va). In this case it is worth noting that GBK 24 and 31 were found near Stupa [3], and belong to the same frieze; GBK 28, on the surface; GBK 30 near Stupas [35] and [37] inside (26). Layer (26) corresponds to the refilling of one of the pits opened by Barger and Wright N of the Stupa [13] (Barger and Wright 1941: 17).

For a complete reassessment of the materials, and their reationship with those exported by Barger and Wright and currently in the Victoria and Albert Museum in London, see Brancaccio and Olivieri 2019.

Figs 41-44 – From left, top: Inv. Nos. GBK 4, 5, 6 and 7 (all to the same scale). (Photos by EL)

Fig. 45-49 – From top: Inv. Nos. GBK 22, 24, 28, 30 and 31 (Photos by EL)

Fig. 51-52 – From left: Inv. Nos. GBK 1, 2 and 3 (Photos by EL).

Figs 53-55 – From top: Inv. Nos. GBK 42, 52 and 54 (Photos by EL).

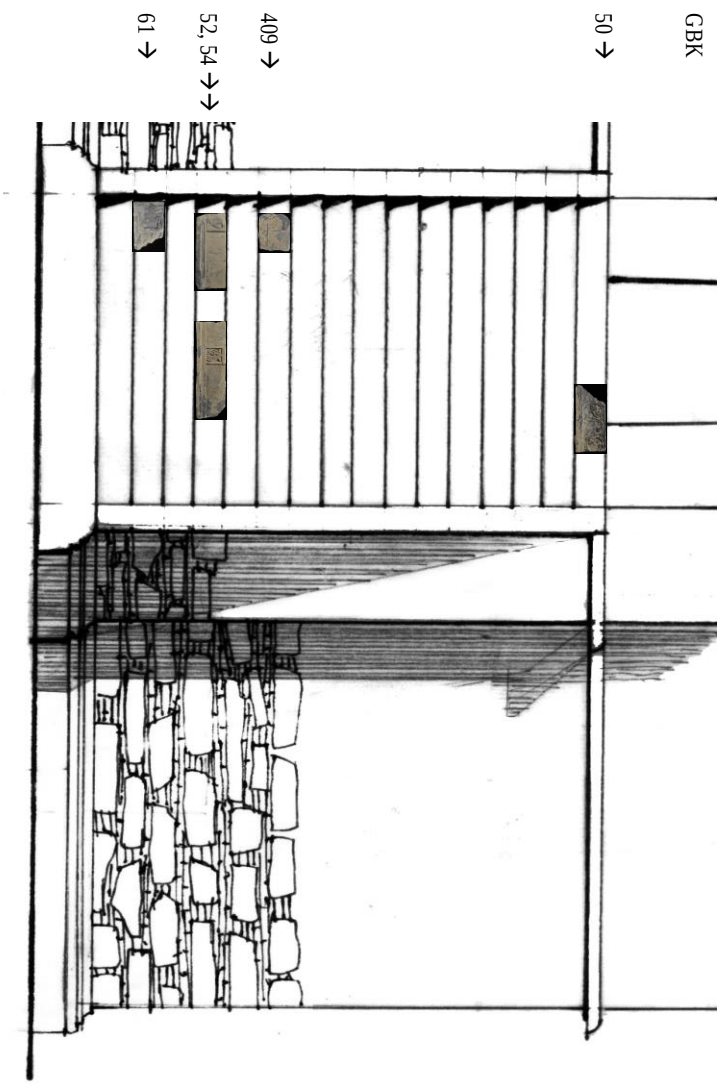


Fig 56 – The step-risers in their context (FM and LMO).

Note: The step-risers of the Great Shrine at Gumbat/Balo Kale have been studied and analyzed in Iori and Olivieri 2020.

Register no.: GBK	Inventory no.	Stratigraphy	Description	Conditions	Materia
-	**1**	Pit 14 North of the Staircase of the main Building corner	Fragment. Head. Buddha.	Good	Black schist
-	**2**	(2) near [3]	Seated Bodhisattva (Maitreya?) in abhayamudra. Fragment.	Fair	Black schist
-	**3**	Layer no 2 south	False gable: in the lower register: sitting Buddha flanked by worshipers. Fragment.	Poor	Black schist
-	**4**	(2) near [3]	Frieze. Human figures between Corinthian pillars. Fragment.	Fair	Black schist
-	**5**	(4) near floor	Frieze. Human figures between Corinthian pillars. Fragment.	Fair	Gray schist
-	**6**	(2) collapse in front of structure [3]	Frieze. Human figures between Corinthian pillars. Fragment.	Good	Gray schist
-	**7**	(1) surface	Frieze. Human figures between Corinthian pillars. Fragment.	Fair	Gray schist
-	**22**	(4) South East of main building	Frieze. Three parallel registers: top: human figures; center: vine scroll (?); bottom: human figures between Corinthian pillars. Fragment.	Poor	Gray schist
-	**24**	Pit 8 Bottom	Frieze. Two busts separated by Corinthian pillar. Fragment.	Poor	
-	**28**	(1) surface	Frieze. Two busts separated by Corinthian pillar. Fragment.	Fair	Gray schist
-	**30**	(26) North of [35] - [37]	Frieze. Busts holding flowers between Corinthian pillars. Fragment.	Fair	Gray schist
-	**31**	Pit (18)	Frieze. Busts, one reading a text and the other holding a flower, separated by Corinthian pillars. Fragment.	Fair	Black schist
-	**42**	(2) collapse in front of structure [3]	Panel. Throne, legged footstool, draped on both sides, floral bands. Fragment.	Good	Black schist
-	**52**	(14) - (20) North East of Great Shrine.	Step-riser. Half opened lotus. Fragment.	Poor	Gray schist
-	**54**	(14) - (20) North East of Great Shrine.	Step-riser. Palmette (?). Fragment.	Poor	Gray schist
-	**50**	(14) - (20) North East of Great Shrine.	Step-riser. Ivy scroll. Fragment.	Good	Gray schist
409	-	(14) - (20) North East of Great Shrine.	Step-riser. Vegetal motif. Fragment.	Poor	Gray schist

Table 2. List of the material mentioned in this Report (for the dimensions see the scale in Figs. 41-55).

Radiocarbon dating

Wooden materials from Shrine [30], *inner cell*

Sample 1 (13962011-2), Shrine [30], inner cell: Beam 3

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.7:lab. mult=1)

Laboratory number: **Beta-315424**

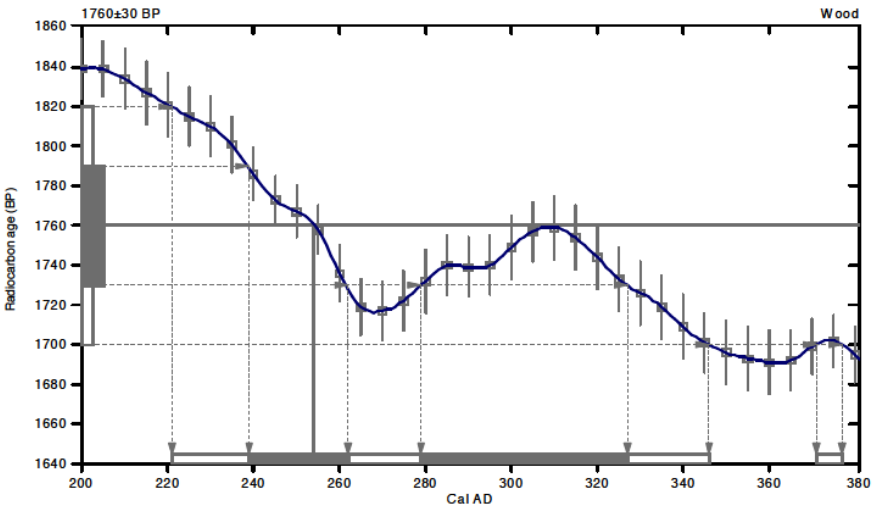
Conventional radiocarbon age: **1760±30 BP**

2 Sigma calibrated results: **Cal AD 220 to 350 (Cal BP 1730 to 1600) and**
(95% probability) **Cal AD 370 to 380 (Cal BP 1580 to 1570)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 250 (Cal BP 1700)

1 Sigma calibrated results: Cal AD 240 to 260 (Cal BP 1710 to 1690) and
(68% probability) Cal AD 280 to 330 (Cal BP 1670 to 1620)



References:

Database used
INTCAL09

References to INTCAL09 database
Heaton,et.al.,2009, Radiocarbon 51(4):1151-1164, Reimer,et.al, 2009, Radiocarbon 51(4):1111-1150, Stuiver,et.al,1993, Radiocarbon 35(1):137-189, Oeschger,et.al.,1975,Tellus 27:168-192

Mathematics used for calibration scenario
A Simplified Approach to Calibrating C14 Dates
Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

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Sample 2 (13962011-4), Shrine [30], inner cell: Beam 1

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.4:lab. mult=1)

Laboratory number: **Beta-315425**

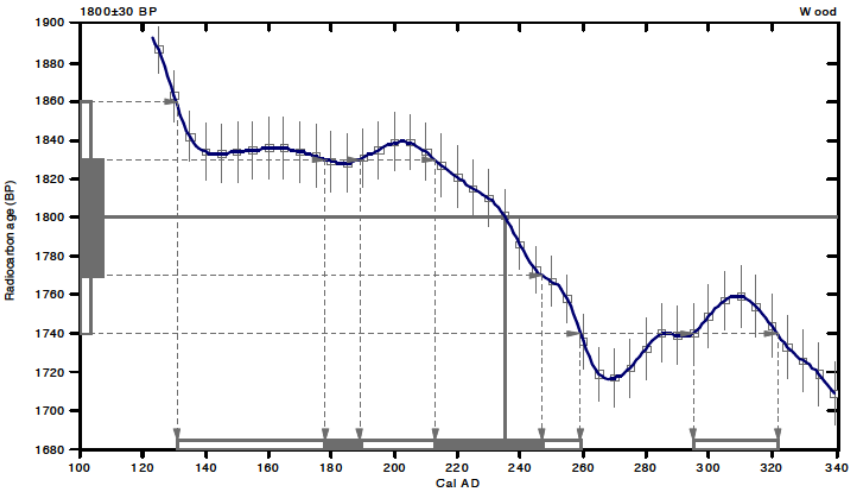
Conventional radiocarbon age: **1800±30 BP**

2 Sigma calibrated results: **Cal AD 130 to 260 (Cal BP 1820 to 1690) and**
(95% probability) **Cal AD 300 to 320 (Cal BP 1660 to 1630)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 240 (Cal BP 1720)

1 Sigma calibrated results: Cal AD 180 to 190 (Cal BP 1770 to 1760) and
(68% probability) Cal AD 210 to 250 (Cal BP 1740 to 1700)



References:

Database used

INTCAL09

References to INTCAL09 database

Heaton,et.al.,2009, Radiocarbon 51(4):1151-1164, Reimer,et.al, 2009, Radiocarbon 51(4):1111-1150, Stuiver,et.al,1993, Radiocarbon 35(1):137-189, Oeschger,et.al.,1975,Tellus 27:168-192

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates
Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

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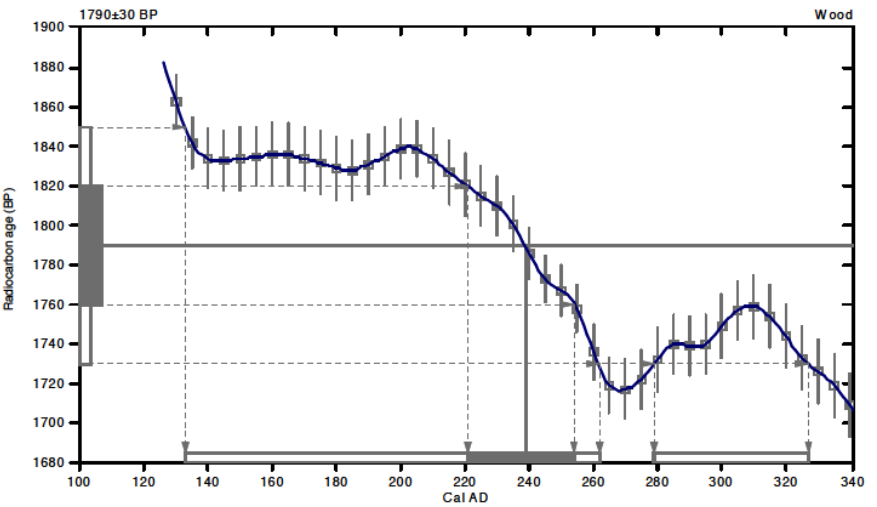
Sample 3 (13962011-4), Shrine [30], inner cell: Beam 2

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.2:lab. mult=1)

Laboratory number:	**Beta-315426**
Conventional radiocarbon age:	**1790±30 BP**
2 Sigma calibrated results: (95% probability)	**Cal AD 130 to 260 (Cal BP 1820 to 1690) and Cal AD 280 to 330 (Cal BP 1670 to 1620)**
	Intercept data
Intercept of radiocarbon age with calibration curve:	Cal AD 240 (Cal BP 1710)
1 Sigma calibrated result: (68% probability)	Cal AD 220 to 250 (Cal BP 1730 to 1700)



References:

Database used

INTCAL09

References to INTCAL09 database

Heaton,et.al.,2009, Radiocarbon 51(4):1151-1164, Reimer,et.al, 2009, Radiocarbon 51(4):1111-1150, Stuiver,et.al,1993, Radiocarbon 35(1):137-189, Oeschger,et.al.,1975,Tellus 27:168-192

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

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Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 315424	1760 +/- 30 BP	-24.7 o/oo	1760 +/- 30 BP
SAMPLE : 13962011-2 AMSV(3)			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT :	(wood): acid/alkali/acid		
2 SIGMA CALIBRATION :	Cal AD 220 to 350 (Cal BP 1730 to 1600) AND Cal AD 370 to 380 (Cal BP 1580 to 1570)		
Beta - 315425	1810 +/- 30 BP	-25.4 o/oo	1800 +/- 30 BP
SAMPLE : 13962011-3 AMSV(1)			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT :	(wood): acid/alkali/acid		
2 SIGMA CALIBRATION :	Cal AD 130 to 260 (Cal BP 1820 to 1690) AND Cal AD 300 to 320 (Cal BP 1660 to 1630)		
Beta - 315426	1790 +/- 30 BP	-25.2 o/oo	1790 +/- 30 BP
SAMPLE : 13962011-4 AMSV(2)			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT :	(wood): acid/alkali/acid		
2 SIGMA CALIBRATION :	Cal AD 130 to 260 (Cal BP 1820 to 1690) AND Cal AD 280 to 330 (Cal BP 1670 to 1620)		

Note by R.A. Hatfield, Beta Analytic:

The three dates give statistically identical results, meaning that they all appear to represent the same time;

Beta-315424 has two possible age ranges: Cal AD 220 to 350 and Cal AD 370 to 380

Beta-315425 has two possible age ranges: Cal AD 130 to 260 and Cal AD 300 to 320

Beta-315426 has two possible ranges: Cal AD 130 to 260 and Cal AD 280 to 330

As one can see the ages all overlap in different ranges. This could mean that they are all from the same event or slightly different events that were so close in time that they cannot be statistically distinguished from each other.

Overlaps:

B-315424 with B-315425 and B-315426 from AD 220 to 260 and with B-315426 from Cal AD 280 to 330

B-315424 with B-315425 from AD 300 to 320

The ages have to be viewed either as calibration overlaps or as Conventional 14C ages: 1800+/-30 - 1790+/-30 - 1760+/-30. Therefore, the 14C ages are all within 2 sigma statistics of each other (+/-60 years), and therefore we can conclude that they all belong to the same dating.

Sample 4 (13962011-1), Shrine [30], inner cell: Lintel 4

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.1:lab. mult=1)

Laboratory number: **Beta-304223**

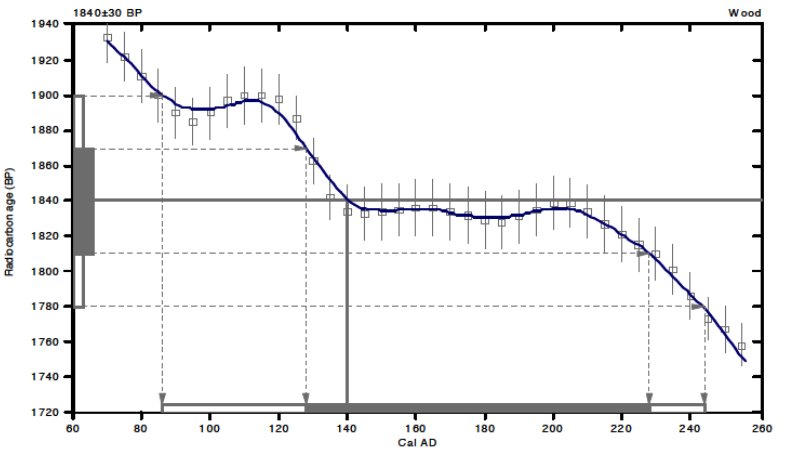
Conventional radiocarbon age: **1840±30 BP**

2 Sigma calibrated result: **Cal AD 90 to 240 (Cal BP 1860 to 1710)**
(95% probability)

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 140 (Cal BP 1810)

1 Sigma calibrated result: Cal AD 130 to 230 (Cal BP 1820 to 1720)
(68% probability)



References:

Database used
INTCAL04
Calibration Database
INTCAL04 Radiocarbon Age Calibration
IntCal04: Calibration Issue of Radiocarbon (Volume 46, nr 3, 2004).
Mathematics
A Simplified Approach to Calibrating C14 Dates
Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2), p317-322

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Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 304223	1840 +/- 30 BP	-25.1 o/oo	1840 +/- 30 BP

SAMPLE : AMSV13962011-1
ANALYSIS : RadiometricPlus-Standard delivery
MATERIAL/PRETREATMENT : (wood): acid/alkali/acid
2 SIGMA CALIBRATION : Cal AD 90 to 240 (Cal BP 1860 to 1710)

Fig. 63 - The three SE corner beams and S clerestory lintel (Photo by EL).

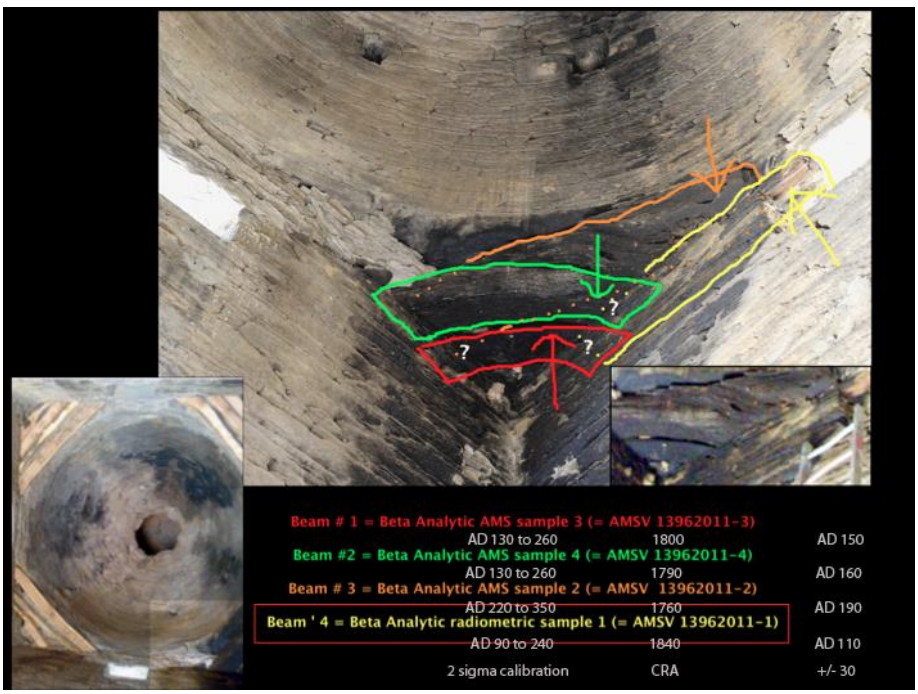

Fig. 64 - The same as above with metadata (Processed by LMO).
Note: instead of 'Beam ' 4', read 'Lintel 4'.

Sample 5, Charcoal from GBK 1 N (68)

GBK SU (68)	1310AD (16.5%) 1360AD 1380AD (78.9%) 1460AD	
	Radiocarbon Age (BP) (*)	***δ13C (‰) (**)***
	505 ± 45	**-27.1 ± 0.4**

(by CEDAD)

References

Ackermann, H.C. (1975) *Narrative stone reliefs from Gandhāra in the Victoria and Albert Museum in London*. IsMEO Reports and Memoirs XVII, Rome.

Abdur Rahman and Sardar Mohammad (1984) Balo Kile Gumbad (Swat) and Early Medieval Architecture of N.W.F.P. *Central Asia: Journal of Area Study* 15: 123–132.

Ashraf Khan, M. (1993) *Buddhist Shrines in Swāt*. Peshawar.

Barger, Ph. and E. Wright (1941) *Excavations in Swat and Explorations in the Oxus territories of Afghanistan*. Memoirs of the Archaeological Survey of India, 64. Calcutta.

Behrendt, K. (2006) Relic Shrines in Gandhāra. In K. Behrendt and P. Brancaccio (eds) *Gandhāran Buddhism. Archaeology, Art, Texts*. Vancouver: 83-103.

Biagioli, C., M. De Chiara, E. Ferrari, Aftab-ur-Rahman Rana, and Shafiq Ahmad Khan (2016) *Living and Archaeological Landscapes of Swat. A Guide to the Valleys of kandak and Kotah. A field Companion to Talking Stones*. ACT-Field School Report and Memoirs, Series Minor, 4. Sang-e-Meel Publications, Lahore.

