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A Hindu Shāhiya Temple from South Kāfir-kōt (Photo by Mueezuddin Hakal).

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Heterarchic Powers in the Ancient Indus Cities

Massimo Vidale

Abstract

A growing body of archaeological evidence and new theoretical approaches to the formation of early states support the application of the term 'heterarchies' to the power systems that ruled the polycentric urban compounds of the Indus Civilization (ca. 2600-1900 BC). Their peculiar societal organization might be linked to anomalous and still poorly understood forms of territorial control, as well as to a close dependence upon the vagaries of long-distance trade in valuable base materials and commodities. Some aspects of a 'maritime mode of production' (Ling et al. 2018) might also have been in play. Reference to the urban evolution and heterarchical system of government of medieval and late medieval Genoa (ca. 1000-1500 AD), a maritime republic whose political evolution and (in part) economic grounds show points of convergence, suggests that Indus Bronze age heterarchies might have had similarly flexible government agendas, and were not necessarily egalitarian and peaceful, as often currently assumed.

Keywords

Indus or Harappan Civilization, Harappa, Mohenjo-Daro, Bronze Age urbanism, heterarchy, early state analogue

1. Introduction

This paper is another effort to decipher some aspects of the enigmatic socio-political structure of the Indus Valley or Harappan civilization, whose cultural sequence is summarized in Table 1.

Dates BC	**Phases**	*Era*
7,000–5,500	Mehrgarh I (aceramic Neolithic)	**Early Food-Producing Era**
5,500–3,300	Mehrgarh II-VI (ceramic Neolithic)	**Regionalisation Era**
3,300–2,600	Early Harappan	
3,300–2,800	Harappa 1 (Ravi Phase)	**Late Regionalisation Era**
2,800–2,600	Harappa 2 (Kot Diji Phase, Nausharo I, Mehrgarh VII)	
2,600–1,900	Mature Harappa (Indus Valley Civilization)	**Integration Era**
2,600–2,450	Harappa 3A (Nausharo II)	
2,450–2,200	Harappa 3B	
2,200–1,900	Harappa 3C	
1,900–1,700	Harappa 4	**Localisation Era**
1,900–1,300	Late Harappan (Cemetery H); Ochre Coloured Pottery	
1,700–1,300	Harappa 5	

Table 1. The generally accepted cultural sequence of the Indus or Harappan civilization (adapted from Kenoyer 1991c, Kenoyer and Meadow 2000, and Meadow and Kenoyer 2005. The Ravi Phase at Harappa, according to more recent information - Kenoyer and Meadow 2016 - may have started as early as ca. 3700 BC).

The writer admits that the following arguments are to a fair extent conjectural and speculative. On the other hand, to keep writing that Indus society in the 3rd millennium BC was uniform, acephalous, egalitarian and classless, that it was not a state[1], that its people rejected

[1] In this paper I apply a bottom-up definition of "state": a social construct including a cognitive network, individual life perspectives, a system of permanent interdependent mutual prestation, shared social practices, rules and laws, a certain level of administration, and apparatuses of coercion that make functional, tolerable and even relished the perception of steep gradients of inequality in a large-scale (Grinin 2004) community. The famous correlates of the ancient state listed by V. G. Childe (1950)

violence, elites had no palaces, and the Indus signs were not writing, is not only equally conjectural, but also deeply misleading. In the terms of Yoffee (2005) these statements, in fact, are factoids not supported by actual data[2]. Most of these wrong assumptions - incidentally, if not systematically, contested in these pages - are due to a general ignorance of the logic of archaeological excavations and site formation processes in Indus contexts, to partial archaeological reports, or simply to the bias of enduring prejudice, sometimes disguised as last-minute palatable theories (these may appear strong and arbitrary statements, but they will be supported, in what follows, by specific references).

Sometimes, also data previously published in authoritative formats may be seriously questioned: picking from a wide hat, take Sarcina's famous house types distribution at Mohenjo-Daro (1973), still considered a key for decoding the social structure of the city (Mosher 2017). Depending on the simplified maps published by Marshall (1931) and Mackay (1938) in which feature only foundations packed one onto another with quite limited stratigraphic control, Sarcina's house types are static pictures which probably, under direct field inspection of the ruins, would only partially stand the test[3]. Always at Mohenjo-Daro, searching for distribution patterns of artifacts that might indicate technical or craft functions through the Field Registers (Ratnagar 2017: 115) is totally useless, because of the lack of information on the

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and Jacobson's ones (1986) may be in play, but as secondary components, and not mandatory preconditions of a state organization. With Jacobson 1986 and Kenoyer 1994, I apply without hesitation the category of state to the Harappan urban world. The framing of the Indus valley Civilization in terms of Traditions, Eras and Phases (Table 1) follows Shaffer 1992 and Kenoyer 1991c. The terms "Harappan" and "Indus" are here equivalent.

[2] The list of traits in Maisels 2010b: 54-56, who sees the Harappan Civilization as "...the most egalitarian of any of the pristine Old and New World Civilizations" - is a series of such gross factoids; compare it with Ahmad 2014, who considers the absence of social stratification in the Indus just a 'popular belief' (*ibidem*: 78).

[3] Field experience in the '80s at Mohenjo-Daro abundantly showed how complicated was to disentangle, even in a single house, and with the actual possibility of checking the joints and synchronicity among foundations, the various phases of construction, re-building and adjustment of hydraulic facilities. To do it on a map involves serious risks. The issue, at present, is even more thorny because of the progressive impact of one century of undocumented restorations.

formation processes of the excavated deposits: in the majority of the cases, such layers are secondary or tertiary fillings from unknown proveniences with no primary relationships with the nearby architecture (discussion and experimental simulations in Vidale and Bondioli 1986).

In fact, the surface distribution of craft indicators recorded at Mohenjo-Daro (Bondioli *et al.* 1984) is due to strongly eroded secondary dumps discarded in the latest phases of the city (as established on the base of stratigraphy in Vidale 1990, and in terms of surface ceramic assemblages in Pracchia *et al.* 1993) for an unknown duration, which (with few exceptions) have little or no relationship with the underlying architecture. Thus, the long discussion of houses and crafts allocation recently proposed by Ratnagar (2017: 124-128; see also Vidale 2019), too, also remains untenable.

Part of the statistical size distribution analyses of settlements and changing demographic regional patterns (see, as recent examples, Cork 2006 and Maisels 2010: 40, 52, both still based on Possehl 2002) are also superficial and biased. The much quoted inventory from Cholistan's surface survey (Mughal 1997), in its turn, is hindered by the growing recognition that the local network, grown along a braided and highly dynamical river, was probably

> "...an unstable settlement system with little continuity of occupation between periods and individual settlements, and only a subset of settlements may have been occupied at any one time" (Petrie *et al.* 2017: 12-13).

In short, generally speaking, it is still impossible to know when many sites were founded, and many settlements may have been partially covered, buried in depth or completely erased by floods and shifting river beds. While some recent surveys eventually embrace a holistic, paleo-environmental perspective enhancing the role of rivers in settlement dynamics (Wright *et al.* 2008; Petrie 2016) the same is probably true of not a few surface surveys made in the past in other regions of the Subcontinent.

Continuing with another quite relevant example, to state that Mohenjo-Daro measures 80 ha - as Maisels (*ibidem*: 54), with others, still repeats, or even that the city measured from 150 to 200 ha (Ratnagar 2016b: 85) is meaningless; as it is to state that this city was

founded on virgin soil in the Integration Era (as one reads in Possehl 2002: 56) in a 'paroxysm of change' (Possehl 1993: 274). At Mohenjo-Daro, the lower levels have never been reached because of the water table, and the real maximum extension is totally unknown, being it a diachronic sites' complex that extends far beyond the visible borders of the lower mounds. Outside the main mounds, the site has occupation layers sealed by at least seven meters or more of alluvial silt and clay (Leonardi 1983; Mackay 2001: 7, 16; note that according to Raikes 1984 the lowest settled surfaces at Mohenjo-Daro would be found not less than 17 m below the present day surface).

Considering the wide peripheral settlements under the alluvium surrounding the mounded parts (Possehl 2002: Figure 11.1; Jansen 1993: Fig. 15); the seal-making area discovered in 1988 '...underneath a 8 feet thick alluvium deposit...northeast of the known limits of the city mound' (Sharif 1990: 15). A low mound c. 200 m east of the slopes of the Moneer site visited by me and J. M. Kenoyer in the early '80s, was littered with chips from the apex of the *Shank* shells, broken and removed before reaching the urban craft areas (this small site was later destroyed by earthworks; we were unfortunately unable to map it before its destruction) Mohenjo-Daro might have extended for several hundred ha, perhaps not settled at the same time. Jansen 1993, in this regard, reported the almost unbelievable extension of non-mounded Bronze age settlement areas revealed by earthworks in the early 80s, at the time of an ambitious and very unsuccessful international conservation project.

Most likely, lower rank communities and craftsmen lived in at least some of these peripheral suburbs. In other large site complexes, too, the emerging mounds were probably just a part of larger settlements, whose peripheries, so far, were never explored. With the noticeable exception of Harappa (whose evidence provided the backbone of this paper), there is still little valid information on the processes of formation and growth of the major and middle-sized centers of the Indus Civilization.

This paper discusses the material evidence of the social structure of the Indus early urban communities - or of their territorial city-states (term after Trigger 2001) in the light of theories on the non-scalar and non-linear nature of prehistoric social evolution (Grinin *et al.*

2004; Yoffee 2005; Maisels 2010a). The focus is the possible identification heterarchical systems of power in the demographic poles of the ancient Indus valley (Kenoyer 1995; from different and, as I will argue, questionable perspectives, Possehl 1998, 2002; Shaffer and Lichtenstein 1989; Riisfeldt 2010; Maisels 2010b)[4].

Two independent but matching lines of evidence are discussed in support of this view: the *forma urbis* of the most important Indus cities, their growth processes and evolution in time, and the cognitive and symbolic background of the impressive production of various types and classes or personal ornaments and status symbols in the same contexts. This approach is not new, dictated as it is by the very nature of the available material evidence (see Miller 1985a: 37). It is argued that flexible, heterarchical urban governments of the Indus valley were a function of economies oriented, to a meaningful scale - besides the necessary grip on surrounding rural territories - on external incoming wealth, i.e. depended in part on the fast fluctuating revenues of middle- and long-distance trade[5].

An anachronistic but inspiring comparison with the history of the maritime republic of Genoa (Italy, X-XV century AD) reveals examples of the apparatuses of government that a powerful urban community, strongly oriented to colonization and long-distance trade and with a limited territorial background, adopted and transformed in the course of time; and of some visible urbanistic consequences of such

[4] 'Instead of one social group with absolute control, the rulers of the dominant members of the various cities would have included merchants, ritual specialists and individuals who controlled resources such as land, livestock and raw materials...The multiple levels and means of control that are demonstrated from the archaeological remains reveal the unique ways by which the Harappan state controlled access to resources and maintained socio-economic and political hierarchies.' (Kenoyer 1995: 96). The Indus was also described as '...an idiosyncratic form of social control and social organization that is strikingly different from any comparative or contemporary examples.' (Miller 1995a: 40).

[5] These terms still escape a precise quantitative definition. In its current use in the field of Indus archaeology, medium-distance trade usually described routes from the main lowland cities in a radius of 150-200 km, i.e., in most cases, to the manifold source areas of the piedmonts, or from part of the urban centers to the oceanic coasts. Long-distance trade is commonly used for the routes of the Persian Gulf, the Iranian Plateau and Central Asia.

trends. The intricated but well documented history of medieval Genoa, its trade-oriented economy, and its clearly heterarchical institutional systems (revealed by abundant historic information) may help considering the Indus case in a more dynamic and conflictual framework. In this light, we will take into account (even though hypothetically) possible forms of fluctuations and changes that are traditionally absent in many of the historical reconstructions and parallels so far proposed for the Indus case.

2. A 'pyramidal' process of urban growth

A permanent source of confusion is that in the Indus what is frequently considered public architecture (among others, Miller 2005: 42; Ahmed 2014: 57) most probably was not accessible to a larger urban population. 'Ritual', for obvious reasons, does not always coincide with 'public'. Many large buildings were just elite residences built on top of extensive mudbricks platforms, enclosed in bounded enclosures or wards accessed through carefully built control gates.

Another fastidious factoid is that Indus cities were grids of orthogonal streets and alleys carefully planned and built in a single moment, somehow - to visualize the cognitive model - like a cardinally oriented Roman camp[6]. Actually, this superficial impression is quite misleading. Walled enclosures, in contrast, were built one after and aside the other, with minor changes in orientation, while inner alleys were built with further partial axial shifts. Thus, the resulting pseudo-grids are due to the discontinuous architectural growth of individual walled compounds or neighbourhoods, often quadrangular, that adjusted in time to the original, pre-existing alignments of the earlier defended neighborhood.

There is little doubt that the key for understanding the inner nature of Indus urbanism came from the excavations at Harappa (1986-2001). I feel that still few scholars realize how crucial and disruptive of previous interpretations this project has been. Combining for the first time medium-sized exposures with a careful stratigraphic control,

[6] See for example among others Yonekura 1984, with the idea that Indus grids migrated to China and then to western Europe and the classic world.

Kenoyer established the relative chronology of the main walled compounds of Harappa. Furthermore, he found that the highest mound - contradicting a famous narrative by R. E. M. Wheeler (with somehow racist implications: see criticism in Vidale 1995) - had been originally erected as a massive fortification in the late Regionalization Era (first half of 3rd millennium BC) incorporating the earliest occupation layers of the city (Kenoyer 1991a: 35-36).

In a recent conversation (January 2019), J. M. Kenoyer stressed that the very use of the word 'citadel' is quite misleading, as it implies that such prominent part of an Indus settlement had been purposefully built as a more monumental part of the general urban lay-out. I fully agree on this crucial statement. Actually, Indus so-called 'citadels', in all the tested cases, are higher and look more massively fortified only because they were built on top of previous walled mounds built in the first half of the 3rd millennium BC (further comments in Vidale 2019). I will return later to this important point, and hereafter will avoid using this abused word.

The same is true also of other settlements in India, like Banawali, Kalibangan, Rakhigarhi and even minor centers like Surkotada and Bagasra in Kutch. In each one of these cases, a prominent urban block often identified as the main prominent mound of the site stands above some meters of pre-existing layers and ruins of the early 3rd millennium BC. At Harappa, at the foot of the earliest walled compound, at east, grew two other settlements (Mounds AB and ET), later in turn enclosed in their own mudbrick fortifications. Other walled settlements followed in time north of the older seat of power (Kenoyer 1997), eventually generating a *polycentric urban compound* (term after Petrie 2017: 46). The urban lay-out of fortified Dholavira in Kutch (Bisht 1987, 1989-90, 2000), is entirely enclosed in what looks like a single quadrangular outer wall, but this latter it is not a unitary, contemporaneous construction. It is clear that the most prominent mound was fortified since the earliest local settlement. Than the so-called 'Middle Town', the Bailey and the eastern part of the 'Lower Town' were built and in turn enclosed by walls; after which, the outer external defense system was extended (summary in Ratnagar 2017: 86). The urban growth of Dholavira, therefore, seems well comparable to that observed in other important Harappan centers.

Although the lower levels of Mohenjo-Daro (the lowest in the section of the Granary, excavated in 1950: see Wheeler 1997: folder between 44 and 45) could not be explored because of the high water table, the dynamics of growth of the walled urban compounds seem analogous to what reconstructed at Harappa. Geomorphological studies, geophysical prospecting and core-drilling (Leonardi 1983) in particular, showed that the marginal HR insula was a single urban feature built at the southern limit of the mounds visible on surface: it was a colossal triangular basement, made of platforms in mudbricks, c. 600 meters long, 150 m wide at the base and at least 6-7 m high from the trampling surface of the time (just to give an idea: much greater, in volume, of Menkaure's pyramid at Giza). While the eastern point of the insula is studded with small-scale mixed craft dumps, at west there is what looks a single rectangular palatial building, with a monumental entrance with composite stone columns at the center, lateral service wings, inner courtyards and corridors (it is true, however, that this interpretation suffers of the same problems and possible bias of Sarcina 1973; but as discussed in Vidale 2010 the compactness and functional articulations of the block strongly suggests, at least in some settlement phases, a single large elite building).

This extensive composite building (potentially, hosting more than 80 inner rooms) was flanked at west by a 'Small Bath' that precisely replicated the architecture and most probably the functions of the Great Bath of the most prominent compound[7].

In short, the HR area in the late Integration Era was another walled neighborhood or ward, replicating the residential and ritual functions of the original, better known north-western walled mound. However, the size of the most distinctive buildings is inverted - in the older and more prominent seat, the bath is monumental and the residence - the so-called 'Priest College' - occupies a limited surface, while the newcomers of HR built for themselves a much larger palace, while their bath was relatively small. The nature of the walled urban

[7] Matthews S. Mosher (2017: 139-140, Fig. 5.12) identifies a third possible "bath" of a similar type in House XIX, Block 3, VS-A, further supporting the interpretations here proposed. For the Great Bath and hydraulics at Mohenjo-daro in general see Jansen 2005.

blocks of Mohenjo-daro is well described by Matthew S. Mosher (2017: ii-iii) when, commenting their architectural analogies in the light of the underlying "corporate aesthetic", he writes that

> "...the separate neighbourhoods of Mohenjo-Daro manipulated the same expressive practices to proclaim localized and distinct civic identities, and in doing so architecturally mimicked the tension between the centralizing forces of the Mohenjo-Daro state and the decentralizing tendencies of local manners of association."

The evidence from Mohenjo-Daro is on the whole is coherent with that of Harappa: both cities grew in form of segregated urban wards, built one after the others and gradually enclosed in massive mudbricks walls, as independent enclosures that ideally reflected orientation and functions of the original settlement. Fortified wards had their own craft facilities: at Harappa, in fact

> "...specialized workshops for steatite disc bead production were located in both of the major mounds and the discovery of manufacturing debris in other areas suggests that there may have been several competing workshops within each walled sector of the city." (Kenoyer 2005a: 166).

This is confirmed by the dispersed *loci* of craft production found in different urban districts on surface both at Mohenjo-Daro and Harappa (Pracchia, Tosi and Vidale 1985; Miller 2007). If Sarcina (1978-1979), Fentress (1976) and Miller (2005) recorded low degrees of social differentiation among the main Indus urban compounds excavated in the past at Mohenjo-Daro and Harappa, besides the bias of misunderstood stratigraphy, this is because both the first two walled compounds and later enclosed blocks were inhabited in different moments by emerging groups of elite settlers, that competed through the imitation of the rituals and the ways of life of the original, prestigious founding elites. Kenoyer found that when one of the walled compounds of Harappa was in power, the others showed lower degrees of maintenance and urban organization (1991a: 50, 55), as expected if power and economic potential periodically shifted from a seat to another. Possibly, once a walled community could make use of a

substantial input of external revenues, it could turn, temporarily or less, to more autocratic forms of urban government, materially expressed by imposing architectural projects and higher degrees of urban maintenance. In contrast, lower rank communities continued to be marginalized in satellite neighborhoods, presently below several meters of alluvium, that nobody, so far, has cared to dig (Mackay 2001: 45; see Ahmed 2014: 59).

The agglomerative and discontinuous growth of Indus regional capitals, from an economic viewpoint, perhaps reminds more of a modern pyramid scheme than the purposeful funding of a city as a unitary political and military project under the leadership of a chief (a pyramid scheme is an economic project that recruits members through the promise of payments or services for enrolling others into activity, rather than supplying investments or providing factual services or real economic rewards).

I propose the following theoretical reconstruction. In the earliest Harappan urban settlements, a growing external population was attracted around the original core settlement by new economic opportunities, for building the walls, or for exchanging services (non-specialized labor and craft prestation in exchange of divination, ritual or medical know-how, or a higher level of local security); or simply for sharing new prestigious ways of life and paramount elitarian symbolism. These external communities developed in time their own market areas and craft facilities. Once the economical interaction with the original inhabitants and the interests of the marginal community had reached a certain economic threshold, and new market and craft areas had developed outside the first walled compound for serving the whole urban community, others were enrolled outside the second fortified ward as laborers or servants, into a lower level of the socio-political and urban scheme.

Then - always according to this theory - the new marginal settlements, in turn, enclosed themselves in additional walled compounds, for greater social control and security, or for granting an efficient taxation on the growing inflow and export of goods and wealth (Kenoyer 1991a; 2006).

Resources mobilization for building yards depended on the distribution of surplus staple wealth stored and managed by the groups in power[8], or was obtained by coercion, and/or through voluntary prestation. Possibly, the involved external groups had different ethnic-linguistic identities, and were specialized in different economic sectors; a negotiated inclusivity may have been a primary aspect of the growth by agglomeration of these segmented early urban communities[9]. The idea that Indus urban segregated neighborhoods, built at the same time, expressed the allocation of different castes of a single 'culture' (see Boivin 2005 for a theoretical discussion of castes in the archaeology of the Subcontinent) is rather naive. In fact, the image of diachronic agglomeration of possibly compact external communities revealed by the stratigraphy of Harappa puts the "invention" of these early cities in a totally different light (detailed discussion and cases in Kenoyer 1991a).

[8] The original economical input for the rise of the earliest walled settlements of the Indus world in the late fourth millennium BC remains an open question. A substantial wealth is obviously required to engage people in large-scale building activities. In the late Regionalization Era there is no archaeological evidence of important agricultural innovations that might have produced surplus. The only foundational economical trait of the Kot-Dijan period (ca. 2800-2600 BC) and Integration Era (c. 2600-1900 BC) was the strong, if not exclusive, orientation of animal exploitation towards bovines (Fairservis 1967, 1986). Possehl (2002: 55) rather thought of a impacting ideological component that proposed a radically new way of life; Bondarenko *et al.* (2011: 226) similarly advocate in social evolution the effects of a *political culture* proposing an ideal, influential sociopolitical model. Spruyt (1994: 27), discussing medieval Europe, emphasizes *institutional mimicry* by outer communities, and stresses how the introduction of standardized weights, coinage, and efficient management of justice (a crucial issue in socio-political change) contributed to the final expansion of sovereign states. If the formation of the early settlement of the Indus valley involved a process of multi-ethnic clustering and gradual integration, possibly enhanced by the rise of important open marketplaces in border areas, we should not forget processes of *hyperginy* (women from outer communities "marrying up" within locally settled families) (Blanton and Fargher 2016: 67-97, 21).

[9] Kenoyer insists on multi-ethnicity: the proliferation of ornaments during the Integration Era would match an increasing urban agglomeration of different cultural identities (Meadow and Kenoyer 2016: 154). In contrast, the groups that buried their dead in the later protohistoric graveyards of the Swat valley (ca. 1400-900 cal. BC; Vidale, Micheli and Olivieri 2016) made a quite limited use of personal ornaments, probably because the community was more secluded and much less permeable.

Eventually, as recruiting followed on, the local political chessboard became more crowded, conflictual and more difficult to control. Further agglomeration might have become more and more difficult: the usual end of pyramidal schemes is that at the end of the cycle most members are unable to get the rational economical advantage they feel they deserve, the general system loses credibility and eventually collapses.

3. Ornaments as vertical linkages

Conspicuous consumption in Harappan society (Cork 2006) is an ascertained fact. Beyond architecture, the material evidence is formed, to a great extent, by private hoards of copper and semiprecious materials, including craft tools, weapons and small portable valuable ornaments and symbols of status. While the world of Harappan personal ornaments, and the intricacy of craft technologies that made it possible, impressed the excavators since the early field research in India and Pakistan, their implications for the social structure of Indus cities are a relatively recent line of enquiry. This latter is due to the well managed large-scale excavations at Harappa and the specific interest of J. M. Kenoyer (1991b, 1995, 2000). He states that

> "Harappan Phase ornaments reflect the distribution of identical symbols across the vertical hierarchy, while at the same time reinforcing the hierarchy of the Indus society through the important differences in raw materials in technology...ranking or stratification within the society as a whole appears to have been reinforced by the use of various raw materials and manufacturing processes that resulted in finished objects with different related values." (1995: 112).

In short, the widespread use of ornaments having the same easily recognizable forms, but made with materials of obviously different value, communicated values of identity and solidarity, but also ascribed the bearers to different social ranks (see also specific case studies and relevant discussion by Chase *et al*. 2014). Thus inhabitants might have been qualified by subtle wealth transitions, but also by sharp scalar steps (see discussion and counts of ornaments in different base materials in Kenoyer 1992: 84-87). Portable personal ornaments expressed one of the most elaborated scalar classification observed in

ancient civilizations, in the series of ascending relative values which brought bangles from rough terracotta to fine processed clay, then to high temperature stoneware, faience, shell, copper, bronze, silver and, quite obviously, gold.

A parallel scale is easily detectable in beads: terracotta, colored faience, various types of steatite and fired steatite, agate/carnelian and other attractive stones of the quartz group, green grossular, bronze, silver and gold. Beads made or modified with artificial matters (etched carnelian, ceramics and fired steatite which imitated the natural veins patterns of semiprecious stones) added to the complexity of this scalar system. Ascending values and prestige worked through emulation and differentiation, as vertical links in a society that was strongly stratified but also deeply faulted at a horizontal level.

To sum up, "...ornament styles represented a highly efficient form of visual communication and public identification" (Kenoyer 1991: 96), and it is easy to imagine that archaeologically invisible textiles and clothing, in the same contexts, played an equally crucial role. Visible differences, in this system, materialized the steps of the ladder; emulation, the ascending drift.

Ornaments thus created expressed mutual reckoning and helped negotiation among groups formally divided and hierarchically ranked. Communication and recognition probably intensified at limited proxemic distance, when people interacted personally at close distance. This certainly happened at the guarded entrances of the walled compounds or, inside each mound, in the course of daily specialized socio-economic interaction. Mobility of people and objects was inversely related to the amount of information (and therefore distinctions) conveyed by material culture. In fact, pottery forms and decoration were mostly devoted to unifying symbols and 'pan-Indus' ideological values (Kenoyer 1995). However, the imitation of common earthenware cooking pots with costly copper formal replicas shows that similar processes, with sharper boundaries and simpler categories, were also active at a household level (Vidale 2000).

The link with the early urban structure might have been quite simple: notoriously, South Asian castes, groups and communities use to claim priorities of local settlement (sometimes in conjunction with racist arguments), and support such statements with fictional

genealogies and (sometimes unlikely) historical narratives (e.g. 'My kin arrived first and conquered the others, so my superiority is rightful and legal'). The earlier settlements in the Indus cities, prominent on the lower and later walled compounds, materialized, as living landscapes, the ancestral superiority of the original kin groups and their local heirs. However, on the long run, early enclosures became crowded and fell in disrepair, being threatened by the need of continuous, costly maintenance. While new walled enclosures appeared nearby, the matter of contention became more and more visible and substantive. By moving with their ornaments among the various architectural compounds, guarded gates and open urban spaces, and interacting economically, inhabitants became the living flow of information and personal negotiation that was the spirit of the polycentric city-state. The imposing walls of each ward monitored access and commodity flows, prevented local crime and threatening intrusions. Moreover, following Blanton and Fargher (2016: 23) and other authors, it is easily understood how ward fortifications represented at the same time *high-cost reputational symbols* not only of the ward neighborhood, but also of the general social order.

4. The seals-tablets-tokens system as a medium of horizontal connectivity

Fired steatite stamp seals with animal figures were invented and somehow standardized between 2,800 and 2,600 BC, a period commonly called Kot-Dijan (Table 1), more or less contemporary to the erection of the earliest walls and gates systems in the original settlement cores; to the introduction of a standardized measures for bricks, and of standardized weights and micro-weights in banded chert from the Rohri Hills for scales. On seals, a limited set of animal icons, which could have been easily understood also by illiterate people, was topped by short inscriptions, readable by a class of professional scribes, merchants and managers (Kenoyer 2006: 11-13). On preliminary paleographic and stylistic grounds, complex scenes carved on stamp seals, including humans, animals and possibly deities, would date back to the beginning of the Integration Era, suggesting that the steatite

stamp seal system was introduced in a state of full complexity under the inspiration by one or more powerful groups of power.

Both Fairservis (1986) and Ratnagar (1996) argued that the Harappan urban society was tied up through manipulation of kin lineages and marriages, spreading political control in the urban community and beyond. Obviously, the active involvement of kinship vs. territory-based emerging links in pre-state and early state societies is beyond questioning; that different 'subsystems', in these contingencies, were closely intertwined (Bondarenko 2008) is generally accepted. For example, Ratnagar imagines an Indus urban society dominated by a duality of social structures, one tribal or kin-group oriented, the other being a "...a state sector of production and distribution", managing the making of Rohri chert blades and weights, shell artefacts, inscribed seals, long carnelian beads, costly metals and other items - a situation in which "... tribal institutions survive and class divisions remain inchoate" (2017: 108-111).

If this was the case, animals on the Indus stamp seals could have been insignia of different descent groups or clans, the elegant, well-known unicorn belonging to the ones in power (Ratnagar 2017: 119).

However, kin preference might also be a serious problem to the growth of community-scale organized cooperation and institutional building (Blanton and Fargher 2016: 15). Kenoyer (2009), Ratnagar (1991) and others have also hypothesized that the animal icons on seals might have been tags of accomplished social identities, easily qualifying the owner as bearer of official roles in the urban society. The two possibilities (kin versus role tags) are dichotomic, and leave less space to intermediate solutions than currently assumed. In the second viewpoint, the appearance of animal icons on seals in the Kot-Dijan period and in Harappa 3A (ca. 2,600-2,450 BC) would signal at the same time a state of advanced dissolution of traditional kinship ties, and a relatively sudden take-off of administrative complexity through personnel enrolled through ascription (?).

I prefer the second hypothesis, although admitting that so far there is no ground for certainty. It is enough to consider the involuted bureaucracy of the Lothal sealings (Frenez and Tosi 2005), which postulates precise roles and duties, scaffolded into specific work packages, and the activity of a class of professional administrators, not

compatible with the contextual personal interactions expected in networks of kinship-based links (Bondarenko 2008: 26). In fact

> "...in a successful state supreme power does not develop the community matrix further on but rather, on the contrary, begins to restructure society in its own image" (Bondarenko 2013).

Quite probably, Indus inscriptions on seals and other portable media, differently from important Near-Eastern inscribed items (Parpola 1994: 116-121) included no patronymics. Rather than emphasizing the importance of descent lineages, the urban economy promoted new social identities and roles, and cooperation at a horizontal level. In this light, the largely dominant unicorn seals (among others, Ameri 2013) might be seen as the tag and pervasive administrative tool of a relatively inflated urban class of bureaucrats, whose authority and functions acted as a medium and horizontal lubricant for the transactions of the whole urban networks. Considering the list of elements for the institutional building up of complex societies in Blanton and Fargher 2016, 41-43, the seals would have been expression of *role structure* (persons occupying specialized roles), implying specific forms of *recruitment* from across social sectors (a function implicit in the scribal schools), and represented a double *reliable communication channel*: icons and inscriptions.

At Harappa, the stamp seals system notoriously involved and interacted with a variegated inventory of smaller micro-tablets in terracotta, steatite, faience with short inscriptions. Terracotta and faience tablets and three-sided prisms (Meadow and Kenoyer 2000) were frequently imprinted after seals and small tablets carved or impressed in these materials (and possibly in wood). All these objects (molds and imprints) were made and circulated in unknown ways as tokens and transfers for the movement of people and goods among the walled compounds, and possibly among different cities. It is important to stress that while some micro-tablets were twisted, as one would do checking a transfer or a ticket, while still in plastic state (i.e., at the workshop sites, after forming and before firing), others were split after firing (or after drying) in symmetric halves to be rejoined, perhaps as mutual receipts after a transaction. Thus, administrative processes started at craft workshops, and the *chaînes operatoires* themselves (and

the craftpersons of the steatite/faience/terracotta workshops) created and maintained dynamic and specialized links among the various communities. It is conceivable that for this reason the production of these transfers, like that of the refined stoneware bangles, also inscribed (Halim and Vidale 1984) underwent vertical administrative control, as frequently remarked by Kenoyer (2005c).

That these common, portable objects at Harappa were media of horizontal connectivity, at least since the XXIVth century BC, when walled enclosures at Harappa were heavily restored and built anew, is demonstrated by steatite tablets with the same inscriptions and duplicated impressions found in different urban mounds (Meadow and Kenoyer 2000). To admit that Indus urban blocks represented "tightly bounded and insular neighborhood-scale collective action units", whose 'walled ward systems' potentially inhibited cross-city interaction and the coalescence of compact early urban consciousness and polities (Blanton and Fargher 2016: 166), is probably an important step to address the question of the nature of these astounding micro-documents.

Going back to the above mentioned list by Blanton and Fargher (2016: 41-43) of institutional elements in early complex societies, these small portable objects would be used in *physical infrastructure* (growing flows of people and goods in the frame of cooperative networks), perhaps in the frameworks of a *fiscal* system, and, in a wider scope, of an *institutional pattern of interpersonal interaction*. We should seriously consider from manifold viewpoints the possibility that these tokens were systematically used to regulate prestation, transactions and tax flows across the walled compounds and external communities which formed and gave life to Harappan early cities (attempts in Ansumali 2018). Once understood the interaction of Harappan micro-tablets in the three media (terracotta, faience, steatite) with stamp seals and imprints, and their physical transformations and circulation, such tokens and transfers would reveal '...the transit of a real city taking the place of a dead picture.' (Folupa/Sidis 1926).

5. Heterarchical government at Genoa, Italy (X-XV centuries AD) and implications for the Indus case

There is a general agreement that the growth of cities such as Harappa and Mohenjo-Daro appears to be directly linked to an increase in regional and long-distance trade. The use of multiple sources from similar raw materials suggests that competition between merchants or local elites, as well as the heterogeneity of urban populations, may have stimulated more extensive trade networks, exploration for new resource areas and possibly the colonization of distant regions (Kenoyer 2008a).

Medieval Genoa[10], in the northern Italian peninsula, is here shortly discussed for widening the scope of our interpretations. The comparison cannot be but hazardous, but after all, "...One of the advantages of considering modern history is the wealth of information, quantitative data, and tight chronological control" (Price and Feinman 2010: 10).

Genoa was a port of the Tyrrenian sea, grown under a steep chain of mountains, with little or no rural hinterland. The urban communities were involved in trade, ship building and banking, as well as in the slave trade. In 945 AD, a bishop, after a ruinous Saracen attack, promoted the formation of urban/maritime associations called *Compagne* ('Companies': originally referred to a community sharing meals on a ship). A *Compagna* gathered powerful families from the same urban neighborhood, organized in an urban insula self-defending through its own gates and watchtowers[11]. It was a trust of merchants,

[10] The following sketchy outline of Genoa's institutional history in medieval and late medieval times borrows from Piergiovanni 2012, and from Giustiniani 2017, a substantial collection of historical accounts in Italian, with references.

[11] Blanton and Fargher (2016: 180), quoting Romano 1987, recognize the same 'fortified island enclaves', ruled by powerful patrician families, in the urban layout of medieval Venice, another sea trade-oriented militaristic polity. As they put it, Venice would have later become a 'broadly integrative polity' under the pressure of growing collective action, a process culminating in late Renaissance times. In the late medieval and later periods, I would rather link the transformation of Venice's government, and the absorption of fortified wards into the city's administrative parishes, to its expansion to a mighty territorial state. In fact, between the XIII and XIV centuries, Venice fought long wars to subdue the city-states of the north-eastern Po plain, eventually establishing a firm possession on a wide and diversified rural hinterland. Genova never took the same step.

noblemen and citizens capable of sailing and fighting, who shared, with co-residence, the same political and economic agendas. Initially there were three *Compagne*, namely *Castrum* (Castle), *Civitas* (City) and *Burgus* (Village).