Brancaccio, P. and L.M. Olivieri (2019) Regional workshops and small *stūpas* in the Swat Valley: an analysis of the evidence from Gumbat, Saidu Sharif, and Pānṛ. In W. Rienjang and P. Stewart (eds) *The Geography of Gandhāran Art* ***Proceedings of the Second International Workshop of the Gandhāra Connections Project, University of Oxford, 22nd-23rd March, 2018****.* Oxford: Archaeopress: 121-142.

Callieri, P. (1997) Pots in Buddhist Sacred Areas: A Study of the Evidence from the IsMEO Excavations in Swat. In R. Allchin and B. Allchin (eds) *South Asian Archaeology 1995*, Cambridge-New Delhi-Calcutta 1997: 417-427.

Callieri, P. and L.M. Olivieri (2020) *Ceramics from the Excavations in the Historic Settlement at Bīr-koṭ-ghwaṇḍai (Barikot) Swat, Pakistan (1984-1992)*. ACT-Field School Project Reports and Memoirs, Special Volume, 2.1-2. Sang-e-Meel Publications, Lahore.

Di Giulio, G., G. Gallotta, G. Signorini, and M. Togni (2018) The double-domed Great Shrine of Gumbat/Balo Kale. Note on the xilotomic analysis for the wood identification. *Journal of Asian Civilizations*, 41, 1: 177-186.

Faccenna, D. (1995) *Saidu Sharif I (Swāt, Pakistan)*, 2. *The Buddhist Sacred Area. The Stūpa Terrace*. IsMEO Reports and Memoirs, XXIII, 2. Rome.

Faccenna D. 2001. *Il fregio figurato dello Stūpa Principale nell'area sacra buddhista di Saidu Sharif I (Swat, Pakistan)*. IsIAO Reports and Memoirs XXVIII, 2. Rome: IsIAO.

Faccenna, D. (2006) Reconstruction of a Sculptural Complex in the Buddhist Sacred Area of Butkara I. *East and West*, 56, 1-3: 177-194.

Faccenna, D. (2014) *Buddhist Architecture of the Swat Valley, Pakistan. Stupas, Viharas, A Dwelling Unit*, ACT-Field School Project Reports and Memoirs, Special Volume, 1. Sang-e-Meel Publications, Lahore.

Faccenna, D. and A. Filigenzi (2007) *Repertorio terminologico per la schedatura delle sculture dell'arte gandharica sulla base dei materiali provenienti dagli scavi della Missione archeologica dell'IsIAO nello Swat, Pakistan/Repertory of Terms for Cataloguing Gandharan Sculptures Based on Materials from the IsIAO Italian Archaeological Mission in Swat, Pakistan*, IsIAO Reports and Memoirs New Series V. Rome.

Festa, L. and S. Pannuzi (2019) Conservative data on polychrome stucco, stone and clay sculptures and architectonical decoration of Gandharan art. *Restauro Archeologico*, 1, 2019: 100-111.

Foucher, A. (1905-51) *L'art gréco-bouddhique du Gandhāra. Étude sur les origins de l'influence classique dans l'art bouddhique de l'Inde et de l'Extrême-Orient*, I-II. Paris-Hanoi.

Franz, H.G., (1984) Umgangstempel in Mittelasien und Indien. In J. Ozols and V. Thewalt (eds) *Aus dem Osten des Alexanderreiches. Völker und Kulturen zwischen Orient und Okzident, Iran Afghhanistan, Pakistan, Indien. Festschrift zum 65 Geburtstag von Klaus Fischer*: 127-142. Köln.

Harle, J.C. (1994) *The Art and Architecture of the Indian Subcontinent*. New

Haven, CT.

Iori, E. and L.M. Olivieri (2020) Monumental entrance to Gandharan Buddhist architecture. Stairways and gates from Swat. *Annali di Ca' Foscari* (Serie Orientale) [in press]

Meister, M.W. (2010_a) Gumbat, Tālāsh Valley, Dir: An Indus Temple in Greater Gandhāra, *Gandhāran Studies*, 4: 245–54.

Meister, M.W. (2010_b) *Temples of the Indus: Studies in the Hindu Architecture of Ancient Pakistan*. Brill, Leiden.

Meister, M.W. and L.M. Olivieri (2013) Conservation and Studies at Gumbat-Balo Kale Site (District Swat, Tahsil Barikot), *Journal of Asian Civilizations*, 35, 2: 1-22.

M.W. Meister, L.M. Olivieri, and M. Vidale (2016) Gumbat Balo-Kale (Swat): Architectural Analysis, Conservation and Excavation (2011-2012). In. V. Lefèvre (ed.) *South Asian Art and Archaeology 2012. 2. South Asian Religions and Visual Forms in their Archaeological Context, 2*. Brepols, Turnhout: 553-566.

Nasim Khan, M. (2009) Clay Models of Hindu Shrines from Ancient Gandhāra. In D. Desai and A. Banerji (eds) *Kalādarpaṇa: The Mirror of Indian Art, Essays in Memory of Shri Krishna Deva*. New Delhi: 160–170.

Olivieri, L.M. (2015) *Talking stones. Painted rock shelters of the Swat valley*. ACT-Field School Report and Memoirs, Series Minor, 2. Sang-e-Meel Publications, Lahore.

Olivieri, L.M. (2019) A short note on contexts and chronology of the materials from Saidu Sharif, Amluk-dara, Gumbat and Barikot (Swat). *Restauro Archeologico*, 1, 2019: 112-129.

Olivieri, L.M. and M. Vidale, with contributions by Abdul Nasir, Tahir Saeed, L. Colliva, R. Garbini, L. Langella, R. Micheli, and E. Morigi (2006) Archaeology and Settlement History in a Test-Area of the Swat Valley. Preliminary Report on the AMSV Project (1st Phase). *East and West*, 56, 1-3: 73-150.

Olivieri L. M. and Filigenzi A. (2018) On Gandhāran Sculptural Production from Swat: Recent Archaeological and Chronological Data. In W. Rienjang and P. Stewart (eds) *Problems of Chronology in Gandhāran Art: Proceedings of the First International Workshop of the Gandhāra Connections Project, University of Oxford, 23rd-24th March, 2017.* Oxford: Archaeopress: 71-92.

Olivieri, L.M. and L. Colliva (2018) IsMEO/IsIAO – DOAM Excavations at Bīr-koṭ-ghwaṇḍai 1984-1992. A Reassessment of the Chronological Sequence on the Basis of the Latest Fieldwork at the Site. *Pakistan Archaeology*, 32: 33-63.

Olivieri, L. M., ed. (2014) *The Last Phase of the Urban Site at Barikot-Ghwandai (Barikot): The Buddhist Sites of Gumbat & Amluk dara (Barikot)*. ACT Field School Project Reports and Memoirs, II. Sang-e-Meel Publications, Lahore.

Raducha J. (2009) *Nimogram. Digital Collections*, University of Wisconsin-Madison Libraries. <http://digital. library.wisc.edu/1711.dl/Arts.Nimogram>.

Rosa, C., T. Heye, and S. Pannuzi (2019) Geological overwiew of Gandharan sites and petrographical analysis on Gandharan stucco and clay artefacts. Restauro Archeologico, 1, 2019: 12-39.

Shah Nazar Khan (1995) Marjanai. *Ancient Pakistan,* 11: 1-74.

Spagnesi, P. (2006) Aspects of the Architecture of the Buddhist Sacred Areas in Swat. *East and West*, 56, 1-3, 151-175.

Stacul, G. (1987) *Prehistoric and Protohistoric Swat, Pakistan (c. 3000-1400 B.C.)*, IsMEO Reports and Memoirs XX. Rome: IsMEO.

Stein, M.A. (1930) *An Archaeological Tour in Upper Swāt and Adjacent Hill Tracts.* Memoirs of the Archaeological Survey of India, 42. Calcutta.

Tucci, G. (1958) Preliminary Report on an Archaeological Survey in Swāt. *East and West*, 9, 4: 279-348.

Vidale M., R. Micheli, and L. M. Olivieri (2016) (eds) *Excavations at the protohistoric graveyards of Gogdara and Udegram*. ACT-Field School Project Reports and Memoirs, III. Sang-e-Meel Publications, Lahore.

A Vishnu Figure in the Reserve Collection of the Department of Archaeology and Museums, Government of Pakistan, Islamabad

Muhammad Habibullah Khan Khattak, Abdul Azeem and Mahmood-ul-Hasan

Abstract:

Among the rich collection in the Directorate of Archaeology and Museums (DOAM), Government of Pakistan, Islamabad are many sculptures including Hindu gods and goddesses. These antiquities were confiscated by Custom authorities and handed over to the Department. One finely cared statue of Vishnu in grey-blackish schist (Fig.1) in the collection attracts one's attention on the first sight. The small statue measures approximately 12.5 cm in height. The figure has a halo of 4.5 cm in circumference, which is broken from the right side. Dr. Abdul Samad (2011:71-83) has traced the origin of Viṣṇu in Gandhara to the 2nd century BCE[1]. He traces the epigraphical references to Vāsudeva and Saṃkarṣaṇa dating back to the 2nd century CE. Based on his study of an unpublished panel at the Taxila Museum depicting a male fighting a horse and the Viṣṇu statue from the Julian Sherrier Collection, he has traced the date of such iconography to the 3rd- 4th century CE.[2] There are a few more sculptures in Taxila Museum depicting Vishnu dated to the 7th-8th centuries CE. (Muhammad Ashraf Khan 2011:187). Through this research, we have tried to study our

[1] According to Donald A. Machekzie (1913:123), "The Greek ambassador Megasthenes, who resided in India between B.C. 311 and 302, and wrote Ta Indika, furnishes interesting evidence in this connection. "By his description of the god Dionysus, whom they worshipped in the mountains, Shiva", says Professor Macdonell, "must be intended, and by Herakles, adored in the plains . . . no other can be meant than Vishnu and his incarnation Krishna. . . . These statements seem to justify the conclusion that Shiva and Vishnu were already prominent as highest gods, the former in the mountains, the latter in the Ganges valley. . . . We also learn from Megasthenes that the doctrine of the four Ages of the World (Yugas) was fully developed in India by this time."

[2] "Early sculptural examples include a first-century-CE Balarama from Mathura (Mathura Museum, ace. no. CI9 ;Joshi 1979, pi. 18), and another in the Bharat Kala Museum, Varanasi (acc. no. 279; Joshi 1971, 245)." (Julia Shaw 2004:5-59).

sculpture in the reserve collection of DOAM and tried to place this image in a definite timeframe.

Keywords: Hindu iconography, Vishnu, Gandhara, Taxila, Vasudeva.

Introduction:

Dr. Abdul Samad (2011:36) states that "Huviṣka for the first time presented coins which featured gods that may have been locally important in Gandhāra and did not come from the mainstream Kuṣāṇa pantheon. There is a male figure holding a long bow and an arrow. Another figure with eight arms holds a conch[1], a wheel[2], a club[3], lotuses[4], and various other unidentified objects. The latter deity, owing to his characteristic conch and wheel, may be interpreted as the

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[1] "A conch shell or Shankha, named Panchajanya, is held by the upper left hand. It represents Vishnu's power to create and maintain the universe. Panchajanya represents the five elements or Panchabhoota – water, fire, air, earth and sky or space. It also represents the five airs or Pranas that are within the body and mind. The conch symbolizes that Vishnu is the primeval Divine sound of creation and continuity. It also represented as Om." - https://www.speakingtree.in/allslides/21a/202072

2 "The Chakra, a sharp, spinning, discus-like weapon, named "Sudarshana", is held by the upper right hand. It symbolizes the purified spiritualized mind. The name Sudarshana is derived from two words – Su, which means good, superior, and Darshana, which means vision or sight; together. The Chakra represents destruction of ego in the awakening and realization of the soul's original nature and god." https://www.speakingtree.in/allslides/21a/202072

3 "A mace or Gada, named "Kaumodaki", is held by the lower right hand. It symbolizes that Vishnu's divine power is the source of all spiritual, mental and physical strength. It also signifies Vishnu's power to destroy materialistic or demonic tendencies (Anarthas) that prevent people from reaching god. Vishnu's mace is the power of the Divine within us to spiritually purify and uplift us from our materialistic bonds" - https://www.speakingtree.in/allslides/21a/202072

4 A lotus flower or Padma is held by the lower left hand. It represents spiritual liberation, Divine perfection, purity and the unfolding of Spiritual consciousness within the individual. The lotus opening its petals in the light of the Sun is indicative of the expansion and awakening of our long dormant, original spiritual consciousness in the light of god. The lotus symbolizes that god is the power and source from which the universe and the individual soul emerges - https://www.speakingtree.in/allslides/21a/202072

Hindu god Viṣṇu[1] in his early form as Vāsudeva Kṛṣṇa" Thus according to him (Abdul Samad 2011:72), "Vāsudeva-Krṣṇa, become associated and finally identified with Viṣṇu (Härtel 1987: 586-587)." Thus, on the basis of the study of Dr. Samad (2011:36-88), we have a wide arena of about one thousand years from 2nd century BCE to 7th-8th CE to examine our sculpture in the reserve collection of DOAM, place it in proper context and assign it to a definite timeframe.

Dr. Samad (Abdul Samad 2011:75-76) refers to the image of Vāsudeva-Kṛṣṇa on a copper coin of the Kuṣāṇa king Vāsudeva and writes, "In this coin type the deity Vāsudeva is standing frontally, wearing a short dress with long hair falling over his shoulders. He holds a club in his lower right hand, a thunderbolt (?) in the upper right hand, a wheel (cakra) in his upper left hand and a conch in his lower left hand. The god is labeled in Bactrian script as BAZODHO "Vāsudeva" (Cribb 2008: 124)."

The study of Dr. Abdul Samad of the Garuḍa, directly associated with Viṣṇu as his vehicle and eventually regarded as an incarnation of Viṣṇu is noteworthy. According to him (Abdul Samad 2011:77-79), "The Gandhāran images of Garuḍa cannot be related to this rather late stage, but again are characterized as early experiments and certainly date before the Viṣṇudharmottarapurāṇa[2].[…] Whenever lawlessness prevailed on earth and evil forces became strong Viṣṇu assumed various forms to reestablishing law and order. There are numerous

1 According to the Siddhartha-samhita there are twenty-four forms of Lord Vishnu. The twenty-four forms are - Vasudeva-Sankarshana- Pradyumna- Anirudha- Keshava-Narayana-Madhava-Govinda-Vishnu-Madhusudana-Trivikrama-Vamana-Sridhara - Hrishikesha - Padmanabha - Damodara-Purushottama-Achyuta- Narasimha - Janardana - Hari - Krishna - Adhokshaja. Upulvan, Uthpala Varna.
https://www.speakingtree.in/allslides/21a/202072

2 "The date of this text is not completely certain." (Richard D. Mann 2012:208), but according to John Siudmak (2013:497, Note 1), "This is the most comprehensive surviving iconographical text from the region, which was probably re-dated in Kashmir or the North-West as early as the fifth or sixth century, though parts of it may date from the end of the Karkota period."

incarnations[1] of Viṣṇu but the most important and classic ones are the ten discussed in the Mahābhārata (12.349.37; 12.389.77- 90 and 140, cf. Pal 1970: 22). Viṣṇu appeared as a fish (matsya), a turtle (kūrma), a boar (varāha), a composite creature of a man and a lion (narasiṃha), a dwarf (vāmana), Paraśurāma, Rāma, Balarāma, the Buddha and as kalkin.[….] There is only one Gandhāran Varāha figure known so far. It was discovered at Waṇḍa Shahab Khel, Bannu." According to Farid Khan, the sculpture can be dated into the 4th c. CE (Farid Khan 1992: 67).

Donald A. Mackenzie (1913:126) writes that "Vishnu[2] is a dark god with four arms; in one of his right hands he holds a warshell, and in the other a flaming discus, which destroys enemies and returns after it is flung; in one left hand he holds a mace, and in the other a lotus bloom."

Description of the Vishnu Image of DOAM:

Our sculpture of Vishnu can be described as under:

This image of four-armed Vishnu is wearing a brilliant crown[3] – a headgear with lotus flowers in semi- circle or crescent shape in the centre surrounded with decorative lotus leafs or peacock feathers[4] (?) on both left and right sides, while

[1] "It was generally accepted that Vishnu's incarnations were ten, though different sources give different number e.g., Vishnudharmottara gives out fourteen names and Shrimadbhagavata at three places gives three different lists on names numbering twenty-two, twenty-three and fifteen. However, the list of ten incarnations given in the Jayadeva's 12th century work Gita Govinda is generally accepted. This list mentions the name of Meena, Kacchapa, Shukara, Narahari (Narasimha), Vamana, Bhrugupati (Parashuram), Ram (Dasharathi), Haladhara (Balarama), Buddha, Kalki. In this list the name of Krishna does not appear because according to one tradition it was Krishna who took all these incarnations." (Manohar Laxman Varadpande 2009:40)

[2] "Vishnu, one of the most revered and popular deities from the Hindu pantheon, possesses many forms and is worshipped in different aspects." Karan Kumar & Viraj Shah (2014: 1-24).

[3] The crown symbolizes his supreme authority. This crown sometimes includes a peacock feather, borrowed from his Krishna-avatar.

[4] These elements are not clearly recognizable due to their bad state of preservation. At time the flanking decorative elements look like two alligator heads set back to back.

the back is secured by halo. The headgear is suggesting that this is not a solid headdress like a cap covering the entire head and it is only the frontal crown, most probably tied to the head with a ribbon or chain on the back. The crown is studded with a single row of pearls band with a surviving rosette on left side above the left ear. A similar rosette on the right side is broken but its signs are quite visible to suggest its existence when it was in complete form.

Fig. 1 Frontal view if the Vishnu image

Fig. 2 Backside view of the Vishnu image

The hair below the crown is braided. The figure probably wears a Saṅghāṭī type long clock, resembling the hairdo formed by braiding or twisting the hair[1]

[1] S.R. Ramanujan (2014:49) has given interesting account in such a case. According to him, "A loose translation of the pasuram runs like this. "The Lord who resides in Tirumala amidst gushing streams with his flowing matted hair, high crown, beautiful axe and disc, encircling serpent and golden waist string appears as though he has integrated in Himsef the form of Siva as well". He further writes, "Dr. Ramesan, while describing

stretched at the ears level on both sides up to shoulders[1] and the surviving left arm up to wrist level, the traces of which can be observed on both right and left sides at thighs' levels. The garment seems to be transparent, on which pearls seem to have been stitched (?).

Pendants[2] studded with pearls or the valuable gem Vaidūrya[3] are hanging from both ears with a round pearls necklace around the neck hanging down the chest. On the left side of the halo close to the left shoulder can be seen traditional fan-shaped decorative motif. It can reasonably be assumed that the same decorative motif existed on the right side of the halo as well.

The figure depicts a full and rounded cheerful face and equally cheery but protruding eyes, finely carved nose with clearly visible nostrils, small mouth with thick lips and small round chin according to proportion of the face, with fleshy and beautifully effulgent cheeks and pristine smile. The curl of hair known as the shrivatsa4 or Srivatsa1 - an auspicious sign on his chest is clearly visible,

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the features of the Lord, says: 'The Lord's figure is richly adorned with flowing locks of hair or jatajuta and some of these locks of curly hair rest on his shoulders.' Probably, he wants to make a distinction between the matted hair (jata) of Lord Siva and the flowing curly hair resting on his shoulders as could be seen on the idol of the Lord at Vengadam." (S,R, Ramanujan 2014:50)

[1] "The curling hair on the shoulders of a lion always appears very, very beautiful. Similarly, the shoulders of the Lord were just like a lion's, and the necklace and garlands, along with the Kaustubha pearl necklace, combined to excel the beauty of a lion." - https://www.speakingtree.in/allslides/21a/202072

[2] The earrings represent inherent opposites in creation — knowledge and ignorance; happiness and unhappiness; pleasure and pain- https://www.speakingtree.in/allslides/21a/202072

[3] Vaidurya or Lehsunia also known as Cat's eye is a gemstone known to reduce the malefic effects and is most beneficial to improve a wearer's perception. His crown is also probably bedecked with the same kind of gems.

[4] "The Sanskrit term shrivatsa means "beloved of Shri". Shri refers to the goddess Lakshmi; the consort of Vishnu, and the shrivatsa is an auspicious mark or hair-curl that adorns the breast of Vishnu. Lakshmi's insignia on Vishnu's breast represents the devotion in his heart for his consort, and since Lakshmi is the goddess of wealth and good fortune the shrivatsa forms a natural auspicious symbol. The shrivatsa either takes the form of a triangular swirl, or an upright diamond with loops at its four inter-cardinal corners – Krishna, as the eighth incarnation of Vishnu, also bears the shrivatsa at the

while around his neck he wears a necklace of pearls - the auspicious jewel Kaustubha. The auspicious mark of Srivatsa2 on the chest means "beloved of Sri", the goddess Lakshmi. It is a mark on the chest of Vishnu where his consort Lakshmi resides.

An arm band or amulet is clearly visible on left upper arm below the shoulder level probably studded with pearls. The right upper limbs are missing from the shoulder level, while the upper limbs of the left side are intact, except the hand portion. Both fore and back arms of the left side are visible. From the position of the broken left hand, it clearly seems that he was holding something in his fore left hand[3].