Each *Compagna* had its ships and a flag, employed its sailors and elected its political representatives among the leading families and the linked urban elites. Citizens were divided in two categories: *habitatores* (inhabitants) and *boni homines* (good men). The former were destitute individuals whose only responsibility was to patrol the city; the second, the wealthy ones, had pay a tax for the military fleet and the management of the port. The *boni homines* (the elite) who wanted to start a trade had to enroll in a *Compagna*; registration was not mandatory, and at the end of a expedition it could be not renovated, but all members were strictly obliged to live in Genoa.

In the following centuries, the number of the *Compagne* gradually grew to eight. This expansion formed the core of the Genoa state: a nominal *Compagna communis* was created at a major church, where a common flag was kept. A kind of parliament, under the guidance of the bishop, elected consuls from each *Compagna*. Consuls managed the fleet, the security forces and foreign affairs. The trade activities of Genoa were organized through a network of faraway coastal colonies exempted from taxation. Trade colonies in distant lands (in Arabic *funduk*) were usually formed by wards including a group of houses, storerooms and wells that could be conveniently defended. Bowles (2004: 233-266) shows how the individualist trading families of medieval Genova recruited foreign agents out of their family networks, in the pool of the unemployed, regardless their reputation in terms of honesty. These external agents, however, were paid additional sums of money for a proper behavior - which allowed them forms of upwards mobility and contributed to build up more integrated social networks.

Originally in charge for four years, consuls were appointed to a single year, to avoid concentrating power at length in the hands of few families. The number of consuls, for the same reason, continued to grow in the course of time. When an important guest visited Genoa, the leading families drew lots to decide in which palace he would have been hosted. The strategy was to check information leaks, and relent the

development of private links, thus ultimately hindering familiar free-riding strategies and the formation of potentially dangerous asymmetric alliances.

For important decisions consuls were flanked by a *Consilium* (senate) of experienced elders. The elites belonged to a oligarchy in which a successful banker, lawyer, pirate, trader or conqueror could acquire the status of nobility and compete for political power, independently of his public ancestry. During the Crusades, the search in the Levant for holy relics to be dedicated in one group's cultic centers was another form of political competition.

Every ship that docked at Genoa had to pay a tax in currency or salt. The state also subcontracted the collection of taxes to private entrepreneurs (tax-farming), thus giving birth to a 'grey zone' where private and public interests were tightly interwoven, through a kind of conditional collective fiscal system (Blanton and Fargher 2016: 106-107). With such central resources, the state had to build and support the fleet and take care of the docks.

With the economic expansion of Genoa, during the Crusades, and after long wars with the other maritime republics of Venice and Pisa, the city-state faced relentless changes. In the late XII century consuls were flanked by other elected officers: a *podestà* (chief magistrate), later replaced by two 'Captains of the people', and finally in the XIV century by two supreme leaders or *Dogi*, first assigned for four years, then, again for limiting their power, annually.

Despite every effort, even the highly flexible organization of Genoa's state could not cope with the fluctuating outputs of its economic base, nor with the growing complexity of international conflicts in the Mediterranean: in the aftermath of the expansion of larger territorial sovereign states, the city-state of Genoa, like others, turned out an institutional dead-end (Spruyt 1994).

The six centuries of the maritime republic, in fact, witnessed a progressive increase of internecine, destructive conflicts among the leading families of the city. Contrast and feuds among families, and later between nobles and craft corporations, debouched in harsh armed conflicts fought in Genoa's streets from fortified family- or *Compagna*-held urban blocks. Some fights were so irreparable that entire palaces were razed to the ground, some temporary elected rulers were killed,

and in extreme cases the state could only resort to formal and deadly duels between the heads of the families and neighborhoods in conflict - an eloquent reminder that highly developed heterarchical systems of power could be despotic and resort to harsh organized violence like more common and better known dynastic systems.

In this long and anachronistic digression, the points of interest for interpreting the Indus city-states are obvious: in first place the urban organization in separate, independent fortified neighborhoods, each with its elite residences, craft facilities and possibly ritual buildings. If at Genoa each *Compagna* formally owned its mercantile trust, it is entirely possible that at Harappa and Mohenjo-Daro, as well, every community had not only its elite residences, ritual facilities, seal-carving schools and craft production centers, but also the surplus and the institutional framework for managing independent, long-distance trade enterprises. In this light, the trade-oriented economy of the Indus centers would explain their peculiar urban organizations and politogenesis.

Economically, the Indus urban system acted at various levels of integration: the walled communities may have had preferential links with outer communities of origin; with their own resources[12], took care of the wards infrastructures and needs, but could interact with the central state at supra-neighborhood levels. Probably they used a share of the revenues to pay taxes to pan-urban institutions, perhaps in form of staple goods, or collaborate with the political center providing recruited labor-force or services. Such resources were used in less common projects of more general interest for the urban government.

Politically, the urban communities have competed harshly for leading positions, prestige and advantages in the local institutions, councils or seats of government, supported by economies that thrived for centuries; but on the long run the same economies were too

[12] Studies by C. Petrie and his teams (2016) show that Indus populations developed in diverse ecological conditions, with distinctive cultural behavior and flexible economical strategies. If the groups that clustered in the central urban hubs were rooted in different hinterlands and ecologies, and maintained with such lands preferential economic and trade links, differences might have been a further factor of integration of the early urban economies.

wavering and mutable to allow the formation of a single durable dynastic center of power[13].

Both Genoa and the Indus core settlements, moreover, shared the foundation and the maintenance of trade colonies or minor, sometimes secluded or fortified settlements that in distant regions intercepted at the origin the flows of exotic, valuable raw materials of crucial interest (although for the Indus this matter is under scrutiny, and the issue would require more data and further investigation; see below).

6. Territorial control and inter-regional networks

Of course, Harappa and Mohenjo-Daro, with other large cities of the Harappan world were not seaports. Given their size, they needed a constant inflow of rural products from a wide and permanent agrarian hinterland. However, there is a general consensus on their commercial vocation: shortly stated, "...The Harappans were agrarian but developed large, architecturally complex urban centers and a sophisticated material culture coupled with a robust trade system" (Giosan *et al.* 2012: 1). The spatial setting of the Harappan settlement networks, at least as far it is archaeologically visible, lets us imagine how important the rivers, the vanished docks and the probable interaction with groups adapted to navigation and riverine nomadism might have been. In fact, according to Fuller and Madella (2001: 348-351) the whole agricultural system of the Indus plains was based on seasonal overspill of muddy waters from the main primary and secondary river canals, sowing fresh, frequently renovated silty surfaces with limited labor and energy investments[14] - a technological choice that kept important settlements

[13] See also White's (1995: 104) features of heterarchical systems of power recognized in early protohistoric states of South-east Asia: cultural pluralism, competitive and multi-centered mechanisms for resources management, flexible social status through personal achievement aside social ascription, cooperative and competitive dynamics for conflict resolution through continuous negotiation. White also insists on lower levels of intercommunity conflicts and a de-emphasized role of coercion and interpersonal violence, aspects that in the Harappan case should probably be rejected.

[14] Blanton and Fargher (2016: 274-275), concerning regions of South and South-east Asia depending on wet-rice production (not exactly the Indus case) describe as recurrent forms of agricultural intensification 'based on labor-intensive flow-management irrigation' and 'high levels of cooperative water management' performed

not far from recurrent flooding basins of active river beds and (consequently) from potential riverine docking locations. The large-scale consumption of fish reconstructed at Harappa by W. Belcher (1991) is a secondary but important evidence of the dependence of the city on its fluvial resources.

Among the distinguishing and crucial features of the Harappan networks range the great distances among the main regional 'capitals' or urban poles during the second half of the 3rd millennium BC. As summarized in Kenoyer 1997: Table 4.2, four of the five major cities (Mohenjo-Daro, Harappa, Rakhigarhi, Ganweriwala; the fifth is Dholavira) might have had potential hinterlands whose extension varied from more than 100,000 to 170,000 square kilometers, enormous if compared with the agricultural territory of contemporary cities in Mesopotamia and Syria: Ebla, for example, only controlled ca. 1500-2000 square km of cultivable land (Matthiae and Marchetti 2016), much more green and fertile than the arid stretches outside the reach of the Indus floods and the local potential for semi-artificial irrigation). Considering the average distances among these urban centers, each Indus city-state might have extended its influence, grossly speaking, along a radius of ca. 150-200 km or more - how everybody can measure on a modern map. How much of these land and linear distances were actually relevant for agriculture and husbandry; or, stated in other words, how far these lands and far-ranging herds could be taxed by the urban hubs; incorporated strategic trade routes and stations; and to which extent the navigable riverine routes would warp, in terms of human geography, access to land and rural settlements, are questions that, for each city, remain unanswered. However it is probable

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at a community level. However, this would be the main (or only) form of organized cooperation, 'while polities themselves tended towards political segmentation and autocracy. Large urban centers are rare, and markets tended toward restricted forms where the governing elites and alien traders controlled the profitable long-distance trade' - in a largely unequal social landscape. I wonder if similar descriptions could account for the agricultural cores of the floodplains of the Indus, cultivated by diffuse, small-scale management systems of secondary flood courses. At the same time, this might help explaining the semi-independent character of the polities which occupied intermediate territories among the main urban hubs, and one of the distinctive features of Harappan trade networks.

> "...that large and medium-sized settlements played an important and, perhaps, independent rather than subordinate role in both interactive processes and socioeconomic control structures" (Petrie *et al.* 2017: 3).

Currently, are we substituting the old model of the 'twin capitals' Mohenjo-Daro and Harappa (already criticized in Allchin and Allchin, 1996: 169) with a 'five capitals' network? Is this reality, or a new factoid? Ganweriwala, in Cholistan, has been another very large urban center, but its occupation seems to have been not older than the Harappa 3C period (MasihIn 2018). Another large site named Lakhan-jo Daro (or Lakheen-jo Daro), in the industrial periphery of Sukkur, in Sindh, Pakistan (Shaikh, Vesaar and Mallah 2004-2005) is described as a cluster of mounds extending from east to west for ca. 2 km, and more than 500 m from north to south. Thus, Lakhan-jo Daro would be the sixth large city, located only about 100 km north-east of Mohenjo-Daro. Note, moreover, that there is no certainty that five or six main cities were occupied simultaneously and with the same demographic importance.

The fact remains that the larger Indus cities potentially had access to huge territories, distinguished by a noticeable ecological diversity (Petrie *et al.* 2016) but largely relied on cattle exploitation and consumption (among others, Meadow and Patel 2003). These features, apparently unmatched by the other early Bronze age polities of southern Eurasia, are still difficult to frame in a coherent reconstruction (Petrie 2013: 95).

Only W. A. Fairservis, Jr., in 1967, has tried to explain rationally this order of anomalies, proposing through an intriguing quantitative economic model that very wide grazing lands were required by an economy primarily focused on the intensive exploitation of large herds of bovines. In Ratnagar 2016: 72, we read that in the Harappan society powerful animal herders and their kinsfolk, politically ascendant and militarily organized, could have been capable of spreading a unified ideology, the same cultural tradition and administrative technologies across an enormous region - a comment that recalls the political evolution of northern Mesopotamia in the eighteen century BC, at the verge of Hammurabi's conquest. The

scarcely predictable and often very destructive behavior of the Indus river in Sindh may have been another factor promoting the growth of political authority and temporary forms of control of wider stretches of the lower valley.

True or false these theories might turn out in future, the major centers were likely separated by extensive and branched rural settlement networks[15] that, variously involved in the urban economies, acted as buffer zones. Second rank towns and rural market centers might have systematically populated these outer areas, but so far the general evidence of similar networks is too partial, or the interpretation lags behind. The relationships among such networks, the requirements of urban supply, the concentration of important craft industries and the management of trade is still a matter for future research (see comments in Petrie 2013 and Ahmed 2014). However, it is possible that the actual radius of permanent, direct taxation of Indus urban poles was much less than so far assumed.

The current rarity of scientific surveys carried out with modern observation and recording technologies, and that of reliable regional sequences, still prevent us from consolidating a badly needed general archaeological picture. At present, we have to accept that of the Harappan settlement networks, unfortunately and with few exceptions (like the quoted local and regional surveys by Rita Wright near Harappa, and Cameron Petrie and his teams in Haryana), we still know little.

According to Bondarenko, Grinin and Korotayev (2004) and Bondarenko (2011), in heterarchies or 'early state analogues' other important networks may have acted at a much more comprehensive scale, taking the form of institutional, inter-societal bonds among larger and distant communities. For example, in the universe of the independent city-states or *poleis* of classical Greece

[15] A general discussion of Harappan environmental setting and rural foundations is included as Chapter 3 of Rita Wright's manual (2010) on the Indus Civilization. See also the wide-scope discussion on environment, seasonality , groundwater resources, and river courses by Ratnagar 2016b, considering that the question of the Hakra-Ghaggar stretches and beds - the eastern edge of the greater Indus valley - is controversial and has stimulated a long, substantial debate, outside the scope of the present paper.

> "...The existence of the inter-*poleis* communication network made it possible, say, for a person born in one *polis* to go to get his education in another *polis* and to establish his school in a third." (Bondarenko 2011: 221-222).

These networks, in the course of times, may have reduced the threaten and destructiveness of inter-urban warfare and allowed regional powers to undertake important collective political and military actions, which became crucial during the Persian invasions[16]. Were similar inter-*poleis* or pan-Indus networks active in the 3rd millennium BC? In Sindh and Punjab, the evidence is partial and somehow inconclusive, but inter-societal bonds cannot be excluded. First of all, long-distance networks are somehow implicit in the alliances and information flows required by every form of efficient long-distance trade from restricted source areas. Secondly, as remarked by H. M.-L. Miller (2013: 173) "…the strong standardization of the pan-Indus chert weight system does support some form of pan-Indus authority."

That manufacturing and long distance trade were partially monitored through interregional, perhaps institutionalized mechanisms, moreover, is demonstrated by the use of the same basic writing system, and also suggested by the preliminary evidence of segmentation of specialized craft production across wide regions. For example, large ladles made of the murex shell *Chicoreus ramosus*, used in both the main centers, appear to have been mostly manufactured at Chanhu-Daro in Sindh, as were the beautiful long-barrel carnelian beads abandoned in the workshops of the same town (Kenoyer 1984; Sher and Vidale 1985; Mackay 1943). But other forms of interaction might have been in play. For example, stoneware bangles moved from Mohenjo-Daro to Harappa, presumably in the contexts of occasional voyages, personal transactions or perhaps marriages, because Harappa, too, had its own manufacturing centers (Blackman and Vidale 1992). On the other hand, micro-tablets in steatite and faience were mass-produced and were in large use at Harappa, but apparently less at Mohenjo-Daro

[16] In Early Dynastic Mesopotamia, the so-called cylinder 'city seals', in the early 3rd millennium BC, associated the names and/or emblems of different cities. These seals enabled functionaries and/or political representatives to act legally in the name of different urban communities, perhaps in the framework of similar inter-urban communication and cooperation networks (Matthews 1993).

(unless those found here did originate in the former center, and unless such apparent distribution were biased by chronological factors).

Moreover, if in both cities circulated inscribed tablets of copper, at Mohenjo-Daro these objects were small, flat rectangles incised with an animal symbol and recurrent inscriptions on rear, while at Harappa copper tablets had a plano-convex like section and an inscription in relief on the flat side. These copper tablets, apparently, did not travel from one city to another. However, tablets with relief inscriptions found at Lakhan-jo Daro, 100 km far from Mohenjo-Daro (Vidale, unpublished research) look identical to those found at Harappa. This suggests that, at a certain time, the sphere of influence of Harappa may have locally overridden that of Mohenjo-Daro.

The important research of Randall Law (2011) on the evolution systems of chert procurement from the Early to the Mature Harappan periods suggests a gradual shift from a mosaic of local minor source areas to the huge deposits of light grey banded chert of the Rohri Hills. The emerging image is one of strong centralization of procurement and distribution of blades and cores by the main urban poles of the plains (mostly Kot-Diji and Mohenjo-Daro). The exceptional work of Paolo Biagi and his co-workers, carried out on the verge of a dramatical destruction of large part, if not all, of the chert-working areas near Rohri, well illustrates the technological standardization and efficiency of the chert extraction and preliminary reduction technologies brought on in the second half of the 3rd millennium BC by such centralizing attitude (among other works, see Biagi 1995, 2007, 2010; Biagi and Cremaschi 1991; Biagi and Nisbet 2010; Biagi and Pessina 1994; Biagi and Starnini 2008).

In terms of steatite procurement - another base material of vital concern for the urban craft industries - Harappa and Mohenjo-Daro remained largely independent, in that each exploited different regional geological basins. Nonetheless, minor flows of the stone occasionally moved from distant sources to the urban workshops of the other center's catchment (Law 2011). If it is clear that the development of urbanism brought about a strong regional centralization of procurement networks, more specific and extensive studies are required to address these and other related questions.

7. Discussion

Thus, in Indus urban societies independent walled mounds were counterpoised, rather than simply and permanently ranked (Crumley 2001). In the second half of the 3rd millennium BC, the main ward-based communities, in each city, might have competed at length for prestige and political influence; but they were kept together by the ideology that required scalar sets of personal ornaments. These latter acted as vertical linkages, through differentiation/emulation dynamics; while, at a horizontal level, the drop-down capillary technical system formed by seals, tokens, micro-tablets and their impressions and replicas, enabled people and bureaucrats to enact and monitor a crucial economic interaction within and among the separate urban communities. Seals, tokens, micro-tablets and their dynamic links, in other words, visualized and materialized the networks of collaboration among separate units that usually distinguish heterarchical organizations (Stevenson 2009: Figure 1[17]). Connectivity, in fact, is the crucial organizational problem of heterarchical systems of decision and power and only this aspect conceivably explains the unmatched bureaucratic profusion of micro-identity tags and transfers (and their intra-site movements) that is unique to the Indus urban world, particularly in the central centuries of its urban experience (Table 1, ca. 2400-2000 BC).

The 'alternative hypothesis models' of social complexity so far proposed for the peculiarity of the Harappan socio-political organizations (Cork 2006: basically, Fairservis' tendentially egalitarian chiefdom-like society; the poorly stratified single-lineage chiefdom of Sen 1992; the corporate stateless system envisaged in Possehl 1998; or Maisels' 2010b acephalous egalitarian communities) are clearly flawed by gross misunderstandings. The case of medieval Genoa - an explicit and historically documented example of a fluctuating heterarchical government developed by a non-territorial city-state that thrived on

[17] As Stevenson puts it, heterarchy "...is an organizational form somewhere between hierarchy and network that provides horizontal links permitting different elements of an organization to cooperate, while they individually optimize different success criteria" (2009: 6) (i.e., stated in less politically correct words, it can efficiently employ people of different social prominence and rank, and reward them differently).

long distance trade and a booty economy, shows once more that heterarchy is not the government of the peers, but the government of 1. *disjoined political bodies*, and 2. of *elements which possess the potential for being efficiently ranked in a number of different ways* (Bondarenko *et al.* 2004; Bondarenko *et al.* 2011: 213; Crumley 1995, 2001). According to Bondarenko *et al.* 2004: 12-13, heterarchical axes of power, allowing individuals and groups to alternate in leading institutional ranks and outstanding power positions, are opposed to 'homoarchical' ones, in which the same positions are monopolized by exclusive pre-stablished social blocks; and the two axes can be active, at the same time, in generating complex forms of socio-political organization.

It is because we commonly associate the idea of consolidated dynastic ('homoarchical') states with coercion, monopoly of violence and despotism (unconsciously re-proposing linear models of social evolution) that we think of heterarchies as potentially more peaceful and egalitarian[18]. As sharply stated in Kradin 2011: 192,

> "The heterarchical strategy should not be considered as a more egalitarian and earlier one in comparison with the hierarchy. The heterarchy is not less complex than the hierarchy."

In fact, collaboration at a certain (high) level does not rule out conflicts and competition at a lower level. Heterarchy does not even necessarily include the dimension of actual corporateness implied in Possehl 2002: 56-57 (see also White 2005 and Maisels 2010b), in that the lack of enduring centralization certainly did not prevent exclusivity, accumulation of wealth and despotic behavior by whoever was temporarily in power.

Moreover, while some studies (like Maisels 2010b: 79) advocate labor division and specialization as Durkheimian motors promoting solidarity and complementarity as the foundation of a

[18] See Bondarenko *et al.* 2013: 215. This serious misunderstanding re-surfaces in Lee *et al.* 2019: 366, as well as in Blanton and Fargher 2016: 101 and 310. The latter pass offers substantial bibliographic references which combine studies of 'more egalitarian forms of pre-modern polity building' and 'alternate pathways to complexity'; but the two fields of enquiry should be carefully distinguished.

"corporativist egalitarianism", archaeology, in the Indus case, for those that have direct experience shows exactly the contrary: artificial multiplication of similar formal and aim-oriented units, harshly competing while performing simultaneously the same bureaucratic functions and the same complex crafts in different walled seats of power.

At Genoa, political power could not be durably concentrated in the hands of a single descent group, also because the unpredictable long-distance trade of exotic goods, piracy, constant warfare with aggressive competitors, and the constant risk of disastrous defeats and shipwrecks impeded permanent accumulation. If Genoa's republic was an intelligent, dynamic mixture of private enterprise and collective military concerns, the families' wealth and hence their economic contribution to the state's treasury and therefore political authority were constantly exposed to sudden exogenous peaks, shocks and failures. This made the socio-political framework of the city-state endemically fragile. I propose the possibility that some of these socio-economic choices and constraints might have had affected the government and specific economic components of the Indus system as well.

Paraphrasing and adapting, with the due changes, the 'maritime mode of production' recently proposed by Ling *et al.* 2018, one might argue that Bronze age Indus economy

> "... had strong roots in agricultural production but with new maritime, warrior, and trading dynamics that appear to have generated an expansive political economy...Although the maritime mode of production was founded on decentralized social settings, social stratification and political control emerged based on control over distant trading and raiding opportunities. Display of prestige goods formed an integral part of competition for power and prestige, and procuring such goods from a distance became the object of trading and raiding parties with potentials for conquest and colonization. To the degree that chiefs could control the procurement, distribution, and consumption of valuables, they could dominate new political systems..."

From an historical viewpoint, Indus craft production may thus be envisaged as part of '...a prestige-goods economy...(with) the potential

for politicizing traditions, constructing new identities, and inventing new traditions' (Pauketat and Emerson 2007: 111). If so, procurement control, and the attempt at monopolizing highly visible, costly status signs, for centuries, was certainly a major issue in the Indus world. Ambitious leaders and traders might have invested substantial wealth for intercepting valuable exotic base materials near faraway source areas. Apparently, they patronized communities of highly skilled craftsmen producing prestigious ornaments, in sight of political strategies and social climbing perspectives that could turn out not fully supported by the economic contingencies.

For example, the bead factories unearthed at Chanhu-Daro (Sindh, Pakistan) by E. J. H. Mackay (1937, 1943) revealed a sudden, unexplained disruption of the manufacturing chain of carnelian: substantial heaps of raw nodules left unworked (still visible on surface during my visit there in 1984), and hundreds of long, valuable carnelian beads, left or dumped in unfinished conditions in the ruins of a well-built laboratory and other craft spaces.

Similarly, thousands of unfinished bangles of *Shank* (*Turbinella pyrum*) shell found in large wooden boxes, and the great number of jasper nodules abandoned in more episodes in the fortified storerooms of Gola Dhoro (Kutch, India: Bhan *et al.* 2005) witness the ruinous impact on the economy of some agents and families of other sudden and unexpected market/distribution fluctuations. Given the size of the stores, we may imagine that these ornaments might have been commissioned by a affluent family or a center of power for the celebration of public rituals that for other reasons could not be celebrated, and a lot of labor was suspended and never resurrected (long barrel carnelian beads and shell ornaments were also an important article of trade with Mesopotamia, another factor of risk in the general trade - Gensheimer 1984; Kenoyer 2008b).

The business of long-distance traders, notoriously, has always been very risky, even more in the Bronze age. 1., merchants needed direct access to distant trade locations to avoid intermediaries and thus maximize profits; 2., if we accept - assuming that the eastern Mediterranean is not the Persian Gulf, and in absence of more pertinent wreck sites - the model of coastal trade provided by the Uluburun shipwreck in the eastern Mediterranean (Pulak 1998) they had to

assemble fractioned, diversified loads for port-to-port trading strategies in order to get on the way a partial recover of the invested capital, during navigation (or also land travel) - note that conditions 1. and 2. are hardly compatible. While their investments were constantly threatened by disasters, sudden political changes, unforeseen requests by local despots and contractions of crucial resources, important, high-revenue goods could be suddenly discovered at a given location by competitors and grant to others, even for short periods, substantial gains (see Brilli 2013). 3., such long-distance transactions and trade enterprises were endangered, as above discussed, both from the side of the consumers' demand and that of the middlemen.

In such unstable socio-economic landscapes, sometimes important contracts failed and 'future bonds' could not be paid. Are these Harappan craft production failures the result of anomalous conditions of socio-political stress affecting directly a politically divided urban 'middle class', like the more famous and disruptive *tulepmania* in Holland (Dash 1999), in the first half of the seventeenth century?

In the hypothesized contingencies, not only wealth and therefore military potential and political influence could suddenly shift from one group or family of entrepreneurs and walled enclosure to another, but also the general contributions to the state's financial institutions (and thus the government core of the city's organization) was constantly threatened. As a final effect, the very authority of the city-state or of some urban coalition could temporarily reach a climax, and rapidly become looser.

Conflicts, strict security concerns, and limitations to free movement among the fortified mounds, at Harappa and Mohenjo-Daro, are probably reflected in the archaeological record even beyond the (much discussed) mudbrick enclosures and the (less discussed) guarded gates (Kesarwani 1984; *contra* Ratnagar 2017: 68). Because, in general, in the Harappan world organized violence was not represented or openly praised as a strategy of political control, many still insist on a pretended peaceful, non-militaristic character of the Indus society (Possehl 1998: 209; McIntosh 2008: 267-269; Riisfeldt 2010: 13; Robinson 2015: 108; Maisels 2010b, and many others). However, non-biased consideration of the inventory of copper weapons from the main

cities suggests that these latter are comparable - with or without central ribs - to those of the contemporaneous early urban cultures (Pruthi 2004: 127-130; Cork 2005; 2006: 247-250; Ahmed 2014: 65-71; Ratnagar 2017, this latter containing a long confutation, at pp. 61-69 and later 72-74, of the 'no warfare' paradigm); and not only rare but well known images, but not a few signs of the script suggest people handling spears, clubs, bows and arrows and possibly shields[19]. The absence of explicit violence scenes in the 3rd millennium BC iconography of the Indus community may be rationally explained as an expedient for supporting in public mandatory intra-urban and inter-urban interaction networks.

Another inspiration from the case of Genoa is the high, almost restless dynamicity of the republic's political adaptation in six centuries of socio-political struggles. We will probably forever ignore the details of the political history of the Indus Civilization, but it is certain that its seven core centuries witnessed continuous important, radical changes. According to the diachronic architectural analysis in Wilkins 2005, the first buildings in the 'lower town' of Mohenjo-Daro were large and massive erections. Houses and walls became less substantial in the course of time, and finally the whole compound was encroached by ephemeral constructions and partitioned rooms (Mackay 2001: 44-45). Important buildings and spaces in the highest mound of Mohenjo-Daro became, at the end, craft areas and dumping grounds (Ardeleanu-Jansen, Franke and Jansen 1983); for the relative sequence of different industrial occupations in the Moneer site, that probably also reflects a scale of prestige of the same craft professions and identities, see Vidale 1990).

[19] Hence, the 'no war' paradigm is doubtless 'a rather silly statement' (the opinion, that I fully share, appears in Ratnagar 2016a). In India, notoriously, the worst mass killings did not require the dedicated contribution of standing armies, nor of standardized weaponry. And in fact, paleopathological studies on the osteological remains of the different burial areas at Harappa and other Harappan sites reveal a patterning of injuries, demography, differences in mortuary treatment and episodes of interpersonal violence that, *contra* Miller 1985, Maisels 2010 and many others, are consistent with recurrent conflict behavior in a protohistoric unequal society (Robbins-Schug *et al.* 2012; Lee *et al.* 2019).

While one would be tempted to see this evidence of urban crowding as a result of growing collective cooperation, the contrary might be true. In fact, in some cases (for example in Streets 2 and 3 of the "Acropolis" at Lothal, see Rao 1979: Pls. LXII and LXIII, 102-105), centralized systems of sewage or urban water management were replaced in later periods by the construction and cleaning of sump jars by individual households[20]. As far as we know (but this notion could be changed by future digs), the ward-based urban structure of Mohenjo-Daro and Harappa did not change substantially in the six centuries of the Integration Era, and continued to constraint movement and affect the development of intra-city collective collaboration until the final abandonment.

The steatite stamp seals system was introduced around 2,700-2,600 BC as a fully developed administrative technology and rich symbolic apparatus, but after a few centuries the most visible components - the animal icons, among them the unicorns - gradually lost popularity. At the same time, the inscriptions - certainly a more elitarian medium of information than the animal symbols - grew in length and eventually took their place. If the original double semantic potential of seals (script and animal icons), being simultaneously addressed to literate and illiterate individuals, retained an element of vertical linkage, then their function shifted to a higher step of limited connectivity, probably restricted to the upper bureaucratic ranks of the walled compounds.

These changes - apparently, in part, towards increasingly hierarchic social relationships[21] - came together with a form of

[20] If, as it is easy to imagine, the cleaning of the sewage systems of private residences was originally organized at a block or insula level under the responsibility of a manager, when a household had to resort to a gang of its laborers, the relationships shifted from a three-tiered system to a simpler master-servant one, that certainly involved a steeper social gradient.

[21] In the late settlement periods, even the evident clustering of craft activity areas in different urban sectors of Mohenjo-Daro at the expense of the functions of old prestigious buildings, rather than a sign of decadence and urban crisis, can be ascribed to increasing centralization of craft sectors of crucial interest. The process might have been due to a trend towards privatization, or represented another effect of political competition, if not an aspect of the secularization of ritual and social practices mentioned above.

'secularization', if, as we have previously proposed, at Mohenjo-Daro the palatial compound of the HR insula was built in much greater scale than that of the earlier and higher mound, at the expense of the bath, that rather faithfully replicated the ground plan, but noticeably shrunk in size (Vidale 2010).

In the last centuries of the 3rd millennium BC the Indus cities, in a peak of generally increased interaction (Kenoyer 2005b; Law 2011: 466-477), demographic growth and/or urban immigration, turned to intensify the exploitation of different resources and wild animal species, and in first place to riverine and maritime ones (Belcher 2005), expanding southwards its trade networks along the coasts and the interior of Oman and the Persian Gulf (among others, Edens 1993; Cleuziou and Tosi 2000; Frenez *et al.* 2016). Such economical changes might have unbalanced pre-existing institutional functions. If large scale inter-societal bonds and trade alliances were traditionally involved in long-distance trade networks, the birth of outposts or even 'colonies' in such remote trans-oceanic stations might have represented single-sided alternatives to these organizations. In fact, colonies might have been accomplishments of single groups, instead of collectively managed enterprises: perhaps, another important break with previous traditions. Blanton and Fargher (2016: 276-277) statistically found that commercial connections to large scale trade networks ('from periphery suppliers of raw materials into core-zone economies') generally, in history, increased economic inequality, while the rise of taxable income promoted the development of autocratic components of central governments. Did wealth inequality, on these grounds, step up in the last centuries of the urban Harappan world?

At any rate, around 1,800 BC these networks seem to have extinguished, while Dilmunite centers rose as major intermediate partners of Mesopotamian polities, together with the bulk of the Indus-Persian Gulf retail trade (Laursen and Steinkeller 2017).

Eventually, changes also affected the cognitive background of important traditional craft practices, as even minor details may reveal. In the course of time, some elaborated crafts disappeared, others lost important technical components. For example, around 2,000-1,900 BC the complicated stoneware bangles technology was extinguished. In steatite seals production, the restriction of the carvings to the

inscriptions reduced the type of copper chisels-burins required by the craft from three or four to a single one (preliminary information in Vidale *et al.* 2018). In the last centuries of the Integration Era, furthermore, when potters drafted the intersecting circles motif - one of the most important traditional designs of their repertories - they did it without re-generating on cognitive grounds the motif on its geometrical basis, but coarsely copying it as a poor combination of loose and opposed disjoined curved traits (as already noted by E. Mackay 2001: 143).

All this will be judged unduly conjectural, but it is clear that the historical reconstructions provided by many publications, in which seven centuries or more of socio-political evolution are flattened in quite simplistic statements, are obviously unrealistic[22].

First of all, while many papers commonly focus on the opposition between two unreal, static images (the 'fully urban' Indus world, followed by its collapse) the major climatic changes of the 4,200 BP event are in course of investigation (among many others, see Wright 2010: 25-44, 308-312; Petrie 2017; Petrie *et al.* 2016). The gradual effects in South Asia, and regional consequences on the economies of local early urban societies are still very poorly understood.

It is obvious that along the seven centuries of the Integration Era the Indus socio-political organization changed continuously, and in depth. Eventually, a good part of its premises (Bondarenko's *political culture*? see footnote 4) might even have been subverted. We should reasonably expect that many of these changes had more substantial correlates and recognizable outputs in the archaeological record than we have so far imagined.

8. Conclusion

Specific studies, in future, will focus on new material evidence with updated conceptual and analytical tools, and, in the attempt to answer new questions, will help deciphering the evolving social framework of the Indus society (this phrase, as noted by a referee, is not particularly meaningful, but it honestly describes the current state of art).

[22] For various theories and explanatory approaches to the decline and devolution of the Indus civilization see, among others, Lahiri 2011.

For the moment, this article, even in its hypothetical terms 1. outlines an articulated model for the development of Indus urbanism, centering on the evidence of diachronic growth processes of its walled compounds; 2. links this unique process, referring to a quite different historical contingency, to possible heterarchical forms of political power, which may have shifted in time from compound to compound; 3. suggests the probability that the heterarchic governments of Indus cities were not necessarily egalitarian and peaceful, as often assumed (not only by the popular press, but also within some academic circles); 4. explains in the same heterarchic agendas the combined role of two crucial communication media (ornaments of scalar values and seals, tokens and micro-tablets), arguing on the possible functions of the compounds' guarded gates; 5. suggests that one of economic variables in play was an important role of long-distance trade networks of valuable raw materials needed to produce large amounts of personal ornaments, whose episodic failures left in abandoned craft buildings large amounts of semi-processed goods. Although, at present, this is hypothetical (and even, in not a few aspects, conjectural), it also outlines a complex model that is rather coherent in its material correlates. I believe that even the dismantling of this set of explanations, in future, might push onward the archaeology of this unique and fascinating civilization.

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A New Copper Hoard from the Excavations at Badalpur Monastery, Taxila Valley, Season 2015

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Abstract

The present paper deals with a new copper hoard reported from Badalpur Monastery at Taxila Valley in 2015. It unearthed from a corner cell during the excavations carried out by the Taxila Institute of Asian Civilizations (TIAC), Quaid-i-Azam Universitym, Islamabad. The main lot of this hoard belong to the Late Kushan Period which occured in the mid of 3rd century AD. It comprises few coins of early periods like local issue and small imitations of Azes II, which might have been in circulation when the hoard was deposited.