The image is wearing diaphanous robe (cloak?) as also suggested by the design on the back. The waist appears encircled by a well-decorated belt, on which

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center of his chest. Another name given to this hair-curl is nandyavarta, which means 'curl of happiness', and this curl is shaped like a swastika or a Greek hooked-cross (Gr. Gammadion) […] Another possible derivation of both the endless knot and swastika arose from the S-shaped markings on the hood of the cobra. This in turn gave rise to the naga-yantra, where two or more entwining snakes from an endless knot design or yantra. The endless knot or granthi also appears on clay seals from the early Indus valley civilization (circa 2500 BCE)." (Robert Beer (2003:11-12)

[1] "Vishnu holds in his four (sometimes two) hands the sankha (conch), cakra (discus), gad (club), or padma (lotus). On his chest is the curl of hair known as the srivatsa mark, a sign of his immortality, and around his nick he wears the auspicious jewel Kaustubha." Merriam-Webster's Encyclopedia of World Religions. Edited: Wendy Donige et al., Merriam-Webster, Incorporated Springfield, Massachusetts1999;p.1134. & https://www.britannica.com/topic/Vishnu

2 "Shrivatsa: An auspicious mark on the god Vishnu's chest; also found on Vishnu's form as Krishna, which is sometimes as a curl of hair. In statues and pictures, the Shrivatsa is usually portrayed as a four-petaled flower, and it is believed to be the kaustubha jewel, which was one of the precious things chruned from the Ocean of Milk along with the goddess Lakshmi, the wishing-cow Surabhi, and amrta, the nectar of immortality." (James G. Lochtefeld 2002:645)

3 Vishnu has four arms indicating his all-powerful and all-pervasive nature. His physical existence is represented by the two arms in the front, while the two arms at the back represent his presence in the spiritual world.

three signs (not clearly distinguishable/recongnizable) at the navel level but probably two birds (?) flanking the navel and a thunderbolt depicted on the extreme right are visible. These signs may be part of the belt holding the garment. His loins are covered probably by a shining silk cloth hanging down in fine pleats over his genital parts, covering his both thighs and his left side up to knee level. The garment over the loins is further held by another jeweled belt of four laces, strips or bands, fastened low on the waist, as also evident from the back. The right leg is broken about 1.5 cm below the knee level while the left leg is broken at the knee level. The lower part of the belt appears to have been decorated with gems or pearls. The garment is decorated by a flower garland as evident from the hanging flowers between the strong muscular thighs, which accentuates the area around the genitals.

The richly decorated upper garment extending from the back over the left shoulder further extends from above the left shoulder down over part of the belt on the left side and then turning towards right below the belt and probably again apparently tucked into the belt of the lower garment the belt just above the right thigh and its part visible above hanging down from the left shoulder. Belt on back (Fig.2) also visible in four layers while the upper garment from the back of the right shoulder is also visible stretched down to the belt and apparently looks as if tucked into the belt to hold it firmly from falling further down. The position of buttocks on the back side clearly suggests that a very fine and thin silk garment was worn by the figure due to which contours of the buttocks are very clearly visible.

A snake[1] (?) with its tale at the belly level of the image from the right side can be seen around the left shoulder with its head on the back. One snake[2] (?) is also visible on the back of the left arm just below the blade of the left shoulder. A

[1] "This could also be the sacred thread (yajnopavita) fastened at the left shoulder and the waist."

https://artsandculture.google.com/culturalinstitute/beta/asset/vishnu/5AG6HDnY5lzMvQ

[2] "Adi Sesha (Naga) is inseparable from Maha Vishnu and as everyone knows He is Sesha Sayani, one who reclines on Adi Sesha." S,R, Ramanujan (2014:50), It means that a serpent may be a part of the attributes of Vishnu.

similar mark/snake[1] (?) was also carved on the right side as evident from the surviving part on the back of the right arm below the shoulder blade.

The lower portion is missing, but it can reasonably be believed that he stood on a pedestal or lotus throne. Being a figure in round, there is hardly any possibility of him having been flanked by his consorts Lakshmi and Sarasvati. Similarly, he is mostly accompanied by his vehicle - Garuda -, but its presence in the missing portion here cannot be anticipated, though the possibility of such figures on the pedestal cannot be excluded.

This freestanding image in round with back also finely carved and decorated was a portable sculpture probably venerated by individuals or group of individuals at home or in temple and also might have been taken from place to place to be worshipped. Unfortunately, its find-place is unknown, and we cannot be certain about the locality of the monument in which this magnificent sculpture was once enshrined.

Comparative study of DOAM Vishnu Image with other known specimens:

Dr. Abdul Samad (2011:130-131) opines that "The number of Vaiṣṇava images from Gandhāra which can be attributed to the Kuṣāṇa period is rather small. Only few images of Vāsudeva and Saṃkarṣaṇa from the pre-Kuṣāṇa and Kuṣāṇa time (Huviṣka) prove that elements of the Vaiṣṇava religious complex were at least present in Gandhāra […] There is no evidence for the existence of the fully developed concept of incarnations. Deities like Vāsudeva or Krṣṇa are probably associated with Viṣṇu and his cult without being identified with him. […] During this phase (4th to 6th c. AD), "typical" Hindu gods like Viṣṇu started to appear in their conventional iconography and according to established Hindu mythologies, like e.g., Viṣṇu as Narasiṃha or as Varāha. […] The recently explored site

[1] "Of the latter, sixteen sculptures ranging in date between the first century BCE and the fifth century CE were chosen for discussion here. Twelve of these may be described as nagas ("snake deities") or naginis, their female counterparts. Each is shown in human form, with the body of a snake coiling up the back and a multiheaded snake canopy over the head. There is some sectarian diversity within this **broad naga category:** at least four of the earliest nagas appear to follow the iconographic program of Balarama-Samkarsana, on e of the chief deities of the Pancaratra system of the Bhagavata tradition, a prototypical form of Vaisnavism; one of the later nagas is shown as Visnu himself; and others display an increasing orientation towards Vaisnava iconography." (Julia Shaw 2004:5-59)

Kashmir Smast proves that Hinduism took over certain functions of Buddhist monasteries as centre of communication and commerce. The growing importance of pilgrimage in the religious activities of the Hindu communities favored the emergence of temple networks which facilitated the interregional exchange. Through these networks, Gandhāra became included into a pan-Indian concept of Hinduism. The data analyzed show that the development of iconographical canons of Hinduism was heavily influenced by Gandhāra."

The description given by Gonda (1954: 96-103) would certainly help us in proper identification and description of our sculpture: "the general iconographic features of Viṣṇu are as follows: The god carries in his uplifted hand a sharp-rimmed battle-discus, the famous cakra sudarśana of the epic tales. […] The second popular feature is the brilliant jewel on Viṣṇu's chest, the Kaustubha which is also called maṇiratna or maṇir divyaḥ. […] Another feature is the śrīvatsa, a particular curl of hair on the chest of Viṣṇu-Kṛṣṇa and other divine beings. Viṣṇu's conch shell is a famous specimen of an auspicious object. Due to its resemblance to the vulva the shell is often regarded as representative of or identical with female fertility. It is a means of warding off evils, of destroying demons and of strengthening and delighting the divine power. It is believed to afford protection against the evil eye and is often an object of veneration. Beside these features, Viṣṇu is usually holding a lotus in his hand. The lotus is a representative of the force and energy inherent in the waters and of the humidity of the soil." (Abdul Samad 2011:83, note 38).

Dr. Abdul Samad (2011:83-84) has compared Viṣhṇu stylistically with the Buddhist sculptures of Gandhāra, dating to 3rd-4th century CE. According to him, "The deity is wearing a long dhotī covering the lower part of his body. The upper part is bare and adorned with bracelets. His face is smiling, his eyes half-closed and the hairstyle is closely related to those typical of Bodhisattva images. Unfortunately, the figure is incompletely preserved. All the four arms are broken, but he certainly once carried some of the characteristic items. Only one of these attributes is still partially visible: the wheel (cakra) near the figure's left leg. The outlines of the left upper hand might suggest a conch shell. The head of the deity is haloed with a heavy hair dress tightened by a diadem. His ears are adorned with heavy earrings." Then he mentions the relief from Taxila and the Vishnu from the Julian Sherrier Collection and writes:

> "it seems quite probable that the relief from Taxila represents one of the earliest images of the Krṣṇa myth in Indian art. Moreover, it is the only one known from the Northwest. It is not surprising that the god Krṣṇa was known and worshipped in this region in a relatively early period. Already Pāṇini 2.2.34 mentions in his Aṣṭādhyāyī Krṣṇa temples under the term keśava (cf. Banerjee: 338, 410, discussing Paṇīni sūtra 2.2.34)." He further states that the "The damaged figure of Viṣṇu from the Julian Sherrier collection is another earlier example of Hindu imagery in Gandhāra (Fig.6.6). This image made of grey schist is executed in the typical Gandhāran Bodhisattva style. As far as we know this sculpture piece is yet unpublished. The only clue to identify this figure as Viṣṇu-Vāsudeva is the thick garland (vanamālā) he wears and the broken part of a wheel (cakra) near his left foot. Other than these features other elements of Viṣṇu-Kṛṣṇa are missing."

Dr. Abdul Samad (2011:132) then discusses the post-Kuṣāṇa period and states that this period can be characterized from two perspectives: "The inclusion of Gandhāra in supra-regional Hindu networks ensured the continuation of Gandhāran iconographical and conceptional developments in India proper. On the other hand, the same process facilitated the harmonization of Gandhāran Hinduism and its gradual adaptation to the conventional "Indian standards. […] The end of this process can be seen at the period of the Hindu Śāhīs, i.e., the 7th-8th c. AD, where Gandhāran Hinduism is no longer distinctively different from what can be observed in other regions of India."

We have a few examples of Vishnu images from Taxila (Muhammad Ashraf Khan et al. 2005:184-189) including Fig. 191 of Garuda from Dharmarajika bearing Accession No.5497 Dh. 16-214, and dated to the 2nd century CE; Fig. 194 of Kubera from Sirkap bearing Accession No.23SK.26-3.398, dated to 1st century CE; Fig. 195 of Reclining Vishnu in Black schist from Tofkian bearing Accession No.Ss.100, dated to 7th-8th century CE; Fig. 196, Head of Vishnu in Black schist purchased bearing Accession PPC.101, dated to 7th-8th century CE; and Fig. 199 - Standing Image of Vishnu from Dharmarajika bearing Accession No.929-Dh. 15-1077, dated to 6th-7th century CE.

Of the above, three figures, the Reclining Vishnu from Tofkian, Head of Vishnu purchased by Taxila Museum and the standing image of Vishnu from

Dharmarajika are important in a sense that all these figures are representing Lord Vishnu and all the three have been dated to the 6th/7th century CE. The Reclining Vishnu from Tofkian wears an elaborate headdress - a high crown decorated with crosshatchings. His forehead, eyes, nose with broad nostrils, round chin closely resembles our figure in DOAM, Islamabad. Both wear long ear pendants and broad neckbands decorated with gems/pearls. Similarly, there are some similarities between our sculpture and the haloed head of Vishnu, purchased by the Taxila Museum. Head of the god in Taxila Museum is adorned with long hair parted from the centre and spread over the shoulder, above the hair is a high crown decorated with crosshatchings and beaded design and a necklace. This head has been compared (Dr. Muhammad Ashraf Khan et al. 2005:187) with a figure of Vishnu with similar headdress and features in grey chlorite dated 5th century CE now in the collection of Central Asian Museum at Srinagar University and also from Kashmir Smast belonging to Gupta period. It is also important to note that sculptures in black or dark-grey schist like the one under discussion have been found from almost all-important sites of Taxila including Dharamarajika, Tofkian, Sirkap. (Muhammad Ashraf Khan et al. 2005) and it can reasonably be assumed that sculptures in black schist or dark/grey-blackish schist are not an uncommon phenomenon in Taxila.

Conclusion:

According to Doris Meth Srinivasan (1997:185), "The earliest known Vaisnava image with multiple bodily parts has multiple arms and is dated by inscription to the first century B.C. (Pl.14.1). The image comes from Malhar (M.P.)." Kurt A. Behrendt (2010;299-327) has cited different images of Vishnu.: "To my knowledge only six related phyllitic schist objects have been found in excavations; two Hindu deities from monasteries at Taxila (Fig. 18a, b[1]), and another from the Gandharan site of Kashmir Smast (Fig. 18c), a seated Buddha teaching the first sermon from the Khyber Pass site of Ali Masjid (Fig.18e), a portable shrine from Khotan (Fig.18d) and another from Merve (Fig.18f). Perhaps surprisingly, none are known from Kashmiri sites. Clearly, this

[1]"The Vishnu was found in square 30.30' at a depth of 6 feet (Siddiqi 1938:35, pl.Xia). The other "potstone" image was found in debris overlying the court A monastery, which can be identified as Skanda. Marshall attributed this sculpture to the 5th century (Marshall 1951L278, pl.65h)" (Kurt A. Behrendt (2010;299-327); Note No.53)

distribution of finds helps to map the movement of people, regardless of the actual center of production." He further writes, "At the Dharmarajika complex two small gray phyllite schist portable deities were uncovered in the course of excavation. The first, a four-armed Vishnu, was found in the remains of a ca. 6th century structure built in the courtyard of monastery G (Fig.18a). The other image, which can be identified as Skanda, was found in debris overlying the court A monastery (Fig.18b). Although it is convenient to suggest that they were deposited by late Hindu practitioners, it hardly seems a coincidence that they were found incorporated in a Buddhist sacred area. Additional evidence of the commingling of religious traditions is found among the 7th-8th century Buddhist reliefs cult into boulders in the Swat valley (Fig.23a, b). [….] Perhaps the earliest example of this kind of integration is a six-armed god from the site of Butkara I (Fig.24a). [….] This protective deity, which has iconographic elements of both Shiva and Vishnu, may be a depiction of Skanda, as Taddei has suggested. The multiple arms suggest a 4th-6th century date of production. Another related example is an isolated fragment, now in the Peshawar Museum, of a larger "Shravasti miracle" panel, which probably dates back to the 4th or early 5th century CE (Fig.24b). The central bodhisattva sits in meditation and radiating out from his sides are six deities: a male youth, Shiva (he holds a flask and trident), a barded man (possibly Brahma), a half-naked man (possibly a yaksa), Skanda (he wears mail and holds a spear), and a Buddha in abhaya mudra. Taddei suggests tht this iconographic configuration illustrates ideas present in several texts (the *Saddharma-pundarika* and the *Karandavyuha sutra*), which describe the bodhisattva Avalokiteshvara as being able to reveal himself in nearly infinite forms and in relation to these specific deities."

Taxila thus seems to be of growing significance for Hindu literature and iconography, but it did not receive the importance that it deserved. Ariel Glucklich (2008:15) writes that, "Taxila was renowned in Indian literature, primarily as one of the two important Buddhist centres of learning, along with Nalanda. It was here that Kumaralabdha founded the major philosophical school of Sautrantika, and apparently the great Hindu grammarians Panini and Patanjali had also worked here centuries earlier. …… According to several ancient traditions, the poet Vayasa composed the revered Sanskrit epic the Mahabharata here, and even earlier, the Upanishadic philosopher Uddalaka Aruni taught a stunning innovative monastic philosophy."

Our sculpture in DOAM appears more under influence of the Gupta art, which flourished between 3rd to 5th century CE. There had been close interaction between Gandhara including, particularly Taxila and the mainland India from a remote antiquity and sufficient evidence has been reported for this notion during the Kushan Period (Khattak & Sehrai 2019:61-72; Pratapaditya Pal 1986:43; Sarita Khettry 2011:204-211 & Denise Patry Leidy and Donna Strahan 2000:27). While we do not exclude the possibility of this image having been carved by an artist from Mathura at Taxila, we also do not reject the possibility of this sculpture having been carved by a local artist under influnce from the Gupta art. We have a good number of images (Both Buddhist and Brahmanical) found from different sites of Taxila in the same stone and also resembling our statue. Keeping in view the conour and costumes of our image, we strongly believe that this image might have been carved somewhere between 4th and 5th centuries CE,

References:

Agrawala, Vasudeva S. 1965. Master Pieces of Mathura Sculptures; Prithivi Prakashan Varanasai, India

Beer, Robert (2003:11-12). The Handbook of Tibetan Buddhist Symbols; Serindia Publications Inc., Chicago, Illinois, USA

Baijtze-Picron, Claudin E. (2012). A Neglected Aspect of the Iconography of Visnu and Other Gods and Goddesses; lJlSOA, vol. XXVIII, 2012, Fr. KANTS TRASSE.D-10624. Berlin, Germany.

Gonda, J. (1954) *Aspects of Early Viṣṇuism,* reprinted in 1969. New Delhi (Motilal Banarasidas).

1970 *Viṣṇuism and Śivaism, a comparison.* Athlone Press, London.

Glucklich, Ariel (2008). The Strides of Vishnu: Hindu Culture in Historical Perspective; Oxford University Press, Oxford

Khan, Farid (1992:67-80). Recent discoveries from the North-West Frontier Pakistan. South Asian Studies 8.

------(1993: 87-91). The Ekamukhaliṅga from Wanda Shahabkhel Northwest Frontier Pakistan. South Asian Studies 9.

Khan, Muhammad Ashraf et al. 2005. A Catalogue of the Gandhara Stone Sculptures in the Taxila Museum (Vols. I & II); Department of Archaeology and Museums, Government of Pakistan, Sub-Regional Office Taxila.

Kurt A. Behrendt (2010;299-327). Fasting Buddhas, Ascetic Forest Monks, and the Rise of the Esoteric Tradition; Metropolitan Museum of Art, New York, USA - https://www.researchgate.net/profile/Kurt_Behrendt/publication/279423295_Fasting_Buddhas_Ascetic_Forest_Monks_and_the_Rise_of_the_Esoteric_Tradition/links/5759d15508ae414b8e440837/Fasting-Buddhas-Ascetic-Forest-Monks-and-the-Rise-of-the-Esoteric-Tradition.pdf

Kumar, Karan & Viraj Shah (2014:1-24). Iconography – Meaning of Myths & Icons, FSLE

Lippe, Aschwin (1960: 177-192). The Sculpture of Greater India. *The Metropolitan Museum of Art Bulletin* New Series, Vol. 18, No. 6 - https://www.jstor.org/stable/3258591.

Lochtefeld, James G. (2002:645). The Illustrated Encyclopedia of Hinduism, Volume 2. The Rosen Publishing Group, Inc. New York

Mackenzie, Donald A. (1913). Indian Myth and Legend. The Gresham Publishing Company Ltd., Covent Garden, London.

Mann, Richard D. (2012:208). The Rise of Mahāsena: The Transformation of Skanda-Kārttikeya in North India from the Kusana to Gupta empires. In: Brill's Indological Library edited by Johannes Bronkhorst, Volume 39, Library of Congress Cataloguing-in-Publication Data

Ramanujan, S,R, (2014). The Lord of Vengadam – A Historical Perspective; Partridge Publishing India

Samad, Abdul (2011.)Emergence of Hinduism in Gandhāra An analysis of material culture; Zur Erlangung des Doktorgrades eingereicht am Fachbereich Geschichts- und Kulturwissenschaften der Freien Universität Berlin

Shaw, Julia (2004:5-59). Nāga Sculptures in Sanchi's Archaeological Landscape: Buddhism, Vaiṣṇavism, and Local Agricultural Cults in Central India, First Century BCE to Fifth Century CE; Artibus Asiae Publishers - http://www.jstor.org/stable/3250154

Siudmak, John (2013:497). The Hindu-Buddhist Sculpture of Ancient Kashmir and its Influences; In: Johannes Bronkhorst edited Handbook of Oriental Studies, Section Two, South Asia (Vol.28), Brill.

Smagur , Emilia (2015:63-84). Vaishnavite Influences in the Kushan Coinage. Tom X, Krakow, Notae Numismaticae. Zapiski Numizmatyczne, Jagiellonian University, DOI: 10.12797/ZP.10. (PP.63-84)

Srinivasan, Doris Meth (1997). Multiplicity in Indian Art; Brill, Leiden.

Thrope, Edgar and Showick Thrope (2011:Chapter-2).The Pearson Concise General Knowledge Manual. Pearson, Delhi

Varadpande, Manohar Laxman 2009: Mythology of Vishnu and His Incarnations, Gyan Publishing House, Darya Ganj, New Delhi

A Study of Photographic Archival Collections of Sir John Marshall Preserved at Durham University, U.K in the Light of Buddhist Sculptures Preserved in Peshawar Museum Collection

Tahir Saeed

INTRODUCTION:

This paper presents the result of the research study of Sir John Marshall's Archival Photographic Collections produced during the early 20th century and now preserved in the different museums and library collections of Durham University, UK. The present study was carried out under the Durham Residential Research Library visiting Fellowship (DRRL) programme of Durham University, U.K during February-April 2020.

The Peshawar Museum Reserve Collection is under the administrative control of Directorate of Archaeology & Museums, Government of Khyber Pakhtunkhwa which is identified as Collection of Sub-Regional Office (S.R.O) Peshawar of Federal Department of Archaeology & Museums. It was developed from the archaeological excavations of Archaeological Survey of India, Frontier Circle during the first half of the 20th Century. This Collection was further enriched after the independence of Pakistan by the Federal Department of Archaeology and Museums by means of depositing the material after excavations carried out independently and in collaboration with the foreign Archaeological Missions at a number of archaeological sites in Gandhāra such as Takht-i-Bahi, Sehr-i-Behlol, Jamal Garhi, Mekha Sanda, Thareli, Ranigat and Zar Dheri. However, a large quantity of antiquities is comprised on seized or confiscated material by the Police and Custom authorities from time to time without known provenance or contextual details. As such the aim of present study was to trace out the possible provenance of such Buddhist sculptures and to examine the present state of conservation of the Buddhist sculptures preserved in Peshawar Museum in the light of photographic record of Sir John Marshall at Durham University, U.K.