Keywords: Buddhist Site, Taxila, Copper, Coin Hoard, Kushan Period

1. Location of the Site

The well-known archaeological site Badalpur is situated near a village locally called as *Bhera* now lies in Haripur District. It is about 10 km northeast of Taxila Museum and 2.5 km northwest of the famous Buddhsit site Jaulian. Google earth map shows coordinates of the site at 33˚46´ 55.91˝N and 72˚52´6.40˝E (Fig. 1). The site is located on the left bank of river Haro which is 6.2 kilometers downstream below Khapur dam. The site is rectangular in plan and covers an area of 2.9 acres (Khan et al 2007: 41).

2. Previous Investigations at Badalpur

The site of Badalpur was first mentioned by Sir Alexander Cunningham, the then Director General of Archaeological Survey of India in 1863-64 (Cunningham 1864). Later, the stupa site was excavated by Mr. Natisa Aiyar, Superintendent of Frontier Circle when large scale investigations at

Taxila being conducted under the supervision of John Marshall, the then Director General of Archaeological Survey of India. The author published the results of these excavations in Annual Report of 1916-17. Aiyur exposed the stupa courtyard and collected from there some copper coins, seals and sealings and pottery. After the independence of Pakistan, the site was re-excavated by the Department of Archaeology and Museums, Government of Pakistan (Muhammad Arif), and later by the Taxila Institute of Asian Civilizations, Quaid-i-Azam University during several seasons of field campaigns (2005-2016) under the supervision of Muhammad Ashraf Khan, Shakir Ali and Sadeed Arif. The significant antiquities recovered during these excavations are gold and copper coins, seals and sealings, terracotta beads, pottery and Buddhist art pieces including Mathura style of seated Buddha in red sandstone, Bodhisattva and stone relic casket.

3. Copper Hoard from Small Monastery

A hoard of copper coins was found in a corner cell (see Fig. 2: Locus X-14, Layer no. 3) of small monastery. It unearthed during latest excavations conducted at the site in 2015. The new monastery is adjacent to the main monastery and lies on its back side. The main monastery is larger in size and rectangular in shape i.e. 170 feet long (north-south) and 150 feet wide (east-west). The location of newly discovered monastery is southwest corner of the main monastery. The small monastery is square in shape i.e. 60 feet on each side where the coin hoard was unearthed from its north-west corner cell. The coin hoard was found scattered on a floor level and not placed in a pot. It consists of 31 copper coins and their summery is as under:

Period/ King	**Coins**
Local Taxila	1
Imitations of Azes II	2
Vasudeva I	1
Imitations of Vasudeva I	20
Vasishka	3
Kanishka III	4
Total	31

One example (no. 1) of the local issue of Taxila found with the assemblage of Later Kushans is very interesting. These coins are said to have issued by the local rulers after the decline of Mauryan period. These coins usually bear variety of symbols like arched-hill, animal designs, taurine and six-armed symbols etc. The early coins were stamped on one side and later on both. Some of the later coins were inscribed by the trading guilds in Kharoshthi and Brahmi legends. Then, Taxila was occupied by the Indo-Greeks about 180 BC. The coins of such pattern were also issued by the early Indo-Greek kings like Agathokles, Pantaleon and Apollodotus I. The issuing period of these coins is first half of the second century BC or 220 to 160 BC (Mitchiner 1978: 557).

Two coins (nos. 2 and 3) of the Indo-Scythian period are also included in the hoard. Such small coins bearing the mounted king on obverse and helmeted Zeus with Nike on his right hand on the reverse are considered as the imitations of Azes II. This series of coins is said to have issued and circulated during the first century AD. These coins are known to have issued till the rule of Kujula Kadphises, the first Kushan king. These coins are very common in Taxila region as plenty such coins are ported by Marshall from Sirkap (Marshall 1951).

The remaining 28 coins belong to the Kushan era. It includes one example (no. 4) of the lifetine issue Vasudeva I (c. AD 190-227) and twenty coins as his imitations struck in the same pattern. This imitation series of copper displaying standing figure of king on the obverse and Oesho with bull on the reverse went parallel to the reigns of Kanishka II (c. AD 227-247) II and Vasishka (c. AD 247-267). Some coins of this series were produced in fine execution and some in very crude style. Besides this, three coins are assigned to Vasishka. The obverse design of these coins is uniform portraying standing figure of king at altar to left as appeared on the coins of Vasudeva I. Of these, one exapmle (no. 27) bears an additional Brahmi letter *chu* in the right field. These coins are stamped with two reverse designs; one (no. 25) exhibits standing figure of Oesho with bull behind to left and two (nos. 26-27) enthroned Ardoxsho. All coins of the present lot of Kanisihka III (nos. 28-31) are known in one design having standing figure of king on the obverse and enthroned Ardoxsho on the reverse. A Brahmi letter *hu* is seen on one example (no. 28). The figure of enthroned deity (Ardoxsho) displaying on the reverse of Vasishka and Kansihka III has prominent fat lower body.

In view of the latest contents of the hoard, the coins were accumulated during the period of Vasishka and Kanishka III and obviously deposited in or just after the rule of Kanishka III (c. AD 267-271).

4. Previous Coin Finds from Badalpur

The hoard under discussion is the third major lot of coins reported from the excavations at Badalpur Buddhist site. The first batch of coin was discovered by Natesa Aiyar in 1916-17 when he excavated this site on behalf of John Marshall. During this campaign, he picked up 10 copper coins both from stupa and monastery areas. Of these, one coin belonged to Soter Megas, two to Kadphises, four to Kanishka I, two to Vasudeva I (Ardoxsho type of Kanishka II) and one to the Sasanians (Kushano-Sasanians) (Ayier 1917: 2-3). The latest coin of this assemblage belonged to the period of Kanihska II (c. AD 227-247).

The second campaign was carried out by the Department of Archaeology and Museums, Government of Pakistan from 2005 to 2009. These activities were confined to the excavations in main monastery area. Besides other archaeological finds, one gold (Khan 2008: no. 6) and 207 copper coins were reported from these excavations. Of these, 159 copper coins were properly treated and published. It also included a copper hoard of 101 coins found on floor level in monastery room (trench X/12). The said hoard comprised 3 coins of Vima Kadphises, 26 of Kanishka I, 65 of Huvishka including 18 imitations, 4 of Vasudeva I and 3 of Vasudeva I's imitations. The other coins reported from different layers and trenches belong to Kanishka I, Huvishka, Vasudeva and Kanishka II and one exceptional specimen of the Hindu-Shahi period (Khan et al. 2009). The latest available coin of this lot is obviously of Kanihska II (c. AD 227-247) while Vasudeva I's imitations were also issued parallel to the same period.

The present hoard of coins, as described above, comprises the latest contents of Kanishka III (c. AD 267-271), which seems to be at least 20 years later then the coin deposits unearthed in 1916-17 and 2004-09. According to this numismatic evidence the period of small monastery of Badalpur is bit later and obviously belong to the reign of Kanishka III who came to power not later than c. AD 267. Hence the available coins provide a *terminus post quem* for the dating of hoard buried in the cell of monastery.

King (Date)	1916-17	2004-09		2015	Total
	Layer	Layer	Hoard	Hoard	
Local Taxila (c. 220-160 BC)	-	-	-	**1**	1
Azes II Imitations (1st century AD)	-	-	-	**2**	2
Soter Megas (c. AD 90-113)	1	1	-	-	2
Vim Kadphises (c. AD 113-27)	2	-	3	-	5
Kanishka (large*) (c. AD 127-51)	2	3	10	-	15
(small**)	1	41+1*A*	16	-	59
Huvishka (official) (c. AD 151-90)	-	-	47	-	47
(imitations)	-	2	18	-	20
Vasudeva (official) (c. AD 190-227)	-	3	4	**1**	8
(imitations)	1	4	3	**20**	28
Kanishka II (c. AD 227-47)	**2**	**3**	-	-	**5**
Vasishka (c. AD 247-67)	-	-	-	**3**	3
Kanishka III (c. AD 267-71)	-	-	-	**4**	**4**
Hindu-Shahi	1	-	-	-	1
Total =	**10**	**58**	**101**	**31**	**200**

Chart A: Frequency chart showing coin finds of three different campaigns

* (Large = tetra-drachm and did-drachm units)
** (Small = drachm, hemi-drachm units and quarter dinar)

Catalogue of Coins

Local Taxila (220-169 BC) (Quarter Karshapana)

1. Arched hill symbols on both sides
Obv. Arched-hill symbol surmounted by a crescent and taurine symbol on left the (full moon surmounted by half moon.
Rev. Same as obverse, but arched-hill symbol on the left and taurine on the right.
Reference: Mitchiner 1978: no. 4421
Coin no. 1 (1.52 gm, 14.0x1.6 mm)

Imitations of Azes II

2a. King riding on horse and Zeus-Nikephoros
Obv. King riding on horse to right, holding whip in the right hand, Greek legend illegible.
Rev. Zeus standing to left, wearing helmet, holding Nike on extended right hand and sceptre in the left, symbol in the left field and Khar. Letter sum in the right. Khar. legend …*rajasa mahata*….
Reference: Mitchiner 1975: no. 2414
Coin no. 2 (2.00 gm, 13.6x2.5)

2b. King riding on horse and Zeus-Nikephoros
Obv. As 2a.
Rev. As 2a, Same as 2a, Khar. letter in the right field is uncertain.
Reference: Mitchiner 1975: no. 2414
Coin no. 3 (1.90 gm, 13.1x2.6)

Vasudeva I

3. Standing king and Oesho with bull
Obv. King standing frontally with head turned to left, right hand sacrificing at altar and holding trident in the left. Bactrian legend þAO NANO ….. o'clock
Rev. Oesho standing facing, holding diadem in the right hand and trident in the left. Behind him bull standing to left. Legend illegible.
Reference: Khan 2010: no. 4A
Coin no. 4 (8.27 gm, 23.5x3.8 mm)

Imitations of Vasudeva I

4a. Standing king and Oesho with bull
Obv. King standing frontally with head in profile to left, wearing flat kaftan as seen on Kanishka II coins, right hand sacrificing over altar and holding trident in the left, a triangle underneath left arm of the king is partly seen. No legend.
Rev. Oesho sanding frontally, behind him bull standing to left. Heads of both off flan and no legend.
Reference: Khan 2010: no. F*2c
Coin no. 5 (6.78 gm, 21.0x3.3 mm)

4b. Standing king and Oesho with bull
Obv. As 4a, but the figure is shown in crude stylized.
Rev. As 4a.
Reference: Khan 2010: no. F*2c
Coin nos. 6 (3.45 gm, 17.4x2.8 mm), 7 (3.28 gm, 18.5x3.2 mm)

4b. Standing king and Oesho with bull
Obv. King standing at altar to left as 1, lower hem of kaftan is slightly curved and the triangle underneath left arm is not visible.
Rev. As 4a.
Reference: Khan 2010: no. F*4a
Coin nos. 8 (6.16 gm, 19.7x3.7 mm), 9 (5.82 gm 19.5x3.5 mm), 10 (5.24 gm 18.5x3.4 mm), 11 (2.58 gm, 17.0x2.2 mm)

4c. Standing king and Oesho with bull
Obv. As 4b.
Rev. As 4a, but the figure is stylized.
Reference: Khan 2010: no. F*2c
Coin nos. 12 (5.38 gm, 20.5x2.4 mm), 13 (4.86 gm, 19.9x3.3 mm)

4d. Standing king and Oesho with Bull
Obv. King standing facing with head turned to left, wears chainmail dress with pointed ends of lower hem.
Rev. As 4a.
Reference: Khan 2010: no. F*4b
Coin nos. 14 (6.17 gm, 21.2x3.3 mm), 15 (5.71 gm, 21.8x3.0m), 16 (5.24 gm, 19.5x3.4mm), 17 (4.22, 19.5x3.7), 18 (4.76 gm, 19.8x2.8 mm), 19 (4.25 gm, 20.0x2.6 mm), 20 (4.00 gm, 17.8x3.0 mm), 21 (3.67 gm, 16.7x3.0 mm)

4e. Standing king and Oesho with Bull
Obv. As 4a, but the figure is crude and stylized.
Rev. As 4a, but the figures are stylized.
Reference: Khan 2010: no. F*4d
Coin nos. 22 (5.93 gm, 19.5x3.5), 23 (5.00 gm, 20.3x3.3 mm), 24 (4.00 gm, 18.0x2.7 mm)

Vasishka

5. Standing king and Oesho with Bull
Obv. King standing al altar to left, wears kaftan, Brahmi letter is uncertain.
Rev. As 4a, legs of deity and bull partly off flan, four-pronged *tamga* is in upper left field.
Reference: Khan 2010: no. H1b
Coin no. 25 (4.63 gm, 18.7x3.0 mm)

6. Standing king and Enthroned Ardoxsho
Obv. King standing frontally with head in profile to left, right hand over altar and holding a trident in the left hand. On coin no. 27 a Brahmi letter *chu* is seen in the right field.
Rev. Ardoxsho seated on a throne, holding diadem in the right hand and cornucopia in the left. Remnants of legend visible in the right field.
Reference: Khan 2010: no. H2b
Coin nos. 26 (6.09 gm, 18.7x3.3 mm), 27 (5.56 gm, 19.8x3.0)

Kanishka III

7a. Standing king and Enthroned Ardoxsho
Obv. King standing frontally with head turned to left, perhaps wears kaftan, right hand sacrificing over altar and holding trident in the left. Brahmi letter *hu* is shown in the right field.
Rev. As 6, four-pronged *tamga* is seen in upper left field.
Reference: Khan 2010: no. J1a
Coin no. 28 (5.67 gm, 19.5x3.5 mm)

7b. Standing king and Enthroned Ardoxsho
Obv. As 7a, wearing chainmail dress but Brahmi letter is uncertain.
Rev. As 7a.
Reference: Khan 2010: no. J1ab
Coin nos. 29 (7.80 gm, 19.0x4.3 mm), 30 (5.63 gm, 21.3x3.5 mm), 31 (5.75 gm, 19.0x3.5 mm)

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Fig. 1. Google Earth Map showing location of Badalpur Stupa & Monastery in Taxila Valley (retreived on 15.10.2019)

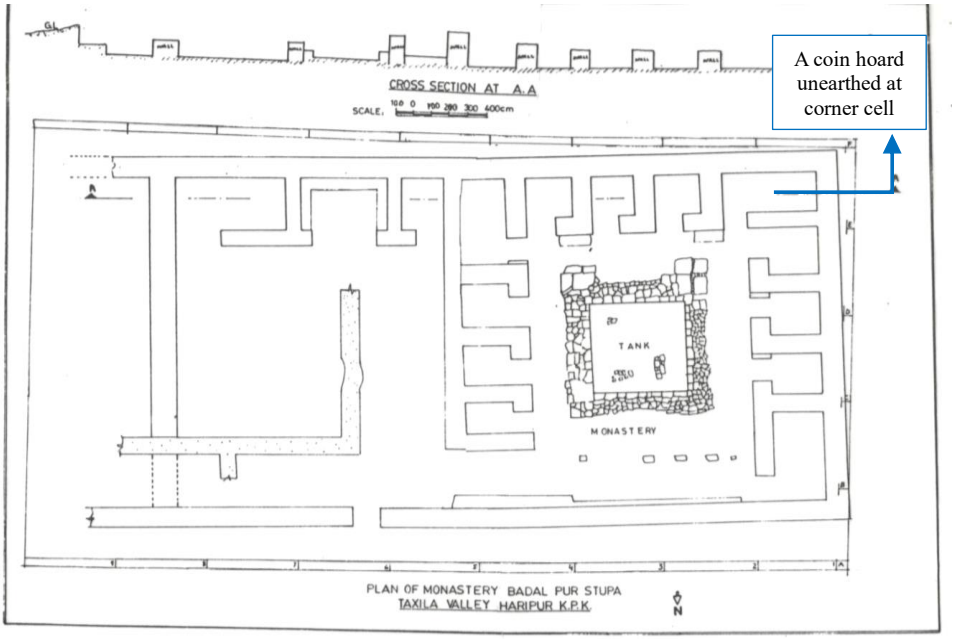

Fig. 2. Plan of Badalpur Small Monastery.

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Rare Gold Coins from the Swat Valley

Badshah Sardar / Sadeed Arif

Abstract

The current paper deals with two Kushan gold coins reportedly from Swat Valley. The finds do not come from a controlled archaeological context, and the Authors are aware that this Journal has developed a strict policy in this regard. As exception though, it has been decided to present them here because of rarity of these coins in numismatic collection from regular archaeological excavations.

Keywords: Swat, Gold, Coins, Kushan Period

Within a wide span of about 3000 years of the historic period of the sub-continent, many kingdoms rose and fell in different parts of this region. Some of them were big enough to attain the expanse of an empire, others were so small that they held small territories with an area of only a few square kilometres. But all the states, with many ruling dynasties within them and many kings within the dynasty, issued their own coins. As such, a Kushan empire extends from the Bactria to Sarnath and from the Karakorum to the Arabian Sea possesses a varieties of coins in various metals.

Numismatics research have always been a major source of history for the north-western regions of Pakistan since when it was part of the Achaemenid Empire. Coins have always been carrying portrait, script and language of that time. It has always been valuable source of information regarding the kings who issued them. Their designs provide detailed information on many aspects of the culture of the region also. Coins supply an almost unparalleled series of historical documents. They invoke before us the life and story of those who had issued them. They furnish us a true picture of environment in which they are struck. Numismatic research has established a highly refined sequence of gradual transition from the time of Achaemenians or Persians to Greek, Scythian, Parthian, Kushan, Sasanian, Huna, etc.

In the ancient Gandhara and modern Khyber Pakhtunkhwa province of

Pakistan, we do not possess much literature of ancient times, which may serve as historical evidence in the modern sense. Such of it, as we have, does not reveal many facts about the rulers, their names, dynasties, their thought and actions. But we find these facts well illustrated in many instances on ancient coins. So coins have a great importance for the study of the history of north-western regions in general and ancient Gandhara in particular (Khan, 2009: 40). Reconstructing the history of ancient Gandhara depends as much on the evidence derived from the coins found in the area as it does on ancient texts and the diverse data obtained from archaeological excavations (Errington *et al*, 1992: 12).

Written record in the region is very fragmented and requires considerable efforts by the historians to render it useful for the purpose of writing a history of region. Both the ancient scripts and numismatics evidence have gradually been matched to an increasingly detailed overview of the cultural history of the area created by archaeological discoveries and some time by chance findings of antiques. They prove to be all the more important if no chronicles are available (Mitterwallner 1986: 1).

Brief references to the Kushans and the other nomadic peoples who succeeded the Greeks as masters of the region are to be found in Chinese historical Texts, particularly the official chronicles of the Han Dynasty. For the later period down to the time of the Islamic invasion much information has been gained from the reports of Buddhist pilgrims traveling from China to India. It was in 1830 that the European adventurers in Afghanistan began to collect the coins of the area to identify the Greek language and extension of Greek culture in the area. Large numbers of these coins were placed in the hands of the Asiatic Society of Calcutta, where James Prinsep used them to make a major breakthrough in the study of the history of the region (Errington *et al*, 1992: 12).

Prinsep, who had already succeeded in deciphering the ancient Indian script called Brahmi now used the bilingual Greek-Indian inscriptions on many of the newly discovered coins. He recognized that the Kharoshthi inscriptions on them were translations of their Greek inscriptions, and by comparing the Kharoshthi versions of the names of the Greek kings he was able to decipher about 75% of the Kharoshthi syllables.

Apart from revealing new information about the coins and the nature of the language used on the ancient coins of greater Gandhara, Prinsep's decipherment opened up a new chapter of history, the use of local inscription 'Kharoshthi script', used to write the local version of the Prakrit

language, was, from the 2nd century BCE., to the 3rd century CE., the main medium for writing in the greater Gandhara and surrounding areas.

In the first century of the Christian Era, north-western region of Pakistan was governed by monarchs of the Kushan dynasty. Their vast empire extended from Varanasi on the Ganges, through Pakistan, Baluchistan, Afghanistan and Bactria, up to the River Oxus (Swati: 1998: 27). The Kushan displayed a keen awareness of the conflicting forces and pressures that could arise in an empire spanning so wide a range of ethnic and cultural boundaries. Their diplomacy is strikingly evident in the two distinct types of coinage they issued for circulation in the western and eastern parts of their empire. From their summer capital at Begram in the hills of Afghanistan, they issued coins featuring Iranian deities, Greek goddesses and the Gandharan Buddha. Here, their coin legends used the local Kharoshthi script derived from Aramaic, and occasionally incorporated Greek lettering. On these coins, emperor Kanishka chose to call himself ''Shah of Shaha, Kanishka of Kushans'' (Khan, *et al.* 2009: 27).

Coins issued from their winter capital at Mathura, in the plains of northern India, used the local Indian Brāhmi script, and featured a series of Hindu gods as well as the Buddha. Here the emperor generally used Sanskrit, and adopted the Indian title "Raja of Maharajas, son of the gods, Kanishka", which was also inscribed on his portrait statues.

Among other relics of the past, coins occupy an eminent place. These are of the basic sources of history. Through them are reflected political, social and cultural activities of a nation. The Kushans came into power about 1st century CE., in north-west part of Pakistan. It was during their reign that closer contacts were established with the Roman Empire. They issued gold currency in place of silver as it had undergone extreme debasement under Azes II and his Parthian successors and silver currency as such, could not possibly be continued as a standard. Besides, it was to compete with the Roman standard, that the early Kushan started striking gold coins (Nasir 1997: vii).

The Swat valley has been regarded as one of the most sacred places of Buddhism (Olivieri 2008: 294). In the early centuries of the Christian Era, it has been treated as an important centre of Buddhist literature, learning, education and piety. It was the birth place of a renowned Bodhisattva Padmasambhava and was, therefore, frequently visited by the pilgrim from all over the Buddhist World (Filigenzi 2008: 300).

A college fellow of the first author of this note, Mr. Riyaz Ahmad, from

Swat and goldsmith, since many decades, brought two gold coins to my office, still in his custody. While narrating the story of its discovery, he revealed that these coins have been brought to his shop at Mingora by a local farmer from Asharay village of tehsil Matta of Upper Swat valley. According to owner, he accidentally found these coins on bank of local *Khwar* (watercourse). The local farmer was interested to prepare a gold jewellery for his daughter's marriage. Mr. Riyaz Ahmad recognized these as old coins and belongs to some antique's time. He compensated the person and bought these coins to the author, to find out a keen buyer of antiques dealer for it, and would like to sell it out on a high price as usually the Swati people did it.

By examining the coins for a while, I found them genuine and identified it from Kushana dynasty of Buddhist period. Being a student of the subject of archaeology, I was excited to get it published as early as possible for the interest of general publics and scholars. With the permission of the owner, I arranged photograph as well as dimension and weight of it for further research. The artistic details of these coins and other moulded relevant information are given below:

Fig. 1 - Gold Coin from Asharay village of Swat valley (Photo by the Authers) .

Gold coin of Vasudeva
Kushan, early 3rd Century CE
Weight. 7.72 gm.
Diameter. 20 mm
Reference: *Gandhara Art of Pakistan*, 1984: pl. IX. 22, p.112; Ihsan *et al*. 2004: 184; Ihsan *et al*. 2004: 241-245)

Obverse: Frontally standing king with nimbate diademed head to left, sacrificing with right hand on small altar. The coat of his armour is decorated with a vertical band, going down from neck to seam of coat. The Bactrian legend starts at 1 o'clock with the name of the king BAZΔHO and continues with the dynastic designation KOÞA—NO and the titulature ÞAONANO ÞAO which ends before the head of the king. Between his feet Brāhmi *aksara gho* Ш; in left lower field the Brāhmi *akara go* ∩ is inscribed and in right field the vertically placed Brāhmi legend.

Reverse: Similar design Śiva and bull as on coins of Vasu's predecessor Kanishka III of the same reverse type, but Bactrian legend OHÞO, inscribed from 2 to 3 o'clock, now clearly legible. Kushan god Wesho, depicted as Indian god Śiva, standing to front, holding trident and diadem; bull standing behind him to left, inscribed in Bactrian 'Wesho', dynastic symbol in field (Mitterwallner 1986 :196-97).

The scholars date his reign to the later years of the first decade and to the second and third decade of the fourth century CE., on the evidence of his numerous gold coinage and the fact that it was this king who in his advanced reign over struck AE coins of the Kushan-Sah Hormizd/Kabod with his AE coin die that shows him enthroned on the obverse with the Brahmi *aksara ga* under his left arem, holding a short scepter in his raised left hand and the royal fillet in his right (Mitterwallner 1986: 38)

Kushan coinage went through a phase of anonymity before it emerged as an identifiable entity in its own right. Their earliest coins are imitations of Greek coins, made in Bactria and the Kabul region during the late first century BCE. At that time the people, later called Kushan after their rulers, were still known as Yuezhi. The coins of Kanishka introduced the Iranian title ''Shaonanoshao'' 'king of the kings', instead of the Greek ''Basileus Basieon''. on the obverse of Vasudeva's gold coins is found Shiva accompanied by his bull (Nasir 1997: vii).

Fig. 2 - Gold Coin from Asharay village of Swat valley (Photo by authers)

Gold coin of Kanishka III
Kushan, 3rd Century CE
Weight 7.81 g.
Diameter 18 mm
Reference: (*Gandhara Art of Pakistan*, 1984: pl. IX. 23, p.112; Ihsan *et al*, 2004: 248-255),

Obverse: King standing to front, head to left, wearing Kushan royal bonnet and diadem, holding scepter, making an offering at small altar surmounted by trident standard, illegible Bactrian inscription and Indian (Brhami) inscription 'Shaka'.

Reverse: Kushan goddess Ardochsh, seated to front on throne, holding cornucopia and diadem, inscribed in Bactrian (blundered) 'Ardochsho' , dynastic symbol in field.

After Huvishka came Vasudeva, who adopted the obverse device of Kanishka, i.e., a king standing in profile, sacrificing at the altar; but the king now holds a trident in place of the spear as held by Kanishka in his left hand. The reverse devices were reduced to two deities—Nana and Oesho (Śiva), Nana is seen only on a few coins but Oesho is quite common. The Oesho type coins had evidently a long period of issue; and the coins are found at all stages of devolution and may be clearly distinguished into four groups. The coins of each group are so distinct from one another that none would believe that they were issued by one and the same king. So more than one Vasudeva is assumed by the scholars. In between the coins of Vasudeva, a

distinct series of coins bearing the name Kanishka, spelt as *Kanishko*, are found, which cannot be confused with the coins of Kanishka I.

The reverse of these coins bears either Oesho (Śiva with his bull) or Ardoksho (perhaps a counterpart of Indian Lakshmi) seated enface on a high-backed throne holding a cornucopia in her left hand and a diadem in her right hand. These coins bear Brāhmi letters at various places on the obverse which could not yet be interpreted intelligently (Gupta 1969: 31).

It also throws lights on the fact that the Kanishka III still stuck both types of gold coins with shiva and Ardoksho on the reverse, meant for circulation in his territories in parts of ancient Bactria and the North-western regions modern Khyber Pakhtunkhwa of Pakistan. These coins' evidence highlights the political geography of the Kushan in Swat valley (ancient Udiyana). It is clear that the rule of the Kushans lasted in this region until third century CE.

The Kushana territories, were taken up by some tribal chiefs, who may or may not have been related to the Kushanas; but for convenience, they have been designated as Later Kushanas, their coins are very much similar to the coins of Vasudeva and Kanishka II and bear a few Brāhmi letters, placed at various places on the obverse. With Vasudeva and Kanishka III the Kushana dynasty appears to have come to an end. The Sassanids occupied their territories west of Indus sometimes during the reign of Ardashir I (212-241 CE.). The subdued territories were governed by the princes of the royal family; and they had the power to issue their own coins (Gupta 1969 : 32).

These coins in their own time served the purpose faithfully for which they were made. But beyond that, they still retain their value and importance. They provide and almost unparalleled series of historical documents. They throw light on the life and story of those who had issued them. They narrate the history into their being and do not simply illustrate it. They furnish us true information. In Gandhara we do not possess much literature of ancient days which may serve us as historical evidence for reconstructing of ancient history. Such of it, as we have, does not reveal many facts about the rulers, their names, dynasties, their thought and actions. But we find these facts well illustrated in many instances on our coins. So coins have a great importance for us for the study of the history of our land.

For instance, we know exclusively from coins that nearly thirty Bactrian kings and queens ruled over the Punjab for about one hundred years during 200-100 BCE. The classical writers are almost ignorant about them. This remarkable historical episode, came to the knowledge of the world, after nearly two thousand years, only by the discovery of their coins in gold, silver and copper. The coinage of these Bactrian rulers was imitated later by the Scythian and Parthian invaders, who followed in their footsteps. Their coins are equally interesting, for they alone have enabled us to reconstruct the outline of their history and recover the names of quite a number of rulers. Coins have been the principal source of our information about the various tribal and city republics and monarchical states that flourished in sub-continent.

In the realm of religious history, coins play and equally important role. The coins of the Kushanas, who ruled in north-western sub-continent during the first and second centuries CE. bear the effigies of a number of Greek, Iranian, Buddhist and Brahmanical gods and goddesses. They reflect not only what popular deities were worshipped amongst the people they ruled, but also throw light on the development of various pantheons and their iconographic forms. The representation of Buddha in human form is noticed for the first time on the coins of Kanishka, while in earlier representations he is shown symbolically. Likewise, Siva in human form with four hands is seen early only on these coins.

Further, they draw our attention to the fact that Vishnu and his associates are conspicuous by their absence from the coins of the Kushana rulers. On the coins of the Guptas, we find the figures of Durga, Ganga and Lakshmi. The Gupta gold coins have inherited Hellenistic realism in the same manner. The various forms of Lakshmi on these coins represent the development of the iconographic form of that deity beginning from her original counterpart Ardoksho, known on the Kushana coins, to Lakshmi sitting on a lotus, holding a lotus and scattering coins as Goddess of Wealth.

Apart from history, coins have also an aesthetic and artistic value. The dies from which coins were struck were the work of the artists of the day. So they reflect and idea about the workmanship of the artists and also the aesthetic tastes of the people of those times. The artistic excellence of the Indo-Bactrain coins needs no comment. The portraits of the kings and other figures on them reflect Hellenistic art at its best.

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Kaṭṭha Temple from District Khoshāb, Punjab; with reference to Gandhāra-Nāgra Temples in the Salt Range, Pakistan

Mueezuddin Hakal / Kiran Shahid Siddiqui

Abstract

The architectural monuments linked to the religious or mythological significance, always represent the level of cultural maturity, and affiliation with a belief system of any society. Such monumentally built historical temples, in the plains and hilly areas connected to the Salt Range, significantly mark the glory of Hinduism in this area, mainly under the royal patronage of Turk and Hindu Shāhis. A similar sacred site at Kaṭṭha Sagrāl in District Khoshāb, in the south of the mentioned chains of hills, loudly speaks about its religious importance, which adds the main body of knowledge of archaeology and art history of greater Gandhāra. This investigation is presented in the successive six parts: explaining historical background at the first, previous investigations at the second, architectural details of Kaṭṭha temple at the third, chronological order of Shahi Temples at the fourth, and a comparative study of this temple with the remaining Shahiya temples at the fifth. This analysis leads the readership towards the conclusion of this study, attempts to date the temple to ninth century A.D.

Keywords: Salt Range, Kaṭṭha Sagrāl, Khoshāb, Oṛi Rājās, Hindu Shāhis

1. A brief historical background

The country of Shāhis was extending roughly from the Northern Punjab in the east to the limits of Hindu-kush Mountains in the west; include Gandhāra, Kabul and Zubul, which can be inclusively called Hind[1].

[1] This name, derived from the vernacular word for river or ocean i.e. Sindhu, is used for the first time by Achaemenians to call Sindh as Hindush, which ultimately becomes Indus

However, from a broader perspective of art, this geography is the part of greater Gandhāra, received its cultural maturity during the Buddhist period, before 5th or 6th century A.D., which is before the rule of Shāhis.

The earlier Turk Shāhis established their rule mainly over Gandhāra and Kabul, and extended to Zubul. This kingdom was established by Barhatagin (Sachau, Alberuni's India 1030s, 1888: 10), a ruler of Gandhāra (?), around A.D. 666 or slightly earlier (Rahman 1979: 47 & 62-63, Harmatta 1996: 375). In the beginning he could be one of the many petty chieftains in Gandhāra (?), emerged after the fall of Ephthalite Empire, after the first quarter of sixth century A.D. (Rahman 1979: 63). Barhatagin invaded over Kabul, extended his empire to Zubul, and was succeeded by Tagin Shah (Harmatta 1996: 375-377). Later, Kabul and Zubul emerged as separate dominions. The nephew of Tagin Shah, Zibil ruled in Zabulistan from A.D. 720 to 738 (Harmatta 1996: 371). However, Tegin Shah abdicated the throne of Gandhāra during A.D. 739 in favour of his son, Fu-lin-chi-p'o also known as Fromo Kesaro[2] (Harmatta 1996: 372). The Shāhis here remained in conflict with the emerging Muslim power of its time; and also retained their tributary relations with China till A.D. 758-59 (Harmatta 1996: 372). Mamūn's invasion over Kabul and Gandhāra during A.D. 814-15, in the reign of Spalapatideva, gave a subordinate position to the Shāhis in Kabul, and the last in the line of Turks was Lagaturaman, who was paying tribute to the Muslim Governor of Khurasan (Rahman 1979: 87).

Hindu Shāhis[3] emerged with the decline of Turk Shāhiya dynasty of Kabul, as established by a Brahman named Kallar (Sachau, 1888: 13, Stein 1900: 336). Kallar replaced the last Turk Shāhi ruler Lagaturaman (Macdowall 1968: 190) around A.D. 843 at Kabul (Rahman 1979: 90). He was succeeded by Sāmand, or more accurately mentioned on coins as Sāmantadeva, raised on the throne around A.D. 850 (Macdowall 1968: 190, Rahman 1979: 95). However, Yaqub's invasion over capital pushed

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and India. However, expansion of Islam towards the interiors of the subcontinent expanded the geographical meaning of Hindustan. (Rahman 1979: 1-2)

[2] May not be confused with Kisar or Gisar (Hermann Berger *et. al.* 1996: 169), a legendary figure remembered in his story in Tibet, Ladakh, Baltistan, Gilgit, Nagir and Hunza. Conversely, Kisar can be idenfied with Kanishka, which needs further investigations based on available epigraphical data.

[3] As the pedigree of Shahis established from historical sources is not completely endorsed by the numismatic data (Macdowall 1968: 189-198).

the rule of Shāhis out of Kabul during A.D. 870-71, this also ends the rule of Sāmantadeva (Rahman 1979: 101-105). However, next in the line was Khudarayaka (Macdowall 1968: 193 & 197), his rule noticeably ends around ten years in Kabul (Rahman 1979: 105-107), may be after the regaining of power or as a symbolical sovereign or as a governor of Yaqub.

With the decline of Khudarayaka at Kabul, at Shāhis' winter capital of Uḍbandpura (modern Hund), another Hindu sovereign emerges, known with Lalliya. He was previously recognized with Kallar but Rahman (1979: 107-114) identifies him as the fourth sovereign in the pedigree of Shāhiya dynasty of Hind. For him not only the established Muslim rule in Kabul was a great challenge but also the enmity with Shaṃkaravarman, the ruler of Kashmir (Rahman 1979: 108-110). Shaṃkaravarman was killed in Urasha (Hazara) by Shuapāka, in which Lalliya was considered by Kashmiris to be involved. In the reign of his successor Gopālavarman, his minister Prabhākaradeva invaded over Uḍbandpur and vanquished the rule of Lalliya, but placed his son named Toramana on the throne of Shāhis somewhere between A.D. 902-904 and gave him a new name Kamaluka (Rahman 1979: 108). This period onwards the Shāhis are appearing allies with their contemporary Kashmiri rulers. This turning point can be considered as the establishment of cultural connections between the linked areas of Northern Punjab and Kashmir. Kamaluka died in A.D. 921.

The next established ruler is Bhīmadeva, the successor of his father Kamaluka. He mainly focussed on the invasions from the south and affairs at Kabul towards western borders. He succeeded to get the control of Kabul. He committed ritual suicide on A.D. 26th September 965, as it is highlighted by Hund inscription. (Rahman 1979: 120-130)

Mahāraja Jayapāla son of Haital succeeded him, but his relation with Bhīmadeva is obscure. Probably, he was belonging to the same family of Lalliya. Gathering the support from the surrounding kingdoms, he invaded over the territory of Sabuktagin and armies met at Lamghan. Huge numbers of 100,000 men were unable to get their object and Subuktagin pushed them back to Indus. Jayapāla was successful to push his kingdom to the South but threats from western and southern boarders were always there (Nazim 1927: 485-495). However, failure of Shāhis in battles of Charkh, Ghuzak, Lamghan and finally at Peshawar and Hund

against Gaznavid brought his kingdom from Uḍbandpur to end (Rahman 1979: 130-147). After the fall of Peshawar and Hund, he was sold as slave for 80 Dinars, and finally committed self-sacrificial suicide on A.D. April 1002, after placing his son Ānandapāla on Shāhiya throne. Shortly after this event, the capital was shifted to Nandana.

Ānandapāla (Rahman 1979: 147-157) realised after the sufferings in the battles at Indus, Chach, and fall of Bhimnagar to have treaty with Ghaznavids. He took the first step for peace and offered the tributary relations with Mahmud. In October 1009 Mahmud agreed to stop aggressions against him in return of heavy taxes. This indeed brought peace and prosperity. After the continuous struggle for seven years as the head of Shāhiya soldiers during A.D. 1010 Ānandapāla died with a peaceful death.

The honour of this treaty was continued by his succeeding son Mahāraja Trilocanapāla (Rahman 1979: 157-167). He expanded his kingdom to the limits of Ganges valley. On Mahmud's march to Tanesar, a sacred land from Hindu perspective, during 1011-12, Trilocanapāla gave him proper access as per the treaty. He was unable to stop Mahmud from the destruction of Tanesar, even by refusing of more offering in tribute and presents. However, it changed the mind of Trilocanapāla, who stopped the payment of tribute to Ghanza, which ultimately results another battle at Nandana. In winters of A.D. 1013 Mahmud was unable to cross the mountains with snow, but in spring 1014 he reached the vicinity of Nandana. Jointly the forces of Shāhis and Kashmir again faced the crushing defeat and Nandana fell into the hands of Mahmud. After the failures in series of battles including that at the river Tausi and river Rahib, and internal conflicts, Trilocanapāla was assassinated by a mutinous Hindu group in the year A.D. 1021. His son Bhīmpāla, had played a significant role in the battle of Nandana, however, his name is only remembered as his successor. Thus, the rule of Shāhis ends with his name.

2. Previous investigations on Gandhāra-Nāgra Temples

This Hindu dynasty of Gandhāra expressed their belief in the form of Temples along with other expressions in art and architecture. Till our age the remains of such temples stands in their ruined form. The explorations in the area so far brought five temple of Kafir Kot, eight temples of Bilot,

and the temples scattered in other parts of Salt Range. Temples of Salt Range include (1) Katas Temple, (2) Malot Temple, (3) Amb Temple, (4) Kallar Temple, (5) Nandana Temple, (6) Māri Indus Temples, (7) Pattan Munara Temple, (8) North Kafirkot, (9) Bilot (Masih 2000: 258-59, Shah 2007: 84-95) and (10) Kaṭṭha Sagrāl Temple (Saleem 2001: 190).

The Katas, Malot and Amb temples in this area were for the first time reported by Cunningham (1875: 75-94). However, Temples at Kallar by Talbot (1903: 335-39, Rahman 1979: 93-4), at Nandana are elaborately mentioned by Stein (1937: 36-44, Rahman 1979: 273-74).

From an academic perspective, the temples of Shāhīs in the Salt Range were initially placed in the category of Kashmiri Temples, based on their monumental trefoil arches/ niches, general plan, classical pilasters and fluted pillars. Cunningham (1875: 84) is the first to have this view on the issue. This point of view was further supported by Coomaraswamy (1927: 143) and notices the origin of art work rests in Gandhāran art, and mentions the implausible reason of Kashmiri rule over Punjab (?) during eighth and ninth centuries. Stein (1937: 40) also appearing to have the belief of the continuation of art works from that of 'late Graeco-Buddhist Art' and loosely supports (Stein 1937: 58) the view of Kashmiri style of Cunningham. This view is further partially supported by Walliullah Khan (1955: 12-22) and Percy Brown (1965: 161).

However, Fergusson (1899: 296) feels the distinction between the temples in the Punjab and that in Kashmir. Van Lohuizen-de Leeuw (1959) suggests the temple of Malot of having strong Kashmiri influence, anyhow, he propose the remaining marking with the evidence of different school of architecture in Gandhāra and Punjab. Rahman (1979: 283) is of the view of influencing 'vice-versa' and Kafir-Kot temple is suggested as the best representation of North-West Indian School. A joint exploration and excavation project of Rahman and Meister (1996: 41, 2010: 8-10) revealed new, which helped to add our understanding about the development of Temples along the river Indus. In this connection, Masih (2000: 78), the then PhD research scholar working under Rahman at University of Peshawar, compiled a survey and studied the temples in the Salt Range. Thus, the scholarship (Meister 1996: 43-53, 2010: 11-38; Masih 2000: 264; Shah 2007: 102-106) offers a detailed investigation and let us understands that the temples here have Gandhāran routes and received the inspirations from the surroundings including Kashmir, central

and western India, with new experiments and innovations of its time were added here.

However, the Temple of Kaṭṭha Sagrāl (Figs. 1a and 1b), which was visited by Salim (2001: 190/ fig. 16) and only included in the inventory (Fig. 2), was ignored to bring into discussion of the study of such temples, with reference to its significance in architecture and artistic activities during the Shāhiya period. This site was documented during an academic tour to District Khoshāb in January 2018 and again revisited in October 2018[4]. Further, this study offers the analysis of art works, and elaborates the artistic activities with reference to the studies on the topic, to explore its historical significance in the established history of the temples of the Salt Range.

3. Kaṭṭha Sagrāl Temple

If we decompose the word "Kaṭṭha Sagrāl", one can better understanding its nomenclature. First "Kaṭṭha" means "spring" in local Punjabi dialect, however, word "Sagrāl" is told as the name of a saint buried near the temple here (Fig. 9). The remains of temple are located towards the North of the cross road in this village on Sargodha Road.

The square architectural plan of the existing structure is marking the area of *garbagriha* (Fig. 1a) but the remaining parts of temple including *antrala* and *maṇḍapa* are now no more existing. The current unsatisfactory status of preservation is added by the constructions of modern sacred structures associated with the mosque on the mound (compare Fig. 2 and Fig. 3). This mosque is constructed towards the north of the temple; towards the east an ablution area of mosque is newly added; towards the west, connected to the temple, there is the shrine of Saint Sagrāl; and the only open area, which provides access to the temple and shrine is towards the south.

The temple was constructed over a mound of around four metres thick cultural deposit but the stratum marking its foundation level is yet to be known through careful excavation based investigation. The podium is visible to the west and south, of the square plan of structure of 3.6 meters on each side (Fig. 1a). The stone for construction is typically *kaṇjur,* and

[4] After nine months, when this site was revisited in October 2018, the temple came under the extension of connected mosque (Figs. 10-12), however, local authorities intervened.

uniformly used (Fig. 3). Above Plinth, on the southern and western intact façades, there were five panels in projecting plan towards the central (Fig. 1b). Each panel was separated by the projecting corner pilasters topped by pseudo Corinthian capital. The central projected panel was adorned with a sunken niche in the centre. Niches were made with tapered simple frame like a door frame in stone. Transitional phase of *varandika* towards *Shikara* was recognized by two panel of dental cornices and the space between were decorated with the relief impressions of lotus flowers (Fig. 13). The *amlaka at* south-eastern corner (Fig. 3) above *varandika* is adorned above each corner. Generally, the decorations over the *shikara* were partially intact (Figures 4, 5 & 6) before recent distruction. Internally, below the corner pendentives, holding the dome, a dentil's panel was provided (Fig. 7) with two niches (Fig. 8) on ground level on both sides. Likely, these niches were added to interior to place the lamps for light inside the *gharbagriha.*

4. Development of the Temples

In the absence of numismatic data and epigraphical evidences from these monuments, the coronological order of temples of salt ranges can only be established through stylistic analysis and detailed study of artistic features and architectural development (Masih 2000: 246-247, Shah 2007: 104). Therefore, it has been classified (Masih 2000: 247, 258-59) into four categories based on the study of architectural development and tentatively dated the earlier two phases contemporary to Turk Shāhis (circa A.D. 666-847[5]) and later two to Oṛi Shāhis (A.D 843-1026).

Based on the square plan, battered walls, tapering structure without the projections on ground plan vividly supports to place such monuments in an early experimental stage; therefore, temples A and B at Katas and temple B (?) or *kanjur* structures under temple E in Kafir Kot can be placed in this category and dated to A.D. 6th or early 7th century (Meister 1996: 43, Masih 2000: 247, Shah 2007: 105). Excavations conducted by Pak-US team at temples C and E of Kafir Kot during 1996-97 revealed the *kanjur* construction, below the structure in limestone, this reveal another important feature of earliest constructions (Shah 2007: 105).

[5] Dates have been analytically studied by Rahman (1979: 52, 61, 90 & 167).

The next stage in architectural development is the experimental phase. During this period constructions are mainly made with lime stone. In this phase along with the above mentioned features, two more pilasters with pseudo-Corithian capital emerges, which creates a projection in plan; this is added by ribbed *amlakas,* marking the storeys in *shikara;* and the impression of central projection, marking it to evolve the proto-Nagara style expressed by the temple A at Kafir Kot, thus can be dated to mid of A.D. 7th and 8th century (Masih 2000: 247, Shah 2007: 105). The examples broadly include Temples C and Kanjari Kothi (distroyed) at Kafir Kot; Temples A, D, H and sub-shrine at Bilot; and Temples A and B at Mari Indus.

The earlier experimental phase laid a strong ground for the developed phase of architectural glory during the Hindu Shahiya period. In this phase of development, monumental superstructure of *Shikara* becomes vigorously impressive. *Madhyalatas, pratilatas,* and *cornor latas* are the developed features of this period. Pedimental shape of previous model is continued but intricate mesh of *Jala* in the *madhyalatas* is the prominent feature. Such monuments are dated to 9th century A.D. The examples of this period include brick temple at Kallar, North Kafirkot temple D, Small temple at Amb. (Masih 2000: 247)

In the next mature phase of development, amalgamation of Kashmiri and Gandhāran architecture is more visible, similar to the political alliances marked by the historical sources. Curvilinear Shikara and *srnga* like elements in corner mark the additional differences, with ambulatory corridor within the chamber at Nandana. The examples include Main temple at Amb, paired temple B and C Bilot, temple and gate at Malot, temple C at Mari Indus and Nandana Temple. Such structures are dated to 10th century A.D. (Masih 2000: 247)

5. A comparative study

The construction material, architectural features and decorations applied on Kaṭṭha Temple are the important elements to trace the period of its construction, and to identify it in the developmental phases of Shahiya Temples in the Salt Range. The stone used in this temple is *kanjur* bounded in the lime mortar. This type of stone, extensively used in

Gandhāran architecture, is also used in the architecture of Shahiya period; though, limestone is frequently used, excluding the only temple of bricks at Kallar. As *kanjur* was found under the construction in limestone at temples C and E during excavations at Kafir Kot (Shah 2007: 105), marking its utilization from the earliest phases of temple development. Here, it is implausible to believe this soft stone as the marking element of the earliest constructions of such temples, which was also utilised in later period construction of such structure in the Salt Range.

The refined stone blocks of *kanjur* are placed in the walls here with the architectural features comparable to Kallar, North Kafirkot temple D and Small temple at Amb. The architectural plan with three outward projected panels is comparable to the same cases, and that of the succeeding periods. The sunken niches for lamps are adjusted in the plan (Fig. 8), provided in the centre, and in the most projected central panel on each side of the structure, little above the podium. Therefore, the door-like general structure of the inner niche is comparable to that of Kallar and Kafirkot temple A, B and D, which show the continuation of inspirations from the art work of this phase. The similarity is also observable in the pseudo-Corinthian pilasters, dentil panels, and floral decorations. The pot-like base of pilaster, column and Corinthian-like capital are same in both cases, and vividly shows the continuation of earlier Gandhāran examples. The decorative and tapering phases in *shikara* are separated by dental cornices, and the stone projections above are comparable with the mentioned temples of Kafirkot. The *amlakas* here are typical to the temples of Salt Range. Therefore, these evidences of art as well as architecture in comparison to the similar examples help us to understand this temple, and mark the transition in the development of temples from pre-Nāgara to proto-Nāgara. So, this preliminary comparative analysis forces us to believe the date of its construction probably during ninth century A.D. Therefore, this evidence vividly shows the transitional phase between previous experiments based on Gandhāran background and those which continued in the period of their maturity. Hence, this temple can be placed among the temples of transitional period leading towards the mature phases of Gandhāra-Nāgara (Meister 2010: 13) constructions in the Salt Range of Pakistan.

6. Conclusion

The temples of Shāhis in the areas connected to the Salt Range provide enough data to understand their developmental history. Such temples were initially understood with reference to the temples in Kashmir. However, recent investigations in the area resolved this issue. This temple of Kaṭṭha at Khoshāb, is adding our understanding to the main body of knowledge regarding such temples. The *kanjur* stone used here in the construction is not necessarily including it among the earliest examples of the temples, but expressing the continuity. In addition to this, the transitional features here are comparable and connected to temples of Proto-Nagara Style, dated somewhere during ninth century A.D. Therefore, here we can include this temple among of the transitional experimental structures of Proto-Nagara temples in the Salt Range and represent the glory of Hinduism during the period of Oṛi Shāhis, most probably before the rule of Lalliya.

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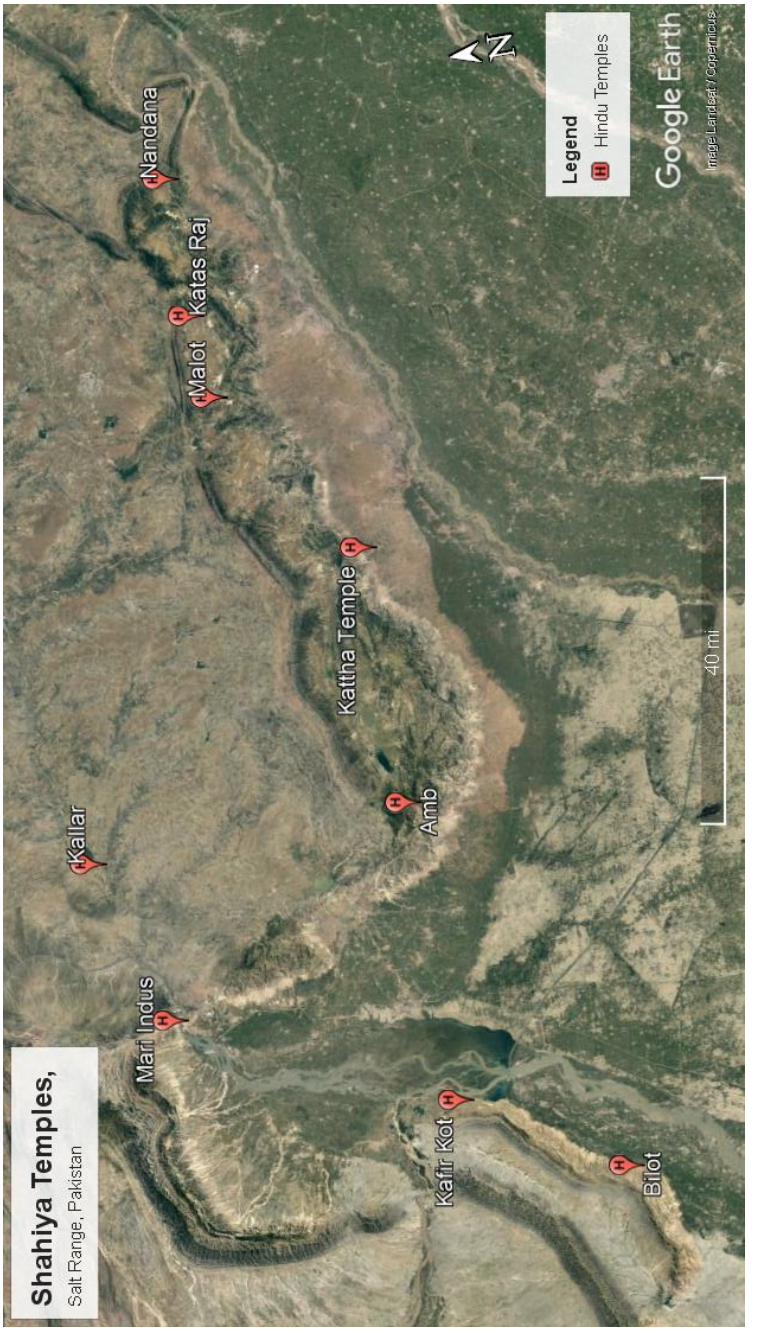

Map 1 – Temples of Salt Range (locations marked on Google Earth).

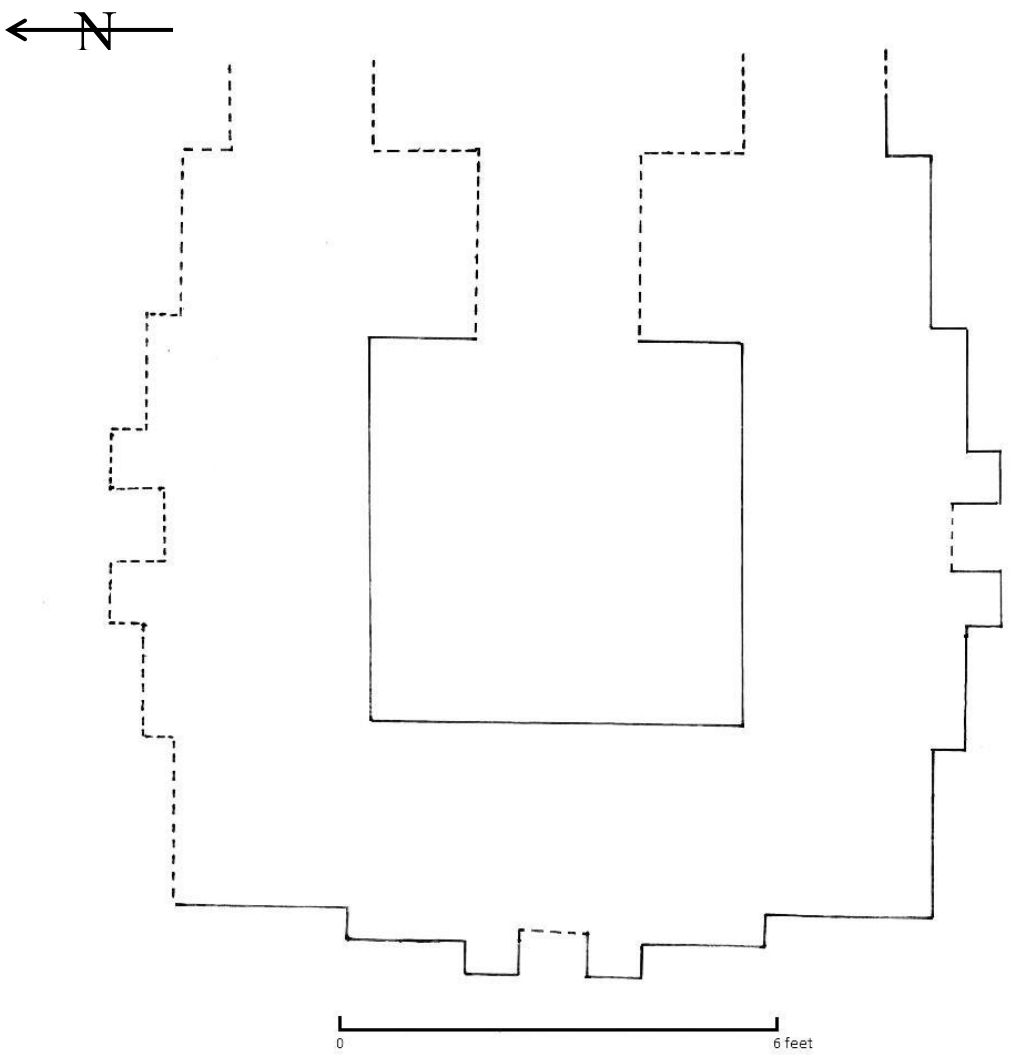

Fig. 1a- plan of the temple (Sketched by Hakal/HKL).

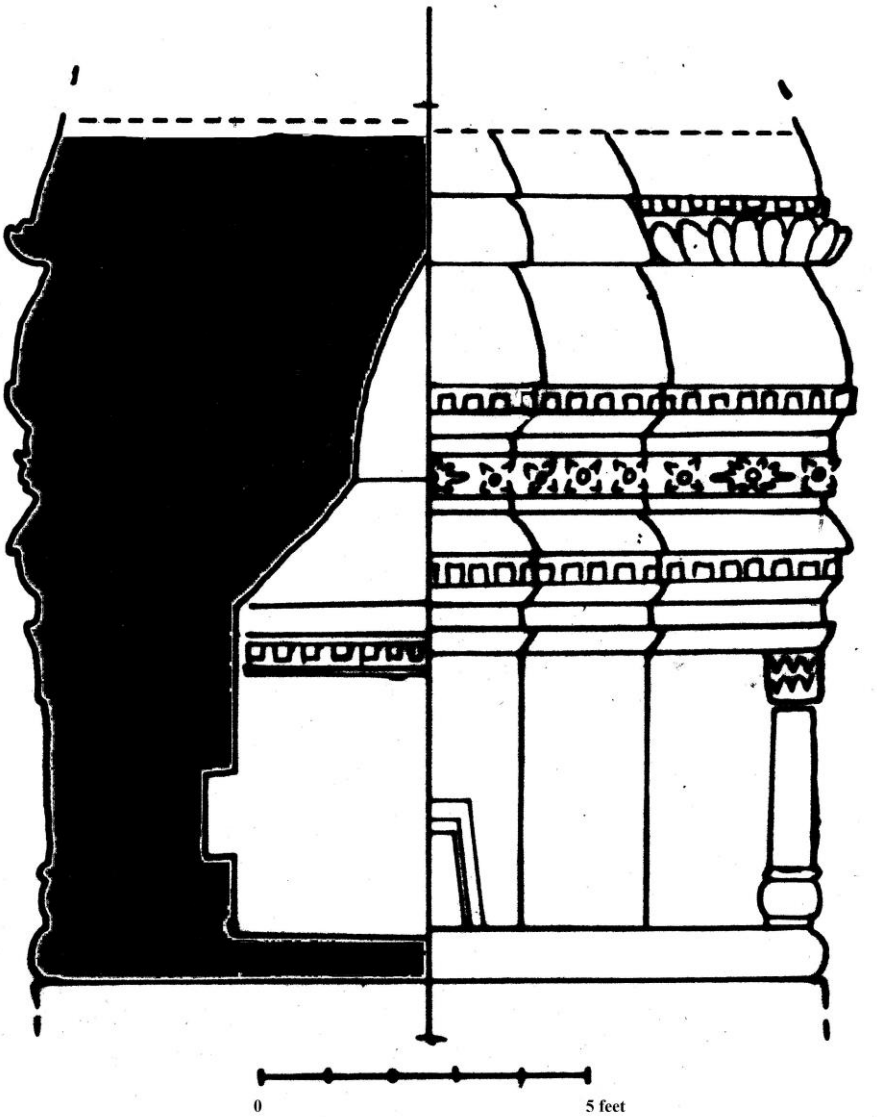

Fig. 1b- Exterior and interior features of Khatta Temple (HKL).

Fig. 2 – A south-western view of intact Kaṭṭha Temple (Salim 2001: 202).

Fig. 3 – Temple from south-western side (HKL).

Fig. 4 - Shikara of Kaṭṭha Temple from north-western side (HKL).

Fig. 5 – Elevation from southern side (HKL).

Fig. 6 – A view from the east, condition eight months before distruction (HKL).

Fig. 7 – Interior features (HKL).

Fig. 8 – A triangular niche provided to the southern wall (HKL).

Fig. 9 – Grave of Saint Sagrāl, on the western side of temple (HKL).

Fig. 10 – The demolished temple, western side (HKL).

Fig. 11- Features to the interior, after destruction (HKL).

Fig. 12- Dumped material from Kattha temple (HKL).

Fig. 13- Floral pattern depicted on *kanjūr* block
(see arrow on Fig. 12)
(HKL)

Bakhshālí: A Forgotten Archaeological Site of Gandhāra (Khyber-Pakhtunkhwa, Pakistan)

Sarfaraz Khan

Abstract

The ancient town of Bakhshālí, located in Mardan, the heart of ancient Gandhāra, has preserved for more than a millennium in its lap the celebrated document of basic mathematics, presently in Oxford's Bodleian Library since 1902, the so-called Bakhshālí Manuscript. Apart from such accidental discovery 1881, this important site has been neglected in the colonial researches, right from the period of Alexander Cunningham to Mortimer Wheeler, and even in the post-independence era, archaeologists failed to conduct systematic exploration and the site has been left on the mercy of illegal diggers[1]*. An attempt has been made in this study to highlight the importance of the present day town of Bakhshālí*[2]*, the forgotten site of Gandhāra and its inclusion and exclusion in the colonial researches especially ASI's reports, based on the archaeological, geographical and topographical exploration in the Yusufzai country.*

Keywords: Gandhāra, *Bakhshālí* Manuscript, Mardan

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[1] The Pandhérai (*Bakhshālī*) site had been excavated as far back as 1967 by Muhammad Rafique Mughal, nevertheless, the report is still awaited (Dar 2004: 28)

[2] The versions Bakhshālay and Bakhshālī are being used by the local folks as per requirement of their conversation e.g. which place this is? It is Bakhshālay and where were you yesterday? I was at Bakhshālī yesterday. Sometimes, it is even called Bashkhālay. For the sake of convenience, throughout this study, the version Bakhshālay or Bakhshālī for the site's name will be used as per requirement of the sentence. However, the local/popular versions of other towns/sites' names around Bakhshālī such as; *Shikrai, Shahbāz-garha and Jamāl-garhai*, will be preferred and used instead of non-local versions of, *Sikri, Shahbaz-garhi* and *Jamāl-garhi* save quoting other scholars report/s in original.

1. A few words on the term "Gandhāra"[3]

The Sanskrit term Gandhāra has interchangeably been used for the geographical region as well as for the civilization, which flourished in the Northwest region of Pakistan (the valleys of Peshawar and Swat including Buner) from 6th century BCE to 5th century CE, an eternal trace of which is still recognized on the cultural milieu of the region (Rowland Jr. 1960: 5; Zwalf 1979: 1-4; Rhi 2009: 1; Braavig and Liland 2010: xvii; Abhijeet 2015: 439). This is the area from where Buddhism reached into China, Korea and lastly to Japan (Zwalf 1979: 2; Braavig and Liland 2010: xviii). So a researcher opined that Gandhāra "was never a region of isolation but a meeting place of the Orient and the Occident from remote antiquity" (Braavig and Liland 2010: xviii; Siddiqui 2011: 65; Sehrai 1991: 2; Schmidt 1990: 1; Zwalf 1979: 2; Banerjee 1922: 65). Culturally speaking, Gandhāra covered the territories along and around the Indus, Swat and Kabul river valleys (encompassing the expanses of North-West Pakistan and eastern Afghanistan), however, Gandhāra is the ancient Sanskrit name of Peshawar or Puruṣapura (Sanskrit) and its surrounding areas in geographical terms. That is why, Richard Salomon used the terms Greater Gandhāra for the former and Gandhāra Proper for the later (Ingholt 1957: 13; Dietz 2007: 49; Rhi 2009: 1; Abhijeet 2015: 439). Proper Gandhāra became part of the new dominion of Pakistan in August 1947, however, comprehensive exploration after independence are not up to the mark and Gandhāra sites were ignored on one reason or the other. Saifur Rahman Dar has lamented the step mother behavior with Gandhāra sites and says; "this created a negative affect because the field was practically left to others. The territory of ancient Gandhāra became a den of clandestine diggers and international smugglers of Gandhāra art" (Dar 2004: 9). In the backdrop of the ancient geography of Gandhāra, the Yusufzai country (being the heartland of ancient Gandhāra) [4], and its ancient towns had been

[3] Actually the word Gandhāra is comprised of gand/gandhā meaning fragrance/perfume and red lead while hāra meaning land, so literally, the composite word Gandhāra means the land of fragrance or the valley that bloomed with flowers (Ali and Qazi 2008: 1; Siddiqui 2011: 67; Kumar 2015: 441).

[4] The areas occupied by the powerful tribe of Yusufzai Afghans in the valleys of Peshawar and Swat inhabited by Yusufzai Afghans have been termed by Orientalists,

witnessed to legendary events in the past. Being located on an important topographical position, one of the ancient towns is *Bakhshālay*, from where the well-known treatise of Indian Mathematics, known as *Bakhshālí* Manuscript, has accidentally been unearthed in May 1881 by a native farmer (Grierson 1919: 115).

2. Toponymy and topography of *Bakhshālí*

Bakhshālí /*Bakhshālay*, the term used for the ancient and sacred site from whence the historic manuscript [written on birch-bark (*betula utilis*/*bhojpatra*/*bhurja tree*)] has accidentally been discovered in the last decennia of 19th century, is a non-Pukhto word. The term *Bakhshālí*/*Bakhshālay* (name of the ancient town) is itself derived from the Sanskrit word *Bikho*/*Bikhshu* meaning a mendicant[5]. The historic village of *Bakhshālí* is located 16 kilometers in the North of Mardan city in the Tehsil and District of the same name.[6] This historic town is located on the crossroads connecting archaeologically significant towns/sites of *Sāwaldher* in the West, the Buddhist site of *Jamāl-garhai* in the North-West, *Chanaka-dherai* (identified with the legendary site of white elephant given in charity by Prince Sudana/Viśvantara), *Mekha-Sanda*, Shrine of *Bhīmā-devī* (on the Mount *Karamār*/ Mount Dantalôka), *Shahbāz-garha* with Asoka Rock Edicts in the South-East, while *Shikrai/Shikār-tangay* (the valley of the

especially British officials, as Yusufzai country in their reports. The term Yusufzai which represents the tribe and at the same time the country under it has been sum up by A. Cunningham as; "YUSUFZAI is the common name of the country which is now occupied by the Yusufzai Afghans. It comprizes the independent districts of Suwât and Buhner, to the north of the Hazârno and Mahâban range of mountains, and the level plains to the south of the mountains lying between the Suwât River and the Indus" (Cunningham 1875: 1). Throughout this study the term Yusufzai country will be used for the said territory.

[5] Professor Farmanuddin, former Chairperson, Pukhto Department, Islamia College Peshawar, opines that "in ancient times, *Bakhshālay* was an ancient and sacred town of Buddhism, which belonged to Bakhshuka's daughter. It was renowned for the collection and re-distribution of offerings during the heydays of Buddhism in Gandhāra" (Farmanuddin).

[6] At the time of the discovery of the Manuscript, administratively, *Bakhshālay* was part of Peshawar Division under British rule as Hoernle says "The manuscript which … was found, … near a village called Bakhshālī, lying in the Yusufzai district of the Peshawer division, at the extreme Northwestern frontier of India" (Hoernle 1887: 4).

chase/hunt), *Tharéli* and Kashmir *Smast*/cave (in *Pajja* hills) in the North (Foucher 2005: 32; Odani *et al* 1969: 79; Neelis 2011: 237-238). In a nutshell, the famous site of *Bakhshālí*, being located at the junctions of the archaeologically rich cultural heritage sites located on ancient cultural and trade routes in the South, North, West and East of Gandhāra and Uḍḍiyāna, located on ancient cultural and trade routes in the South, North, West and East. In a nutshell, *Bakhshālí*, being located at the junctions of the archaeologically rich cultural heritage sites in the East, North, West, and South, played a pivotal role by linking Mathura (India) via the ancient capitals of Gandhāra i.e. Hund and Taxila as well as linked Central Asia with Gandhāra via Buddhist culturally rich valley of ancient Uḍḍiyāna, located on ancient cultural and trade routes (Zwalf 1979: 2; Masson-Oursel, de Willman-Grabowska and Stern 1996: 110; Khan 2016: 52).

The first Director General of ASI, Cunningham, in a letter written to Augustus Frederic Rudolf Hoernle, Principal of Calcutta Madrasa, on June 5, 1882, wherein the geographical and topographical depiction of the historic town of *Bakhshālí has* been made as "*Bakhshālī* is 4 miles north of Shahbazgarhi. It is a mound with the village on the top of it. The birch-bark manuscript was found in a field near a well without trace of any building near the spot, which is outside the mound village" (Kay 1933/1987: 1(fn; 2)). The topographical landscape of *Bakhshālí vis*-à-vis some important ancient cities/sites of Gandhāra, has been described by G. R. Kay as "*Bakhshālī* or Bakhshalai, as it was written in the official maps, is a village of the Yusufzai subdivision of the district of Peshawar of the North-Western Frontier of India. Six miles W. N. W. of *Bakhshālī* is *Jamāl-garhi*, twelve miles to the West is *Takht-i-Bāhi* and twenty-five miles W. S. W. is Chārsada" (Kay 1933/1987: 1).

3. The discovery of the *Bakhshālí* Manuscript

In May 1881, the tenant of a native Inspector of Police, Mian Unwan-Uddin, accidentally unearthed an ancient manuscript in a "ruined stone enclosure on one of the mounds near *Bakhshālī* in the west of *Bakhshālí -Mardan* road along with a triangular-shaped *'diva'*, a soap-stone pencil, and a large *lota* of baked clay with a perforated bottom" (Kay 1933/1987: 1). Subsequently, the discovered manuscript was

handed over to the Assistant Commissioner at Mardan, who dispatched it to the Lieutenant Governor of the Punjab, who, with the consent of Alexander Cunningham, sent the manuscript to Hoernle for deciphering and publication (Hoernle 1887: 1; Kay 1833/1987: 1-2, 4; Grierson 1919: 115). It is pertinent to mention here that vague references have been made to the exact spot from whence the manuscript was discovered and all reports speak of *Bakhshālí* only such as "on one of the mounds near *Bakhshālī*" rather the exact spot of *Pandhérai*[7](Kay 1933/1987: 1). Presently, both the villages of *Bakhshālí* and *Pandhérai* have come across, merging into each other due to increase in population and construction. However, in 1881, *Bakhshālí* and *Pandhérai* were two detached villages and *Pandhérai* was at the outskirts of *Bakhshālí*, being the agriculture land of *Bakhshālí*. It was almost seventeen years after the discovery of the manuscript, when Sir Mark Aurel Stein, who was rightly termed by Owen Lattimore "the most prodigious combination of scholar, explorer, archaeologist and geographer of his generation", on his way back from Buner explorations in 1898, visited the exact site of the discovery i.e. *Pandhérai* (Stein 1898: 50; Mirsky 1977: ix). Stein, being a true stuff of an archaeologist and geographer, had accurately mentioned the exact spot of the discovery in these words; "The spot is at the north-west end of a series of ancient mounds known as *Pandhdérei*" (Stein 1898: 50). Stein credited the village watchman (chaukídár) as the actual finder of the manuscript instead of the tenant of Mian Unwan-Uddin. However, the native tenant has been credited as the actual discoverer of the manuscript in all reports including the Assistant Commissioner, Mardan's report, who visited the site in 1881, who says; "I had a further search made but nothing else was found" (Kay 1933/1987: 1).