BRITISH COLONIAL PERIOD ARCHAEOLOGY IN SUB-CONTINENT:

During the British rule in India the archaeological research activities presents a fascinating story of new discoveries of different arts and cultures, introduction of imperial architectural designs, legal framework for administration and institutional maters. Viceroy Lord Curzon was pioneer who decided in 1902 to reorganize the Archaeological Survey of India (ASI) which was established in 1861 and Sir John Marshall was appointed its new Director General. Sir John Marshall's outstanding contribution escorts the activities of Archaeological Survey of India such as preservation of monuments, archaeological excavations, epigraphy and other related fields of Archaeology. He was the real architect of Archaeology in the Sub-Continent and his discoveries added new insight and put the Archaeological Survey of India on a sound footing. Sir John Marshall presented an elaborate vision for the archaeological work in the sub-continent shortly after his arrival as Director General of Archaeological Survey of India. Before his retirement on 6thSeptember 1928 his major works is included; excavations at modern city "Charsada" (Pushkalavati), one of the great centers of Indio-Hellenic civilization. Besides, he also excavated important Buddhist sites such as Shah-ji-kiDheri (Peshāwar), Dharmarajika Stūpa, Jaulian monastic complex and other sites in Taxila Valley (1913-34).

The amount of exploratory research work accomplished by Sir John Marshall during his more than 25 years testifies his untiring energy. Therefore, the name of Sir John Marshall will always be remembered in the annals of archaeological history for his monumental publication on Taxila published by Cambridge University Press in 1951. More than eight decades have since passed, but we have all along cherished his memory as a guiding spirit to continue his work and to adhere to his sincere desire to see the Taxila Valley expand-great and grand, archaeologically as well as socio-economically. It is imperative to collect, protect and preserve all such material which has left behind for posterity. As such, there was a great need to search out from archival records and bring into light all work and contribution of Sir John Marshall. Bringing into limelight the work of Sir John Marshall which was aim of this research study from the archival records in the shape of original photographs not only open new chapters of history of this area but it helps equally to resolve some important questions about the Buddhist art of Gandhara.

SIGNIFICANCE OF PESHAWAR MUSEUM RESERVE COLLECTION:

The Peshawar Museum exhibits the most extensive variety of Gandhara Art discovered mainly from excavations carried out by numerous renowned scholars such as Sir Aurel Stein, H. Hargreaves, D.B Spooner and Sir John Marshall. The Buddhist Collection preserved in the Peshawar Museum (Display and Reserve Collection) is mainly comprised on; Buddha & Bodhisattvas, Buddha images in Panels, Bronze objects (Deities, Armlets, Vases, Plates, oil lamps, decoration objects etc.), Terracotta objects (animal toys, figurines etc.), Architectural Elements (arched panels, capitals, door jambs, decorated panels, brackets, cornices, arch fragments etc.), Ivory / Bone objects, coins, manuscripts, panels, etc. A major source for the sculptures preserved in the Peshawar Museum came from archaeological excavations carried out by Department of Archaeology and Museums, Peshawar University, as well as in collaboration with various foreign archaeological missions working in Pakistan.

The most important archaeological sites representing the Gandharan collection in the Peshawar Museum includes Balahisar, Barikot, Dangar Zai, Mian Khan, Muftipur, Mamane Dheri, Shaikhan Dheri, Thor Dher, Yaqubi etc. Apart from the material discovered through the course of archaeological excavations, many antiquities were confiscated from illegal activities with the help and coordination of the Police as well as Customs authorities. The Customs and Police authorities confiscated cultural material from time to time and deposited into S.R.O Peshawar Office of Federal Department of Archaeology and Museums. A large number of this material which is preserved in the Reserves since early 20th century of our era is without known contextual details or known provenance. Further with the passage of time these sculptures are showing signs of decay for variety of reasons including unfavorable storage and climatic conditions and we may lose these precious relics and would also be deprived of the historical, cultural and artistic values attached to them if appropriate measures are not taken for the preservation of this rich and varied cultural heritage of mankind.

SIR JOHN MARSHALL'S ARCHIVES OF PHOTOGRAPH COLLECTION PRESERVED AT DURHAM UNIVERSITY:

The memorable work done by Sir John Hubert Marshall in the shape of photographic archives of Gandhara sculptures placed at Durham University had provided substantial evidential support to trace out the possible provenance of the Buddhist sculptures preserved in the Reserve Collection of Peshawar Museum which are mostly without known provenance as well as contextual field details. The comparative study of Buddhist sculptures in the light of Sir John Marshall's Photographic Archival Record / Collection preserved extensively in the different libraries / museums of Durham University, U.K provided a unique opportunity to carryout out comparative study of the material as well as to draw the conclusions and results of this research study carried out.

Sir John Marshall's photographs which were taken about a century ago, portray the objects discovered from the course of archaeological excavations mainly from Taxila were found very important to understand and resolve the issue of provenance, chronology, and other aspects of Gandhara sculptures in stucco at Peshawar Museum. The study had also made possible to monitor and examine the present state of conservation of sculptures discovered not only from Taxila but also from other sites which are preserved at different Museums such as Taxila Museum, National Museum of Pakistan, Karachi and Peshawar Museum.

The material studied under the present research work at Durham University constitutes Sir John Marshall's Archives (Volumes) which constitute monochrome black & white photographs of Buddhist sculptures either found from Taxila site in Punjab province of Pakistan or came into Taxila Museum from other sources such as gifts, donations etc. During this research study eight (08) photographic albums of Sir John Marshall relating to Buddhist art of Gandhara art were studied in detail at Ushaw College Library. The Photographs included in Volume No. 18, 19, 20, 21, 22 & 24 which mainly constitute to the Province of Punjab (Pakistan) District Rawalpindi, Taxila, were found very significant to the present research study. The Volume No. 12 which pertains to Frontier Province and Balochistan (Frontier Province is now known as Khyber Pakhtunkhwa) was

also consulted. The detail of the Sir John Marshall's photographs which were consulted for research analysis under the present study is given as under:

S. #	Sir John Marshall's Photograph Albums	Photograph No. (B & W, monochrome)
1	**Volume No.**12	i) DUROM.1957.1.845
2	**Volume No.18**	i) DUROM.1957.1.1322 ii) DUROM.1957.1.1327 iii) DUROM.1957.1.1328
3	**Volume No.19**	i) DUROM.1957.1.1477 ii) DUROM.1957.1.1475 iii) DUROM.1957.1.1476 iv) DUROM.1957.1.1478 v) DUROM.1957.1.1480 vi) DUROM.1957.1.1484
4	**Volume No.20**	i) DUROM.1957.1.1566 ii) DUROM.1957.1.1572 iii) DUROM.1957.1.1573 iv) DUROM.1957.1.1577 v) DUROM.1957.1.1581 vi) DUROM.1957.1.1583 vii) DUROM.1957.1.1584 viii) DUROM.1957.1.1585 ix) DUROM.1957.1.1590 x) DUROM.1957.1.1596 xi) DUROM.1957.1.1597
5	**Volume No.21**	i) DUROM.1957.1.1639 ii) DUROM.1957.1.1640 iii) DUROM.1957.1.1649 iv) DUROM.1957.1.1645 v) DUROM.1957.1.1650 vi) DUROM.1957.1.1660
6	**Volume No.22**	i) DUROM.1957.1.1713
7	**Volume No.24**	i) DUROM.1957.1.1889

Table-1 Detail of Sir John Marshall's photographs selected for research analysis.

The above-mentioned volumes also contain photographs pertaining to the Buddhist sculptures reported from Taxila and other important Buddhist sites namely Akra, Bannu Basin and Charsadda. These all photographs which were taken during early 20th century mainly comprises on; Buddha heads, Bodhisattva heads, Buddha and Bodhisattva in the different postures, Buddhist images in panels, friezes etc. are an excellent example of craftsmanship of Buddhist Art of Gandhara mostly in the medium of stucco. Basically, there are two types of stucco sculptures, religious and secular.

The research material preserved in the Durham University constitute 4998 Black & White photographs of Sir John Marshall which covers the whole of his dedicated time while holding the position of Director General, Archaeological Survey of India from 1902 to 1928. The overall Sir John Marshall's Photographic Archival Record placed at the Durham University constitute 60 Volumes (I to 60) as per recorded with Accession Inventory No. 1 to 4998. This Collection is no doubt representing an important and most useful resource material for the researchers interested in the field of Archaeology and its allied subjects. A number of photographs provide information on the sculptures whose present condition is different from the previous state of conservation. Besides, some photographs are unique in the sense that these are the only record of the endangered part of cultural material which is at risk and their state of conservation is not very much satisfactory. Further it draws attention of the conservators to take necessary measures for proper chemical treatment, preservation, and restoration.

The photographs of Sir John Marshall's Archives at libraries and museums at Durham University, U.K, identifies as 'Sir John Marshall Collection credited by Dr & Mrs. Spalding' (created during 1870-1935) are reproduced in the present research report (Catalogue). The source material is utilized for carrying out comparative and iconographic analysis of the Buddhist sculptures at Peshawar Museum collection. The photographic archival record is most authentic record at Durham University which enables this researcher to carryout comparative and analytical analysis during the present research study as without the access to this reliable archival record it may not have been possible to complete this research work. Further these

photographs supported research hypothesis concerning with the comparative analysis of the Gandhara sculptures with their state of conservation more than one hundred years back. Sir John Marshall during his long span of research provided great care and afforded very pertinent conservation treatments to the Gandhara sculptures especially to the objects in the medium of stucco otherwise the state of conservation of these objects might not have been good and satisfactory as compared to the present state of preservation of the most of sculptures. Sir John Marshall describes that the early or Gandharan School is characterized by the predominant use of schist (a variety of stone as sculptural medium) while the later or Indo-Afghan School by stucco material.

It is relevant to mention here that during this research work it was observed that the Marshall's photographs Archive Collections at Oriental Museum and Ushaw College Library, Durham University pertaining to the present area of research study portrays the Buddhist Art of Gandhara which mainly constitute in the medium of stucco. Therefore, in pursuant of present study, Buddhist sculptures in stucco material was examined thoroughly and the relevant material preserved at Peshawar Museum was considered very much important for carrying out analytical, comparative and iconographic analysis which help the researcher to bring in to light the results and conclusion successfully.

The selection of sample data for analysis purpose was made from the material preserved in the Peshawar Museum Collection which constitute on Buddha and Bodhisattva heads, Buddha and Bodhisattva images in different postures as well as other Buddhist sculptures. After identification and classification of Gandhara sculptures at Peshawar Museum (S.R.O Peshawar Collection) it is established that there are about 1000 objects in the medium of stucco / terracotta which comprises on Buddha and Bodhisattva images, human figures, animal toys etc. Further, the relevant material was selected from the Collection of Peshawar Museum for detail study in the light of Sir John Marshall's photographic archival collections at Durham University according to the research methodology adopted for the present research study. It has observed that stucco sculptures are not only the specifically

confined to Gandhara in Pakistan but also attested in Afghanistan, Chinese Turkistan, Central Asia, Japan and other parts of the world, as well.

This research study facilitated a lot to explore new themes and ideas which have unfortunately missed by the early researchers, obviously for reasons that many Gandhāran objects being out of reach in stores could not be studied. Further, this research study had made possible to classify the selected materials by means of comparative study and analysis which are based on material, iconographical features, stylistic resemblance, drapery etc. to assign these sculptures to logical time frame and provenance. The un-known provenance of these objects has been understood after accomplishing the detailed analytical analysis with the study material placed particularly photographic record of Sir John Marshall at Durham University and in the earlier literature as well as work carried out by scholars on Gandhāran studies. During the present research work circumstantial and contextual evidence were also considered for dating and provenance of the Buddhist sculptures. Therefore, based on style, material, comparative analysis and way of execution of the Gandhara sculptures, it is recognized to place the studied material comes almost between the ranges of 4th to 5th century CE. It is also noteworthy that in the absence of proper provenance of major chunk of the study material the most problematic issue was to distinguish between the fake and genuine sculptures.

POSSIBLE PROVENANCE OF BUDDHSIT SCULPTURES:

A large number of Buddhist sites in Gandhāra have been investigated but it is very unfortunate that the materials, in particular the sculptures recovered from these sites had been studied according to their style or analogy rather than their contextual, stratigraphic and historical background.[1] Further, the dates inscribed on Gandhāra sculptures are very few.[2] The earliest Gandhāran sculptures are in the form of a group of small round stone dishes of varied sizes found from all over Gandhāra. An analytical study shows that the sculptures made their first

[1] M. Nasim Khan. *The Sacred and the secular, Investigating the Unique stupa and Settlement Site of Aziz Dheri, Peshawar Valley, NWFP, Pakistan*, Printograph, Peshawar, 2010, p.1.

[2] W. Zwalf. *A catalogue of the Gandhara Sculptures in the British Museum*, 2 Volumes, British Museum Press, U.K.1996, p.358.

appearance at Taxila during the Greek period with pure Hellenistic themes and workmanship.[1] However, the chronology of Gandhāra sculptures suffers from the use of several eras in their inscriptions and from the lack of scientifically conducted excavations.[2]

As regard the possible provenance of Buddha images in the Collection, most of these images can be assumed from the different sites of Gandhāra sites especially in Peshawar Valley in the light of iconographic, stylistic and comparative analysis in consequence of photographic records of Sir John Marshall at Durham University. The above discussion provides that the un-provenance Buddha images at the S.R.O Peshawar Collection are well comparable with the Buddhist images not only from Taxila Valley but also from the different sites of Gandhāra in Peshawar Valley. Furthermore, the un-provenance Buddhist images of the Collection under this study are well comparable with the different Buddhist sites of the Peshawar or possibly from Taxila Valley which may be dated chronologically from 4th Century to 5th Century CE. Therefore, on the basis of material, analytical, iconographical and stylistic analysis possible provenance of the images in the Collection can be ascribed generally to Peshawar Valley.

CHRONOLOGY OF BUDDHIST SCULPTURES:

About the chronology of Gandhāran sculptures, Harald Ingholt describes the difficulties and their solutions presented by a number of renowned scholars like; Foucher, Marshall, Bachhoffer, Rowland, Buchthal, Wheeler, Lohuizen-De Leeuw and Soper. Ingholt further says that it is generally accepted that the Buddhist civilization of Gandhāra came to an end in the latter half of the fifth century owing to the wholesale destruction by the White Huns.[3] While discussing about the history of the Gandhāra School, Sir John Marshall describes that though there are thousands of Gandhāran sculptures, but among them there is not a one to which a specific date can be assigned, nor has anything certain been known as to where and when the School originated, how it

[1] S.R Dar. *Taxila and the Western World*, Al-Waqar Publishers, Lahore, 1984, p.85.

[2] S. Kramrisch. Image of Buddha from Gandhara, In *Philadelphia Museum of Art Bulletin*, 61(289): 36-39, U.S.A. 1996, p.39.

[3] H. Ingholt. *Gandhara Art in Pakistan*, Pantheon Books, New York, 1957, p. 22.

developed, or when it ceased to exist.[1] The earliest examples according to Sir John Marshall are the exquisitely fine miniature reliefs on the small ring-stones figured on. These dates from the Maurya period (3rd century BCE) and were in all probability imported from Hindustan (India)[2]. Similarly, Pier Francesco Callieri mentions that the findings of a few sculpted elements from Swat and adjacent areas in dated monuments finally allowed Faccenna to propose the first reliable chronology for the birth of Gandhāra art, which further works have confirmed and even though it flourished in the Kushan period, this school had started in the Saka period.[3]

For the identification of the chronology of Gandhāran sculptures, Harald Ingholt[4] has however, recognized four groups ranging from 2ns Century to 5th Century CE. Benjamin Rowland Jr. describes that from the late second to the early fourth century a correspondingly greater classical feeling appears in the heads of the Buddha statues. The heads have a soft and effeminate charm reminding one of such Greaco-Roman works as the Apollo Belvedere.[5] According to Carolyn Woodford Schmidt,[6] in order to more easily review and fully comprehend the complexities of stylistic and iconographic development, the material evidence may be views as a progression of developmental phases.

The medium of stucco was extensively used at several Buddhist establishments in the different areas extending from Taxila in Pakistan to Bactria in Afghanistan.

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[1] J. Marshall. *Taxila, an illustrated Account of Archaeological Excavations* (3 Vol.) Cambridge University Press, England, 1951, p.691.

[2] Ibid. p. 692.

[3] Pierfrancesco Callieri. Domenico Faccenna (1923-2008). In *Journal of Asian civilizations, Special Issue*, 34(1): 16-38, Taxila Institute of Asian Civilizations, Islamabad, 2011, p. 26.

[4] Op.cit. Ingholt, H., p. 40.

[5] Benjamin Rowland, (1936). A revised Chronology of Gandhara sculpture. In *The Art Bulletin* 18(3): 387-400, U.S.A, 1936, p. 396.

[6] C.W Schmidt. 1990: 60) Schmidt, Carolyn Woodford. (1990). *Bodhisattva Headdresses and Hair Styles in the Buddhist Art of Gandhāra and Related Regions of Swāt and Afghanistan*, PhD dissertation (un-published), The Ohio State University, U.S.A., 1990, p. 60.

In the Gandharan sites such as Takht-i-Bahi, Sehr-e-Behlol, Ranigat, Shanashah, Butkara, Nimogram, Marjanai, Bambolai, Gumbatuna, Hajishah Morr, Garhh Maurian, Mausa I & II, Rokhri and Ali Masjid stucco sculptures are found side by side with schist which belong to 4th to 5th CE. A large number of Buddhist sculptures in stucco recovered from Dharmarajika stupa, Jaulian Monastery, Mohra Moradu Stupa, Giri, Kalawan and Bhamala which could be dated from 4th to 5th century CE on the basis of iconographic and comparative analysis derived in the light of photographic record of Sir John Marshall at Durham University, U.K. Further the stucco sculptures from Taxila seems more closely affiliated stylistically to a number of examples from Gandhara, which it shares a similar hairstyle, shape, expressions and other iconographical details.

STATE OF CONSERVATION OF BUDHIST SCULPTURES:

During the present research, the physical condition of the Buddhist sculptures preserved in the Peshawar Museum (Reserve Collection) was examined with the help of photographic Collection of Sir John Marshall placed at the Oriental Museum, Ushaw College Library, Durham University. The Buddhist objects which constitute Buddha head, Bodhisattva head, deity heads, Buddha in Dhyana mudra, Buddha in dharmachakra mudra and other objects were compared with the help of photographs taken by Sir John Marshall about one hundred year ago. It was observed that with the ravages of time and unfavorable storage facilities as well as environment conditions some of Buddhist sculptures need urgent conservation and treatment.

These stucco objects require more consideration as compared to the schist objects which are preserved in the Reserve Collection of Peshawar Museum. For instance, two Bodhisattva heads (Plate. 6 & 8) which are now preserved in Archaeological Museum, Taxila and National Museum of Pakistan, Karachi respectively is suffered from cracks which require urgent measures for proper conservation and chemical treatment. Similarly, another important sculpture of Egyptian god of silence (Plate. 9) also needs scientific laboratory treatment due to its deteriorated condition, which is presently preserved in Archaeological Museum, Taxila.

Another worth mentioning unique and marvelous masterpiece of Gandhara sculpture, which is preserved in the National Museum of Pakistan, Karachi is

a head of an adolescent (Plate. 12). The present state of conservation of this sculpture has also been observed in the light of photograph of Sir John Marshall taken about one hundred year ago. It also draws our attention towards its perished condition and hence urge for its proper conservation to save it from further decay with the ravages of time as well as due to environmental and weather-beaten effects. The photographs of Sir John Marshall taken about a century ago of these objects have provided an immense detail in order to examine the present state of conservation of the Buddhist sculptures. The photographs taken recently for carrying out comparative study of Buddhist sculptures have been incorporated with detail information in the Catalogue.

CONCLUSION:

The Buddhist sculptures with unknown provenance at S.R.O Peshawar Collection are well comparable with the images which have been reported from the different sites of Gandhāra in Peshawar Valley. The artistic evidence organized and presented under this study therefore provides great support for a continuous, relative chronological pattern of development for the traditions in the medium of stucco material. Further that the present study of the Buddhist sculptures bear witness to the fact that it was developed under the diverse syncretistic stylistic environment of Gandhāra. The results of this research work also expose the advanced state of the sculptors of this region mainly belongs to 4^{th} - 5^{th} century Common Era.

We can conclude that this Buddha imagery reflects not only artistic force but a compound interchange of influences from which the Buddhist artistic traditions evolved. These images provide a means of opportunities for reflection on the religious achievements of the Buddhism, their spiritual faith and the artistic vision of the sculptors. Besides, these images are of immense interest from many differing and decisive perspectives which are helpful to develop an understanding of the visual language and to identify regional iconographic and stylistic elements that are distinctive to the Buddhist Art of Gandhāra.

It will not be out of place to mention here that the proper digitalized documentation and study of stucco sculptures of Buddhist period preserved in the Peshawar Museum Reserve Collection are one of the primary sources of information for the political, social, ethnological and religious history of Gandhara. Therefore, it is highly recommended that all the material in this

important Collection should be brought under the umbrella of academic research by creating proper digitized documentation as it can not only add a great contribution to the historical background of this region. It is pertinent to mention here that the state of conservation of some of the objects have been examined carefully and it has been found that a number of objects which represent the superb specimen and master pieces of Buddhist sculptures of Gandhara need immediate steps for proper conservation and restoration to protect and save them from further decay and deterioration for posterity. In consequence of the study of photographic Archival Collections of Sir John Marshall at Durham University, a comprehensive description of the stucco objects preserved in Peshawar Museum Reserve Collection has been provided with all basic details in the Catalogue annexed with this report.

Acknowledgements:

I am deeply grateful to the Durham University, U.K for providing me Fellowship that greatly facilitated the completion of this research study. I wish to express my sincere gratitude to Prof. Dr. Janet Steward, Executive Dean, Arts and Humanities Durham University, Prof. Dr. Stephen Taylor, Director, Institute of Medieval and Early Modern Studies (IMEMS), Dr. James Kelly, Coordinator, Durham Residential Research Library (DRRL) and Prof. Dr. Robin Coningham, Durham University for their great support. I am very much thankful to Ms. Rachel Barclay, Curator of Oriental Museum who had very kindly made available relevant material for my study at Ushaw College Library, as well as Dr. Craig Barclay, Head of Museums, Galleries and Exhibitions, Library and Collections, Durham University and particularly Ms. Barbara Jackson, Research Administrator for their untiring help, cooperation and assistance while doing this research study at Durham University, U.K. Everyone was found very helpful and friendly during this study work carried out mainly at Ushaw College Library, Oriental Museum, Palace Green Library, Bill Bryson Library, St. Chads College and other academic visits to a number of libraries, institutions of Durham University, U.K.