[7] Though, presently occupied by modern buildings and graveyard/s, however, in ancient times, *Pandhérai* (*Bakhshālí*) was an extensive site covering an area of almost twenty-five hectares. Taken in lager archeological landscape, it is extended on an area as vast as five square kilometers. The present researcher still observed some ancient wells popularly called *arat*/*rahat* (Persian wheel) which are still used for irrigation purposes.

4. Subject Matter, Language/Script, Age and Scriber of the manuscript

The *Bakhshālí* Manuscript is in Bodleian Library, Oxford since 1902, is the evidence that Indians were extremely advanced in mathematics and mathematics principles (Hoernle 1887: 6; Kay 1933/1987: 2; Grierson 1919: 116; Srinivasiengar 1988: 29; Winter 1975:156; Howell 2017: 1). The theme of the document is dealing with algebra, arithmetic, and even geometry. Topics of the deliberation of the manuscript are "rule of three, fraction, square root, arithmetical and geometrical progressions, income and expenditure, profit and loss, computation of gold, summation of series, simple equation, simultaneous linear equation, quadratic equation, indeterminate equation of second degree and miscellaneous problems, etc." (Hoernle 1887: 3-23; Datta 1929: 1-2; Kay 1933/1987: 15-16; Jatoo 2008/2009: 27). Language of the Manuscript is *Gāthā* (a variation of Sanskrit and Prākṛit) with a script known as *Śāradā* which remained in use during the Gupta period in 350 CE (Hoernle 1887: 10; Oldham 1929: 140; Kay 1933/1987: 10-11; Srinivasiengar 1988: 29).

It is interesting to note that the author and his work are unnamed because the beginning and the end of *Bakhshālī* Manuscript have been lost (Grierson 1919: 116). This treatise of mathematics existed as early as 3rd-4th Century CE (Hoernle 1887: 4, 10). The *Bakhshālí* Manuscript has a pronounced significance, because it is one of the earliest texts in history available on the art of mathematics written in *Śāradā* script. Hoernle is of the opinion that 'arithmetic and algebra' evolved in India exclusively on domestic lines. He is of the opinion that in *Bakhshālí* Manuscript, there has been well-preserved a piece of an early Buddhist or Jain work on mathematics possibly a portion of a great work on astronomy[8] (Hoernle 1887: 3; Oldham 1929: 140; Sarasvati and Jyotishmati 1979: 1-4; Srinivasiengar 1988: 30). Though the scriber of the document is anonymous, nonetheless, he was

[8] Professor Bühler in his letter to Prof. Weber, erroneously perceived the Bakhshālī Manuscript to be one of the *Tripitakas* and pointed out that a manuscript had been discovered "carefully enclosed in a stone chamber" and it was thought that the newly dug out manuscript might verify to be "one of the *Tripitakas* which Kanishka ordered to be deposited in Stupas" (Oldham 1929: 140; Kay 1933/1987: 2; Sarasvati and Jyotishmati 1979: 1).

fathered by a Brahmana, named Chajaka. So on the basis of a colophon, name of the scriber of the manuscript has been decoded as "Chajaka-Putra i.e. the son of Chajaka" who was a lover of calculation, so was called "a prince of calculators" (Datta 1929: 6-7; Sarasvati and Jyotishmati 1979: 1). There are as many eras regarding the antiquity of the manuscript as many scholars. However, based on the opinions of different scholars of the subject and modern carbon dating, the age of the document could be safely fixed between 200 CE and 1100 CE (Datta 1929: 2; Sarasvati and Jyotishmati 1979: 1; Srinivasiengar 1988: 29-30; Howell 2017: 1).

Keeping in view the overall archaeological researches and the then uncertain nature and age of the manuscript, the Assistant Commissioner, Mardan's letter dated 5th of July 1881 is no less significant than A. Cunningham's Memorandums i.e. "Proposed Archaeological Investigation, 1848" and "Proposed Investigation of the Archaeological Remains of Upper India, 1861" wherein scientific archaeological investigation in *Bakhshālí* and in the surrounding areas, has been suggested for fixing the antiquity of the manuscript. The Assistant Commissioner, Mardan, was optimistic about the future archaeological investigation in *Bakhshālí*, who opined that "the result will be interesting if it enables us to judge the age of the ruins where the manuscript was found" (Kay 1933/1987: 1; Sarasvati and Jyotishmati 1979: 3). However, no one gave any heed to the systematic investigations of the area and the very pragmatic proposal of the said official fell on the deaf ears of the officials in the ASI which had been established with the colonial intention of getting maximum information about indigenous geography, ethnography and topography for strengthening colonial empire in India.

5. The Protagonists of the Story

Alexander Cunningham

Credit goes to Alexander Cunningham for transforming archaeological explorations in India by paying attention to different fields such as numismatics, epigraphy, architectural and historical-geographical scholarships. In the capacity of Director-General of ASI (1861-1865 and 1871-1885), Cunningham furnished valuable services for the advancement of Indian archaeology and his vision for the future of

Indian Archaeology is clear from his 1861 Memorandum "Proposed Archaeological Investigation" presented to the Administration of Lord Canning. Though, it will not be an exaggeration to state that it was the 'founder of Indology', Sir William Jones (1746-94) who established the Asiatick Society of Bengal in January 1784, and to whom the organization of ASI, owes its origin. Nonetheless, it was Cunningham's 1861 Memorandum for archaeological explorations in India which actually led to the establishment of ASI, so he was rightly entitled to be crowned as "Father of Indian Archaeology" (Roy 1953: 17; Inden 1986: 416, 2000: 44).

Cunningham carried out archaeological and antiquarian explorations in the province of Punjab in the cold season of 1872-73 whereof results of explorations have been published in the Annual Reports i.e. "*ASI Report for the years 1872-73*" 1875. During his extensive explorations, Cunningham crisscrossed the Yusufzai country while the geographical and topographical features of each site has been recorded painstakingly (Roy 1953: 13-14). The said report is too comprehensive and detailed to be termed an encyclopedic because minute detail of every site (from *Shahbāz-garha* to *Rāníga*t) has been provided. The sites of *Shāhbāz-garha*, *Jamāl-garhai*, *Sāwaldher*, *Sahri-bahlol* and *Takht-i-Bāhi* adjoining *Bakhshālay* have been given full consideration, paradoxically, the site of *Bakhshālay* has totally been disregarded as usually. Even, a single line description of the *Bakhshālí* site has not been considered (Cunningham 1875: 1-64). Out of 64 pages dedicated to the antiquity and archaeological sites of the Yusufzai country, Cunningham has mentioned only the name of the site i.e. *Bakshâla* but without any further detail. Nevertheless, the site of *Bakhshālí*, did succeed to find space for itself. It has been mentioned along with other archaeological sites by Cunningham in these words; "The principal groups of ruins are at Shâhbâz-garhi, Sâwal-dher… Jamâl-garhi… Bakshâli, ... I have visited most of these myself, and I can now add to my own partial and hurried researches the more complete and deliberate explorations which have been made under my instructions by the Sappers and Miners" (Cunningham 1871: 5). Cunningham has confessed that *Bakhshālay* along with other sites has been visited by him and explored by the Sappers and Miners. Nevertheless, the site was not properly excavated and was left on the mercy of illegal diggers and vandalism which was regularly plundered

for the next hundred years, save the spade of a Pakistani archaeologist in 1967 with a long awaited report.

Punjab Government in the cold season of 1881-1882 planned to explore the Yusufzai country through a Company of Sappers and Miners. Being head of ASI, Cunningham directed H. B. W. Garrick to supervise the ongoing explorations and explore new sites as well as those remained unvisited in the said region. On the basis of his previous surveys and acquaintance with the geography and topography of the area, Cunningham issued a "Memorandum for Peshawar explorations" to his Assistant, Garrick to be achieved during the intended archaeological initiative and to be present on the spot during the Punjab Government initiated exploration and excavation in Gandhāra. In the Memorandum, Cunningham was too generous to assign one and half line description to the well-known site of *Bakhshālay* (Cunningham's *Bakshâla*) vis-à-vis Chārsada, *Jamāl-garhai*, *Karamār*, *Tahkal*, *Rānígat* and *Panjpir* sites detailed description (Cunningham 1885: iii, 93). Even Cunningham's Assistant totally kept *Bakhshālay* out from his detailed report.

H. W. Bellew

H.W. Bellew (1834-92) who spent ten years of his life amongst the Pakhtuns and got familiarity of their land i.e. the Yusufzai country during his posting at Mardan. Bellew's posting in Mardan has been noted by Elizabeth Errington as; "…Dr. H.W. Bellew (1834-92), a doctor in the Bengal Medical Service from 1856. Just prior to the Mutiny in 1857 he accompanied Lumsden on a mission to Kandahar, where they remained until 1858. On their return, Bellew was sent to Mardan, a post he held for the next 10 years, until transferred to Peshawar in 1868" (Errington 1987: 110) Based on his long affiliation with the native folks (Pakhtuns), with their language and land, Bellew compiled an exhaustive report about the Yusufzai tribe and their country "*A General Report on the Yusufzais*" in 1864. The report is a comprehensive depiction of the archaeology, antiquity, ethnography, geography, geology and topography of the Yusufzai country which remained the heartland of ancient Gandhāra (Bellew 1864; Errington 1987: 110). Bellew was well versed in Pukhto – language of the local folks, which is evident from his report wherein minute details of the archaeology, history, geography and culture of the local folks and their

country has been mentioned (Cunningham 1875: 5). Bellew has not only described different archaeological and historical sites located in the Yusufzai country but also conducted archaeological excavation at the well-known site of *Sahri-bahlol* (Bellew 1864: 139-143; see also Errington 1987: 116). Bellew's archaeological researches have been acknowledged by Cunningham in these words; "The most complete of examination of the Yusufzai ruins that has yet been yet made is due to Dr. Bellew, who resided for many years in Mardân, and whose unequalled knowledge of Pashto commanded the best information which the country could supply" (Cunningham 1875: 5).

However, Bellew report seems to be more motivated by the geo-political importance of Yusufzai country rather than the curiosity for documenting the geography, history, archaeology and ethnography of the Yusufzai country[9]. Minute minutiae of the sites such as; ancient remains at Mount Mahaban, Mount Banj, *Rānígat*, Asoka Rock Edicts, Kashmir *Smast*, *Jamāl-garhai*, *Takht-i-Bāhi*, *Sahri-bahlol*, *Kharkay* and even Buddhist shrines in Swat (ancient *Uḍḍiyāna*) have been described meticulously. It is an irony that the sculptures' rich site of *Sahri-bahlol* did attract Bellew to excavate there but a prospective historical site of *Bakhshālay*, which was pregnant with breaking discovery of world fame, had totally been ignored. Even, Bellew had overlooked the ancient town of *Bakhshālay* for assigning judicious space in the said report wherein the site has been mentioned twice only. Firstly, in his long and detailed report he described the site of *Bakhshālay* as "Idol temples and cities – of these there are a great number in the Yusufzai and neighbouring countries. The principal of those on the plain and bounding hills are at Mount Banj, Ranigatt, Jumâlgarrhí, Takht-i-Bahi and Kharkai, on hills, and Sâhari Bahlol and Bakhshalai, and Dairi Likpani, on the plain" (Bellew 1864: 123-124). Secondly, Bellew has mentioned the site in these words; "Similar to these ruins are others near Bakhshalai, Baja, Maini, Topi, Hund, Zihdih etc., etc. In each the general features are much the same as those described in *Sahri-bahlol*,

[9] Bellew's report may be gauged against the backdrop of enormous space of almost 20 pages (83-102) assigned to the activities of *Hindustani* Fanatics in the Yusufzai country as compare to 43 pages (109-151) given to the geography, history, archaeology and ethnography of the entire Yusufzai country which has been the heartland of ancient Gandhāra (Bellew 1864: 109-151).

though they are in a much ruined condition" (Bellew 1864: 145). Had Bellew paid attention to *Bakhshālay* as early as 1858-1864, it is hoped that historiography of ancient Gandhāra may not be the same, as it is today. It is hoped that a little effort of the pioneer scholar of Gandhāra exploration might have discouraged the illegal spade of antiquity hunters. The present researcher was informed and was shown, a lot of cultural materials, recovered from *Pandhérai* by the local antiquity hunters. The present researcher also got the gloomy news that Gandhāra sites around *Bakhshālí* are the safe haven for the antiquity hunters. Even fake cultural materials are in circulation in the local market[10].

H. B. W. Garrick

In the cold season of 1881, the Punjab Government decided to undertake new explorations and excavations in Peshawar District and the Yusufzai country (Garrick 1885: 91). Keeping in view the antiquarian importance of the Asokan Rock Edicts, Cunningham, deputed H. B. W. Garrick with clear instructions "to obtain the photographs of the great rock inscription of Asoka at Shahbazgarhi" (Cunningham 1885: iii). In violation of clear directives by head of ASI that attention may be paid to the famous site of *Bakhshālay* (Cunningham's *Bakshâla*) in addition to the ancient remains at Chārsadda, *Shahbāz-garha*, *Jamāl-garhai*, *Karamār, Sāwaldher* and other archaeological sites close to *Bakhshālí* site did find attention of the colonial officials but *Bakhshālay* remained totally unheeded in Garrick's "*ASIR of a Tour Through Behar, Central India, Peshawar, and Yusufzai 1881-2*" XIX, based on Punjab Government 1881-1882 exploration and excavation in ancient Gandhāra. It is important to note that H. B. Garrick conducted archaeological excavation and exploration around the ancient town of *Bakhshālí* but completely disregarded the directives of ASI's Director-General and Assistant Commissioner, Mardan's recommendations for conducting excavation to ascertain the age of the site from where the treatise of Indian Mathematics has been recovered as recently as May 1881 (Garrick 1885: 91-138; Kay 1933/1987: 1). It may be lamented that the site of *Bakhshālí* has not

[10] In September 2018, the present researcher was shown a stone inscription, which was subsequently shared with the experts who termed the inscription as fake. The possibility is there that the inscription may have been carved by the illegal diggers.

been mentioned in the gargantuan accounts of H. G. Raverty and Rev. Isadore Loewenthal published in 1852 and 1864 respectively (Raverty 1852: 1-50; Loewenthal 1864).

H. A. Deane

Colonel Harold Arthur Deane (1854-1908) was one of those colonial administrators who had intellectual pursuits as well as a great pining for the study of archaeology and history. Before the advent of Lord Curzon as Governor-General of India, who was an enthusiastic advocate of Forward policy, Harold Arthur Deane started his career in the Punjab province. He had a long affiliation with the Yusufzai country of ancient Gandhāra where he served as Assistant Commissioner with headquarters at Mardan (Peshawar district) and Deputy Commissioner of Peshawar district (Caroe 1957: 421-22). Colonel Harold Arthur Deane was part of the Chitral Relief Force in 1895 as Chief Political Officer, subsequent to the establishment Malakand Agency in 1895, Deane pioneered that agency as the first Political Agent. So Olaf Caroe was not far from reality to call him the 'builder of the Malakand Agency'[11] (Buckland 1906: 114; Caroe: 1957: 383, 386, 414; see also McMahon & Ramsay 1901/1981: 100-101). He was the pioneer Chief Commissioner of the newly created province of North-West Frontier Province (NWFP) in 1901, established in the backdrop of the 1890s tribal uprising by the Imperial Government of Lord Curzon. Being a staunch proponent of the Forward Policy, Lord Curzon decided to split Punjab into two provinces by detaching five districts from the Punjab; consisting of the four trans-Indus districts of Peshawar, Kohat, Bannu and Dera Ismail Khan and the cis-Indus district of Hazara and created the new province of North-West Frontier Province (NWFP) on 9th of November 1901 (Caroe 1957: 422).

Major Deane was more than just an administrator and was a well-informed soul with a desire for history, archaeology, linguistics and philosophy. He was acquainted with the Pukhtun folks, their land and even with the languages of the area. Olaf Caroe has appositely

[11] Deane's desire for the study of the history and archaeology of ancient Gandhara land, is apparent from his excavation at the site of Nal/Kafir Kot near Shahkot Pass (Malakand) in the backdrop of Chitral Relief Campaign of 1895-6 (Errington 1987: 364-5).

estimated H. A. Deane along with George Roos-Kepel and Sahibzada Abdul Qayyum Khan (three great men) who have gone deep in the Pakhtun history and describes his familiarity with and understanding of the Pakhtuns and their culture. The interplay of Colonel Deane and Pakhtun folks of the Yusufzai country has been aptly and artistically described by Caroe as "To know and respect, and be known and liked by, the leaders of Yusufzai society means that a man has entered into a sort of Pathan freemasonry, and has reached a position in which the very quintessence of the Pathan spirit begins to be revealed to him. Deane was such a man" (Caroe 1958/1985: 421).

Being part of Peshawar district, Harold Deane also served in the Yusufzai sub-division of Mardan as Assistant Commissioner with its headquarters at Mardan (Caroe 1957: 415). The discovery of a very unique and now vanished site of *Shikrai* , Mardan, is also on the credit of Major Deane in April 1888 with systematic excavations in May 1889 by recovering very fine and legendary cultural material which are envied, even still, all over the world (Deane 1896: 673; Errington 1987: 200, 345, 366; Behrendt 2003: 17). He also explored the site of *Chanai* in *Sudhum* valley and Kashmir Smast site in 1888 (Deane 1896: 657; Errington 1987: 363). Like H.W. Bellew, Deane also wrote on the archaeology and antiquity of ancient Gandhāra based on his knowledge accumulated during his long stay and affiliation with the native Pakhtuns and their land especially the Yusufzai country. "Note on Udyāna and Gandhāra" published (1896) in the prestigious "*Journal of the Royal Asiatic Society of Great Britain and Ireland*" is a comprehensive report on the archaeology and cultural history of Greater Gandhāra i.e. the Yusufzai country by H. A. Deane. He mentioned more than thirty sites in the said article, nevertheless, even an allusion to the well-known site of *Bakhshālí* has been evaded. He did contribute to the history and archaeology of the Yusufzai country by conducting methodical excavation at *Shikrai* site in 1888, almost seven years after the discovery of *Bakhshālí* Manuscript. A witty question arises that why the site of *Shikrai* was preferred over the site of *Bakhshālí* by Deane as did his predecessors in the past and his successors after him, however, unlike the witty question, the answer is a very modest one that it was the uniqueness and abundance of the cultural material recovered from the *Shikrai* site which are very rare in the world even today and which was an established impetus behind

most of the archaeological exploration at that time. On the other hand, the ancient site of *Bakhshālí* seemed deficient to yield such cultural material to be interpreted in the backdrop of Buddhism in Gandhāra and the Imperial designs of the Macedonian King rather the ancient site of *Bakhshālí* was signifying the native involvement in the science especially in the field of Mathematics which was diametrically contrary to the archaeological discourse of the British Colonialism.

Mark Aurel Stein

The pride of two nations, Mark Aurel Stein (1862-1943) was born on 26th of November 1862 in Hungary and naturalized to Britain who combined in his person the most prodigious attributes of an archaeologist, explorer, historian, geographer, topographer and philologist (Oldham 1944: 81; Mirsky 1977: ix; see Olivieri 2015). With Malakand Field Force in early 1898, Stein examined the antiquarian remains of Buddhist shrines and collected specimens with Roman as well as traces of Hellenistic art in the Buner valley (Stein 1898: 1-2). Though Stein entered into Buner valley through the *Tange* Pass, went passed the well-known towns of Katlang and Sanghau, nevertheless, he had already enlightened himself with a full view of Pajja Range, opulent in ancient ruins where Stein has mentioned the Buddhist site of *Jamāl-garhai* (Stein's *Jamálgarhi*) only in the heartland of ancient Gandhāra. Aurel Stein archaeological reconnaissance of Buner valley in the ancient land of *Uḍḍiyāna* has been published as "*Detailed Report of an Archaeological Tour with the Buner Field Force*,1898" (Stein 1898:1-5; Oldham 1944:81). Traversing the whole breadth of Buner valley and recorded dozens of archaeological sites and explored as well as identified a number of Buddhist shrines in that part of the Yusufzai country, Stein chose Sudham valley for his exit on 19th of January 1898 (Stein 1898: 47, 50). The Malakand Field Force had planned to enter Buner from *Tange* and *Nawedand* Passes with an ambush from Rustam (ancient *Sudham* valley) via *Ambela*, *Malandrai* and *Pirsai* passes (Fincastle and Lockhart 1898: 203-205). This military arrangement brought blessing in disguise for Stein to visit the famous and intellectual hub of ancient Gandhāra i.e. the site of the accidental discovery of the *Bakhshālí* Manuscript (Stein 1898: 50-51). On his way back from Buner to Mardan via Sudham valley, Aurel Stein paid a short visit to the famous

town of *Bakhshālay* to acknowledge Indian contribution to science in the field of Mathematics. Stein was the first and last colonial explorer and orientalist, who personally visited the site and got first-hand information. It will not be out of context to mention that Stein combined in himself the attributes of "archaeologist, explorer, geographer, and topographer" which is apparent from his description of the site of the manuscript as "…close to Rustam and near Bakhshālī. …. At the latter place I enquired particularly after the find-spot of the interesting ancient birch-bark manuscript… I had the chance of discovering the village chaukídár who had actually been the finder, … The spot is at the north-west end of a series of ancient mounds known as *Pandhérei*" (Stein 1898: 50-51). Stein also mention numerous wells built in ancient Gandhāran masonry of the type observed by Stein in 1898 at Sunigrám's Stúpa[12] (Stein 1898: 51).

Mandated by its antiquity and archaeological milieus, the ancient site of *Bakhshālí* necessitated more time and extensive archaeological exploration and excavation, however, after completing the archaeological mapping of the Buner valley under the weaponries, Stein failed to earmark due time to the ancient site of *Bakhshālí.* Nevertheless, he became the first British official to meet the finder of the *Bakhshālí* Manuscript.[13] Credit also goes to Stein to spot the exact location of the discovery i.e. Pandhérei which is a small village in the outskirts of *Bakhshālí* town (Stein 1898: 50). Keeping in view his archaeological explorations in North-West Frontier Province (Khyber-Pakhtunkhwa since 2010), Stein was entitled to head the archaeological

[12] In July 2012, following the footsteps of the great archaeologist and explorer, Sir Marc Aurel Stein, during PhD field work, the present researcher visited the Sunigrám Stúpa site and had the opportunity to come across the ancient well in good preservation. Presently, the ancient well is adjacent to the main gate of the Sunigrám mosque rather near the stupa as mentioned in Stein's report. However, the Sunigrám Stúpa was in such a dilapidated condition even to be exactly identified (Stein 1898; Sarfaraz Khan 2015).

[13] In his 1898 *Detailed Report of an Archaeological Tour with the Buner Field Force*, Stein states that "I had the chance of discovering the village chaukídár who had actually been the finder, and was taken by him to the exact spot where the manuscript was unearthed" (Stein 1898: 50). While other sources are of the opinion that the manuscript was accidentally discovered by the native tenant of the Inspector of Police, Mian Unwan-Uddin in May 1881, in a ruined stone enclosure on one of the mounds near Bakhshālī in the west of Bakhshālī -Mardan Road (Kay 1933/1987: 1; Winter 1975:156; Howell 2017: 1).

organization in the province, Nonetheless, Stein became the Archaeological Surveyor of North-West Frontier Province and Baluchistan in 1903 as a token of recognition for archaeological exploration in Central Asian (Ikle 1968: 147).

Stein conducted excavations at *Sahri-bahlol* in 1911-1912 season and remained there, for two months in the camp. During explorations, he surveyed valleys of Plai and Bazdara along the British border and even beyond the British Border into Swat region. He explored and excavated sites such as *Butan* (near Shahkot Pass), in the west of *Dobandai*, north-east of *Warter* (near *Dargai*) and *Jamāl-garhai*. All these sites were rich in Greaco-Buddhist sculptures and Buddhist inscription was discovered at the last mentioned site (Stein 1912: iv-v). Aurel Stein even risked his life by overstepping into tribal territory of Swat beyond British border in search of Buddhist sculptures, however, did not bother to visit and excavate a single mound at *Bakhshālí* site which is too close to *Jamāl-garhai* which Stein has already visited in 1912 exploration. The achievements of 1912 season has been mentioned by A. Stein in these words; "Of the remaining period of the three months which followed my taking charge of the Circle, the whole with exception 18 days was spent on tour… an aggregate distance of 267 miles was covered on horseback or on foot" (Stein 1912: i). The purpose of recent extensive exploration has been explained by Stein as; "This tour was undertaken mainly for the purpose of familiarizing myself afresh with the ancient topography of Gandhāra and of ascertaining hitherto unexplored sites for eventual excavation" (Stein 1912: i). However, the prospective and deserving site of *Bakhshālí* as usual did not qualify for colonial spade and at last disappeared in the merciless tides of antiquity hunters' activities over the last hundred years.

It is interesting to note that A. Stein remained encamped for about forty-two (42) days (20th of February to 31st March 1912) in the village of *Sahri-bahlol* to excavate the site of *Sahri-bahlol*, which was pregnant with precious Buddhist cultural materials. A. Stein employed as many as three hundred (300) labourers and explored six mounds within an area of one mile (Tissot 1985: 570, 577, 580, 590, 602). Ironically, A. Stein failed even just to mention by name the site of *Bakhshālay* who explored hundreds of miles' area on horseback in the same season (1912) in the Yusufzai country and who reached as close

to *Bakhshālí* as *Jamāl-garhai* which is located at a distance of six miles from *Bakhshālí* . Nonetheless, neither he was interested to spare time for a revisit to the town nor spared even a single labourer, out of three hundred, armed with colonial spade for legal digging to bless the ancient site of *Bakhshālí* with legitimate digging[14] (Kay 1933/1987: 1; see also Sarasvati and Jyotishmati, 1979:2-3).

6. Conclusion

Keeping in view the ample work done on cultural heritage of the region, officials of cultural heritage management, right from colonial era to the present day Pakistan, will be held responsible for their negligence to carry out systematic explorations in the region, especially on the important site of *Bakhshālí.* No one in the power corridor will be credited for the discovery of *Bakhshālí* Manuscript as it was an accidental discovery by a native farmer. After such a great discovery from *Bakhshālí,* a number of archaeological sites around *Bakhshālí* such as; *Pandhérai*, *Zuberdhérai*, *Sríkhdhérai* disappeared waiting for the spade of an archaeologist instead of illegal diggers and even the present day town of *Bakhshālí* has been built on a mound. Archaeological exploration would have been pregnant with great discoveries in the vicinity of the town of *Bakhshālí.* The only commitment shown by those in the power corridor is by the executors of the Swat Expressway project, by choice or default, have built the forth interchange at the present day town of *Bakhshālí* by keeping in view the archaeological, cultural, historical and social context of the forgotten and unnoticed city of Gandhāra Civilization. The *Bakhshālí* interchange will enable the archaeologists and historians to rejuvenate their knowledge about the Gandhāra cultural heritage sites of *Bakhshālí, Sāwaldher*, *Jamāl-garhai*, *Shikrai* (*Sikri*), *Tharéli* and even up to the large and well preserved site of *Takht-i-Bāhi* and *Sahri-Bahlol.*

True commitment and dedication on behalf of Provincial Government to engage society in general and academia in particular to

[14] On his way back to Mardan from Buner in 1898, Stein visited the town of Bakhshālī (Stein 1898).

concentrate and focus on those sites/monuments which is in dire need of Preservation, Conservation and projection at national as well as international level. By engaging civil society and academia to keep a vigilant eye on those illegal diggers and prospective builders to preserve Gandhāra cultural heritage sites located around *Bakhshālí*. The condition of the Gandhāran cultural heritage site in Mardan region is dismal because this region came under direct British rule in the second half of the 19th century. Majority of the sites have been opened in search of cultural material and were subjected to non-systematic excavations save the sites of *Shikrai, Sahri-bahlol* and *Takht-i-Bāhi*. In post partition era, Japanese Archaeological Mission to Pakistan explored and excavated sites in district Mardan in 1960s and onward but terribly failed in the field of conservation and preservation. Today unfortunately those sites including *Chanaka-dhérai, Mekha-Sanda* and *Tharéli* even fail to qualify to be included in the list of *Khandarat* which is a common and popular parlance for cultural heritage sites/monuments in Pakistan.

The past negligence may be rectified by present day commitment and earnest effort to safeguard cultural heritage sites from total annihilation in the region and to show the world a peaceful and tolerant picture of Pakistani society who own material and non-material culture related to the land of Pakhtunkhwa. Academia should be engaged to write comprehensive monographs and Pamphlets about the history, culture, traditions, folklore and archaeology of the region. Last but not the least, the Government should work in close consultation with academia and international organizations working on cultural heritage to declare Swat Motorway, which leads to the ancient pilgrimage and trade route, as "Gandhāra Cultural Heritage Route" on the pattern of Silk Road/Route to attract the attention of the world community to the site of *Bakhshālí* Manuscript, along with other hundreds of sites to be connected by Swat Motorway.

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A phonological study of Eastern Balochi of Dera Ghazi Khan in Historical and Areal Perspective

Ali Hussain Birmani / Umaima Kamran

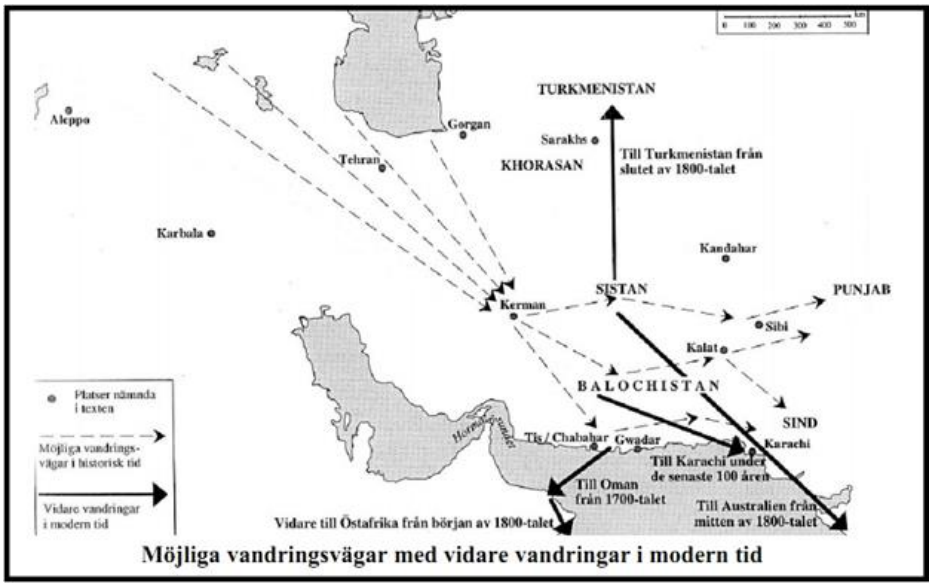
Abstract

Balochi is an Iranian language (Dames 1904) classified as historically belonging to the Northwestern branch (Korn 2003), but found today in the southeastern Iranian plateau as a consequence of a migration that may be dated to as early as the 8th century C.E. (Elfenbein 1989). Owing to this migration, the language has undergone several changes, most of which can be described as Areal influences (Bashir 2008). This paper investigates an easternmost Balochi dialect in use in Dera Ghazi Khan district and looks for the evidence of three phonological features namely retroflex, aspirate and implosive sounds. Using primary data obtained in the form of conversational recordings and secondary data from the available literature on Balochi spanning 120 years, it is found that borrowing from the northwestern Indo-Aryan languages - in the present day (Grierson 1919) Sindhi, Siraiki, Khetrani, are a major factor that led to the proposed changes.

Keywords: Balochi, Balochistan, Indo-Aryan, Dera Ghazi Khan

1. Introduction

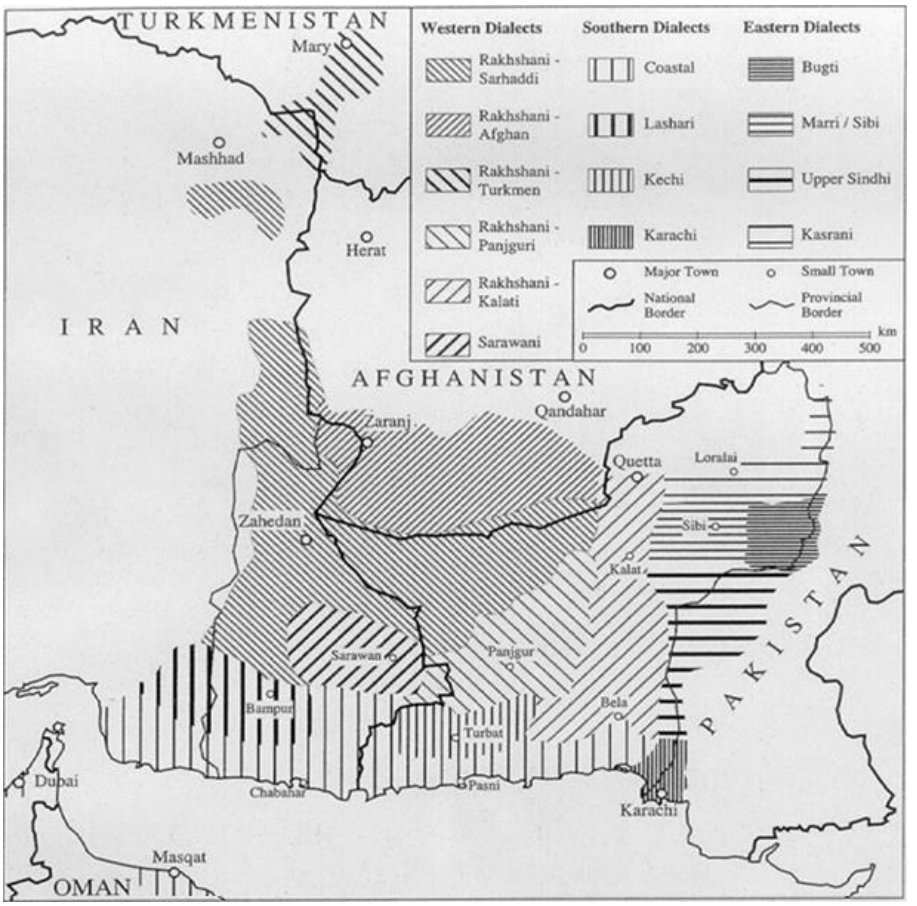
Balochi is an Iranian language that is spoken primarily in Balochistan region, a vast area comprising about half a million square kilometers, on southeastern Iranian Plateau (Elfenbein 1989). The Balochi epic tradition as recounted in the genealogical poems gives the Baloch an Arab descent, their legendary homeland as being Aleppo whence they migrate to Sistan following the battle of Karbala during which they participate on the side of the Shi'ite imam Hussein (Dames 1907). However, this tradition may have only been conceived in order to allot themselves an Islamic origin (Elfenbein 1989). But the epic tradition also mentions places - such as Lar, Pahra and Bampur - which suggest that at least the part about their stay in Sistan is true.



Map 1. Baloch migrations adapted from Jahani (2006: 4)

The earliest mention of the word 'Baloch' comes in a Pahlavi text Šahristānīhā ī Ērān-šahr of the 8th century C.E. where the Baloch are listed as one of the seven autonomous mountain communities (Spooner 1989).Arab writers from 9th and 10th centuries locate their raiding activities in the area between Kerman, Khorasan, Sistan and Makran (Spooner 1989). The Baloch, it seems, had come to occupy the land now known as Balochistan well before the 15th century (Frye 1961).

Dames (1904) divided the Baloch 'race' into Northern (Sulaimani) and Southern (Mekrani) ones, but insinuating a further division later on (see Dames 1913). Jahani & Korn (2009) see three principal varieties: Eastern, Western and Southern Balochi, while in agreement with the fact that the total number of dialects is very large. Elfenbein (1966) with the aim of developing Balochi dialectology settles at (at least) six dialects, the additions being refinements to Western Balochi. It may indeed be due to a drop in research and publications on Eastern Balochi (Jahani & Korn 2009: 638) that such refinements have not been attempted for this variety.



Map 2. Approximate location of Balochi dialects taken from Korn (2005).

From a historical point of view Balochi is classified as belonging to the Northwestern branch primarily based on the phonological evidence (Korn 2003). As a result of this migration into a territory that was historically not Iranian, nearly all aspects of the language have come under significant influence of the neighboring, particularly the Indo-Aryan languages. One such influence on the phonology of the language are the retroflex consonants, which were originally not a feature of the Balochi language (Jahani and Korn 2009: 643) and are not found in the Old Iranian languages either (see Skjærvø 2009). But retroflex consonants are now found in all the varieties of Balochi except in some of "the westernmost parts of Iranian Balochistan" (Jahani and Korn 2009: 643) where they are absent. Another such influence on the

language is contrastive aspiration; again not originally a feature of the Iranian languages but its evidence has been found by Bashir (2008) for the variety spoken in Kohlu, i.e. one of the Eastern Balochi varieties for they are in direct contact with the Indo-Aryan.

The current research sought to obtain samples of one of the easternmost varieties of Balochi language in locales that stretched from Choti Zareen to Choti Bala, at the southernmost tip of Dera Ghazi Khan district and trace their divergence from the system of other varieties in order to look for the evidence of the phonological features of *Retroflexion*, *Aspiration* and *Implosive sounds*.

2. Main objectives

i. Tracing the development of retroflexion in the concerned dialect and the extent to which it has become contrastive/phonemic in the concerned dialect.
ii. Tracing the development of aspiration in the concerned dialect and the extent to which it has become contrastive/phonemic in the concerned dialect.
iii. Tracing the development of implosive sounds in the concerned dialect and the extent to which they have become contrastive/phonemic in the concerned dialect.

3. Background of the research on Balochi

Korn's study (2005) in Balochi Historical grammar, with specific focus on phonology and lexicology, is perhaps the single most important work on the Balochi language. She mentions how a large number of dialects or "speech forms" that exist among the speakers of Balochi create complications for any historical investigation of "the Balochi language" (Korn 2005: 20). To simplify things the author devises the concept of Common Balochi (the stage prior to the migration into the present day Balochistan province (Korn 2005: 21) of Pakistan) a method that she agrees has been in use in nearly all the previous studies. Adapted from Jahani & Korn (2009: 642) the table below shows its consonant inventory.

Stops and affricates	voiceless	*p*	*t*		*č*	*k*	
	voiced	*b*	*d*		*ǰ*	*g*	
Fricatives	voiceless			*s*	*š*		*h*
	voiced			*z*	*ž*		
Nasals		*m*		*n*			
Taps				*r*			
Lateral				*l*			
Glides		*w*			*y*		

Table 1. Consonant Phonemes of Common Balochi.

Geiger's (1891) study provides the earliest scientific investigation of Balochi language, including southern and eastern (northern according to him) dialects. He observes the existence of a large number of sounds in the latter. These include aspirated counterparts of stops and affricates, a large number of fricatives and retroflex sounds. Buthe comments (1891: 404) upon retroflex and voiced aspirated stops and affricate sounds as occurring in loanwords from Indo-Aryan languages and not actually being a part of the Balochi phonological system.

Dames (1891) provided one of the earliest major descriptive grammars of what came to be popularized as the "Eastern Hill Balochi". Although his work was intended as a textbook of the language but it derives a lot importance in containing first-hand information, its grammar having been constructed as a result of long periods of observation and through copious textual material (supplied in a later addition of 1922) collected in the form of poems, legends, narrative prose, didactic stories, also including a fair-sized dictionary.

Grierson (1921) carried out the first major survey of the Balochi language. He addresses the points upon which the phonology of the Eastern dialect differs from the other (Western) one such as with regards to (what he terms as) the "explosive utterance" of the surd consonants which, according to him, must be distinguished from the aspiration found in Indo-Aryan and the weakening of stop sounds into fricatives in intervocalic position. He also characterizes the "letters" for the retroflex consonants and the voiced aspirated stops and affricate sounds as occurring in the words borrowed from neighboring Indo-Aryan languages.

Gilbertson (1923) too remarks upon the Indo-Aryan origins of these sounds alluded to above. Another observation owed to him is the occasional turning of retroflex consonants in borrowed words into the corresponding dental sounds in Balochi (Gilbertson 1923:7).

4. Dialectology of Balochi: a diachronic overview

Jahani & Korn (2009) give a brief but systematic overview of the features that set Eastern Balochi apart from the other dialects. Among these, the phonological features include an early fronting of /u/ to /i/, aspiration of the voiceless stops and affricate in word-initial and partly postconsonantal positions and lenition of the stops and affricates to the fricatives in postvocalic position.

Some examples of the words that show the fronting of /u/ to /i/:

	Western Balochi	Eastern Balochi	
a.	būag	bīaġ	‘to become’
b.	dūr	dīr	‘far’
c.	sūr	sīr	‘marriage’
d.	kūčah	kīčah	‘street’

Coming again from Jahani & Korn (2009:642) the following table summarizes consonant shift.

ComBal.	EBal.	
	word-initial and postconsonantal position	postvocalic position
p, *t*, *k*	aspiration: p^h, t^h, k^h	fricatives: *f*, *ϑ*, *x*
b, *d*, *g*	(no change: *b*, *d*, *g*)	fricatives: *β*, *δ*, *ġ*
č, *ǰ*	aspiration: $č^h$(no change: *ǰ*)	fricatives: *š*, *ž*
w	aspiration: w^h	(no change: *w*)

Table 2. Eastern Balochi Consonant Shift.

Examples of the changing word forms following the consonant shift: Voiceless stops and affricate.

	Western Balochi	Eastern Balochi	
a.	par	p^{h}ar	‘for’
b.	hapt	hapt	‘seven’
c.	āp	āf	‘water’
d.	tīr	t^{h}īr	‘arrow’
e.	ārt	ārt^{h}	‘brought’
f.	māt	māθ	‘mother’
g.	kam	k^{h}am	‘little, less’
h.	šinik	šink^{h}	‘female kid’
i.	sīkun	sīxun	‘porcupine’
j.	če	č^{h}e	‘what’
k.	borčī	borčī	‘cook’
l.	roč	roš	‘day’

Aspiration of the voiceless stops is quite common across world languages including English, and according to some (See Bert Vaux & Bridget Samuels 2005) such a language change should be considered as evidence for the voiceless aspirated series’ being less marked.

The other sound change, lenition (spirantization in this case), is also quite common cross-linguistically. Hualde*et al.* (2011), using Spanish data, propose that such changes start as “conventionalized phonetic processes”, targeting the sound in question uniformly, but being phonetically very gradual.

Voiced stops and affricate

	Western Balochi	Eastern Balochi	
a.	barag	baraġ	‘to take away’
b.	darbeš	darbeš	‘darvesh’
c.	habar	haβar	‘news’
d.	dār	dār	‘wood’
e.	hudā	huðā	‘God’
f.	murdān	murdān	‘fingers’
g.	gok	gox	‘cow’
h.	ǰang	ǰang	‘war’

i.	pādāg	$p^hāðāġ$	'toarise'
j.	ǰan	ǰan	'woman'
k.	wāǰā	wāžā	'lord'
l.	maǰg	mažg	'brain, marrow'

Borrowings from other dialects led to the restoration of stops in the post-vocalic position and ended up muddying the picture. This led to the development of the stop-fricative contrast in the post-vocalic position. An exact chronology of these changes, using word to word forms, has not yet been attempted and we do not know for certain the nature of the fricative sound in c.

Another major change was the development of /w^h/ sound in Eastern Balochi.

Western Balochi		Eastern Balochi	
a.	wān	$w^hān$	'tray'
b.	wār	$w^hār$	'spoilt,destroyed'
c.	wāb	$w^hāβ$	'dream'
d.	wād	$w^hāð$	'salt'

It more frequently resulted from the metathesis of possible earlier /hw/ consonant clusters as the comparison with Persian below shows (also noted by Dames 1992: 4).

Persian		Eastern Balochi	
a.	xwān	$w^hān$	'tray'
b.	xwār	$w^hār$	'spoilt, destroyed'
c.	xwāb	$w^hāβ$	'dream'

As a result of these changes mostly, Eastern Balochi split from the rest of the dialects, leading to what may be termed as the Proto-Eastern Balochi. Its consonant inventory, adapted from a table of Jahani & Korn (2009: 646), is reproduced below.

Stops and affricates	voiceless	$p^{(h)}$		$t^{(h)}$		$č^{(h)}$	$k^{(h)}$	
	voiced	b		d		$ǰ$	g	
Fricatives	voiceless		f	$ϑ$	s	$š$	x	h
	voiced		$β$	$δ$	z	$ž$	$ġ$	
Nasals		m			n			
Taps					r			
Lateral					l			
Glides		$w^{(h)}$				y		

Table 3. Consonants in Proto-Eastern Balochi.

The period following this would also have been characterized by a rather intense contact with the Indo-Aryan languages. As a result of this, the earliest descriptions of Eastern Balochi contained sets of sounds, retroflex and voiced aspirated stops and affricate, which do not occur in the table given above. The following are some examples, found in Dames' vocabulary (1891), which must have become a source of retroflexion in Balochi:

	Indo-Aryan	Eastern Balochi	
a.	$k^haṛo$	$k^haṛo$	'standing'
b.	$luṛ^haṇ$	$luṛaġ$	'to be washed away'
c.	$ṭilū$	$ṭilū$	'bell'
d.	$ʋaṭṭā$	$waṭṭā$	'stone'
e.	$ṭiṇḍṇī$	$ṭiṇḍnī$	'firefly'
f.	$laṭ^h$	$laṭ^h$	'embankment'
g.	$ɓuɗɗaṇ$	$buḍḍaġ$	'to drown'
h.	$ɗeḍ^hī$	$ḍeḍ^hī$	'entrance'

It must have been noticed from examples g and h that the implosives coming from the Indo-Aryan languages (i.e. Sindhi/ Siraiki/ Khetrani) turned into the corresponding plosive sounds and from e that the retroflex nasal stop turned into the corresponding alveolar one when borrowed into Balochi at that time. But oral retroflex sounds appear to have been stable enough, so that four decades later Barker and Mengal (1969) found retroflex sounds phonemic in Western Balochi too. Its consonant inventory, adapted yet again from Jahani & Korn (2009: 645), is reproduced below.

Stops and affricates	voiceless	*p*	*t*	*ṭ*	*č*	*k*		
	voiced	*b*	*d*	*ḍ*	*ǰ*	*g*		
Fricatives	voiceless	*(f)*	*s*		*š*	*(x)*	*h*	
	voiced		*z*		*ž*	*(ġ)*		
Nasals		*m*	*n*					
Taps			*r*	*ṛ*				
Lateral			*l*					
Glides		*w*			*y*			

Table 4. Consonants in Western Balochi.

The phonology of Western Balochi shows a respectable conservatism when compared to the Eastern varieties and as such the former is almost identical to that of Southern Balochi.

Studies such as the one by Rossi (1979) or Jahani (1989) seemed to indicate that in Eastern Balochi the case of voiceless stops and affricate sounds with respect to contrastive aspiration was still doubtful and Elfenbein (1997: 771-772) pronounced the occurrence of voiced aspirated stop and affricate sounds as merely "borrowed phonemes".

Some examples of the words, found in Dames' vocabulary (1891), that became a source of the ("borrowed") voiced aspirated stop and affricate phonemes in Eastern Balochi:

	Indo-Aryan	Eastern Balochi	
a.	bʰit	bʰit	'wall'
b.	ubʰār	ubʰār	'raising'
c.	dʰak	dʰak	'injury'
d.	siddʰā	sidʰā	'straight, plain'
e.	ḍʰāl	ḍʰāl	'shield'
f.	ɗeḍʰī	ḍeḍʰī	'entrance'
g.	ǰʰaɠ	ǰʰag	'foam, froth'
h.	roǰʰ	roǰʰ	'nilgai'
i.	gʰaṭ	gʰaṭ	'less'
j.	ʋigʰraṇ	wigʰaraġ	'tobecome larger, expand'

Based on these observations the following table, adapted from Elfenbein (1997: 771) and Jahani & Korn (2009: 646), would best represent the consonant inventory of what is called the "Eastern Hill Balochi", as it may have seemed in the early decades of the 20th century.

Stops and affricates	voiceless	$p^{(h)}$		$t^{(h)}$		$ṭ^{(h)}$	$č^{(h)}$	$k^{(h)}$	
	voiced	$b^{(h)}$		$d^{(h)}$		$ḍ^{(h)}$	$ǰ^{(h)}$	$g^{(h)}$	
Fricatives	voiceless		f	$ϑ$	s		$š$	x	h
	voiced		$β$	$ð$	z		$ž$	$ġ$	
Nasals		m			n	$(ɳ)$			
Taps					r	$ṛ$			
Lateral					l				
Glides		$w^{(h)}$					y		

Table 5. Consonants in Eastern Hill Balochi.

Bracketed sounds show consonants with limited distribution. Here, the voiceless stops and affricate sounds (along with the retroflex nasal) may be assumed as allophones while their voiced counterparts as borrowed sounds.

With the aim of highlighting some transitional features of Eastern Balochi using field data gathered in 1991-2, Bashir (2008) discusses several important aspects of the grammar of the dialect spoken in the Kohlu District. Importantly, she finds the earliest evidence of contrastive aspiration for the same Balochi variety (Bashir 2008: 59) though she is still careful to pronounce it as a "secondary aspiration contrast".

5. Methodology

The present research was conducted in two stages. The first stage involved reviewing literature already available on the Balochi language and briefly discussed/mentioned in the foregoing review, dated from the late 19th century to the present times. Its purpose was to recall the history of Balochi language and particularly understand the phonology of Eastern Balochi by tracing its divergence. For most of the analysis performed at this stage, the data of Dames in terms of vocabulary (1891) and texts (1922) were relied upon.

The second stage involved fieldwork wherefrom data were obtained in the form of audio recordings from different locales which were easily accessible to the researcher and where Balochi is spoken. The recordings were made by the researcher himself as a non-participant observer. The data were subsequently committed to writing in phonetic transcription. Since the data tended to be diverse in natureso only one set was employed which was found to have a greater representativeness, i.e. was used by a larger population and spread over a larger geographic space. These transcriptions were then used for the analysis of aspirated, retroflex and implosive soundsand the more recent status of these phenomena in Balochi of Dera Ghazi Khan.As thisvariety turned out to bein some waysdifferent from the Eastern variety used in the mountainous tracts (especially in Balochistan) so it deserved a different name.

6. Data Analysis

A comparison of the data obtained from the field with that compiled by Dames (1891; 1922) shows that the language has evolved much ever since.

Examples of retroflexion:

a.	ārt^{h}	>	āṛt^{h}	‘brought’
b.	urdū	>	uṛdū	‘Urdu’
c.	t^{h}ursaġ	>	t^{h}uṛsaġ	‘to fear’
d.	burzā	>	buṛzā	‘West’
e.	arz	>	aṛz	‘request’
f.	p^{h}uršāh	>	p^{h}uṛšā	‘uncouth’ (literally ‘fully-black’)
g.	darmān	>	daṛmān	‘medicines’
h.	warnā	>	waṛnā	‘young man’
i.	anz	>	aṇz	‘tear’
j.	bot	>	boṭ	‘louse’
k.	tawk	>	ṭawk	‘talk’
l.	gat^{h}	>	gaṭ^{h}	‘effort, drudgery’
m.	gut^{h}	>	guṭ^{h}	‘neck’
n.	ment^{h}aġ	>	mẽṭ^{h}aġ	‘wet’
o.	dohaġ	>	ḍohaġ	‘to carry’
p.	gudī	>	guḍī	‘next’

Most of these changes are irregular and spontaneous. There do not appear to be any patterns behind such changes or rules governing this process except for the regressive retroflexion of the alveolar trill changing into flap in pre-consonantal position. Significantly, this is the exact opposite of the progressive retroflexion found in Norwegian (see Johnsen 2011) in which the alveolar trill causes retroflexion of the following segment. Since the process is still going on,so one finds forms alternating between a retroflex anda dental sounds such as /dayr ~ ḍayr/ 'mountain'.

Examples of multiple retroflexion:

q.	gwand	>	gwaṇḍ	'short'
r.	hind	>	hiṇḍ	'bitch'
s.	pʰīrund	>	pʰīruṇḍ	'old woman'

This was not an exhaustive list and more examples could have been given.

Examples of aspiration:

a.	buṛzā	>	bʰuṛzā	'west'
b.	kʰadah	>	kʰaddʰā	'bowl'
c.	ḍohaġ	>	ḍʰoaġ	'to carry'
d.	ǰahlā	>	ǰʰālẽ	'low'
e.	pʰagah	>	pʰaggʰẽ	'at the dawn'

All instances of aspiration involve a metathesis of /h/ except for a. Such spontaneous aspiration, in the absence of /h/ in the nearby syllable is difficult to account for.

Examples of the development of implosives:

a.	boṭ	>	ɓoṭ	'louse'
b.	bāz	>	ɓāz	'many'
c.	dālẽ	>	ɗālẽ	'thick'
d.	dādā koh	>	ɗāɗā koh	'DaDa Koh'
e.	ḍāčī	>	ɗāčī	'a female camel'
f.	haḍ	>	haɗ	'bone'
g.	guḍī	>	guɗī	'next'
h.	pʰaǰī	>	pʰaʄī	'together'
i.	guṭʰ	>	ɠuṭʰ	'neck'

Arguing for a "distinct bias against the voiced obstruents", Ohala (1999) employs the "Aerodynamic Voicing Constraint" in order to account for the development of Sindhi implosive out of the Prakrit geminates. While according to his stance one is likely to see their development in the word medial (voiced stops) geminates first, the present data show that in Balochi the development seems to have been mostly concentrated in the word-initial position; perhaps because a mass of the voiced stops in the medial position had already undergone lenition in the near history.

The data bore evidence for all three phonological features in the Eastern Balochi variety of Dera Ghazi khan, which indicates that all these features occur in contrastive distribution now.

Minimal pairs of retroflex sounds:

a.	tar	'swim'	ṭar	'big'
b.	ɓūt	'cheek'	ɓūṭ	'shoes'
c.	t^hāl	'a large dish'	$ṭ^h$āl	'twigs'
d.	dak	'mending'	ḍak	'pass, passage'
e.	addā	'brother'	aḍḍā	'station'
f.	d^hak	'injury'	$ḍ^h$ak	'lid'
g.	miraġ	'to die'	miṛaġ	'to fight'
h.	gar	'pimple'	gaṛ	'precipice'
i.	k^han	'do!'	k^haṇ	'snake, lizard'
j.	mān	'inside'	māṇ	'pride, honor'

The cluster of nasal stop + dental stop /nd/ also contrasts with a retroflex one /ṇḍ/.

k.	gandaġ	'bad'	gaṇḍaġ	'to mend'
l.	$k^h$and	'laugh'	k^haṇḍ	'sugar'

The retroflex oral flap also contrasts with the nasal /ṇ/ as in /aṛz/ 'request'and/aṇz/ 'tear'.

Minimal pairs of voiceless aspirated stop and affricate sounds:

a.	par	'wings'	p^har	'for'
b.	paṭ	'search!'	p^haṭ	'wound'
c.	tolaġ	'to measure'	t^holaġ	'jackal'
d.	taraġ	'to swim'	t^haraġ	'to stroll'

e.	ṭilī	‘bell’	ṭ^{h}ilī	‘he/she moves along’
f.	gaṭ	‘a sink’	gaṭ^{h}	‘occupied, drudging’
g.	čār	‘look!’	č^{h}ār	‘four’
h.	bač	‘evade!’	bač^{h}	‘son’
i.	kand	‘wall’	k^{h}and	‘laugh’
j.	kakkar	‘snowfall’	k^{h}akk^{h}ar	‘wasp’s nest’

Minimal pairs of voiced aspirated stop and affricate sounds:

k.	bun	‘bottom’	b^{h}un	‘to fry’
l.	dak	‘mending’	d^{h}ak	‘injury’
m.	ḍak	‘pass, passage’	ḍ^{h}ak	‘lid’
n.	wāǰā	‘lord’	wāǰ^{h}ā	‘sort’
o.	begān	‘stranger’	beg^{h}ā	‘in the evening’

Minimal pairs of implosive stops:

a.	bāz	‘falcon’	ɓāz	‘many’
b.	had	‘limit’	haɗ	‘bone’
c.	guḍī	‘chop!’	gʊɗī	‘next’
d.	wāǰā	‘lord’	wāʄā	‘musical instrument’
e.	gāaġ	‘to copulate’	ɠāaġ	‘to sing’

7. Conclusion

After its differentiation from the other Balochi varieties in the form of aspiration of the voiceless stops and affricate sounds word-initially and the lenition of the same sounds along with their voiced counterparts in the post-vocalic position, the earliest change that took place in proto-Eastern Balochi would well have been the incorporation of retroflex consonants coming in Indo-Aryan (specifically Sindhi, Khetrani and Siraiki languages) loanwords. In spite of some initial tendency to resist these sounds, widespread bilingualism would have allowed their acceptance. Their acceptance led to some retroflexion of the dental elements of native vocabulary too.

The second change was the arrival of aspirated voiced stop and affricate sounds, again in the form of loanwords from Indo-Aryan. This stage is best represented by the form of Eastern Hill Balochi described during the times of British India, beginning from the 19th century until the early decades of 20th century. Eventually, however, voiced aspirated stop and affricate sounds started developing in the native vocabulary

and newer loanwords containing unaspirated voiceless stop and affricate sounds led to the phonemicization of aspiration.

The final change was brought with implosive consonants; which were again resisted earlier on, but as the present data show are also now phonemic in the Eastern Balochi variety of Dera Ghazi Khan, so that it's latest consonant inventory mimics that of Sindhi, Khetrani and Siraiki.

Stops and affricates	voiceless	*p*		*ʈ*		*ʈ̣*	*č*	*k*	
	aspirated	*pʰ*		*ʈʰ*		*ʈ̣ʰ*	*čʰ*	*kʰ*	
	voiced	*b*		*ɖ*		*ɖ̣*	*ǰ*	*g*	
	aspirated	*bʰ*		*ɖʰ*		*ɖ̣ʰ*	*ǰʰ*	*gʰ*	
Implosives		*ɓ*			*ɗ*		*ʄ*	*ɠ*	
Fricatives	voiceless		*f*	*θ*	*s*		*ṣ*	*x*	*h*
	voiced		*β*	*ð*	*z*		*ẓ*	*ġ*	
Nasals		*m*			*n*	*ɳ*			
Taps					*ɾ*	*ɽ*			
Lateral					*l*				
Glides		*w*					*y*		
		wʰ							

Table 6. Consonants in Eastern Balochi of Dera Ghazi Khan.

That said it must be mentioned that several peripheral areas, especially of the mountainous tracts, have not developed any implosives and even within the plains, there are some holdouts where in the speech of many one finds the implosive forms alternating with the plosive ones.

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Archaeology in Pakistan
An overview

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Abstract

This article discusses some aspects of archaeology in Pakistan. It gives a background history i.e. colonial settings of the subject. The next part covers how archaeology has been administered in the country, its teaching programmes in higher education institutions, the state of research and finally the journals which are dedicated to publishing archaeological researches or others which accommodate such works.

Keywords: Pakistan Archaeology, Research, Teaching

1. Introduction

Archaeology in Pakistan has deep historical roots. It started with the advent of British in the subcontinent and saw phenomenal transformations and developments all through the nineteenth and twentieth century to the present. It is marked by a great variety of data belonging to prehistoric and historic times. The latter may be seen in the framework of the Indo-Gangetic Tradition with a great variation in time and space. Many scholars have produced interesting focused as well as synthetic works about all these diverse scholarly activities. Others have written about the organizational structure of archaeology in the country. However, there is hardly any work which brings together all the aspects of Pakistani archaeology. It is in this context that this article presents its comprehensive overview with the intension of inspiring further studies in this direction. It first gives a brief historical background with reference to British period followed by four aspects of Pakistani archaeology, i.e. organization, teaching, research and publications.

2. A historical background

The pre-1947 archaeology of Indo-Pakistan subcontinent may be designated as colonialist archaeology after Bruce Trigger (1984).[1] It emerged and developed in an all-pervading colonial ambience and was dictated by imperial and colonial interests and constructs. Dominant social, cultural, economic and political as well as intellectual theories gave impetus to Indology wherein the beginnings in archaeological studies was preceded by a well-thought-out, systematic and institutionalized programme of literary researches.

Though orientalism in Indian context is traced back to sixteenth century by referring to traders' accounts (Chakrabarti 1988/2001: 1-15), a consistent initiation was spearheaded by Sir William Jones in the last quarter of eighteenth century.[2] He founded the Asiatic Society in Calcutta in January 1784 followed by a journal by the name of *Asiatic Researches* in 1788. A variety of researches – ranging from legal studies to history, culture, economy, geography, geology, astronomy etc. – were to be welcomed for the pages of the journal (Kejariwal 1988). A number of scholars, explorers and scientists joined hands with Jones in these intellectual, in tandem with administrative and political, pursuits.

When it came James Prinsep's turn in 1830s, Indian studies fundamentally transformed. Studies in the fields of coins and inscriptions ushered in a new era of research with a special focus on the material remains of ancient and medieval India and as being auxiliary sources for historical reconstructions. And here is to be located the formative phase of archaeology in the subcontinent while its spatial context extended in different directions. The activity got momentum with the establishment of Archaeological Survey of India (hereafter ASI) in 1861 and the appointment of Sir Alexander Cunningham as its Surveyor (later on first Director General) (hereafter DG). He led Indian archaeology, between 1861 to 1885, from the embryonic stage to its full

[1] The other two types of archaeology, according to Trigger, are imperialist and nationalist archaeologies (Trigger 1984).

[2] We have to be mindful of the fact that Saidian orientalism has been critically seen by in different contexts. Many may not accept his theory as workable in Indian context.

puberty. Extensive surveys, identifying historically important places with the help of, especially, XuánZàng's accounts, were conducted. The results of these archaeological activities were published. During this time, the first detailed law about archaeological treasure - Indian Treasure Trove Act (1878) – was also promulgated. It was followed by the passing of two other Resolutions in November 1882 and in June 1883. They made even more powerful pronouncements about the management of ancient cultural heritage (Khan, R. 2014: 198-232; Olivieri 2015: 40ff.). During James Burgess's Director Generalship architectural studies made great breakthroughs. His services about the protection of archaeological sites and material are appreciable. He brought excavations within the domain of ASI and tried to prevent illegal digging and transport of objects (Roy 1961: 67). Following Burgess' retirement in 1889, ASI underwent restructuring and, according to Roy, archaeology experienced 'a bleak interlude' (Roy 1961: 72-77). However, a more productive era in Indian archaeology started with the arrival of Lord Curzon as the Viceroy of India (1899-1905). From the very beginning, he was clear-sighted about the *Imperial* obligation to the protection and promotion of tangible cultural heritage of the subcontinent (for its critical reading see Lahiri 2000). Its natural corollary was the appointment of Sir John Marshall as DG of ASI (1902-28) and the promulgation of The Ancient Monuments Preservation Act, 1904. Archaeological activity was divided into excavation, conservation and researches while each was seen to be treated at the same footing (Lahiri 2005/2015: 42-87).

Marshall's period is very important in the history of Indian archaeology. Beside excavation and conservation, a number of native scholars were trained in archaeology. Similarly, a great many chapters were added to Indo-Pakistani history giving different theories and models. The period garners special importance in relation to Pakistani archaeology as it reflects in the archaeology of Taxila, discovery of the Indus valley civilization and explorations in the then North West Frontier Province (NWFP, now Khyber-Pakhtunkhwa) and Balochistan. Between the retirement of Marshall and the arrival of Sir Mortimer Wheeler (1944-48), four persons, namely H. Hargreaves (1928-1931), Rai Bahadur Daya Ram Sahni (1931-1935), J.F. Blakiston (1935-1937) and Rao Bahadur K.N. Dikshit (1937-1944), served as DGs of ASI.

Mortimer Wheeler took the mantle of Director Generalship in 1944. He introduced great changes in ASI and archaeological methods. Taxila got prominence due to its selection for being as a school for training of the local officers and students in archaeology. Similarly, excavations at Harappa and Charsadda, besides important work in the present-day India, are to be taken as hallmark activities in connection to Pakistani archaeology (Khan, R. and Shaheen 2018).

Interestingly, it is pertinent to pinpoint the importance of contextual aspect of all this activity. As Indian archaeology is termed here colonialist, it implies that its development was greatly influenced by the socio-political considerations of the time. On the one hand, it was appropriated in the best interests of the British empire while, on the other, the intellectual movements of the time shaped the models of interpretations for cultural heritage. These may be termed as the theory of White Man Burden, civilizing mission and racial superiority and diffusionism, modernity and Euro-centrism.

3. An overview of Pakistani archaeology

Pakistan inherited the British legacy of archaeology and since the very beginning archaeological activity in terms of organization and management and research and teaching was kept continued. Its brief account is given below.

Organization

Immediately after independence, the Department of Archaeology, initially as an affiliated institution of the Ministry of Education, was established. Specialists in the field were attached to its directorate which had the East Pakistan Circle with its headquarter at Rajshahi (later on shifted to Dacca) and the West Pakistan Circle and its headquarter situated at Lahore. Muhammad Rafique Mughal terms the 'West Pakistan Circle [. . . as] the real successor to the British Indian Frontier Circle and the East Pakistan Circle [. . . as] a part of colonial Eastern Circle'. The former was established at Peshawar in 1906 'to look after the protected monuments in the former NWFP (now Khyber-Pakhtunkhwa) including Balochistan' (Mughal 2011: 126).[3] Likewise,

[3] A recent archival study gives 1903-04 as the year of the establishment of the office

two more circles, designated as Northern Circles having their headquarters at Lahore and Agra[4], were created. Due to some reasons, they, including the monuments of former Sindh Province, were amalgamated in the Frontier Circle in 1928, 1931 and 1946 respectively (Mughal 2011: 126-127). The dynamics behind these developments are not known. However, a fresh study shows that the Peshawar office of the Frontier Circle ceased to function in 1928 and its Superintendent, Hargreaves, assumed the charge of DG of the ASI the same year. Dilawar Khan, though, started to work as curator of the Peshawar Museum (Khan, Z. 2016: 124).

With the debacle of Dacca in 1971, the Department of Archaeology was reorganized and re-named as the Federal Department of Archaeology and Museums to 'fully express its functional obligations'. It was related to the newly formed Ministry of Culture and Tourism in 1977 (Khan, A.N. n.d.: 25). Two circles known as the Northern Circle of Archaeology (headquarter Lahore) and the Southern Circle of Archaeology (headquarter Hyderabad) were established. The former had four Sub-Regional Offices namely Multan, Taxila[5], Peshawar and Gilgit. The latter was added only one Sub-Regional Office at Quetta.[6] All power concentrated in the Directorate General of the Department of Archaeology and Museums with its head office at Karachi till 1998, the year when it was shifted to Islamabad (Mughal 2011: 127). 'It regulate[d] and coordinate[d] the working and activities of its subordinate offices' (Khan, A.N. n.d.: 25)

The Federal Department of Archaeology and Museums had a complex structure and organizational set-up. Six subordinate offices were connected to it. They were (Khan, A.N. n.d.: 25):

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of Superintendent of Archaeology, Frontier Circle, at Peshawar (Khan, Z. 2016: 123ff.).

[4] These were created in order to take care of the Muslim and British and the Hindu and Buddhist 'monuments in the areas of [W]est and East Punjab, Delhi, U.P., Central India and Rajputana [. . .]' (Mughal 2011: 126).

[5] Ahmad Nabi Khan mentions only three such Offices with the exclusion of Taxila (Nabi Khan n.d.: 28). For a preliminary archival work about the Peshawar office see Zarawar Khan (2016).

[6] According to Rafique Mughal (2011: 127), 'This division helped to bring about improvements in the functioning of the Federal Archaeology Department especially in the conservation works which otherwise was not possible to achieve within a single administrative unit of West Pakistan.'

> [. . .] (i) Northern Circle of Archaeology, Lahore with its Sub-Regional Offices at Multan, Peshawar and Gilgit, (ii) Southern Circle of Archaeology, Hyderabad; with its Sub-Regional Office at Quetta, (iii) Exploration and Excavation Branch, Karachi, (iv) National Museum of Pakistan, Karachi, (v) Central Archaeological Laboratory, Lahore and (vi) Pakistan Institute of Archaeological Training and Research, Lahore.[7]

For the smooth functioning, the Directorate General had various attached organizational branches and sections. They were the branches of Epigraphy, Publication, Planning and Development, Central Archaeological Library and Administration-Budget-Account. 'The Professional Branch with Photosection and an Antiquity Trade [C]ontrol Branch [. . . were] also attached to the Head Office' (Khan, A.N. n.d.: 25).

In 2011 a great change and transformation took place in the archaeology of Pakistan through the Eighteenth Amendments to the Constitution of Pakistan. It devolved archaeology to the provinces and the jurisdiction of the Federal Department of Archaeology and Museums became limited to the Capital Territory of Islamabad.[8] All the provinces now have their own Departments/Directorates of Archaeology and they are 'gradually adopting the Federal Antiquities Act 1975 formally. They already have their provincial laws on heritage (except Balochistan[9]) and separate list of sites and monuments in Khyber Pakhtunkhwa, Punjab and Sindh [. . .]' (Mughal 2011: 127). It is to be observed that Khyber-Pakhtunkhwa passed the Antiquities law very recently, 2016. Thus, we may say that it is still far behind the Punjab and Sindh in legal matters.

[7] Pakistan Institute of Archaeological Training and Research was intended for the training of workers in archaeology. However, it could not live up to its desired goals well beyond its initial short working (Khan, R. and Shaheen 2018: 194; *Pakistan Institute of Archaeological Training and Research: First Annual Report – 1989*. 1990).