I am also thankful to Dr. Abdul Azeem, Director General, Department of Archaeology and Museums, Pakistan and my colleagues for their support and cooperation. It is pertinent to mention that despite of prevailing hard circumstances due to COVID-19 pandemic, this research study was completed

successfully with great kindhearted cooperation and assistance extended by all the organizers of Durham University, UK and I am highly indebted to all of them.

BIBLIOGRAPHY

Callieri, Pierfrancesco. (2011). Domenico Faccenna (1923-2008). In *Journal of Asian civilizations, Special Issue*, 34(1): 16-38, Taxila Institute of Asian Civilizations, Islamabad.

Dar, Saifur Rahman. (1984). *Taxila and the Western World,* Al-Waqar Publishers, Lahore.

Ingholt, Harald. (1957). *Gandhara Art in Pakistan*, Pantheon Books, New York.

Khan, Muhammad Nasim. (2010a). *The Sacred and the secular, Investigating the Unique stupa and Settlement Site of Aziz Dheri, Peshawar Valley, NWFP, Pakistan*, Printograph, Peshawar.

Kramrisch, Stella. (1966). Image of Buddha from Gandhara. In *Philadelphia Museum of Art Bulletin*, 61(289): 36-39, U.S.A.

Marshall, John. (1912-13). *Excavation at Taxila, Annual Report of Archaeological Survey of India.*

Marshall, Sir John. (1960). *The Buddhist Art of Gandhara*, Cambridge University Press, England.

Mughal, Muhammad Rafique. (2011). Heritage Management and Conservation in Pakistan: The British Legacy and Current Perspective. In *Pakistan Heritage* 3: 123-134, Hazara University, Mansehra.

Olivieri, Luca Maria and M. Vidale with contribution by Abdul Nasir Khan, Tahir Saeed, Luca Colliva, Riccardo Garbini, Leonardo Langella, Roberto Micheli & Emanuele Morigi (2006) Archaeology and Settlement History in a Text Area of the Swāt Valley, Preliminary Report on the AMSV Project (1st Phase). In *East & West*, 56(1-3): 73-150, IsIAO, Rome.

Rowland, Benjamin. (1936). A revised Chronology of Gandhara sculpture. In *The Art Bulletin* 18(3): 387-400, U.S.A.

Schmidt, Carolyn Woodford. (1990). *Bodhisattva Headdresses and Hair Styles in the Buddhist Art of Gandhāra and Related Regions of Swāt and Afghanistan*, PhD dissertation (un-published), The Ohio State University, U.S.A.

Zwalf, W. (1996). *A catalogue of the Gandhara Sculptures in the British Museum*, 2 Volumes, British Museum Press, U.K.

CATALOGUE

Sir John Marshall's Photographic Collection preserved at Durham University, U.K	**Buddhist sculptures preserved at Peshawar Museum Reserve Collection (Pakistan)**
Plate: 1 Title: Buddha head Object Material: Stucco Dimensions: length 107 mm; height 143 mm Object Number: Marshall Archive: Volume 21: Panjab, Taxila. DUROM.1957.1.1650 Source: Excavations Provenance: Taxila Description: Monochrome black & white photograph of Buddha head. According to Marshall it represents a lay worshipper (though possibly a Buddha) from Kalawan. The head has pitted hair drawn up into a tall and pointed ushnisha. The head is placed on a stand, propped up by a drawing pin.	Plate: 1-A Title: Buddha head Object Material: Stucco Dimensions (cm): 8x4 Object Number: SRO-1276 Source: Unknown Provenance: Unknown Description: Head of Buddha image with prominent ushnisha showing pitted hair. Left ear of the image is damaged. The iconography of this head portrays resemblance with the photograph of Sir John Marshall created during 1870-1935 as depicted in Plate 1.
	

Plate: 2 Title: Buddha head Object Material: Stucco Dimensions: 104 mm; height 133 mm Object Number: Marshall Archive: Volume 20: Panjab, Taxila. DUROM.1957.1.1581Source: Excavations Provenance: Taxila Description: Black and white monochrome photograph of Stucco Buddha head. There is a small concave divot, which is damaged, centrally above the eyes representing an urna. The bridge of the nose is also damaged. The hair is defined by wavy lines, and is fragmented at the hair line, and is drawn up into a shallow and damaged ushnisha.	Plate: 2-A Title: Buddha head Object Material: Stucco Dimensions (cm): 39x33 Object Number: SRO-1053 Source: Excavation Provenance: Uncertain Description: This Buddha head is probably from Takht-i-Bahi, Sehri Behlol or Shah-ji-ki- Dehri. The iconography of this head portrays resemblance with the photograph of Sir John Marshall created during 1870-1935 as depicted in Plate 2.
	
Plate: 3 Title: Buddha head Object Material: Stucco Dimensions: length 98 mm; height 133	Plate: 3-A Title: Buddha head Object Material: Stucco Dimensions (cm): 14.5x9

mm Object Number: Marshall Archive: Volume 20: Panjab, Taxila DUROM.1957.1.1580 Source: Excavations Provenance: Taxila Description: Black and white monochrome photograph of Buddha head. There is a small concave divot centrally above the eyes representing an urna. The elongated ear lobe visible on the left side of the face is broken, and the hair is defined by wavy lines, emanating from a central circle located at the front and centre of the hair line. This hair is then drawn up into a shallow ushnisha.	Object Number: SRO- 1911 Source: Unknown Provenance: Unknown Description: Buddha head. Both ears and cheek is damaged. The iconography of this head portrays resemblance with the photograph of Sir John Marshall created during 1870-1935 as depicted in Plate 3.
	
Plate: 4 Title: Buddha in Dhyana mudra. Object Material: Stucco Dimensions: length 127 mm; height 167 mm Object Number: Marshall Archive: Volume 20: Panjab, Taxila.	Plate: 4-A Title: Buddha in Dhyana mudra. Object Material: Stucco Dimensions (cm): 45x48 Object Number: SRO-1335 Source: Unknown Provenance: Unknown

DUROM.1957.1.1573 Source: Excavations Provenance: Taxila Description: Black and white monochrome photograph of Buddha seated in Dhyana mudra. The robes are defined by grooves and cover both shoulders. The left ear lobe is damaged, but the right is clearly elongated and the hair is pitted.	Description: This image of Buddha has been taken for comparative and iconographical analysis which is well comparable with the Buddha image in dhyana mudra as depicted on opposite side. The figure is a seated Buddha in dhyana mudra posture under ogee arch. The right knee of the image is damaged. The robes are defined by grooves and cover both shoulders which is typical Gandharan style. The iconography of this head portrays resemblance with the photograph of Sir John Marshall created during 1870-1935 as depicted in Plate 4.
	
Plate: 5 Title: Bodhisattva head Object Material: Stucco Dimensions: length 106 mm; height 135 mm Object Number: Marshall Archive:	Plate: 5-A Title: Bodhisattva head Object Material: Stucco Dimensions (cm): 10x6.5 Object Number: SRO-1497 Source: Unknown

Volume 21: Panjab, Taxila.DUROM.1957.1.1649 Source: Excavations Provenance: Taxila Description: Black and white monochrome photograph of Bodhisattva head. The head is stated to be modelled in the typical Kalawan style and has wavy hair drawn up into an ushnisha.	Provenance: Unknown Description: This head of a figure (probably Bodhisattva) with prominent head dress is taken for comparative and iconographic analysis with the Bodhisattva head depicted on opposite side. The hair style depicting in wavy shape is very prominent. The iconography of this head portrays resemblance with the photograph of Sir John Marshall created during 1870-1935 as depicted in Plate 5.
	
Plate: 6 Title: Bodhisattva head Object Material: Stucco Dimensions: length 146 mm; height 191 mm Object Number: Marshall Archive: Volume 19: Panjab, Taxila.DUROM.1957.1.1478 Source: Excavations Provenance: Taxila Description:	Plate: 6-A Title: Bodhisattva head Object Material: Stucco Dimensions (cm): 10x10 Object Number: SRO-1111 Source: Unknown Provenance: Unknown Description: This image of Bodhisattva has been taken for comparative and iconographical analysis which is well

Black and white monochrome photograph of head of a figure that may represent a deity or Bodhisattva. The figure is broken at the neck, and has arched eyebrows, oval eyes, a thin nose and defined lips. Wavy hair sits below a headdress, and an earlobe is visible on the right side of the face.	comparable with the head depicted on opposite side. The image is shown with prominent head dress; nose and lips of the image are mutilated and badly damaged. The iconography of this head portrays resemblance with the photograph of Sir John Marshall created during 1870-1935 as depicted in Plate 6. This stature is representation of head of a Bodhisattva with face slightly more elongated than usual and well-rounded chin with eyes half closed. In head decoration hair are disposed in stands falling from the usnisa and ending in curls suggestive of bronze technique; round the forehead is confined in a circle. The Urna mark in relief Head dress is typically Hellenistic in its details. In order to examine the present state of conservation of the image as depicted in the photograph which was taken by Sir John Marshall during 1870-1935 on the opposite side, we have taken this picture taken recently in February, 2020 as shown below of the old picture. There are observed some minor deteriorated condition at the bottom of the face alongside the rounded neck. However, microscopic examination can give more details about the present state of preservation of this distinctive and unique Bodhisattva head. This head is preserved in

	Archaeological Museum, Taxila (H.23 cms. Acc. No.TM. 1831). (Ref: Sir John Marshall, Taxila, Cambridge University Press, 1951, p. 529, pl. 159, no. 77).
	
Plate: 7 Title: Buddha head Object Material: Stucco Dimensions: length 135 mm; height 176 mm Object Number: Marshall Archive: Volume 19: Panjab, Taxila. DUROM.1957.1.1480 Source: Excavations Provenance: Taxila Description: Black and white monochrome photograph of head of a figure that may represent a Buddha. The figure is broken at the neck, and oval eyes sit below arched eyebrows, with a defined nose and lips. The hair line comes to a central point, is wavy, and is gathered on the top of the head in the shape of ushnisha.	Plate: 7-A Title: Buddha head Object Material: Stucco Dimensions (cm): 13x8 Object Number: SRO-1666 Source: Excavation Provenance: Jamal Garhi, Distt: Mardan. Description: This head of a figure is taken for comparative and iconographic analysis with the Buddha head depicted on opposite side. The Stucco head of Buddha shows prominent hair dressed in wavy plaits gathered on the top of the head which are drawn up to form Ushnisha. The left ear is missing while the right one is badly damaged. The pointed nose, upper lip, cheek is damaged. The iconography of this

	head portrays resemblance with the photograph of Sir John Marshall created during 1870-1935 as depicted in Plate 7.
	
Plate: 8 Title: Bodhisattva head Object Material: Terracotta Dimensions: length 128 mm; height 180 mm Object Number: Marshall Archive: Volume 21: Panjab, Taxila. DUROM.1957.1.1639 Source: Excavations Provenance: Taxila Description: Black and white monochrome photograph of Bodhisattva head. It is stated that this Bodhisattva formed part of a large group of figures. The head is placed on a stand and is viewed in profile. The features of the face are well preserved, and an elaborate head dress includes impressed designs including curved	Plate: 8-A Title: Bodhisattva head Object Material: Terracotta Dimensions (cm): 12.5 Height Object Number: 9019KN/32-46 Source: Excavation Provenance: Taxila (Kalawan site) Description: The Head of Bodhisattva in complicated Crown Head Dress, characterized with open eyes, instead of the stereo typed expression of the Buddha, this head reveals the Maha Maya conception of the feelings of the Bodhisattva towards sorrow & Compactions, readiness to hear prayers and to health in suffering. In order to examine the present state of conservation of the image as depicted in the photograph which was taken about a century ago by Sir John

lines, rectangles and circles. The head dress is surmounted by a cylindrical pinnacle. Below the head dress curled hair is visible as is an elaborate earring shaped like an elephant.	Marshall during 1870-1935 depicted on the opposite side, we have taken pictures of the image recently in February, 2020 as shown below. There are developed minor cracks which are visible in the middle of the head dress and right side of the face. After about a century this image needs to undertake urgent measures for its conservation to save it from further deterioration which is caused due to environmental and other problems. This image is now preserved in National Museum of Pakistan, Karachi.
	
Plate: 9 Title: Egyptian god of silence Harpocrates Object Material: Bronze Dimensions: length 131 mm; height 179 mm Object Number: Marshall **Archive**: Volume 24: Panjab, Taxila.	Plate: 9-A Title: Egyptian god of silence Harpocrates Object Material: Bronze Dimensions (cm): 12.7 Height Object Number: SK.13-194/21 Source: Excavation Provenance: Taxila (Sirkap)

DUROM.1957.1.1889 Source: Excavation Provenance: Taxila Description: Black and white monochrome photograph of Egyptian god of silence Harpocrates.	Description: This statue is representation of the Egyptian child-god Harpocrates (Horus), Child of Isis and Osiris. The child-god stands wearing a long sleeves tunic. His right forefinger is raised towards his lips. In his left hand he held some object which has disappeared. His hair waved from the centre falls in long trees on his right shoulder. On his head he wears the Egyptian crowns of lower and upper Egypt. The statuette is a characteristic Greco-Roman work of the first century C.E and may have come from Alexandria, where the cult of Harpocrates was centered, though such statuettes appear to have been made in many parts of the Greco-Roman world. In order to examine the present state of conservation of the image as depicted in the photograph which was taken about a century ago by Sir John Marshall during 1870-1935 depicted on the opposite side, we have taken pictures of the image recently in February 2020 as shown opposite below. I observed some minor deteriorated condition. However, microscopic examination can give more details about the present state of preservation of this important sculpture now preserved in the Archaeological Museum, Taxila. (Ref: Sir John Marshall, Taxila,

	Cambridge University Press, 1951, p.159 and 605, Plate 186, No.417; Harald Ingholt, Gandharan Art in Pakistan, H. Wolff Book Manufacturing Co. New York, p.179, Plate 492).
	
Plate: 10 Title: Bodhisattva or deity head Object Material: Stucco Dimensions: length 148 mm; height 185 mm Object Number: Marshall Archive: Volume 18: Panjab, Taxila.DUROM.1957.1.1328 Source: Excavation Provenance: Taxila Description Black and white monochrome photograph of head of a Bodhisattva or deity. The figure has an open mouth with moustache over the top lip. Sub-circular eyes, with lids, sit below steeply arched eyebrows. The hair is wavy and is tied by a hair band at the top of the forehead, but	Plate: 10-A Title: head Object Material: Stucco Dimensions (cm): 10x7 Object Number: SRO-1520 Source: Unknown Provenance: Unknown Description: This head of a figure with head dress and moustaches has been taken for comparative and iconographical analysis which is well comparable with the Buddha image (probably Bodhisatva or deity) as depicted on opposite side. The iconography of this head portrays resemblance with the head shown in photograph of Sir John Marshall created during 1870-1935 as depicted in Plate 10.

cascades down the left side of the head.	
	
Plate: 11 Title: head Object Material: Stucco Dimensions: length 152 mm; height 197 mm Object Number: Marshall Archive: Volume 19: Panjab, Taxila .DUROM.1957.1.1476 Source: Excavation Provenance: Taxila Description Black and white monochrome photograph of head of a bearded man. The beard and hair is wavy, and the figure has a defined moustache, eyes, lips and nose.	Plate: 11-A Title: head Object Material: Stucco / Terracotta Dimensions (cm): 13x19 Object Number: SRO-1374 Source: Un known Provenance: Unknown Description: This image of a head been taken for comparative and iconographical analysis which is well comparable with the image as depicted on opposite side. The figure is a head of a bearded man, the upper portion of the head is broken and missing. The iconography of this head portrays resemblance with the head of bearded man as shown in the photograph of Sir John Marshall created during 1870-1935 as depicted in Plate 11.

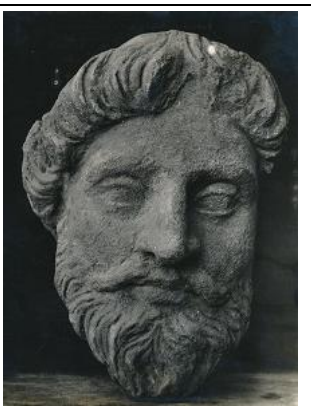
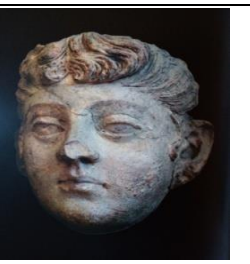
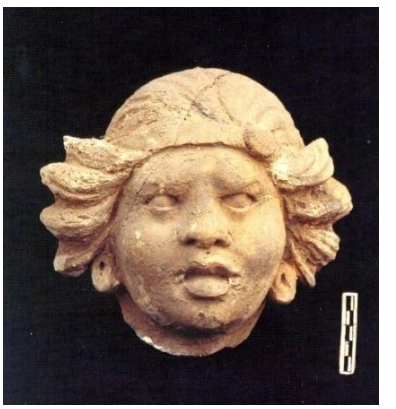
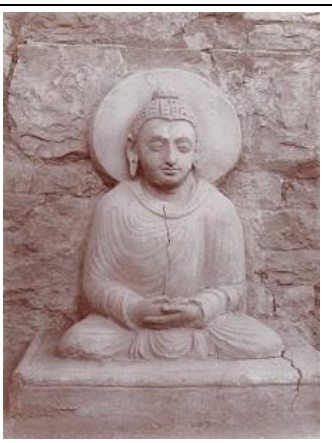


Plate: 12 Title: head Object Material: Stucco Dimensions: length 122 mm; height 155 mm Object Number: Marshall Archive: Volume 19: Panjab, Taxila.DUROM.1957.1.1475 Source: Excavation Provenance: Taxila Description: Black and white monochrome photograph of a head. The head has defined eyes, nose, lips and ears, and has wavy hair.	Plate: 12-A Title: head Object Material: Stucco Dimensions (cm): 27 height Object Number: 1832-DH-13-543 Source: Excavations Provenance: Taxila Description: His eyes are half opened. From the front his wavey hair are covering half of his forehead sort of bun. His ears are big in size. His nose is broken right above his left nostril. From side view his nose seems to be pointed but from the front looks little bit flat at the edge of the nostril. His somewhat oval shaped face has Greek features. In order to examine the present state of conservation of the image as depicted in the photograph which was taken about a century ago by Sir John Marshall during 1870-1935 depicted on the opposite side above, we have taken pictures of the image recently in February 2020 as shown opposite below. There have developed cracks

	which are visible on the left ear of the head and back side of the head. After comparing the present condition of the head with the Sir John Marshall's photograph taken about a century ago it is observed that the image needs to undertake urgent measures for its proper conservation to save it from further deterioration. This head is now preserved in the National Museum of Pakistan, Karachi.
	  
Plate: 13 Title: Bodhisattva head Object Material: Stucco Dimensions: length 105 mm; height 117 mm Object Number: Marshall Archive: Volume 21: Panjab, Taxila. DUROM.	Plate:13-A Title: head Object Material: Stucco Dimensions (cm): 5x4 Object Number: SRO-1795 Source: Unknown Provenance: Unknown

1957.1.1660 Source: Excavation Provenance: Taxila Description: Black and white monochrome photograph of head that possibly represents a deity or Bodhisattva. The figure wears a headdress with a central circular disc and has a prominent moustache above the top lip. The head is placed on a square base.	Description: This image of a head has been taken for comparative and iconographical analysis which is well comparable with the Buddha head (probably Bodhisattva head) as depicted on opposite side. The figure is a head of a figure with moustaches and showing prominently head dress knot on forehead, left portion of head is damaged /missing. The iconography of this head portrays resemblance with the photograph of Sir John Marshall created during 1870-1935 as depicted in Plate 13.
	
Plate: 14 Title: Head Object Material: Stucco Dimensions: length 100 mm; height 139 mm Object Number: Marshall Archive: Volume 12: N.W. Frontier Province Baluchistan. DUROM.1957.1.847 Source: Excavation Provenance: Akra Description: Black and white	Plate: 14-A Title: head Object Material: Stucco Dimensions (cm): 16x17 Object Number: SRO-2665 Source: Unknown Provenance: Unknown Description: This image of a head has been taken for comparative and iconographical analysis which is well comparable with the Buddha image as

monochrome photograph of a terracotta head from Akra. The figure appears to have a laurel reef headdress.	depicted on opposite side. The figure is a Stucco/Kanjure stone, which is shown with open mouth and prominent head dress with neck. The iconography of this head portrays resemblance with the head (which is from Akra) shown in the photograph of Sir John Marshall which was created during 1870-1935 as depicted in Plate 14.
	
Plate: 15 Title: Buddha in dyana mudra Object Material: Stucco Dimensions: length 149 mm; height 111 mm Object Number: Marshall Archive: Volume 20: Panjab, Taxila. DUROM. 1957.1.1566 Source: Excavations Provenance: Taxila Description: Black and white monochrome photograph of a seated Buddha. The Buddha wears a robe, defined by grooves, and holds the hands in the lap, one on top of	Plate: 15-A Title: Buddha in dhyana mudra Object Material: Stucco Dimensions (cm): 45x48 Object Number: SRO-1335 Source: Unknown Provenance: Unknown Description: This image of Buddha in Dhyana mudra has been taken for comparative and iconographical analysis which is well comparable with the Buddha image in dhyana mudra as depicted on opposite side. The figure is a seated Buddha in dhyana mudra posture under ogee

the other. The Buddha has elongated ear lobes, and hair defined by grooved lines and recesses, that are drawn up into an ushnisha. The head is framed by a halo and the figure seats on a rectangular plinth. A crack in the stucco is present down the chest at the front and next to the left knee of the Buddha down through the plinth.	arch. The right knee of the image is damaged. The robes are defined by grooves and cover both shoulders which are typical Gandharan style. The iconography of this head portrays resemblance with the photograph of Sir John Marshall created during 1870-1935 as depicted in Plate 15.
	

Hardware Technologies in Ancient Archaeology of Egyptian Pyramids

Parvaiz Habibullah[1]

Abstract

The history of hardware technologies in archaeology of ancient Egypt reveals that hardware tools had been in use from early dynasty (c3100-2613BC) up to the last period of 26-30 dynasties (c656-632BC). The oldest tool used was mould in which the clay bricks were cast and dried. Copper chisels were introduced in the old kingdom (c2613-2021BC). Large sledges were used for moving stones to the construction places where ramps were used for hauling the stones up. Big and little dippers were used for aligning the structures. Bronze chisels, saws and bow drills were extensively used for harder stones and sculpture making and bas relief in all the three old, middle and new kingdoms. Briefly we can say that hardware technology, metallurgy, metal casting and many other arts grew up step by step in the archaeology of ancient Egypt.

Keywords

Egyptian pyramids, hardware technologies, metallurgy, casting, art

Introduction

No pyramids are more celebrated than the Great Pyramids of Giza, located on a plateau on the west bank of the Nile River, on the outskirts of modern-day Cairo. The oldest and largest of the three pyramids of Giza, known as the Great Pyramid, is the only surviving structure out of the famed seven wonders of the ancient world. It was built for Khufu (Cheops, in Greek).

Sun-dried mud bricks, the most convenient and comfortable material, was commonly used in houses and even palaces for construction. It was replaced by the limestone used during the eighteenth and nineteenth dynasties (the temples of Menmare and Usermare at Abydos), but it was increasingly replaced

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during this period by sandstone, which was easily and principally obtained from quarries fronting on to the river on both banks of Silsila, between Edfu and Kom Ombo.

The only other stone used at all widely was granite, almost all of which came from the extensive outcrop at Aswan. It was used for the lower facing courses on the pyramid of Khaefre (the second largest at Giza) and for his impressive 'valley temple' at the same site and formed the greater part of the facing on the third pyramid, that of Menkaure.

Expedition

Author visited Giza pyramids and Sphinx of Cairo, Egypt (fig.1 & 2) in 2019. In present paper, some details concerning hardware technologies, casting and metallurgy in different dynasties of ancient Egypt are presented.

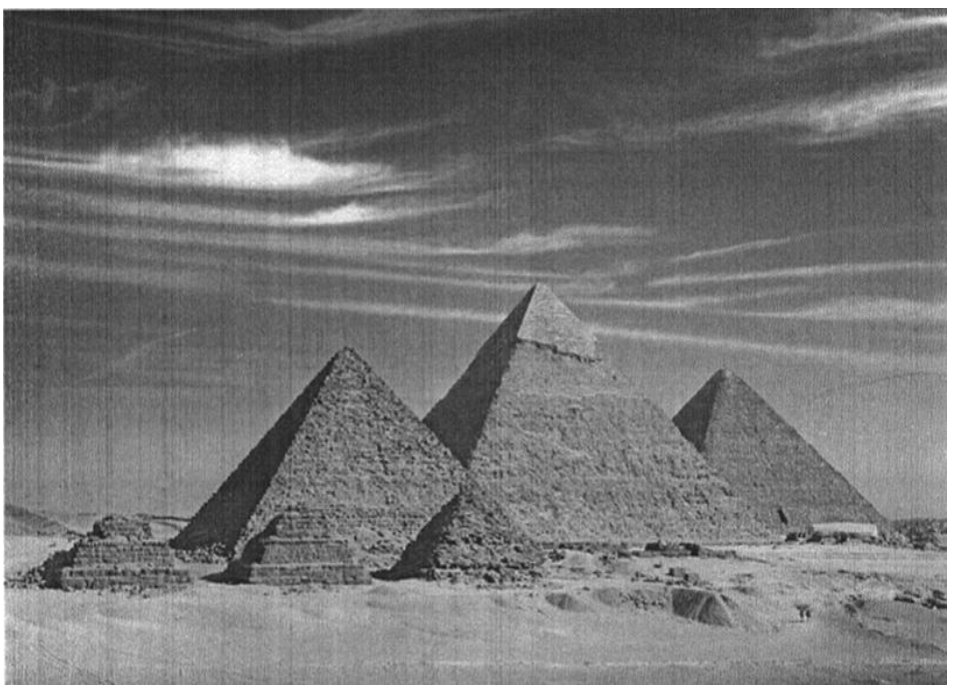

Fig. 1. Giza Pyramids visited by author.

Revelation & Disclosure

Table-1 Dynasties of ancient Egypt traditionally recognized:

c3100-2613BC	The Early Dynastic period	Dynasties 1-3
c2613-2160BC	The Old Kingdom	Dynasties 4-8
c2160-2040BC	The First Intermediate period	Dynasty 9 early Dynasty 11
c2040-1652BC	The Middle Kingdom	Late Dynasty 11 – Dynasty 13
c1652-1567BC	The Second Intermediate period	Dynasties 15-17
c1567-1069BC	The New Kingdom	Dynasties 18-20
c1069-656BC	The Third Intermediate period	Dynasties 21-25
c656-332BC	The Late period	Dynasties 26-30(31)

Development in Hardware Technologies used in Ancient Egypt:

The history of hardware technologies in ancient Egypt reveals that in early dynasty period (c3100-2613BC) the oldest tool used in masonry was mould (probably made of wood or copper) in which clay bricks were cast and dried in sun and were used for common houses and precincts of temple and towns. In old kingdom (c2613 to 2021BC) copper chisels were developed for cutting the limestone used for construction, by impact strokes of the wooden mallets. Metallurgy, mineral exploration, smelting and art of making and shaping of metals also existed during old kingdom. Copper needed was extracted from copper ore deposits at Sinai, Kulb, Wadi el Allaqi and lower Nubia. The other nearest copper ore deposit existing since 6500 years ago, was in the village of *Shiqmi* (or *Shiqmim*) (presently in Israel), which was smelted and used for making metal tools. Large sledges were used for moving stones to the construction place where ramps were used for hauling the stones up. Big and little dippers were used for aligning the structures. These technologies were

used for step pyramids (2650BC) red pyramids at Dahsur and burial structures of Sneferu (2613 to 2589BC) and great pyramids of Khafu and Khafre, Carved sphinx, and southernmost pyramids of Menkaure at Giza and Pepy II pyramids. The technologies continued upto the second intermediate period (c1652-1567BC) and used for construction of big temples of Menmare and Usermare. In new kingdom (c1567-1069BC). The copper chisels were replaced by the bronze chisels, saws & bow drills used for harder stones such as sand stones and granite. Sledges and ramps were used in the same token as in the old kingdom. In these dynasties, Karnak Luxor, Medinet Habu and Ramesseum temples Tutankhanum tomb were constructed. This practice continued upto last period 26-30 dynasty (656-632BC).

Chisels, bows and drills were extensively used in the art: sculpture making, fine & bas relief, wood & metal work, of all three, old, middle & new kingdoms of ancient Egypt. After making the art pieces, their surface finish was improved by chafing with emery powder / stones. (summarized in table 1 – 4).

Conclusion

Briefly, we can conclude that hardware technologies, metallurgy, metal casting and many other arts grew step by step in archaeology of old, middle and new kingdoms of ancient Egypt and pyramids, the most magnificent man-made architectural structures were made by applying these technologies.

Acknowledgement

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Bibliography

1. Pyramids – odysseys – Wm. R. Fix, p. 2-21 Jonathan James Books, J, Wiley & Sons Canada, Torn. ISBN 0-471-99798-6
2. The Pyramids by Miro Stan Verner (translation from Germany) 1997.
3. http://www.history.com/topics/ancient-historythe-egyptian-pyramids
4. Cotterell A – The Encyclopedia of Ancient Civilization, The Rainbird Publishing Group Ltd., 1980, p.21-43

5. Habibullah P – New Frontiers of Metallurgy in Archaeology of Punjab, Pakistan, Chetna Parkashan, India, 2009, p.27

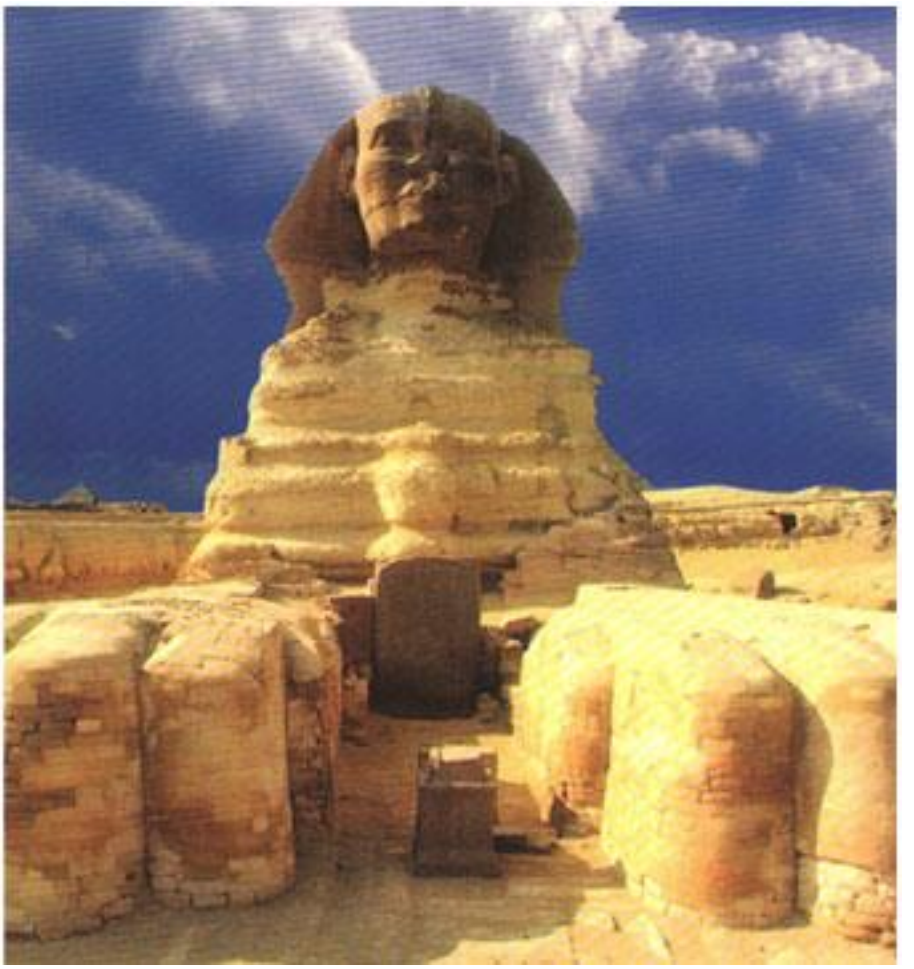

Fig. 2. SPHINX the keeper of the Giza pyramids

Table-2 Improvement in Hardware Technologies in Different Dynasties of Ancient Egypt

Dynasties of Ancient Egypt	Masonry and Construction Technology			Metallurgy, Mineral Exploration & Smelting	Woodwork
	Materials	Tools & Equipment	Buildings Constructed		
Early Dynastic period c3100-2613 BC Dynasties 1-3	Sun dried mud clay bricks	Moulds for casting mud clay bricks	Common houses and precincts of temple and towns	Exploitation at Turquoise mines, Wadi Maghara in Sinai	
Old Kingdom c2613-2160 BC Dynasties 4-8	Limestone	• Cut masonry: Stone cutting-copper chisels with wooden mallet. • Large sledges that could be pushed or pulled by workers were used for moving stones over land. When stones arrive at pyramid, a system of ramps was used for hauling the stone up. • For planning, big and little dippers used to align structures to north south	Temples and tombs (*mastabas*) carved in the rock. Step pyramids of King Zoser at Saqqara (2650BC) Red pyramids at Dahshur and burial structures of Sneferu (2613-2589) Great pyramid of Khufu & Khafre, built at Giza. Carved Sphinx. Southernmost pyramid of Menkaure (2532-2503) at Giza. Pepy II pyramid.	• Exploration of Diorite quarries in north west of Toshka • Mining of copper ore in Sinai • Establishment of Buhen colony for smelting of copper • Scouring for mineral deposits at Kulb, Wadi el Allaqi & lower Nubia	Timber from Egypt and cedar wood from Lebanese hills was processed.
First Intermediate	Limestone	-do-			

period c2160-2040 BC Dynasties 9 – 11					
Middle Kingdom c2040-1652 BC Late Dynasty 11 –13	Limestone	-do-		• Gold mining at Wadi al Allaqi & • Gold obtained from farther south, known as Kush, at that time	
Second Intermediate period c1652-1567 BC Dynasties 15-17	Limestone	-do-	Menmare and Usermare temples		
New Kingdom c1567-1069 BC Dynasties 18-20	Sandstone / granite and gypsum, as mortar	• Cut masonry: Cutting-copper chisels, saws and bow drills for softer stones and **bronze chisels** for harder stones with wooden mallet and metallic wedges for quarrying, were used. • Large sledges that could be pushed or pulled by workers used. When stones arrive at pyramid, a system of ramps was	Karnak Luxor, Medinet Habu and Ramesseum temples Tutankhamun tomb	• Gold mines at Wdi al Allaqi and Kush were in full production • Difficulties were encountered in trying to maintain the levels of gold production in 18th Dynasty	

		used for hauling the stone up. • For planning, big and little dippers used to align structures to north south.			
Third Intermediate period c1069-656 BC Dynasties 21-25	Sandstone / granite	-do-			
Late period 656-332 BC Dynasties 26-30 (31)	Sandstone / granite	-do-			

Source: Cotterell A – The Encyclopedia of Ancient Civilization, The Rainbird Publishing Group Ltd., 1980, p.21-43

Table –3 Art during each of three major periods of Egyptian history (the old, middle and new kingdoms)

Periods of Egyptian History	Master Pieces of Ancient Art	Photos
Old Kingdom	• **Memphite school:** Throughout the old kingdom Memphite school dominated producing work of superb quality. They have mastery over the modalities of hardest stones (e.g. diorite statue of king Khaefre c2550BC, one of the sons of Khufu, found in valley of temple of his pyramid at Giza, shown being protected by falcon god, Horus) • **Private sculptures**: of portraiture Rahotep and his wife Nofret, Hemiumu. Ankha-af and other • **Relief work**: tombs of Mereuka Tiy Kagemni and others at Saqqara • **Woodwork:** Wood as a medium appears to have been more popular than in the subsequent period (panel of Hesey-re, the statue of Ka-aper Sheikh el Beled) • **Metal work:** Copper statues of King Pepi I and prince Merenre • In King Unas (2375-2345) period writings were inscribed on the walls of burial chambers (earliest compositions of ancient Egypt)	 Diorite statue of King Khaefre (c2550BC)
Middle Kingdom	• **Old and New Partnership (Memphis and Thebes):** Royal	

	statues from 12th Dynasty Kiosk of Senwosret I at Karnak. Painted scenes in tombs of Beni Hassan	
New Kingdom	• **Funerary Art** is particularly plentiful in new kingdom, more commonly painted than carved. • **Fine Relief work** at tomb of Ramose at Thebes (contemporary with Amen hotep III and Amen hotep IV in 18th dynasty). Tombs from later half of 18th dynasty (post Menkheperre) with richer colours and freer composition. Green schist statues of Menkheperre in Cairo Museum. • **Art of Amarna period:** in which domestic scenes of king, his queen Nefertiti and their daughter had been depicted (1367-1350BC) • **Bas relief work from the tomb-** c1365BC, **c**hapel of the *chaty* Ramose at Thebes, showing parents of Ramose's, Neby and Apuya. • Relief work from tomb of Menmare Sati I (1305-1290BC) details show a priest of Horus the- hairpiece denotes royalty. • New Kingdom noble's tomb at Thebes -Fragment of painted decoration, from the tomb.	 Bas relief work from tomb –chapel  of chaty Ramose at Thebes (c1365BC) Relief work from the tomb of Menmare Sati I (c1305-1290BC)

Source: Cotterell A – The Encyclopedia of Ancient Civilization. The Rainbird Publishing Group Ltd., 1980, p.21-43

Table –4 Four distinct scripts of Ancient Egypt

Distinct scripts of Ancient Egypt	Period	Applied on
Hieroglyphic system	Pharaonic time uptil 3rd century AD	Monuments text
Hieratic	Old kingdom upto New kingdom	In 12th dynasty (middle kingdom) hieratic scrip tablet was made in Ramesside times on a large piece of limestone. Literary composition and business documents of new kingdom
Demotic	Developed in 26th dynasty and continued upto 5th century AD	Literary composition and business documents of new kingdom
Coptic	Egyptian Christians	--

N.B: Commonest writing material was obtained from papyrus plant; black ink was made from carbon and red from ochre. Mixture of soot and gum was chosen for writing on papyrus or pot-shreds. At about the beginning of Christian area aqueous extract of oak galls with a solution of ferrous sulphate, a deep blue-back colour was obtained, and if gum Arabic was added to solution an excellent writing ink was produced [5]. Different types of fine brushes made from single rush stem frayed at the tip, were used for writing.

Source: Cotterell A – The Encyclopedia of Ancient Civilization. The Rainbird Publishing Group Ltd., 1980, p.21-43

Maryam Zamani Mosque
(Issues of Human Vandalism and Conservation Problems)

Saira Ramzan

Introduction:

The Maryam Zamani Mosque lies to the east of the Masti gate of Lahore fort. This Mosque was built by Maryam Zamani, Jahangir's mother, it is known after her the Begum Shahi Mosque embellished with exquisite fresco paintings, and it is a unique Mosque not only among Mughal buildings at Lahore but also in India. Further, being this brick structure is known because of two important elements namely Fresco-buono[1] paintings and the double-domes with which the prayer chamber is crowned. As one of the earliest Mughal monuments in Pakistan, its painting model reflects the feminine character of the Mosque. It also represents the transitional phase between Lodhi and Mughal architecture (Khan 1991: 64). Maryam Zamani mosque is a first mosque of its kind in Lahore which has a large impact on the subsequent architecture of Lahore and Punjab. Although this mosque follows the traditional pattern of Islamic mosque but technically as well as architecturally it shows remarkable achievement in the art of architecture as well as in the form of a mosque. In this article an attempt is made to explore the preservation measures adopted in the colonial and post–colonial periods for this mosque because the whole condition of its conservation is sub-standard. This mosque can be preserved through proper conservation methods under the supervision of art historians and archaeologists.

[1] Fresco-buono, or true fresco, is so called because the painting is executed " a fresco," that is, directly on the fresh, or wet plaster, which forms the painting surface of the wall. This plaster, or mortar, is a mixture of lime and sand, and the colours used in the painting are such as will remain unchanged in hue when in contact or in mixture with the lime. When all necessary details relating to the method of procedure connected with the work are carefully carried out, true fresco paintings may be said to have a higher degree of permanence and durability than those executed by any other method or medium. The fine surface texture and luminous quality of buon fresco pre-eminently distinguishes it as the most beautiful colour finish for mural decoration (W. James 1909: 12). (Editor)

This mosque was built in 1025H 1616 CE., this date is derived from the text Khush Masjidi (خوش مسجدی) inscribed on the eastern gate. Before the building of Wazir Khan Mosque, this Mosque seems to serve as the Jamia Mosque of the city. The royal members are related to say their prayers in this Mosque while they were staying in the Lahore fort. Besides, the Mosque had been used for the purpose by the nobility as well as the common people. (Chaghtai 1934: 84)

The fresco painting at the Mosque of Maryam Zamani is the first of its kind and provides evidence for its earliest known use in the Mosques of Pakistan. If we talk about the early Mughal period, we do not see such type of widespread and momentous use of this kind of ornamentation in the history of architecture. The unique and perpetual variety of geometric, floral and inscriptional designs broadens over the interior surface in a delicate and exquisite colour scheme is a characteristic not seen or found somewhere else. The surface has been divided into various panels of different shapes and dimensions according to the space available, and all the soffits, niches, squinches, arches, interior of domes, apex etc., are covered with these paintings.

Conservation and Preservation work in the Mosque

The Mosque remained patronized by the Moghul superiority and the common man alike for prayer for more than two hundred years when the Sikh ruler Ranjit Singh transformed its sacred atmosphere by converting it into a gun powder magazine. Hence the Muslims were denied entry into the building to offer prayer. The gun-powder factory established in the mosque had a complete staff working under the superintendence of Jawahar Mal Mistri. However Major McGregor, at that time Deputy Commissioner of Lahore, restored the mosque to the Muslims in 1850 A.D, along with the shops and houses attached to it. At the time of the handover, the condition of the mosque was terrible and required instant preparation which was carried out by the donations contributed by native Muslims. Unfortunately, we are not aware of the details of these conservations, but it may be supposed that the whitewash hiding the frescos here and there in the interior of the prayer chamber, the re-paving of the courtyard with modern bricks, and other wide repairs to the ablution tank and to the eastern gateway are some of these conservations. However, not according to Archaeological principles, these and the later preservations nonetheless strengthened the structure of the Mosque. Later, the Mosque was

provided with electricity and intricate arrangements were carried out for electric fittings (Rhmani 2002: 246).

After more than a century, some progressive members of the Anjuman-i-Hanafiya-e-Qadiriya, the organization responsible for the maintenance of the Mosque, considered the appeal of renovating the fresco work which had experienced decline and destruction and, at places, was covered under layers of whitewash. The organization raised a fund of Rs. 50,000/- for the purpose through payments and donations. (Khan 1970-71: 133). It was fortunate that the Committee approached the Department of Archaeology for the completing of the work and the Department accepted responsibility for technical help and guidance. However, no contribution was made by the Government as the monument was not at that time, protected under the Ancient Monuments Preservation Act of 1904.