[8] The National Museum of Pakistan and Central Library, both at Karachi, are still like bone of contention between the Centre and Sindh.

[9] An archaeology student of Taxila Institute of Asian Civilizations has done his M.Sc. thesis on the managerial and organizational problems archaeology faces in Balochistan since the devolution (Hussain 2014).

Teaching in universities and colleges

A number of teaching departments of archaeology in higher education institutions of Pakistan – universities and colleges – have been working since 1960s. They are also extensively involved in research activities both in their own capacities as well as in collaboration with foreign archaeological missions. Following is the list of the various teaching programmes in Pakistani universities.

a) Department of Archaeology, University of Peshawar. It offers PhD, MPhil and Master programmes. The Department is working since 1962.
b) Department of Archaeology, Shah Abdul Latif University, Khairpur, Sindh (it is to be noted that the Department belongs to the Faculty of Natural Science).
c) Taxila Institute of Asian Civilizations, Quaid-i-Azam University, Islamabad. Master programme is offered in Archaeology and PhD and MPhil programmes are scheduled in Asian Studies. Degree in Archaeology has been offered since 2011.
d) Department of Archaeology, University of Hazara, Mansehra, Khyber-Pakhtunkhwa. It enrolls students/scholars in PhD, MPhil and BS. The Department was established in August 2008.
e) Department of Archaeology, University of Punjab, Lahore.
f) Department of Archaeology, University of Malakand, Khyber-Pakhtunkhwa. The programme was initiated in 2011.
g) Institute of Cultural Heritage, Tourism and Hospitality Management, University of Swat, Khyber-Pakhtunkhwa.
h) Department of Anthropology and Archaeology, University of Sindh, Jamshoro. The Department, curiously, belongs the Faculty of Natural Science and it has BS Archaeology programme since 2008.
i) Department of Heritage and Antiquities at the University of Art and Culture, Jamshoro, is part of the Faculty of Architecture and Heritage. It has designed degree in Heritage and Antiquities.

j) Department of Tourism and Hospitality, Abdul Wali Khan University, Mardan, offers BS programme which includes archaeology-oriented courses.
k) Archaeology Section and Archaeological Museum, Department of History (General), University of Karachi.

It may be noted that only in Khyber-Pakhtunkhwa archaeology has been taught at college level. However, it is heartening that recently a colleague from the Department of Archaeology, University of Punjab, disseminated through social media that the University had approved the syllabus for Bachelor in archaeology in the Punjab and that it had been sent to affiliated colleges. The same is still awaited in Sindh, Balochistan and the Federally Administered Capital Territory of Islamabad.

Researches

Archaeological activity in Pakistan covers the fields of prehistoric, protohistoric and historic periods. These periods have further subdivisions for, obviously, the better intelligibility of the historical process in the subcontinent. Scholars and students should be vigilant enough about the problems essential to periodization and any scheme should not act upon them as a conceptual barrier to the effect that their historical understanding gets negatively affected (see Anjum 2004). A safe way in this respect may be researchers' intellectual flexibility so that their training in a particular discipline does not insulate them entirely to themselves. Intellectual flexibility would undoubtedly make them receptive to developments in other sciences, a sign of the maturity of any discipline; hence strong methodology and approach. Fortunately, a number of recent studies in the archaeology of Pakistan embody this quality due to the reason that the researches seem to have been undertaken in line with problem-oriented approach by joint projects of Pakistani archaeological institutions and foreign missions. However, it should be noted that Bridget and Raymond Allchin observation is still valid in case of Pakistan. They write (1996/2008: 5) about South Asian archaeology that 'there appears to be a need for a clearer consensus of the main requirements of planned research for all periods. This, we believe, must be linked to a more problem-oriented research. [. . .] New methods of data processing, storage and presentation must be looked

for as the older methods become impracticable.'

It is to be noted that till 1947 South Asian archaeology was dominated by culture-historical approach. The same legacy was inherited in the newly independent countries in the wake of British withdrawal. And it still reigns supreme with very few exceptions. The few studies which have been undertaken within the new theoretical frameworks have fruitfully added to our understanding of the historical and cultural processes in Pakistan. Previous racial and diffusion-obsessed interpretations have greatly been replaced by the ones which have no such frames of reference.

At the present the accumulated results of different research projects, such as joint studies of Pakistanis and Italians and Pakistanis and Americans in Sindh, British and Pakistanis' and Italians' and Pakistanis' collaboration in KP, Americans' and Pakistanis' work in the Punjab and French and Pakistanis' research in Sindh, have transformed our understanding of history and culture of ancient Pakistan, and South Asia for that matter. To this is to be added French's work in Baluchistan and German activities in Gilgit-Baltistan (previously Northern Areas of Pakistan) (Mughal 1973; Allchin et al. 1986; Farid Khan et al. 1991; Shaffer 1974, 1986; Kenoyer 1991, 2006; Kenoyer and Meadow 2004; Dar 2006; Olivieri 2006).

Publications

Huge numbers of publications by different archaeological institutions from across the country have so far appeared. They comprise books, monographs, tourist guides, proceedings and journals. Following is the list of research journals being published in Pakistan (though some of them have ceased to appear for the last few years or even decades):

a) *Ancient Pakistan* (Research Bulletin of the Department of Archaeology, University of Peshawar). It is regularly published since 1964 on annual basis.
b) *Pakistan Archaeology* (Department of Archaeology and Museums, Islamabad). The publication has recently been resumed after a long disruption. It was first started as an annual publication in 1964.
c) *Journal of Asian Civilizations* (formerly titled as *Journal of Central Asia*). It is a bi-annual publication of Taxila Institute of

Asian Civilizations, Quaid-i-Azam University, Islamabad since 1978.

d) *Lahore Museum Bulletin* (Lahore Museum, Lahore). This biannual journal has been published since 1988.
e) *Ancient Sindh (Annual Journal of Research)* (Publication of the Department of Archaeology, Faculty of Natural Sciences, Shah Abdul Latif University, Khairpur).
f) *Ancient Punjab* (Department of Archaeology, University of the Punjab, Lahore). It was published just once (Vol. 1, 2010).
g) *Museum Journal* (National Museum of Pakistan, Department of Archaeology and Museums).
h) *Athāriyāt* (Department of Archaeology, University of Peshawar). It appeared one time in 1997.
i) *Sindh Antiquities* (quarterly journal of the Directorate General of Antiquities and Archaeology, Culture, Tourism and Antiquities Department, Government of Sindh). The journal has been published since 2017.
j) *Sindhological Studies* (Institute of Sindhology, University of Sindh, Jamshoro, Sindh). It is a sort of multidisciplinary journal with a strong tradition of publishing historical and archaeological research since 1975. The biannual appearance of *Sindhological Studies* was replaced since 2008 by its yearly publication.
k) *Frontier Archaeology* (Directorate of Archaeology and Museums, Government of Khyber-Pakhtunkhwa).
l) *Journal of Pakistan Archaeologists Forum* (formerly *Archaeological Review*) (Pakistan Archaeologists Forum, Sindh Excavation and Exploration Society, Karachi). It has been published since 1992 (?).
m) *Gandhāran Studies* (Ancient and Medieval Gandhāran Group, Department of Archaeology, University of Peshawar). It is annually published since 2007.
n) *Pakistan Heritage* (Research journal of the School of Cultural Heritage and Creative Technologies, University of Hazara, Mansehra). The journal yearly appears from 2009.
o) *Sindh Quarterly* was published by Shah Abdul Latif Cultural Society, Karachi. The Society was established in 1973. The

journal has published many articles on archaeological and heritage themes.

p) *Journal of the Pakistan Historical Society (Historicus)* is a quarterly research journal, regularly published since 1953, under the patronage of Hamdard Foundation Pakistan.

4. Concluding remarks

Many observations are warranted by the above presentation. First, the organizational structure of Pakistani archaeology has recently undergone a fundamental change. Archaeology devolved in the result of the Eighteenth Amendment to the Constitution of Pakistan and now all the provinces have their own directorates of archaeology and museums. Each has its own legal act and archaeological personnel. This is a good development in relation to the very federal character of the country. Though, there are strong voices which challenge the decentralization of archaeology and the concern is genuine: it may not result in further degeneration of the archaeological profession. Therefore, the provincial directorates shall take utmost care so that their work reach the desired goals. Furthermore, the teaching level in the universities also needs to be raised. Getting expertise, using theory and methods and focusing on fieldwork in different periods of archaeology are highly required as far as the future generation of archaeologists is concerned. Research in the field of archaeology may also be, both intensively and extensively, characterized by collaboration and interaction between local and foreign scholars, especially those working in Pakistan. This will, no doubt, go a long way with respect to giving a fresh breath to the dismal state of the discipline in the country. Thirdly, the publications from within the country are valuable. Many have published important nomographs and reports. And this adds handsomely, qualitatively but more often quantitatively, to foreign scholars' contributions. However, there is still room for improvement in so far as research periodicals are concerned. Some of them are marred by serious problems such as financial constraints, poor editing, image stigma etc. It is, therefore, not untimely to respond to all these issues in the light of further studies directed by disciplinary and performance reviews and constructive criticism.

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Public Archaeology and its Significances in Heritage Management of Pakistan

Usman Ali

Abstract

The concept of public archaeology in archaeological theory and its implementation of cultural theories in Pakistan has a significant role in the history of archaeology. This concept includes the framework of planning, strategies and implementation for professionals and concerning authorities to integrate the concerning stakeholders in their practice. South Asian Archaeology has universal importance, which has indigenous cultural impact and colonial influence on local communities and its connection with the public. To protect and sustain the cultural values, legal obligation and strategic decision support to create the significances of cultural material which relies on the concerning authorities to define clear and applicable rules and regulation for archaeologists and the public. This paper is referring to analysis, evaluation of the legal documents and the level of compatibility of public relevancy in archaeological practice in Pakistan. I will also propose recommendations to concerning authorities to consider the concept of Public Archaeology in management practice of the archaeological heritage in Pakistan.

Keywords: Public Archaeology, Heritage Management, Pakistan

1. Introduction

The names of Ibn Bauttua and Ibn Khaldun immediately come to mind when speaking of discovering the past. Pionnering work in the practice of analysing geographical culture and interpreting it for the public and future generations in the Subcontinent is their great legacy. The transfering of knowledge from the public to experts used to be one of the strong and vital cultural practices of this region. Such transfering of information did not only help experts to re-confirm their theories, but also opened doors to

establish new theories regarding the past. In previous decades, experts who had access and an ability to interpret such information would establish their theories after careful observations and evaluations of cultural materials. And these theories held prominent significance in the field of archaeology.

This changed after the British Colonial Period. The heavy endorsment of the development of archaeological practice in the Subcontinent was a direct result of this period, and this had a significant impact on archelological practices in this region until today. The influences of the British Colonial Period are not only seen in South Asian archaeological practices, but also still exercised by the administrative structure and recognized in legal documents. However, contrary to the cultural practices already in place, the British system was designed to favor the endorsement of individual contributions in the field of archaeological research, rather than that which involved the engagement of the general public in local and surrounding communities.

One of the pioneers of public archaeology, Mortimer Wheeler, advocated a mixed approach where scientific methods were utilized to gain a subjective perspective while also identifying the objective perspectives of archareological information. Although it was not adopted, he also suggested the use of such an approach during his time in Pakistan, stressing the importance of addressing public awareness and invlovment in archaeological research. According to Mortimer Wheeler (2004: 192-93), "All this is as it should be. A present-day excavation must provide for a general public as a routine activity… …I would particularly stress the value to the archaeologist himself of speaking to and writing for the General Public". His approach does not only promote the continuation of retrieving archaeological information by involving those in the community, but also aims to help produce sustainable strategies and planning for the long-term protection of a site.

To implement this approach in Pakistan, a greater involvement of the public during research and their engagement with the end results is required. This means that archeaologists working in Pakistan need to consider their research practice as a cultural process. Doing so would not only help with the identification of the level of significance of

archaeological information but would also assist in analyzing and re-evaluating the outcomes of any archeological practices.

Furthermore, the continued engagement of the public after archaeological work is completed depends on two factors: how new findings are presented and how the information given is adopted. These factors can even be an indication of how a community will use the information to promote their social identity and values in the future. In this perspective, when archaeological practices are integrated with the conservation and protection of a site, the resulting information can be used to address current issues in communities, both in a positive or negative way. Public involvement and participation in archaeological heritage management can not only be seen as an indication of value to be attributed to a site in the future, but also as a compelling approach to addressing contemporary social, political and economical issues. Therefore, it is the ethical and legal obligation of those involved in the management of archaeological heritage to analyze and acess sites based on its significance to local communities and the greater public.

This paper examines the use of public archaeology and its connection with the socio-cultural environment during archaeological investigations in Pakistan. It includes an analysis of legal documents and its frameworks for the conservation and protection of Archaeological Heritage. The importance of consulting the public to evaluate the level of significance of a site and to investigate the ideologies of the public will be discussed, as well as the significance this approach holds when studying and interpreting material culture in Pakistan. It will be argued that the socio-cultural environment of Pakistan particularly requires the integration of the Public Archeological Theory, due to the theory's particular values and its' potentially strong cultural impact.

2. Approaches toward public archaeology and its management

Public archaeologist associates the public with archaeological practices in both implicit and explicit manners. The objectivity of archaeological practice allows not only the retrieval and discovery of past information but also creates an opportunity to address contemporary issues and provide specific knowledge to the public. The involvement of non-professional stakeholders, such as local communities, is one source of information

which presents a credible and better understanding about a given geographical setting and its social impact on the public. The inclusion of the public in archaeological practice can be seen as a strategic decision. It not only helps experts to identify the level of understanding and awareness people have regarding a specific site but also provides insight into the potential of people generating a social and cultural connection to a site in the future.

To retrieve and re-discover the past from material and immaterial cultures, various ideologies and methodologies are used. And in research practice, different parameters are adopted to identify subjective and objective issues. However, in the 1970s, the question of how to preserve archaeological material began to be raised. Such questions addressed the need for a connection between the general public and local communities and their cultural material. Subsequently, McGimsey argues that "without public involvement there cannot be effective public support of archaeology and without public support there cannot be legislative funding of adequate programs to recover and protect a state's or the nation's archaeological heritage" (McGimsey, 1972). Adhering to this concept, public archaeology can connect two disciplines: archaeology and conservation. Both deal with a shared subject matter; however, these disciplines apply different methodologies to retrieve their objectives and yet, work alongside when addressing common objectives to the public. David Clark finds it important to consider the archaeological and historical record in the process of assessing and analyzing the different meanings of material culture in past societies (Clarke, 2014). Considering diverse meanings of material culture is one of the fundamental goals in archaeological research which helps to utilize and preserve archaeological information. These diverse meanings of past societies can have strong impacts on contemporary society, which are not only practiced in daily life but also embodied by artistic and cultural activities. The actual meaning of material culture in the past and the interpreted meaning of material culture in the present are not quite the same.

The reason behind these differences does not only depend on the socio-cultural environment that is developing according to the understanding and perceptions of meanings of different spaces and times

but also includes the various levels of adoption and its association with the life of a common person. Moreover, the significance of material culture in Pakistan needs to be conveyed by precisely described historical information that represents the development of legacy of art and culture in the specific indigenous cultural environment. Material culture is as a source of information for various disciplines that refers to applying the different theories and methodologies to acquire the particular objective and decode the diverse meanings of material. In this perspective, the definition of archaeological heritage is not only confined to the material culture and applied archaeological practice but also instigates an interdisciplinary approach with the involvement of various stakeholders. The importance of the public in archaeology of Pakistan requires public participation, because without effective support of public and local communities, it is not easy to assess the relevant information of the site and it is also challenging to access the data of the geographical conditions for archaeological field work.

Processual archaeology defines the meaning of material culture and accesses the picture of past society after adopting the explanatory natural scientific approach. Additionally, Processual archaeology used to adopt and follow the discipline of anthropology instead of history, which allowed to give attention to the value of knowledge of the past and how it relates to contemporary society rather than a description of the past (Alexandri et al., 2013). In this context, the methodologies of processual archaeology are based on the investigation of material culture as a tangible source of the social process and reflect the meaningful approach and behavior of the human being. These meanings are developed in the context of socio-cultural and environmental condition that are accessed and identified after applying the scientific research studies. Binford´s understanding is to generalize the meanings of material culture and correlate its interpretation with social behavior of human beings in order to construct the past (Binford, 1981; Schiffer, 1995). Later on, the concept of signifier and signified was developed to understand the relationship of material culture and its meaning to the contrast and similar nature of association. This discourse is briefly discussed by a post-processual archaeological scholar to develop the concept of interpretation in archaeological practice (Alexandri et al., 2013; Hodder, 2000). Therefore, the question of relevant and authentic interpretation depends on

the professional knowledge, observation and its understanding with clear and meaningful expressions. In this perspective, the interpreter addresses the archaeological information to the public and creates an image and understanding of the past through the study of social aspects of material culture. The concept of interpretation in public archaeology has objective-based methodologies which not only correlate the material culture with the public but also public understanding and perception of material culture, addressing the social and economic issues of the local communities.

Mainly, archaeological practice is the process of discovering the past and investigating the material culture further. The different levels of ascribed meanings of material culture refer to the developing and diverse nature of interpretation and its impact on the contemporary society of Pakistan. Therefore, professional archaeologists have recognized the level of authentication to interpret the material culture according to the public understanding. Public archaeology in Pakistan is not just dealing with the interpretation of archaeological information but is also concerned with the management of cultural resources and implementation of legal documents. In order to integrate the archaeological resources in their proper place, the authentic meaning of the material culture and its suitable interpretation are required. Archaeological meaning in itself differentiates the meanings of material culture from the interpretation which is conducted by another discipline and local communities. To develop theories and methodologies, material culture is considered as a subject matter and a source of past information that replicates and decodes the diverse meanings. Diverse meanings of material culture are not only dependent on the recovered quantitative data in the practice of archaeological research but also strongly adopted by the level of compatibility with the socio-culture environment of local society. Authorization of these meanings also relies on the concerning authorities to register the associated and attributed information that is provided by the professionals and experts. In public archaeology, meanings are changing according to the development of the archaeological research as well as awareness and expectation of the public toward heritage. The primary objectives of archaeological interpretation are to understand material culture and to promote education and awareness of said material culture. In developing nations like Pakistan, archaeology

is not educating the general public but it is a possible source of inspiration for elite classes (Chakrabarti 2003; Skeates, McDavid, and Carman 2012). During the practice of conservation and management of archaeological heritage in Pakistan, these objectives were mandatory and required attention of concerning authorities in drafting their policies and strategies for taking appropriate and suitable actions. These strategies have involvement of two major stakeholders which not only ensure the process of conservation and its continuity but also support the sustenance and revitalization of the attributed values and meanings of archaeological heritage. One of them is an interdisciplinary study by professionals and experts highlighting the challenges and issues of society by adopting the scientific and artistic based research theories and methodologies toward archaeological heritage of Pakistan. Furthermore, these issues and challenges are selected according to the demand of socio-cultural environment of the region that need to control the potential risk of the site and regions. Secondly, the stakeholders are the common people whose participation and involvement promote and develop the historical and cultural sense of the archaeological site. Likewise, all those actions are taken by them which is not only supported by the significance of the archaeological site but also regenerates and redevelops the compatible image to understand the heritage in a contemporary context.

3. Public archaeology and conservation theory in Pakistan

The British legacy has a strong impact on the administrative and organizational system of the subcontinent. One of the major contributions of this legacy is the development of scientific research practice in the field of investigation and conservation of archaeology. In the late 18th century, when the British had a strong ruling domain in India, various scientific studies were developed, especially in the field of the conservation of monuments. In the western world, the concept of Restoration and Conservation movement was broadly discussed regarding the protection of monuments. In those times, the Stylistic Restoration approach by Viollet-le-Duc was approved not only in France and England but also in other countries. He acknowledged the significance of the intangible content in the conservation of monuments and ancient objects such as attributed values and historical substance. His approach had a strong impact on the

philosophy and the practice of preservation and the protection of art material throughout the world. The approach is mainly stressed in terms of the maintenance of the historical authenticity during the conservation of monuments and ancient objects. In the light of John Ruskin's approach, a document, published by RIBA and entitled "Conservation of Ancient Monuments and Remains", highlights the methodological approaches and framework of Conservation for professionals.

Later on, the Society for the Protection of Ancient Buildings (SPAB) was established in 1877 in Britain, which introduced the manifesto to provide the philosophy of Conservation and its practical recommendations. The work of SPAB as a landmark is influenced by different countries such as the British Colonial Indian subcontinent (Hegazy, 2015; Jokilehto, 2007). In that period, Manifesto as a modern conservation policy was the source of inspiration to formulate the legal documents and describe the mode of conservation. In this respect, SPAB reminds about various concerning issues and challenges to the Government of India; one of them is lack of professionalism and expertise during the practice of conservation and protection of monuments and ancient objects. The fundamental contribution of SPAB is to create awareness of significance of monuments and ancient objects to public through development of the disciplinary research of conservation in that region. Furthermore, Conservation Manual by John Marshall was published in 1923 and initiated the authorsied practice of scientific conservation and protection in Indian subcontinent. In 1938, he prescribes the rules and recommendations to the archaeologist in his book "Archaeological Works Code" that narrates the integrational level of archaeological practice and its conservational concerns in Indian subcontinent.

Sir Mortimer Wheeler conducted a significant research in the archaeology of Pakistan; he presented not just the methodology of archaeology but also encouraged several universities to introduce archaeological studies in Pakistan (Trigger, 2006). Therefore, Wheeler´s vision regarding archaeological methodology stressed. The investigation of archaeological sites and also the involvement and sharing of this scientific information through the public audience in this investigation

process. Wheeler introduced the public awareness movement in practice of conservation and preservation of material culture in Pakistan. He acknowledged social relevancy of the archaeological site and quoted Jacquetta Hawkes's Legacy in his book that,

> "Our subject has social responsibilities and opportunities which it can fulfil through school education, through museums and books and through all the instruments of what is often rather disagreeably called 'mass communications' — the press; broadcasting, films and now television. If archaeology is to make its contribution to contemporary life and not risk sooner or later being jettisoned by society, all its followers, even the narrowest specialists, should not be too proud to take part in its diffusion. I would go further and say that we should not forget the problems of popular diffusion in planning our research"[*]

Wheeler adopted and implemented the Conservation theory according to the issues and challenges of the various geographical regions, especially in Pakistan. His proposal referred to a long-term methodology for the protection and preservation of cultural heritage that includes the authenticity of material culture with its attributed values. One of the prominent factors is public awareness that is based on experiences, information, interaction and involvement. In this context, Wheeler encouraged the planning and strategies that promote the site in situ for public visit and provide firsthand knowledge as a source of inspiration and acknowledgement. Wheeler described these ideas as follows: "It is the duty of the archaeologist to reach and impress the public, and to mould his (sic) words in the common clay of its forthright understanding" (Wheeler, 2004). Therefore, excavation practice is considered as a narrated performance for the public (Moshenska & Schadla-Hall, 2011). These views refer to interpretational criteria that are based on the level of regional development and different standards of perceiving and adopting information. Moreover, Wheeler followed the conservation approach of Marshall who approved the first duty of archaeologist is to preserve and maintain the historicity and authenticity of site rather than restore. Traditional approaches toward Conservation theory in Pakistan have primarily focused on the preservation and protection of materiality of the

[*] Jacquetta Hawkes, quoted Wheeler, 2004, p. 192

cultural heritage. It requires considering the intangible significance of the material culture in conservation practice that does not only attract the professionals and academics but also refers to the meaningful and productive involvement of the public to promote their opinion for taking appropriate decisions and drafting further policies and planning.

4. Management of public archaeology in Pakistan

The archaeological practice and methodology of discovering the past worldwide are developing through integration of the interdisciplinary research that focuses not only on the utilization of research resources in archaeological investigation but also involves the study related to the outcomes and the impact of the archaeological research in society. Integration levels of interdisciplinary researches are dependent on each other but encompass the productive and meaningful results to reform and sustain the humanity and peace in a particular region. Implementation of the various theories and research on archaeological ideologies refers to raising the different levels of studies which is a source to interrelate the various disciplines in one platform and re-interpret the diverse levels of information and its significance. Academically, archaeological practice is not only investigating and developing new theories about material culture but is also concerned with the utilization of this information for the social welfare of the region. In this perspective, the social and economic conditions of different regions of Pakistan require to revisit the practice of archaeological investigation and also to develop the new integrational conservation planning to sustain the material culture and its social significance in that region. The management process of the archaeological heritage is to address the issues and challenges toward the academics and concerning authorities. The level of relationship between academics and authorities is often not mutual, even though the proposed studies by intellectuals and professionals for protection and conservation of cultural heritage require the attentions of concerning authorities for their application. On the other hand, concerning authorities need to define the precise and particular criteria for intellectuals and professionals to reconstruct the understanding and relationship between local communities

and archaeologists. These criteria also need to be mentioned in the legal documents that define the limitations and obligations to ensure the protection and sustainability of the cultural heritage.

At the time of British rule, the significance and value of the culture and heritage of Pakistan were marked by the past as a source for the revolution and unity in the society. Strong relationships of people with their past seem to increase the understanding and connection with their culture and heritage. Lord Curzon stayed in India as Viceroy of India and he observed the intangible connection of people with their tangible culture and heritage. He later drafted policies and strategies for the development of research in archaeology and conservation. The Ancient Monuments Preservation Act in 1904 was his significant effort to legalize the archaeological and conservational activities in the Indian subcontinent. It contains precise definitions, rights and obligations that address the concerning authorities, academics and the public to ensure the preservation and protection of cultural heritage. The Ancient Monument Act has a substantial contribution to the drafting of the Antiquity Act 1968 in Pakistan that defines the definition of antiquity and ancient monuments with slight modification. In this Act, the definition of ancient objects is declared as a scientific research-based entity, which functions as a resource for academic research.

Criteria based on academic interests for selection and protection of cultural heritage have further thematic divisions which depend upon public concerns with their past. The Antiquity Act 1992 largely defines the rules and regulations to the concerning authorities and academic institutions to develop and propose research in the field of conservation and protection but not include the public affiliation in the sustainability of conservation process. The lack of public and professional awareness is one of the major issues to conserve and protect the cultural heritage; it requires to revisit and review the definitions and its applicable use during the practice of conservation and protection in the current scenario of socio-economic society. Another leading issue to the cultural heritage of Pakistan is ownership; namely, that it belongs to the government rather than public and local communities which are playing an important role in the process of conservation and sustainability through generations of values and which are directly linked with their daily life. Management and protection of cultural heritage are facing various challenges from natural and artificial environmental conditions which are affected by the human

activities and have a direct impact on the materiality and immateriality substance of the culture and heritage of Pakistan. The archaeological investigation is a practice that involves the intellectuals and professionals of various disciplines. To address these issues and challenges, the purpose of archaeological investigation is to authenticate and promote the intellectual potential of the archaeological information. Involvement of intellectuals and professionals from various academic disciplines addresses the different levels of questions and links them with the cultural heritage to retrieve authentic information. Another contribution by the government of Pakistan was to draft rules and regulations called "Archaeological Excavation and Exploration Rules" in 1978, which states how archaeological investigation should be carried out archaeologists and other professionals. It obliges archaeologists and experts to include professionals for interdisciplinary research but does not mention how to involve local communities and the public during this archaeological investigation practice. These legal documents are mainly stressing the administrative work of concerning authorities and defining the responsibilities of archaeologists. Moreover, it recommends archaeologists and professionals should take decisions and actions for the preservation of the archaeological sites in situ but does not define the particular criteria and framework that contain the limitation and guideline of preservations.

These legal documents mention the word Owner of the objects or monument that has historical and scientific importance as a criterion of selection and preservation but do not describe the role of public and local communities as a strength of the significance of the site. In this perspective, cultural heritage does not belong to one community or person, but as a resource of educational inspiration, it has a source of attribution and connection to all humanity for sharing mutual and distinct values; it also connects the meanings of the local site with other regions. Dealing and consensus between owner and concerning stakeholders are representing the individual and communal values that transform the private values into shared responsibilities and ownership. The concept of common heritage is the responsibility of common people but concerning authorities have additional dominant and legal responsibilities that do not only authenticate the belonging values and academic attribution to the heritage but also refer to taking rescue and preventive actions for

salvaging the archaeological investigation practice and its management. According to these perspectives, it is the responsibility of concerning authorities to take the initiative to transform the past to our future generation and develop the cultural consciousness and understanding for promoting peace and unity in the society. The study of public archaeology supports research to identify the significance of regional archaeology and its impact on national cultural policies.

5. Recommendations

The future of archaeological studies in Pakistan has various issues and challenges for intellectuality and administration that requires to adopt meaningful and value-based methodologies. For generating awareness and consciousness, there are different theories involved during the practice of archaeological investigation but it is the intellectual's responsibility to consider those views which have a flexible and cohesional trend toward regional ideologies and their significance. Historical consciousness and social feasibility of culture and heritage have a different level of impact in the process of analysis and evaluation of archaeological heritage in the management system. Thematic division of the culture and heritage depends upon the investigation and evaluation practice that provides information which is the outcome of practical archaeological theories and methods. Archaeological practice is not only proposed to generate and develop the information from historical and scientific sources but also involves the public and local communities as an indicator to access the contemporary image of the past and promote its significance. Therefore, the level of interactions and development of public values are dependent on the mutual and shared understanding of the heritage and convey social attribution to the future generation for the sustainability process of heritage.

There is an institutional and administrative model that includes the importance of public and local communities dealing with archaeological heritage by archaeologists or concerning authorities. In Pakistan, archaeologists and conservators are practising self-authorization to take decisions according to the limited resources and the appropriate environment.

1. Legitimization Model: It provides the connection of Public archaeology discipline with local ideologies and identities of society that are distinguished by their values. The contribution of this model is to the process of peace and welfare of the society. For this purpose, legal documents are required to be revisited and redrafted to state the precise definition of cultural and archaeological heritage in the context of public involvement and its appropriate connection with concerning authorities to ensure the conservation and protection for long term. It involves the concerning authorities, local communities as well as intellectual and political representation to draft and implement the legal documents in a suitable way.
2. Interpretation Model: This model consists of strategies and planning to represent and integrate the communicative resource to the process of archaeological investigation and management practice. This process is not only deconstructing the past of the region but also reconstructing the society towards development and reconciliation process, especially in the disputed areas. However, value assessment procedure is linked with the diverse meanings of the archaeological heritage which needs to be interpreted in the context of academic research and the public welfare of society. In this perspective, the Interpretation Model will be a communicative bridge between authorities and local communities.
3. Social Development Model: The aim of this model is to increase the level of heritage awareness and understanding to continue the process of conservation and sustainability of archaeological heritage with its intact meanings and authenticity. During the heritage management process, utilization of local cultural resources is the fundamental source to reconnect the people with their heritage and re-frame the social issues and responsibilities for the development of the region. Re-enhancement with the past is the inspirational source to develop the social consciousness and cohesion, which is the core factor of the welfare society.

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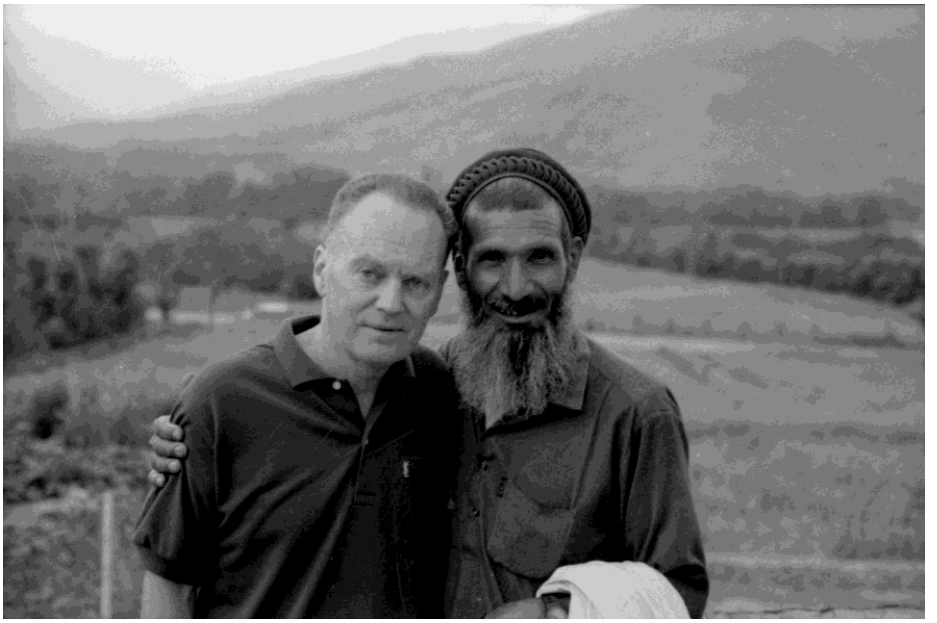
In Memoriam

Giorgio Stacul
(1929-2018)

and

Harald Hauptmann
(1936-2018)



The Editorial Borad of this Journal intends to honour the memory of a great archaeologist, who dedicated his entire academic life to Pakistan, and Swat, by republishing one of his important articles. The text here presented is the original manuscript of a paper later published by Giorgio Stacul in the volume edited by Gregory Possehl, South Asian Archaeology Studies [A Festschrift to W.A. Fairservis Jr], New Delhi: Oxford & IBH Publication Company, pp. 112-122. 1992]. The volume is since long gone out of print and very few copies are in the holdings of Indian and Western public libraries. Our collaborator Sirat Gohar simply edited it with the help – when required – of light additions and/or clarifications, the latter always indicated in the text with square brackets. Three pictures have been selected by JAC and here attached as illustrations to the text. The manuscript was found in Giorgio Stacul's personal archive by his wife Mariuccia, who gave it to R. Micheli, and kindly authorized this Journal to reprint it in memoriam.

Further evidence on "The Inner Asian Complex" from Swat

Giorgio Stacul

With reference to the early occupation layers of Burzahom, in the Kashmir Valley (mid-third to mid-second millennium B.C.), W. Fairservis observed, some years ago, that "There is little doubt that we have here a southern aspect of the late prehistoric cultures of Central and Northern Areas. Textured pottery, rectangular knives, bone harpoons, pit houses [. . .], all have direct analogies in such places as southern Siberia, Mongolia, Manchuria and northern China" (1975: 316-317). Furthermore, he predicted that future investigations would reveal a deeper penetration of Burzahom cultural form, from its highland home, into the alluvial plains. He stressed the importance of the excavation at Sarai Khola, where the lowest level "appears to confirm the presence of the Inner Asian complex in the northern Punjab" (1975: 435).

The reknowned author's profound experience in dealing with oriental civilisations is well known (Fairservis 1959). In fact, his anticipation of a deep penetration of North and Central Asian traits in the Indo-Pak sub-continent, has been corroborated in recent years by the results of further investigations.

The excavation at Gufkral, in the Kashmir Valley, supported the previous evidence of the Burzahom assemblage (Pande 1970; Sankalia 1963 [1974: 288-303]), as was shown first by the identification of a neolithic aceramic phase (Sharma 1982; Pant et al. 1982).

The discovery of a lithic industry from Sikkim, suggesting close links with northern neolithic traditions (Sharma 1979), in its turn added a new cultural perspective to this topic (Thapar 1985: 38).

At long last, the southern aspect of the "Inner Asian" complex can now be discussed in the light of recent excavations in the Swāt Valley, where further evidence dated from the beginning to the mid-second millennium B.C. has been provided (Stacul 1987; Id. 1970).