The work of the restoration was happening in 1959 under the supervision of the West Pakistan Circle of the Department of Archaeology (Khan 1970-71: 133). For the purpose, the monument was studied by the staff of the Circle and both the structure and the fresco ornamentation were inspected in order to make a detailed conservation note and estimation. During the process of inspection, it was found that the worsening of the decoration was not wholly due to human negligence and thoughtless restoration. It was, to a great extent, due to distressing climatic action. Due to the passage of time, the structure of the domes and ceiling covered with lime plaster had developed tiny cracks which caused filtration of rainwater and wetness in the plaster. It was therefore necessary to fill up the cracks and other joints so that the percolation of water into the centre of masonry could be stopped (Rhmani 2002: 247).

The next mission was a detailed study of the fresco paintings. The worsening was found to such an extent that to revive the past glory of the mosque, the work was to be restored at many places. The frescos were found veiled under the layers of lime wash, while at other places signs of deterioration due to adverse weather were noticed (wheeler 1950: 90).

At the beginning, it was realized that the tradition of fresco painting according to the traditional process had been almost forgotten and craftsmen employed for the job were first entrusted with preparing the tracing of all the designs and

motifs drawn on the surface of the prayer chamber. The tracings were used, after perforation, to draw designs on the freshly prepared base for restoration. The mosque was declared protected by the Government of Pakistan in 1962-63. It was then decided to make an annual endowment of PRs. 10,000/-. For the continuation of the work (Khan 1970-71: 134). Since then, restoration of the frescos on the central and the other two bays has been completed. However, there is still much work to be completed to brighten the past glory of the Mosque.

Human Negligence

Overall state of preservation of the mosque is not good. Surrounding ground level has been increased with the passge of time due to this reason drainage system of the mosque has been chocked which resulted in seepage in walls which resulted in deterioration of wall plaster. Surface decoration mosque mainly consists of fresco paintings is crumbling down. Additions and modifications made in the building structure for providing the electricity arrangement have also spoiled the decoration of Mosque. The inscription on the main entering of the mosque has also been badly deteriorated. The calligraphy in the ceiling has also been damaged severely (Rhmani 2002: 245). Vibration caused by the traffic and machinery of the adjacent workshops is a big threat to the delicate surface decoration of the mosque.

Immediate measures are required to be taken to vacate surrounding area of the mosque from the workshops. Drainage system may be improved, and proper preventive measures should be taken to improve the state of preservation of this magnificent monument. Maryum Zamani mosque and other historic sites are our link with our past. They are termed as a cultural heritage of Pakistan and being Pakistani it is our national duty to preserve these monuments for posterity.

Bibliography

- Ashfaq, S.M. (1969) *The grand mosque at Bhanbore in Pakistan,* Archaeology No. 6.
- Baqir, M. (1984) *Lahore Past and Present*, The Punjabi Adabi Academy. Lahore.
- Bashir, R. (1984) *A Comparative Study of Architecture and Decorative Features of Mosques, (Master of Arts Thesis Unpublished),* College of Home Economics for Women, University of Peshawar.

- Bell, E. (1921) *Early Architecture in Western Asia,* London.
- Brown, P. (1942) *Indian Architecture*, the Islamic period, Bombay.
- Bukhari, Yousaf Kamal (1956) *The mosque architecture of the Mughals*, Vol. ix, No. 2.
- Bukhari, Yousaf Kamal (1951) *The mosque architecture of the sultans of Delhi*.
- Chaghtai, M.A (1934) *What India owes to central Asia in Islamic Architecture*, in Islamic Culture, viii.
- Chishti, (1870) *Tehqiqat-i-Chishti,* Lahore
- Creswell, K.A.C. (1932-40) *Early Muslim Architecture* Vols. I and II, Oxford.
- Creswell, K.A.C. (1958) *A short account of early Muslim Architecture*, Harmonds-Worth.
- Fergusson, J. (1910) *History of Indian and eastern Architecture*, London, Vol. 2
- Furnival, W.J. (1904) *Leadless Decorative Tiles, Faience and Mosaics etc*. Straf Fordshire.
- Gottheil, R.J. H (1910) The origin and the History of Minaret, in four American Oriental Society.
- Grabar, O. (1964) *Islamic Architecture and Its declaration*, London.
- Khan, I.U. *The Badshshi Masjid,* Lahore.
- Khan, A. N. (1991) *Development of Mosque Architecture in Pakistan,* Islamabad.
- Khan, A.N. (1969) *Pakistan Archaeology No*. 6. Karachi.
- Khan, A.N. (1970-71) *Pakistan Archaeology*, Karachi.
- Khan, A.N. (1971) *Mayam Zamani Mosque Lahore*, Karachi.
- Khan, A.N. (1980) *Uchchh: History and Architecture*, Islamabad.
- Khan, A.N. (1983) *Multan: History and Architecture*, Islamabad.
- Latif, S.M. (2005) *Lahore, its history, Architectural remains and Antiquities*, Sang-e-meel publication, Lahore.
- Nath, R. (1970) *Colour Decoration in Mughal Architecture*, Bombay.
- Pereira, J. (2004) *The Sacred Architecture of Islam*, Aryqan Books International New Delhi.
- Rhamani, A. (2002) *History and Architecture of Mughal monuments Lahore,* (Ph.D. Dissertation Un-published) Department of History, University of the Punjab, Lahore.
- Richard, E.T. (1926) *Moslem Architecture*
- Rivoira, G.T (1928) *Muslim Architecture*, Oxford.
- Shahzad, G. (2009) *Masajid-e-Lahore,* Sang-e-Meel Publications, Lahore.
- Smith V.A (1930) *A History of fine Arts in India and Ceylon*, (2nd Ed.) rev. by K. De. B. Codringron, Oxford.
- Speight, E.E. (1928) *Spiritual Value of Islamic Architecture*.

- Walli Ullah, K.M. (1962) *Lahore: History and important monuments*, Karachi.
- Wards James (1909) *Fresco Painting its Art and Technique.* London: Chapman and Hall, Ltd.
- Wheeler, R.E.M. (1950) *Five thousand years of Pakistan*, London.

Figures

Fig. 1 Modern addition and useof Portland cement instead of lime mortar

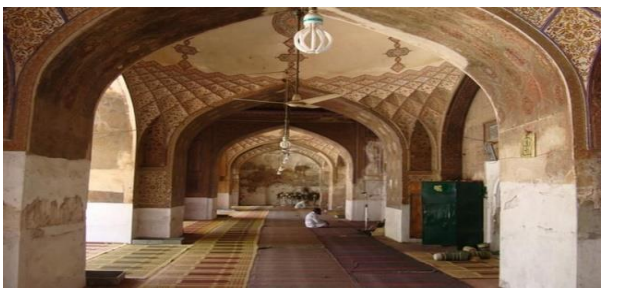

Fig. 2 Unmatching conservation work and damages caused by electricity celling fans and lights directly fixed in original structure of the mosque

Fig. 3 Ugly electricity wires; edition of modern shade in bright colours and floor of the courtyard paved with modern tiles

Fig. 4 Deteriorating calligraphy and corroded bricks of the Maryam Zamani Mosque.

Fig. 5 Repairing of original lime plaster with modern cement, fixation of iron pipe in original structure for electrification and provision of ugly iron grill.

Fig. 6 Workshops on the backside of Maryam Zamani Mosque, causing environmental and structural degradation.

Artistic Divisions of the Buddhist Art of Gandhara
(A Geographical Approach)

Mahmood-ul-Hasan

Abstract

Ancient "Gandhara" (literary meaning the land of fragrance) is the part of a vast mountainous region stretched from Oxus valley to river Jhelum, which is termed as Greater Gandhara. However, central part of Gandhara was consisted of present-day Peshawar Valley, Buner, Bajaur and Swat. The area is well known in the history due to Buddhism and the Buddhist Art of Gandhara, flourished from 1st century B. C. E. to 5th century C. E. However, diffusion of the Gandhara art is well attested on a much larger area including Afghanistan and Taxila where myriads of ruined Buddhist stupas and monasteries are found. The artistic province of Gandhara consisted of a number of secluded well-watered valleys barred by high mountains. The valleys were accessible through natural passes, which served as main source of communication between the people of Gandhara and rest of the world.

Key words: Gandhara, Buddhism, Buddhist art, Peshawar, Swat, Taxila, Afghanistan.

Nomenclature

The term Gandhara is met for the first time in the *Rigveda*, a collection of old Indian hymns going back to the second millennium B.C.E. (Ingholt 1957:13). Gandhara is a composite name comprising two Sanskrit words *Gand +har or hara*. When second part of the word i.e. "*har"* is used alone, it commonly denotes necklace in Sanskrit and Persian languages. It is also adapted in Hindi and Urdu with the same meaning, however, in Hindi and Urdu it is also meant for defeat or loss. In composite words when "*har"* is used as suffix, it means the performer of an action as in "*palan har"* nourisher, cherisher; "*lakar hara" (*woodcutter) (Ferozsons 1977: 810). Similarly, it defines characteristics of some particular region or area as in *"Pothohar"* uneven land similar to the flesh of hip

joints of an animal (tableland), "*Qandhar"* the land of sweetness[1]; "*Nagarhar"* corrupt form "*Nangarhar"* the word *Nagar* in Sanskrit stands for city, as in *Bahawal nagar* (A city in southern Punjab)*, Ahmad nagar, Sri nagar* (Capital city of Indian held Kashmir) thus *Nagarhar* means the land marked by city or cities[2]. Popular and commonly accepted translation of the first part of the name i.e. "*Gand" is* fragrance which gives Gandhara the meaning "Land of Fragrance". This definition is also supported by accounts of the famous Chinese pilgrim Hsuan Tsang who visited Gandhara in 7th century C. E. He says, "the country is rich in cereals, and produces a variety of flowers and fruits; it abounds also in sugar-cane, from the juice of which they prepare "the solid sugar[3]" (Beal 1884: I, 98). However, Dr. Abdur Rahman is of the opinion that the term "Land of Fragrance" does not fit into the geographical set-up of the Peshawar valley which never became famous for its so-called "Fragrance". He considers riparian aspect of the valley and concludes that the word Gandhara would mean "Land of the Lake" (Rahman, A. 2011: 19, 20). Perhaps, Dr. Abur Rehman has oversighted the above quoted statement of Hsuan Tsang. My inclination is towards earlier translation of the name Gandhara as "Land of Fragrance"[4] .

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[1] Qand is a common name for sugar or candied sugar in Arabic and Persian languages, as in "*gul qand"* candied roses or rosé petals preserved in sugar syrup. Qandhar is famous for sweetness of its fruits like apple, pomegranate, grapes and especially melons, which are so sweet that lower end of Qandhari melon is even not eatable due to its extreme sweetness, if eaten it causes inflammation in mouth.

[2] Nagarhar was the ancient name of the present-day city of Jalalabad, Afghanistan the district is still called *Nangarhar*. The ancient town of *Nagarhara* was in the immediate vicinity of Jalalabad (Beal 1969:91; Cunningham 1871:44)

[3] Even today the Peshawar valley is famous for its rich harvests of wheat, maze and other cereals; farmers still grow sunflowers and poppy, vast orchards of mango, pears, and plums are seen in suburbs of Peshawar, Charsadda and Swabi. Sugarcane is common crop of Peshawar valley, especially Charsadda area is known for sweetness and quality of solid sugar (gur) which is prepared from juice of sugarcane in winter.

[4] If we accept Dr. Abdur Rahman's interpretation as "Land of Lake" then picture of Gandhara appears as a waterlogged marshy land with humid environment, which is not suitable for sheep herding, while *Rigveda's* accounts mention good wool of the sheep of Gandharis (Majumdar 1951"248). Sheep is an animal of semi-arid climate and well breed on pastures having mild climate, sheepherding during the Vedic times clearly indicates that the land of Gandhara was not marshy one. It seems that no considerable ecological changes have been occurred in this region since second millennium B.C.E. Central belt of Gandhara stretched from Mardan to Swabi mostly

Wider Geography of Gandhara

Geographically, Gandhara is the part of a larger land mass situated between the Indus (Sin) and Oxus (Amu Darya) situated between 27° North and 40° East latitude (Map 1).

Gandhara consists of a "mountainous region located below the meeting point of the Hindu Kush and Himalayan Mountain ranges" (Zwalf 1996: 14). With the exception of short spans of imperial control by the Mauryan and by the Kushans, the whole region was divided into a number of small kingdoms that included, Uddhyana, Gandhara, Kapisa, Bactria and others (Swati 1997: 3). This wider Indus-Oxus region encompasses Afghanistan, Khyber and Mohmand Agency in the north, towards the south Kohat, Mianwali, Salt Range down to the banks of river Jhelum, in the east Taxila Valley and then the whole northern Areas of Pakistan. Northern limit is fixed by the ranges of the Himalayas. To the northwest is some five-hundred-mile-long Hindu Kush Mountain system, which buttresses the Pamir plateau at its eastern end and runs southwest into Afghanistan. The Safed Koh range separates the Peshawar Valley from Afghanistan. To the northeast, the Karakorum Range extends from Mansehra, Pakistan into Tibet (Schmidt 1990: 23). Southward, the hilly tracts of Gandhara

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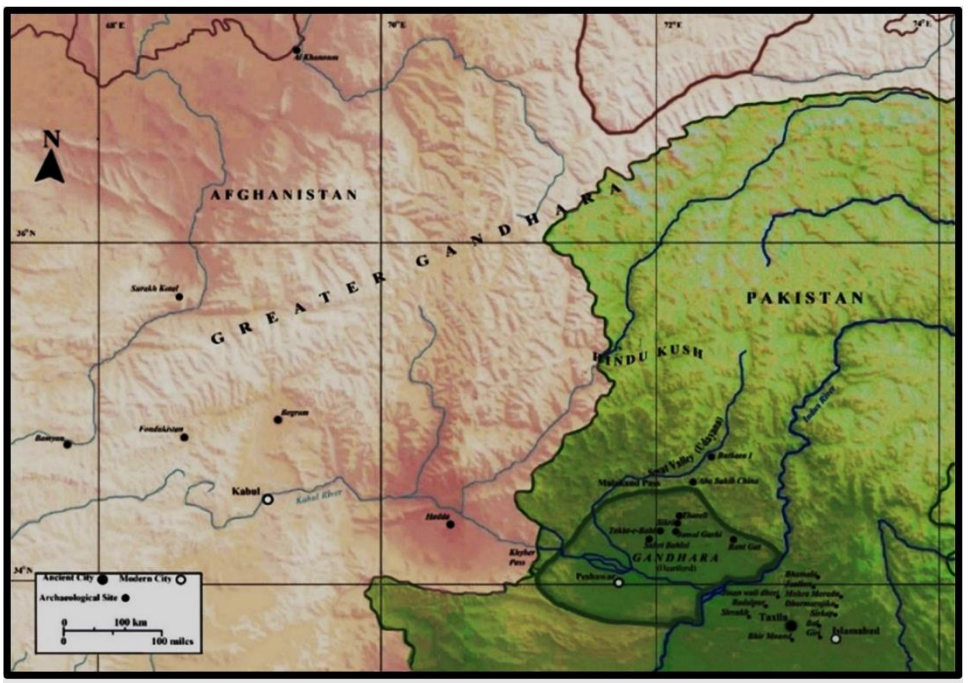
comprising Yar Hussain area, Rustam valley and surrounding hilly tracts of Karamar still witness a semi-arid climate with pastoral lands, most suitable for sheepherding.

Idea of a big lack or a chain of lakes formed by Indus and its tributaries in Gandhara is not supported by the topography and stratigraphy of the area. It is general observation that there is a gradual slope from western hills towards Indus, which flows on the eastern edges of Gandhara in a low lying and steep area, elevation of the western bank does not allow the river to spread and form lacks or deltas. Stratigraphy exposed in wells, dug in Mardan and Swabi area show an almost 20-meter-thick deposits of hard reddish clay above water table, instead of sand and pebbles which are the characteristics of river deposits. So, due to stratigraphy of the elevated plain area on western bank of Indus it is quite evident that it was the result of geological formation and not due to river deposits.

Dr. Abdur Rehman is of the view that Peshawar Valley never became famous for its so-called "Fragrance" this viewpoint is true up to the extent of modern polluted cities of present day Gandhara, where one cannot feel fragrance but only stench of filthy houses and streets. However, in the countryside and in hilly tracts of Gandhara there are still a plenty of wild fragrant trees, herbs, shrubs and weeds. Their fragrance can be felt in the fresh air of wilderness during spring and rainy seasons. In the second millennium B.C.E. when the natural environment of the region was fully intact, the sweet-scented herbs and shrubs must have been in abundance and their fragrance would have compelled the early inhabitants to call it Gandhara.

gradually merges in the alluvial plains of Indus River system, where River Jhelum serves as natural boundary between Gandhara and rest of the sub-continent. With this geographical location Gandhara forms a transitional area connecting the high inland plateaus of Afghanistan and Central Asia to the alluvial plains of the Indus River System. Within these wider boundaries, the artistic land of Gandhara has further physical divisions comprising hart land of Gandhara, Swat and Taxila, which had been the flourishing centers of the Buddhism and the Buddhist Art from 1st to 5th century C. E. and have their own distinctive style of the Buddhist art, influenced by their peculiar geographical locations.



Map 1. Geographical location of Greater Gandhara (after Kurt 2007)

Gandhara consists of a "mountainous region located below the meeting point of the Hindu Kush and Himalayan Mountain ranges" (Zwalf 1996: 14). With the exception of short spans of imperial control by the Mauryan and by the Kushans, the whole region was divided into a number of small kingdoms that included, Uddiyana, Gandhara, Kapisa, Bactria and others (Swati 1997: 3). This wider Indus-Oxus region encompasses Afghanistan, Khyber and Mohmand Agency in the north, towards the south Kohat, Mianwali, Salt Range down to the banks of river Jhelum, in the east Taxila Valley and then the whole northern Areas of Pakistan. Northern limit is fixed by the ranges of the Himalayas. To

the northwest is some five-hundred-mile-long Hindu Kush Mountain system, which buttresses the Pamir plateau at its eastern end and runs southwest into Afghanistan. The Safed Koh range separates the Peshawar Valley from Afghanistan. To the northeast, the Karakorum Range extends from Mansehra, Pakistan into Tibet (Schmidt 1990: 23). Southward, the hilly tracts of Gandhara gradually merges in the alluvial plains of Indus River system, where River Jhelum serves as natural boundary between Gandhara and rest of the sub-continent. With this geographical location Gandhara forms a transitional area connecting the high inland plateaus of Afghanistan and Central Asia to the alluvial plains of the Indus River System. Within these wider boundaries, the artistic land of Gandhara has further physical divisions comprising heart land of Gandhara, Swat and Taxila, which had been the flourishing centers of the Buddhism and the Buddhist Art from 1st to 5th century C. E. and have their own distinctive style of the Buddhist art, influenced by their peculiar geographical locations.

Artistic Divisions of the Gandhara Art

The artistic region of Gandhara has varied physical features creating smaller geographic regions. Each or these regions has a nucleus of particular economic conditions favoring the growth of distinctive traditions and art. Besides the two broad areas, one west of the Indus and the other east of it-there exist smaller zones. The ancient Gandhara, west of the river Indus may be called the Peshawar Zone, which stands in the heart of the valley of the lower Kabul and Swat rivers. The valley forms the central nucleus, but the zone includes a larger ring of hills with several passes leading into smaller valleys the upper Swat valley, the Panchkora valley (Dir), the upper Kunar valley (Chitral), the Kurram and Tochi valleys (the Bannu plain), and the Gomal valley (Dera Ismail Khan) (Dani 1967b:9). The areas which can be irrigated by river water are highly cultivated. The dominance of the hills has developed a particular hill culture in the Peshawar zone. The valleys of the Haro and Soan rivers cut across the plateau, and the whole area is uneven, having been dissected and eroded by the action of running water. It presents a varied landscape of ridges, troughs and basin plains. The Main route from Peshawar to the Punjab lies across it. The most famous city in ancient days was Taxila. Not far from this city lies the new capital of Pakistan at Islamabad.

Natural boundaries, waterways, and early systems for trade and communication were central to Gandhara's cultural and economic development (Ibid: 18).

Among the factors that contributed to the unusual history of the region and Gandhara proper was the uniqueness of location. It was isolated by natural boundaries and yet accessible through waterways and passes to Central Asia. As new peoples entered and gained control, the region was subjected to continual political upheaval, a dynamic that contributed to the long-established cosmopolitan character of its population (ibid: 7). During the first several centuries C.E. there was great prosperity resulting principally from international trade. This prosperity allowed the arts and religion to flourish in an unprecedented manner (Schmidt 1990: 23).

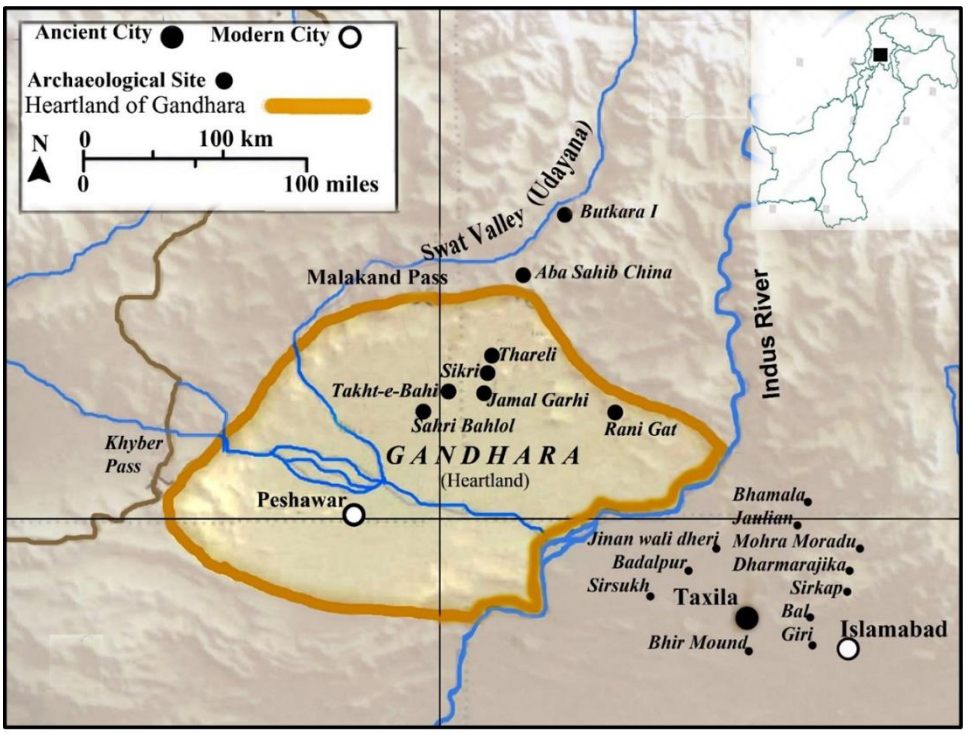
The Heartland of Gandhara

"The kingdom of Gandhara extends about 1000 li from east to west, and about 800 li from north to south. On the east, it borders on the river Sin (Indus). The capital of the country is called Po-lu-shapu-lo- (Purshapura-Peshawar), which is 40 li in circuit" …. "The towns and villages are deserted, and there are but few inhabitants. At one corner of the royal residence there are about 1000 families. The country is rich in cereals" … "The climate is warm and moist, and in general without ice or snow. The disposition of the people is timid and soft: they love literature; most of them belong to heretical schools; a few believe in true law" (Beal 1884: I, 97). With these words the Chinese pilgrim Hsuan Tsang begins his report of a journey to Gandhara, which gives us the best information about the geographical setup, climate, socio-economic conditions, religion and general condition of the people of this country in 7th century C.E. Following his indications of places, the empire of Gandhara extends from the western border of the Peshawar valley to the river Indus in the east and includes the hilly regions south of the river Swat and Buner in the north (Map 2).

Marshall also assigned the same boundaries to Gandhara by specifying that Gandhara was the ancient name of the tract of country on the west bank of the Indus River which comprises the Peshawar Valley and the modern Swat, Buner and Bajaur (Marshall 1973:1).

Since Gandhara is a transitional land between two different worlds, the arid highlands of Afghanistan and Central Asia on one side and the Indo-Gangetic plains on other, therefore we have here a mixture of diverse geographic characters. While describing geographical features and climate of Gandhara Marshall says: "It was country with rich, well-watered valleys, clear cut hills and

a pleasant climate". "Situated on borderland between India and Western Asia, Gandhara belonged as much and as little to the one as to the other" (Marshall 1973:1).



Map 2. Heartland of Gandhara (after Behrendt A. Kurt 2007)

At present Peshawar valley consists of Peshawar and Mardan divisions, each of which is sub- divided into districts; while in the uplands it borders with Swat which has become a district of the Malakand division, which also administers the Malakand and Bajaur Agencies. East of the Indus are Taxila, Haripur, Abbottabad, Mansehra, Batagram Districts of Khyber Pakhtunkhwa.

Swat Valley (Uddiyana)

The mountainous region of Swat, the ancient Buddhist land of Uddiyana is situated in the northeast of Peshawar Valley, at a distance of 250 km from Islamabad the capital city of Pakistan. The Swat Valley (proper Swat) lies between 34º 31′ 55" and 35º 53′ 40" N latitude and 71 º 47′ 15" and 73 º E longitudes (Swati 1997:1). On northern side, it is bounded by the high mountainous range of Himalaya. On the west is the region of Dir the Land of

Panjkora River. On the south is the mountain ridges and malakand Pass, and on the 'East is the Kohistan area bordering the mighty Indus River (Map 3).

Nomenclature

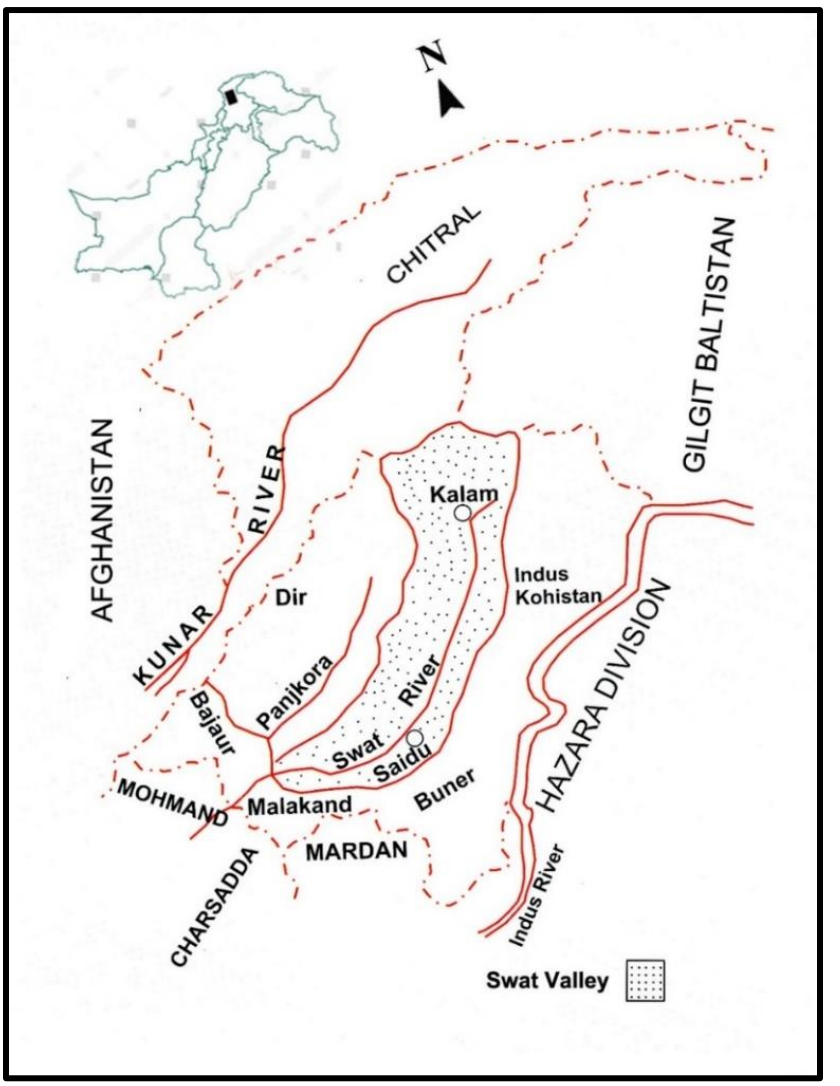
The earliest account of Swat is found in the Rig veda, the oldest source of Indo-Aryan traditions in which it is found as Suvastu meaning good dwelling in Sanskrit (Tucci 1958: 279). In the Vedic hymns, it occurs as Sapta Sindhavah or land of the seven rives. The Greek and Latin historians have mentioned Soastos (McCrindle, J. W. 1877: 192) which recalls the Sanskrit Suvastu in the Rigveda. Faxian, a Chinese pilgrim who visited sub-continent in the 5th century C.E. has mentioned in his accounts Swat as OU-Chang. James Legge in his book "Records of the Buddhist Kingdoms" has pronounced it as Wo-Chang (Legge 1965: 8).

Hsuan Tsang called it U-chang-na (Beal 1884: I,119). In the Buddhist literature Swat was variously called Urgyan, or Uddiyana of Sanskrit origin. Uddiyana means garden. Samuel Beal is of the view that Uddiyana (Prakrit, Ujjana), the U-chang of Fa-hian is so called because of its garden-like appearance (Beal 1884: I, 119 footnote). It must have looked so to the Buddhist pilgrims form China and Central Asia who reached Swat valley after crossing the snowcapped mountain ridges of the Pamir and Hindukush. Uddiyana lay to the north of Peshawar on the Swat River, but from the extent assigned to it by Hsuan Tsiang the name probably covered the whole hill-region south of the Hindu Kush and the Dard country from Chitral to the Indus.

Physical features of the Swat Valley

It is the upper valley of the Swat River, which rises in the Hindu Kush range. The capital of Swat is Saidu Sharif, but the main town in the Swat valley is Mingora. It was a princely state in Khyber Pakhtunkhwa until it was dissolved in 1969 and after the merger of State it became administrative part of the Malakand Division (District Census Report of Swat 1998:1). The name Swat frequently designated as Swat State rather than Swat (now the district). Chitral and Gilgit-Baltistan are situated in the North, Dir in the West and Mardan in the South. The Indus River separates it from Hazara in the east. Various passes have linked the Valley with the Punjab via Hazara in the east, Tibet and China on the north, Central Asian States and Afghanistan on the west and ancient Gandhara on the south (Swati 1997: 153). The area of the Valley including Swat Kohistan is 8045 to 9654 sq. Km, but the valley does not exceed from 209 km in length and 19 km average in

breadth. However, the total area of the proper Swat Valley is about 3,821 sq. km. The valley is further divided by hilly tracts in sub-valleys, locally known as Jambil Valley, Illum Khawar Valley and Shamozai Valley[1].



Map-3 Geographical location of Swat Valley (Courtesy Department of Archaeology, Pakistan)

[1] Jambil and Illum sub-valleys are situated on left bank of the Swat River in lower Swat while Shamozai sub-valley is on the right bank of Swat River in lower Swat.

The Mountains of lower Swat are composed of phyletic schist, siliceous, limestone, marbles and dolomites (Martin-Siddique and King 1962). The mountains of upper Swat valley (between Khwaza-Khela and Kalam) form a broad belt of plutonic rocks, which include granite, diorite, gabbro and associated pegmatites. The mountains of Kalam are constituted of meta sedimentary and volcanic rocks including greenish phyllite together with associated quartzite (Matsushita and Huzita 1956).

Famous Chinese pilgrim Hsuan Tsang who visited the Swat Valley in 7th century C.E. while describing physical aspects, climate, minerals, harvests, and daily life of the people, states "the country of the mountains and the valleys U-chang-na is about 5000 li in continuously connected, and marshes alternate with a succession of high plateaux" (Beal, 1906: I, 119). "Though various kinds of grains are sown, crops are not rich. The grape is abundant, the sugarcane scarce. The earth produces gold and iron and is favourable to the cultivation of the scented (shrub) called Yo-kin (turmeric). The forests are thick and shady, the fruits and flowers abundant. The cold and heat are agreeably tempered, the wind and rain come in their season" (Beal, 1906: 120). "The people are soft and effeminate, and in disposition are somewhat sly and crafty. They love learning yet have no application. They practice the art of using charms (religious sentences as charms).[1] Their clothing is white cotton, and they wear little else. Their language, though different in some points, yet greatly resembles that of India. Their written characters and their rules of etiquette are also of a mixed character as before. They greatly reverence the law of Buddha and are believers in the Great Vehicle" (ibid: 120).

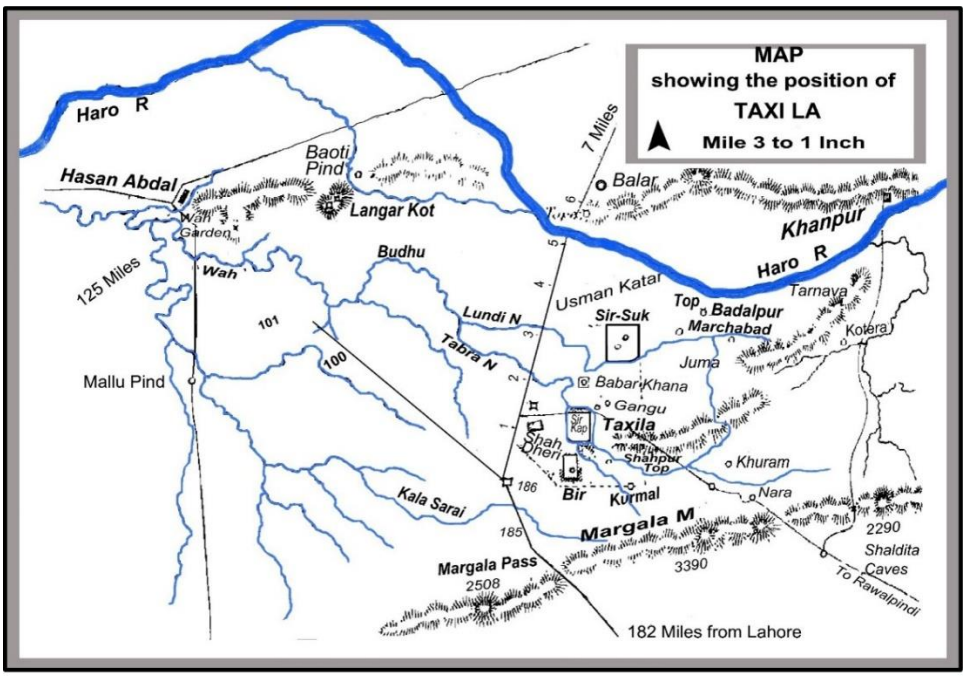
At present, administratively the Swat region includes Swat Valley, Dir and Malakand Agency (Usman Ali, Khan, M. Aslam 1991: 97).

Taxila Valley

Geography and history of the Taxila Valley have been discussed in great detail by Sir John Marshall, in his masterly work on Taxila (Marshall 1951: I, 1-86),

[1] The employment of magical sentences is with them an art. This country of Uddiyana was the birthplace of *Padmasambhava*, a great master of enchantment and founder of Tantric Buddhism, which is now prevailing in Tibet. According to Tucci Swat was religious place for Tibetan because it was birthplace of *Padmasambhava*, the founder of Tibetan Buddhism (Tucci 1958: 279- 328).

anyhow a brief account of the geography with recent topographical and environmental changes and history of the Taxila Valley is given here as ready reference. The valley is situated between north latitudes 33º 42' 30" and 33º 50’ and east longitudes 72º 53’ 45" and 72º 59’ (Survey of Pakistan Maps 43C/13 and 43C/14)**.** Average height of the valley from sea level is 530 meters. It spreads over an area of 375 square kilometres (Map. 4).



Map 4. Geographical position of Taxila Valley, redrawn by the present researcher (After Cunningham 1871)

Nomenclature

The valley derives its name from the historic city of *Takshasila* or Taxila. In the puranic verses “the name is spelt as *Takhasila* or *Takshasila* in the prakrit epigraphs, but in the Besnagar inscription of the Greek ambassador Heliodorus it is spelt *Takamasa”* (Dani 1999: 1). The present spelling Taxila “was the abbreviated form used by Greeks and Romans and from them commonly adopted by European writers” (Marshall, 1951: I, 1). The correct Sanskrit spelling is *Takshasila*. Al-Beruni is the only scholar who gives the Persian equivalent of Takshasila as Mar-i-Kala (Sachau, Vol. 1, 302)**.** The name in its corrupt form is still survives in the name of the southern hills of Margalla.

The literal meaning of the word *Taksha* in Sanskrit is to cut or to split and *sila* means stone, rock or hill It is because of this literal meaning of the two composite words that Marshall suggested: "It is not unlikely that Takshasila signified the city of cut stone" (Dani 1999: 1). The faithful Chinese pilgrims attributed the name *Takshasila* with *Tathagata*, according to the Hiuen-Tsang's accounts: "This is the spot where *Tathagata* formerly dwelt when he was practising the discipline of a Bodhisattva; he was then the king of a great country and was called Chen-ta-lo-po-la-po (Chandraprabha); he cut off his head, earnestly seeking the acquirement of *Bodhi*" (Beal 1884: I, 138).

Physical features of the Taxila Valley

The valley is almost bowed in shape, lying at the foot of the Murree hills. From northern and southern sides, the valley is embraced by the long wings of the Sarda and Margalla hills respectively, which gradually merge into the western plan. The valley is divided in to two unequal parts by Hathial spur, a chain of low-lying hills running in the east – west direction in the southern half of the valley. The hills are composed of hard limestone and occasionally *Kanjure* (a type of pores limestone) is found in the beds of hill torrents and in the deep ravines. Dunes of the levigated clay are also scattered here and there. Southern part of the valley consists of plateau, intersected by deep ravines and broken by bare stony knolls on many of which are the ruins of old – time stupas and monasteries (Marshall 1951: I, 3).

Northern part of the valley comprises, on fertile plains with rich crops and fruit orchards. Haro river which emerges from the Murree hills and flows in the northern part of the valley is the main source of irrigation, apart from Haro river there are several small streams which flow into it, among them the Tamra or Tabra nala and Kala nala flows in southern part, through the northern part of the valley flows the Lundi nala which joins the Tamra nala before it falls in the Haro river. Hiuen Tsiang gives a glowing account of the fertility of the valley "The land is renowned for its fertility and produces rich harvests. It is very full of streams and fountains. Flowers and fruits are abundant. The climate is agreeably temperate" (Beal 1884: I, 137). The Springs in the Margalla spur which used to feed the Tamra are said to have been closed by the Dharmasala earthquake of 1905, since when its deep cut bed has carried relatively little water except in the rainy season (Marshall 1951: I, 3). Taxila valley with agreeable climate conditions, fertility of land and secluded areas in the hilly

tracts was the most congenial place for the Buddhist monks, therefore myriads of *sangaramas* and stupas were constructed in the valley during the heydays of Buddhism from 1st to 5th century C.E.

Conclusion

Artistic boundaries of the Buddhist Art of Gandhara encircle a wider area encompassing presentday Afghanistan, Khber Pakhtunkhwa Province and Northern Punjab. It is a huge mass of land between the Oxus River and Jhelum River it is usually termed as Greater Gandhara. The region is further divided in a number of secluded well-watered valleys barred by high mountains. These vallies are accessible through natural passes, which served as main source of communication between the people of Gandhara and rest of the world. Geographical divisions of the ancient artistic province of Gandhara including Bactria (Afghanistan) Swat (Uddiyana), Gandhara and Taxila were politically independent states too. The Buddhist art of each division has its own distintive style, which was greatly dictated by their geographical seclusion or connectivity with the other cultural centers of the world of that time.

Bibliography

Ali, Usman & Khan, M, Aslam (1991). "Origin and Diffusion of Settlements in the Swat Valley, Pakistan". *Pakistan Journal of Geography* P.97. University of Peshawar.

Beal, S. (1884). *SI-YU-KI, Buddhist Record of the Western World*, 2 volumes. Translated from the Chinese of (Hiuen Tsing) A.D. 629). London: Trubner & Co, Ludgate Hill.

Cunningham, A. (1871). *Ancient Geography of India I- the Buddhist Period.* London: Trubner and Co.,60, Paternoster.

Cunningham, A. (1871a). *Archaeological Survey of India,* Vol. II. Simla: The Government Central Press.

Dani, A. H. (1967-b). *A Short History of Pakistan*, Book One, Pre-Muslim Period. Karachi: University of Karachi.

Dani, A.H., & Litvinsky, B.A. (1999). "The Kushano-Sassanian Kingdom" in *History of Civilizations of Central Asia*. New Delhi.

District Census Report of Swat (1998). Population Census Organization, Statics Division, Government of Pakistan, Islamabad,1999., p.1.

Ferozsons (1973). *Urdu-English Dictionary*. Lahore: Ferozsons Ltd.

Ingholt, Harald (1957). *Gandharan Art in Pakistan*. New York: Pantheon Books.

Legge, J. (1912). *Records of the Buddhist Kingdoms*, Paragon Book, rep, New York.

Marshall, J. (1951). Taxila. *An Illustrated Account of Archaeological Excavations Carried out at Taxila under the Orders of the Government of India between the years 1913 and 1934*. Volume I, II and III. Cambridge: University Press.

Marshall, J. (1960). *The Buddhist Art of Gandhara: The Story of the Early School, its Birth, Growth and Decline*. Cambridge, England: University Press for the Department of Archaeology in Pakistan, 2nd Edition, 1973.

Matsushita, S. & K. Huzita, 1965.*Geology of the Karakoram and Hindu Kush*. Kyto University

McCrindle, J.W. (1877), (Trans.), *Ancient India as described by Megasthenes and Arrian.* Bombay.

Rahman, A. (2011-a). "A Walk through Gandhara". In *Proceedings International Workshop on Gandhara Cultural Heritage, Vol.I*, pp. 17-28. Taxila Institute of Asian Civilization, Quaid-e-Azam University Islamabad.

SACHAU, E. C. (1910), *Alberuni's India Vol.I.* Kegan Paul, Trench, Trubner & Co. Ltd, London.

Schmidt C.W. (1990) *"Bodhisattva Headdress and Hair Styles in the Buddhist Art of Gandhara and Related Regions of Swat and Afghanistan*", Vol-l. PhD thesis, The Ohio State University.

Siddiqui, King S.F, Martin. (1962). "A Geological Reconnaissance of the region between the lower swat and Indus Rivers of Pakistan", *Geological Bullettin, university of Punjab*, vol. 2, Lahore.

Stein, M. A. (1927). "Alexander's Campaign on the Indian North-West Frontier", *The Geographical Journal,* Vol.LXX, No.5.

Swati, M. F. (1997-a). Recent Discovery of Buddhist Sites in the Swat Valley, "*Athariat (Archaeology)*, A Research Bulletin of the National Heritage Foundation, Vol. 1, pp. 151 – 187. Peshawar, Pakistan.

Tucci, G (1958). Preliminary Report on the Archaeological Survey of Swat, Pakistan, *East &West, Vol-9*, pp 279-328. Rome: IsMEO.

Zwalf, W. (1996). *A Catalogue of the Gandhara Sculpture in the British Museum*. 2 vols. London: British Museum Press.