As far as Swāt evidence is concerned, the development of the research and the relative problems may be summarized as follows:

1. At the end of the Sixties, a sequence of various pre/protohistoric occupation layers, marked in the first place by different pottery fabrics and shapes was recorded in the Ghālēgai rock shelter (Stacul 1987: 27-54).

   The handmade pottery and the pebble tool industry of Period I (first half of third millennium B.C.), was followed by very fine, well-

turned and painted ware (Period II, second half of third millennium) while, at the beginning of the second millennium (Period III), the emergence of coarse mostly handmade ceramics appear as an expression of a Neolithic cultural stage.

The subsequent Period IV (XVIII-XV centuries B.C.) showed, in part, a continuity of previous traditions (e.g., the use of jars and bowls with mat or basket impressions on the base), but it also featured new cultural traits, such as the occurrence and prevalence of black-grey burnished ware, black-on-red painted pottery and copper metal objects including large sized artefacts (the results of further research – moulds and smelting remains – would confirm the presence of a local manufacturing industry).

Jars and bowls with mat and basket impressions on the base, from both Periods III and IV, have been compared with similar shapes and features recorded in Neolithic layers of Burzahom in Kashmir and at Sarai Khola I in the Taxila Valley.

2. Further evidence of the Swāt Period IV was provided at Loebanr 3 (1976 and 1979 excavation campaigns), a settlement consisting of circular/oval and composite, semi-subterranean units cut in the natural soil and covered by trellis or similar wooden structures (Stacul 1987: 55-59). Hearths, charred seeds, cooking pots, figurines, stone, bone and copper artefacts were found mostly at floor level of dwelling-pits.

   The pattern of this settlement was compared with similar structures of the Neolithic Kashmir and Inner Asian cultures, while the jade beads, notched sickles and some rare carved bone pins recovered there suggested "trans-Himalayan" connections (ibid.: 67-70, 124).

   The subsequent excavation at Bīr-kōṭ-ghwaṇḍai emphasized the different cultural components of Period IV in the region (ibid.: 60-63, 120-127).

   Both of the above key sites provided evidence of a well-developed agriculture, including wheat, barley, rice, lentils, etc. (Constatini 1987).

3. It is highly improbable that symbols or emblems from different countries, showing similar, very distinctive stylistic characteristics, could have been invented by two separate societies. Such affinities generally suggest reciprocal contacts or interaction during a well-defined time range.

   On this point, the two bone pins, with flat carved heads recovered at Loebanr 3 and ascribed to Swāt Period IV are worthy of note. They suggest, in two different variants, the so-called "t'ao t'ieh"; the well-known symbol or decorative pattern occurring in China from the Early

Bronze Age or from the beginning of the Shang-Yin dynasty. According to their stratigraphic position and radiocarbon analysis, these Swat items may probably be dated between XVIII and XVI centuries B.C. Consequently, they represent a very early spreading of such an iconography in the Indo-Pak sub-continent.

4. New, very recent data on Swāt periods III and IV have been obtained as a result of investigations at Kalako-ḍeray [Kalako-dherai], a rural site of the Jāmbīl Valley, where a flat-topped, steep-sided "hill fort" stands (Stacul 1987: 63, pl. XII b).

   During preliminary research of the Italian Archaeological Mission (excavation campaigns 1989/90), some circular and square-shaped pits cut in the natural soil and dated to Period IV were located on the top area. The pottery may be identified with shapes recovered previously at other sites of the same period in the Valley. The lithic industry assembled polished axes, querns, pestles and some rectangular holed sickles recovered for the first time in Pakistan, its longer side thick and its opposite side thin, with a central perforation close to its thick side. A rectangular holed and notched sample was also found there. The metal artefacts consisted of various copper objects, including arrow-heads.

   Furthermore, a floor level, including pottery of Period III was also located. This suggested continuity of the pattern of residence at this site since the beginning of the second millennium B.C.

5. In contrast to the pottery shapes and decorations, the stone artefacts usually remain in use for a longer time as a consequence of economic factors, traditions, etc.

   This may probably explain the very long use of the notched and the rectangular holed stone sickles in Northern China, from Neolithic to early historic times (Anderson 1943: 223, 268, 269; Watson 1970: 21-26; Debaine-Francfort 1988). Similar types of tools occurred randomly in some Central Asian and Himalayan sites [Bhutan, Sikkim], reaching the northern valleys of the Indo-Pak sub-continent, mostly during the first half of the second millennium B.C. [Aris 1974; Sharma 1978-79]

   Rectangular and oval notched sickles were recovered at Shortugai, Eastern Bactria, as part of an assemblage dated to the beginning of the second millennium (Francfort 1989: Pl. 68, XXXV/I), while similar pieces were also found in the Swāt Valley in layers of Period IV (XVIII-XV centuries B.C.).

   Regarding the rectangular holed sickle, this type of artefact recorded a wider distribution in the northern Indo-Pak sub-continent, as part of the

Neolithic assemblage of Gufkral/Burzahom in Kashmir (stone and bone specimens), in the Neolithic assemblage from Sikkim and also in Swāt too. Most of the samples from Kashmir have two holes, while the Swāt pieces feature a central perforation.

It has, quite correctly been stated that notched and rectangular holed sickles appear to be foreign to Indian tradition. However, these artefacts cannot be interpreted as imported products. Their local manufacture can certainly be proved in the Swāt Valley at sites such as Kalako-ḍeray, where the rectangular holed specimens are made from a pale reddish schist which outcrops in the surrounding area; as for the notched sickles from Bīr-kōṭ-ghwaṇḍai, they are made from local silt-rock pebbles recovered from the nearby Swat river bed.

Similarly, flint or chert artefacts do not occur in Swāt because of the long-distance problems concerning supply. The distribution of raw materials appears to be conditioned by similar environmental factors within the valley itself, as is shown by the considerable incidence of lithic schist industry at Kalako-ḍeray in comparison with the silt-rock artefacts from Bīr-kōṭ-ghwaṇḍai. In spite of developed metallurgy, this evidence appears to support the principle of "least effort" suggested by scholars on the grounds of investigations into present day farming communities which operate economically at subsistence level, endeavoring to maintain their existing system of production and technology as long as possible.

Evidently, the same Swāt society which imported "luxury" and "exotic" items, probably as power symbols for exalted ranks, did not consider it economically to import stone raw materials for wider consumption.

Raw material logistics, however, do not fully explain the varying incidence of stone tools at sites which are comparatively near to each other. Some variations in archaeological records may be explained in terms of subsistence or economy, according to the prevalence of agricultural or handicraft activities. Others may be ascribed to the peripheral location of the site and to the survival of ancient, long lasting traditions. There is no evidence to the contrary which might support chronological differences, because the main key-types of pottery and stone artefacts recovered here are widely distributed at all the Swat sites dated around the mid-second millennium B.C.

6. The purpose of the rectangular holed sickles is still under discussion. According to ethnographic records, the samples from Kashmir could have been pendants (Sankalia 1974: 302), while most other scholars have interpreted the same items as harvesters (Sharma 1978-79: 82; Gupta

1979: 36; Thapar 1985: 35, 38). With reference to the evidence from China, such pieces have been attributed to various purposes: weeding, harvesting, skinning and scraping (Chang 1963: 66). Finally, the recovery of similar objects in China is considered significant because they were found in millet growing rather than rice growing areas (Debaine-Francfort 1988: 201).

While waiting for microwear analysis, it is worth noting the evidence from Kalako-ḍeray, Swāt. In spite of the comparatively restricted area of the actual excavations, 10 rectangular holed stone sickles were recovered there, in contrast to the complete absence of similar pieces at other Swāt sites, where Period IV was more intensively investigated (Loebanr 3, Bīr-kōṭ-ghwaṇḍai) [N.B.: in later excavations, more stone sickles were found at Bīr-kōṭ-ghwaṇḍai; pers. comm. by L.M. Olivieri and R. Micheli].

As regards the distribution of further stone artifact-types in the region during the same period, it should be noted that 26 saddle-querns have been found at Kalako-ḍeray compared with only 3 samples at Loebanr and 2 at Bīr-kōṭ-ghwaṇḍai [N.B.: in this case too the number of saddle-querns found at Bīr-kōṭ-ghwaṇḍai increased; pers. comm. by L.M. Olivieri and R. Micheli].

On the other hand, Kalako-ḍeray did not produce evidence of splintered pieces or *pièces esquilées*, i.e. a class of rectangular/square shaped objects, mostly featured by hammered edges. Similar pieces were recovered in considerable quantity at Bīr-kōṭ-ghwaṇḍai, where this type of artefact is represented by 32 samples (Stacul 1987: figs. 35, 36).

On the grounds of these findings and other evidences, it may be inferred that the main economic activities at Kalako-ḍeray differed markedly from those at Bīr-kōṭ-ghwaṇḍai. The latter site, located in the main valley, appears to have been mainly a trade and manufacturing center (ibid.: 69). On the contrary, the presence of querns, pestles and mortars stress the importance of the agricultural activities at Kalako-ḍeray, where the specific incidence of the rectangular holed sickles warrants special attention.

7. In discussing the origin and the cultural components of some archaeological assemblages of the North-West Indo-Pak, such as Gufkral/Burzahom in Kashmir, Sarai Khola in the Taxila Valley and the Swāt assemblages of Periods III and IV, which to a large extent appears as expressions of non-Indus traditions (or the southernmost expression of an Inner Asian complex), terms such as “Northern Neolithic” have recently been adopted (Allchin and Allchin 1982: 111-116; Mughal 1990).

Undoubtedly, various northern Neolithic traits or characters distinguish the above assemblages from the Pre/Early Indus cultures and from the Indus aspects of the great alluvial plains of the sub-continent. It should also be noted that here we are dealing with an inter-cultural complex, the boundaries of which have been moving in time and space. As a result of a long-lasting continuity of tradition, such components or characters may feature both Neolithic and post-Neolithic assemblages. For instance, the Swāt Period IV assemblage, on the one hand, testified to a survival of patterns and forms representing the heritage of previous, Neolithic times but, on the other hand, it was characterized by cultural changes and innovations that were deeply alien to the Neolithic traditions.

As for the most striking aspects, we may quote the affinities between some types of pottery from Sarai Khola I (Halim and Mughal 1972: figs. 6, 8-11), and those from Swāt Period IV (Stacul 1987: pls. XXIII, XVII), although at least a millennium separates the respective assemblages, according to the current chronology (Possehl 1989: 32, 47). We refer mostly to the common occurrence at these sites of gritty jars, slipped with sand and of angular-walled burnished bowls, both of which have basket impressions at the base. In addition, mention must be made of the jars with sharply everted, sometimes rippled rims. On the whole, these shapes represent a large part of the respective pottery of both sites.

Of course, in the light of this evidence, a diffusionary interpretation model appears questionable. In fact, different ceramic styles and traditions followed one upon the other in the northern sub-continent, including Swāt, from the beginning of third to the beginning of second millennium B.C. At any rate, a common origin of "highland home" (Fairservis 1975: 318) can cautiously be assumed. Several routes and paths very probably connected, at different times, mountain and hilly regions of the North-West sub-continent. On this point, it was very properly stated that a culture or tradition is not necessarily a chronological concept (Childe 1929: VIII). In other words, the recorded affinities between different valleys of the sub-continent, are not necessarily the result of direct interactions because "the same culture might appear in one place at a given time and reach another very much later" (ibid.).

8. To sum up this short review, it has already been assumed that the "trans-Himalayan" connections cannot merely be explained as a result of long distance contacts/interactions or infiltration of peoples. They also involve the cultures of peoples settled in the uppermost valleys of the sub-continent and Central Asia (Stacul 1987: 125). According to Fairservis (1975: 318), the Neolithic assemblage of Burzahom in Kashmir

represented part of a larger complex including perhaps Nepal, Tibet, Hunza, Baltistan and Ladakh.

As is well known, mountain chains have often been the means of interaction rather than isolation, between people from opposite slopes (Lattimore 1955: 105-108). Even in recent years, the main ecological boundary in the uppermost North-West of the sub-continent is marked by a belt of country which runs through the valleys, dividing the agricultural areas from those that feature a mixed economy, mainly grazing.

As for the upper Swāt Valley, where [high-altitude] large stone-walled settlements [above 2,000 m asl] go back to as far as the second millennium B.C. or earlier (Stacul 1970), the main resources there consisted not only of grazing and scanty agriculture, but very probably of the exploitation of the rich surrounding forest too, i.e., an economic activity which promotes vertical communications and inter-cultural interactions. Moreover, the important role played by the northernmost mountain regions of the sub-continent since protohistoric times, has also been suggested by the "hoard" of axes and other metal objects recovered in the Darel Valley, Gilgit Agency (Jettmar 1961).

On the whole, this evidence appears to support the assumption that the mountain peoples, settled both in the northern and southern valleys of the Himalayas, Karakorum and Hindukush ranges, played an important role in the connection with the presence of an Inner Asian complex in the North-West sub-continent. The nomadic movements of shepherds from the upper to the lower valleys and vice versa, may have represented a vertical communication system, as evidenced by ethnographical records (Barth 1956: 20, 21; Bowley 1978: 30-33). These movements probably reached their southernmost "terminal" in the lower valleys of the sub-continent, such as Lower Swāt, where conclusive proof has been recorded of a well-developed, two early-crop agriculture (Costantini 1987) and of a well-balanced farm breeding system (Compagnoni 1987) which dated from the beginning of the second millennium B.C.

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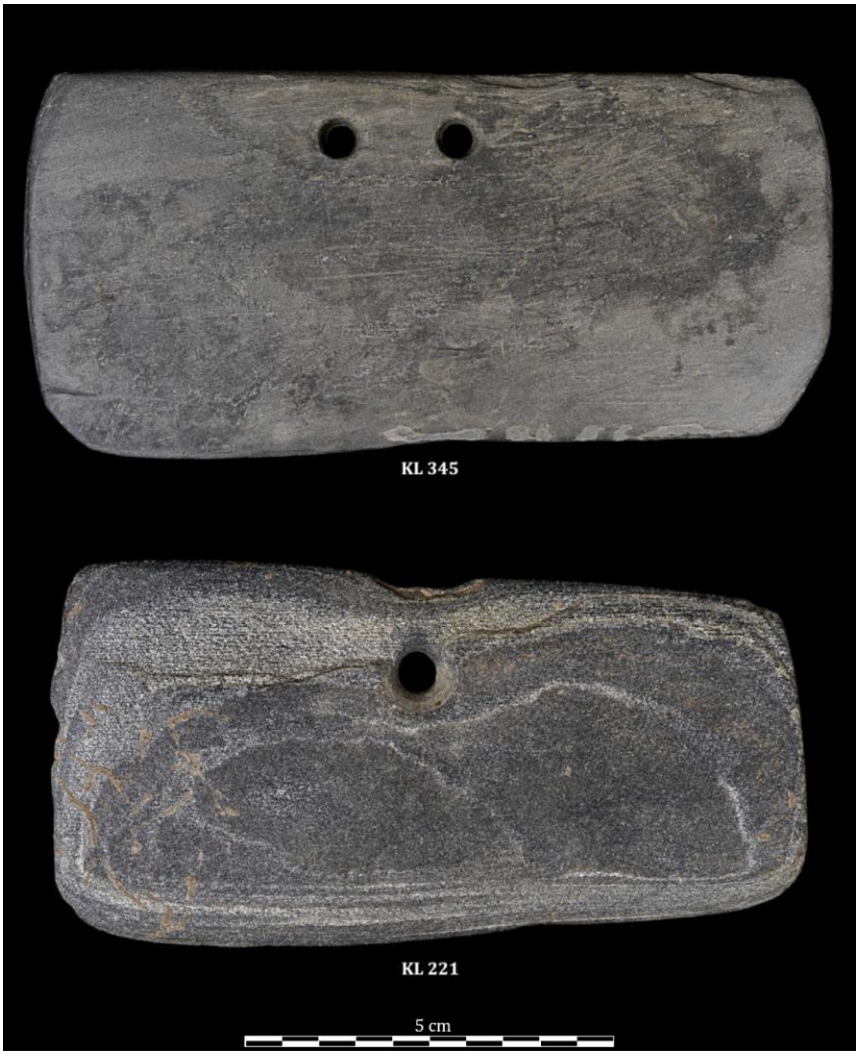

Fig. 1 – Harvesting tools (perforated knives or "rectangular holed stone sickles") from Kalako-dherai, Swat (Photo by R. Micheli; ISMEO Italian Archaeological Mission in Pakistan).

Fig. 2 – A view from SSW of the *ager* of Bīr-kōṭ-ghwaṇḍai (Photo by C. Biagioli; ISMEO Italian Archaeological Mission in Pakistan).

Fig. 3 – Rice from Bīr-kōṭ-ghwaṇḍai (late protohistoric phases) (Photo by Robert Spengler; Courtesy "Bio-archaeology of the Swat Valley Project" - Max Planck Institute, Jena- ISMEO Italian Archaeological Mission in Pakistan).

Giorgio Stacul
Monfalcone, 6th May 1929 – Trieste, 21st November 2018

Roberto Micheli

Italian professor Giorgio Stacul, an eminent South Asia prehistorian who excavated several sites in the Swat valley since the early 1960s, died on 21st November 2018. He was 89. Professor Stacul enjoyed travelling and loved spending his summers in the Swat valley, where he lived for three years in the 1960s with his wife Maria Pia and where his second son, Jaro, was born in 1965. He was a shy and reserved man, maybe as a consequence of a tragic event which happened when he was a teenager: in 1946 he witnessed the murder of his mother by a robber and this perhaps forged his solitary character.

Professor of Eurasian Protohistory at the University of Trieste from 1971, and Full Professor from 1986, he taught Prehistory and Protohistory until 2001, when he retired. In 2006, the *Istituto Italiano per l'Africa e l'Oriente* (IsIAO) of Rome named him emeritus member as an acknowledgment of his prolonged and fruitful research in Pakistan on behalf of the Italian Archaeological Mission.

Giorgio Stacul had not a formal academic training in archaeology and his archaeological experience started quite late. After graduating in Political Sciences at the University of Trieste in 1954, he worked as an agent for a publishing house in different Italian cities and also in Sardinia, where he discovered his passion for archeology and the past. Later, in Rome, he worked as an Italian language and literature teacher in a lyceum in 1957 and as editor of the Italian *Universal Encyclopedia of Art* between 1959 and 1962. The long period spent in Sardinia brought him closer to prehistory and allowed him to write two important volumes - *Arte della Sardegna nuragica* (Mondatori ed., Milano 1961) and *La Grande Madre* (De Luca ed., Roma 1963) - that gained him some popularity among Italian archaeologists of the academic world and passionate readers of antiquity.

After a short archaeological field experience in central Italy, he began to collaborate with the *Istituto Italiano per il Medio e l'Estremo Oriente* (IsMEO then IsIAO) of Rome in 1964, which at that time was directed by Giuseppe Tucci, who founded in 1956 the Italian Archaeological Mission in the Swat valley. Since the initial years of the IsMEO activity in Pakistan, the institute research stressed the importance of older evidence for the reconstruction of the long chronological and cultural sequence of human occupation in the Swat valley. In the early 1960s, Salvatore M. Puglisi, an influential and famous Italian

prehistoric archaeologist, and his collaborators began a collaboration with IsMEO first in Afghanistan, then in Pakistan, where they started new field research on some protohistoric sites previously identified by Tucci in 1955 during his seminal survey in the Swat valley. Excavations were initially carried out in two protohistoric graveyards by Tucci himself at Barikot and Arkot-kala in 1955, then by Maurizio Taddei at Butkara II in 1963, and later at Katelai I and Loebanr I in 1964 and 1965 by a team chosen by Puglisi which included Editta Castaldi, Chiara Silvi Antonini, and Giorgio Stacul. The results of the excavations carried out in the last three cemeteries were published a few years later in the important volume edited by Silvi Antonini and Stacul *The Protohistoric graveyards of Swat, Pakistan* (IsMEO Reports and Memoirs VII, Rome 1972) and in various papers published in the *East and West* journal. The study of these cemeteries allowed professor Stacul to distinguish three different protohistorical phases in which body treatment, funerary practices, offerings and grave-goods differed in many aspects over time and to attribute such phases to the Late Bronze and Iron Ages between the 2nd and 1st millennium BC. In addition, the volume on the graveyards of the Swat valley highlighted the importance of this region during protohistory in the larger frame of interrelations between Central Asia and the Indo-Pakistani subcontinent.

In 1966 professor Stacul discovered and conducted the first exploratory investigation in the wide multi-layered settlement of Aligrama, a site which was excavated between 1972 and 1974 together with Sebastiano Tusa, who continued his research independently in later years. Sebastiano Tusa tragically died on 10th March 2019 in the plane crash of Boeing 737 Max at Bishoftu in Ethiopia.

The interest in the most ancient prehistoric phases lead Giorgio Stacul to survey the region of the middle Swat valley, where he discovered the rock-shelter of Ghalegai. The excavations, carried out between 1967 and 1969 and resumed in 1980, revealed an imposing stratigraphic sequence c. 11 metres deep and practically uninterrupted from the late Neolithic period, dated c. 3000 BC, to the Islamic era. This sequence became immediately the main reference point for the chrono-cultural succession of prehistory and protohistory in the Swat valley and surroundings areas.

Later, the excavations carried out at Loebanr III in 1979 and at Bir-kot-ghwandai from 1978 to 1987 allowed him to define and better understand the most interesting and perhaps best known prehistoric culture of the Swat valley (the Period IV of the Ghalegai sequence), dated between 1700 and 1400 BC. Giorgio Stacul was the first who immediately understood the potential of the site of Bir-kot-ghwandai as a protohistorical village followed by the important historical urban settlement, whose excavation is still ongoing. All his field reports of the excavations in these sites were presented in several papers published in the

East and West journal, while a synthesis of his archaeological activities until the middle of the 1980s was presented in the essential volume *Prehistoric and protohistoric Swat, Pakistan* (IsMEO Reports and Memoirs, XX, Rome 1987). His research continued in later years, focusing on the site of Kalako-dherai from 1989 to 1998; this represented his last archaeological commitment and shed light on the prehistory and protohistory periods of the Swat valley before his retirement.

Despite his reserved character, Giorgio Stacul was a curious traveler. Between the 1960s and 1980s he explored many areas of the undefined northern Afghan-Pakistani border in Badakshan and Chitral and other localities in Swat, Ghorband, Indus Kohistan and Gilgit, providing new insights into the prehistory and protohistory of such region. Undoubtedly all his research received great help from three Pashtun assistants whose work was crucial for the discovery and excavation of many sites: Akhtar Manir, Fazal Mahmad, and Zamani.

Between the 1970s and 1980s professor Stacul also conducted a number of archaeological investigations in the north-east of Italy, in the region where he lived. In particular, he excavated the Marchesetti hillfort and the Mithraeum cave in the Trieste Karst area and the Ponte San Quirino hillfort and the Cladrecis cave in eastern Friuli, not far from the border with Slovenia, which provided important data for the knowledge of the local prehistory and protohistory. Nevertheless, his main archaeological interest until his last days remained the Indo-Pakistani subcontinent and its deep past.

He was a prolific scholar for his generation, with major papers and two large monographies on the Swat valley published in English. Giorgio Stacul regularly published all his work in scientific journals or in the proceedings of the South Asian Archaeology Conference, which he attended from its very first meetings in the 1970s until 2005. Although his excavation methodology was quite traditional and his research was essentially conducted in a solitary manner, he collaborated with different specialists, such as palaeobotanists, archaeozoologists, and anthropologists, in order to interpret the copious data he discovered during field research. His wide-ranging collaborations resulted in the 1970s in a multidisciplinary approach which still today is a model for many scholars in South Asian archaeology.

The relevance of Giorgio Stacul's work in Pakistan can be summarised in some points as follows;

I. The succession of cultures stratigraphically highlighted at Ghalegai (Periods I-VII) is the only one identified in northern areas so far: it is the longer chrono-cultural sequence available and it is still largely valid;

II. The identification of a Northern Neolithic component in some sites of the Late Neolithic and Copper Age of the Swat valley attributed to Periods III and IV of the Ghalegai sequence has relevant implications for the relationships which existed during the 3rd and the 2nd millennia BC with the Kashmir valley and the trans-Himalayan areas in Tibet;
III. The presence of clear western elements in the material culture of Period IV (1700-1400 BC) suggests links with Central Asia and confirms the "Indo-Iranian Connections" that Giorgio Stacul recognized in the early 1970s;
IV. The graveyards phenomenon is the best evidence of the existence of well developed protohistorical groups characterized by social and economic complexities that can be attributed to the Late Bronze Age and Iron Age;
V. The Swat valley is important for the question of the Iron Age origins in northern Pakistan;
VI. The "ghost phase" corresponding to the so-called Period VIII, identified at Bir-kot-ghwandai and also at Kalako-dherai, is significant in the reconstruction of the transition from the late protohistorical phase to the Early Historic period in the second half of the 1st millennium BC and can be appreciated only in the present days.

Although not all his theories about the prehistory and protohistory of the Swat valley were accepted by other scholar working in the Indo-Pakistani subcontinent, many of his observations and hypotheses contributed to the debate on seminal issues regarding South Asian archaeology. New research conducted in recent years by the team of the Italian Archaeological Mission directed by Luca Maria Olivieri at the protohistorical graveyards of Udegram and Gogdara IV and in the multi-stratified settlement of Bir-kot-ghwandai revealed some discrepancies between what Giorgio Stacul proposed in the last decades and what recently emerged from field work. On one hand, recent excavations gave us the opportunity to improve our knowledge of funerary practices and their complexity, their chronology and the genomic evidence of past people, which was unthinkable until few years ago; on the other hand, they allowed us to fill the gap between the late protohistory and the Early Historic urbanization phase, showing that the Swat valley was not a marginal region in the late 1st millennium BC. Some pictures proposed by Giorgio Stacul probably need to be revised; nevertheless, his legacy and some of his intuitions are still highly valuable and constitute the starting points to develop new investigations aimed at improving our understanding of the prehistoric and protohistoric peopling of the Swat valley.

In memory of his work in South Asia, here below we present two papers which are considered representative of his personal approach to the study of the

past in their new anastatic reprint. The papers are significant examples of Giorgio Stacul's theories and interpretations, which still today may offer interesting points for debate.

"On Charsada and Beyond: What is Wrong with Sir Mortimer Wheeler" 1987, in CALLIERI, P. and M. TADDEI (eds.), *South Asian Archaeology 1987*, Serie Orientale, LXVI, 2: 605-610. Rome: IsMEO.

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"The Late 'Gandharan Grave' Complex and the Following Stage" 2000, in DE MARCO G. and TADDEI M. (eds.) *South Asian Archaeology 1997*, Serie Orientale, XC, 2: 747-757. Rome: IsIAO.

À la mémoire du Prof. Dr. Hauptmann

Laurianne Bruneau

C'est avec peine que je me livre à l'exercice de rédiger quelques phrases à la mémoire du Prof. Dr. Hauptmann qui fut pour moi un véritable mentor pendant près de quinze années.

J'ai rencontré pour la première fois le Prof. Hauptmann en 2004 lors de sa venue à Paris comme professeur invité au Collège de France. Il délivra, dans ce haut lieu de l'enseignement en France, deux conférences à l'invitation du Prof. Jean Guilaine, alors titulaire de la *Chaire de Civilisations de l'Europe au Néolithique et à l'Âge du Bronze*. En effet, si pour les lecteurs de de ces lignes Harald Hauptmann est une figure majeure de la recherche sur le nord du Pakistan et plus particulièrement sur l'art rupestre, il était aussi, et avant tout, un spécialiste d'archéologie préhistorique et moyen-orientale.

C'est donc à l'occasion d'une conférence intitulée *Une nouvelle image de la «Révolution néolithique» en Asie du Sud-Ouest* que je fis sa connaissance. Après son intervention il m'accorda un temps privilégié malgré son court séjour à Paris et un emploi du temps chargé. J'étais étudiante en deuxième année de Master (alors appelé DEA). L'année précédente (2002-2003) j'avais réalisé mon mémoire de recherches sur les représentations de *stūpa* du Haut-Indus sous la direction d'Henri-Paul Francfort (aujourd'hui directeur de recherches émérite au CNRS et membre de l'Institut). C'est ce dernier qui m'introduisit auprès du Prof. Hauptmann. Ils partageaient un même intérêt pour les pétroglyphes, l'un en Asie centrale, l'autre dans le nord du Pakistan.

De ce premier entretien avec Harald Hauptmann dans le hall de réception d'un hôtel du quartier Latin je retiens sa gentillesse et son souhait de soutenir la jeune étudiante que j'étais alors. Lorsque je le sollicitais pour prendre part à une mission de terrain au sein de la *Forschungstelle Felsbilder und Inschriften am Karakorum Highway* (équipe de recherches qu'il dirigeait depuis 1989 au sein de l'Académie des Sciences et Humanités de Heidelberg) il me répondit que, dès que les conditions le permettraient, je pourrais les accompagner pour participer au travail de documentation des gravures aux alentours de Chilas et Gilgit. Ainsi à l'été 2005 je me rendis pour la première fois au Pakistan en sa compagnie, et celle, entre autres, de sa femme, Salwa et de Martin Bemmann (l'un de ses collaborateurs à l'Académie).

En faisant des recherches pour écrire cette note j'ai découvert avec émotion une photographie de notre petite équipe publiée par Clemens Lichter (2014, Abb. 5).[1] De cette expérience de terrain je me souviens d'un chercheur intrépide, n'hésitant pas à faire fabriquer un canot de fortune (que l'on devine à gauche sur la photographie) par les orpailleurs des *Northern Areas* (de chaque côté du professeur) pour traverser tant bien que mal l'Indus et en explorer la rive droite. Emprunter la *Karakorum Highway* de manière régulière comme le faisait l'équipe d'Heidelberg est d'ailleurs en soi un signe d'intrépidité! Des environs de Chilas, de Gilgit et du Baltistan je garde le souvenir d'un environnement rude et de l'extraordinaire force physique du Prof. Hautpmann. Son endurance sur le terrain m'avait fortement impressionnée: j'avais 24 ans et lui 68 ans mais il me devançait à grandes enjambées lors des longues prospections sur les berges sableuses et caillouteuses de l'Indus. Sa résistance à la chaleur (certains jours il faisait plus de 45° sur le terrain!) m'a aussi fortement marquée, il la développa très certainement au cours de ses années passées à fouiller au Moyen-Orient. L'enthousiasme sincère et passionné du Prof. Hauptmann sur le terrain me frappa.

Après plusieurs décennies de découvertes il était encore capable de s'émerveiller de certaines gravures, tel le magnifique panneau de Hodar, documenté lors de notre premier jour sur le terrain et depuis identifié comme l'illustration de l'un des chapitres du *Sūtra du Lotus* (Karashima 2018, fig.11).[2] Enfin, j'ai le souvenir d'une personnalité protectrice, quasi-paternelle, notamment lorsque je dus me déplacer seule pour donner des conférences dans le cadre du financement que j'avais obtenu de la *Higher Education Commission* (HEC) pour mon premier séjour au Pakistan.

A l'hiver 2005 je passais plusieurs mois à Mannheim et Heidelberg pour suivre des cours d'allemand intensif et visiter les archives de l'Académie. Le Prof. Hauptmann et sa femme me reçurent chaleureusement. Je me souviens avoir été très impressionnée par la bibliothèque personnelle du professeur. S'il était un homme de terrain, il était aussi un chercheur productif. Il créa la série *Materialien zur Archäologie der Nordgebiete Pakistans* au sein de laquelle il dirigea 11 volumes, impressionnants non seulement par leur poids et leurs dimensions mais aussi par la rigueur académique de leur contenu. Ils sont un

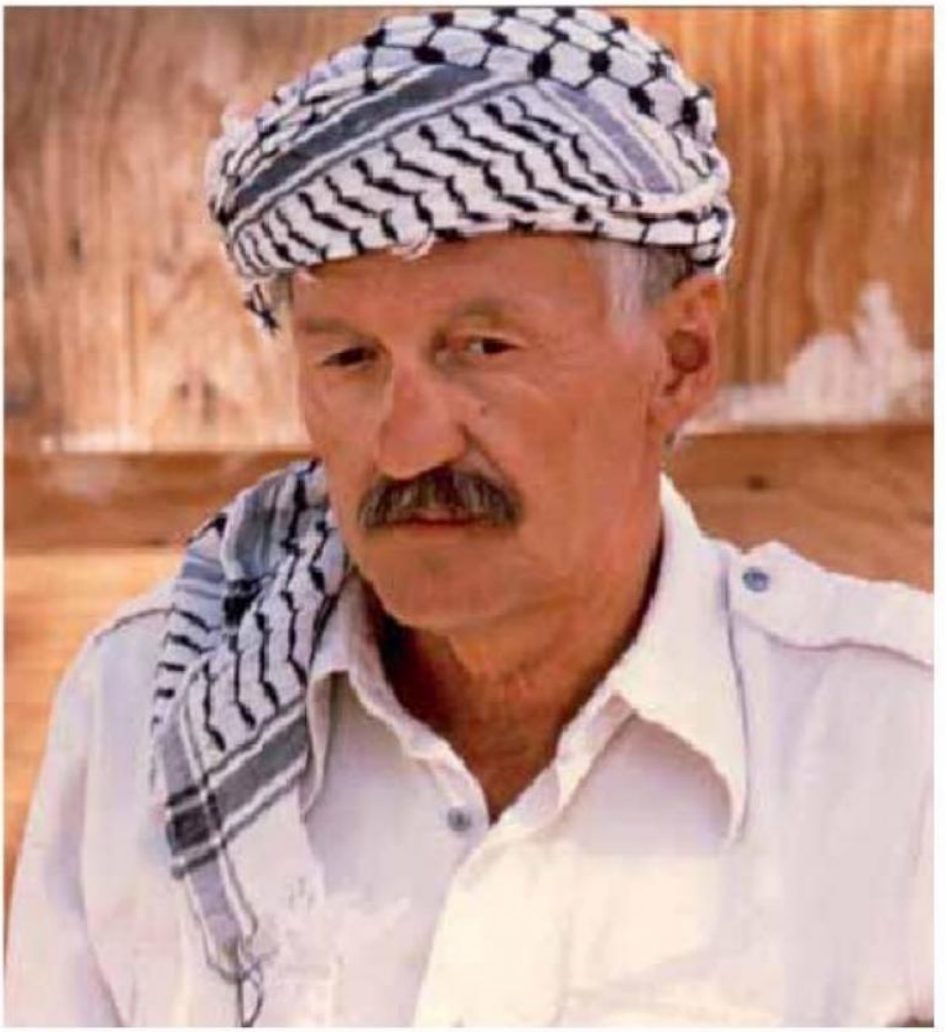
[1] Lichter, C. (2013) Harald Hauptmann. Ein Heidelberger Hochschullehrer, *Anatolian Metall VI. Zugl. Der Anschnitt*, Beiheft 25, pp. 11-18.

[2] Karashima, S. (2018) A Gandhāran *stūpa* as depicted in the Lotus Sutra, *Annual Report of the International Research Institute for Advanced Buddhology* (*ARIRIAB)*, vol. XXI, pp. 471-478.

exemple de documentation et de publication systématique des pétroglyphes sur lequel je m'appuie encore aujourd'hui pour mes propres recherches au Ladakh. Le Prof. Hauptmann y avait d'ailleurs effectué un séjour de reconnaissance mais un terrible accident de voiture l'avait empêché d'entreprendre des travaux dans cette région de l'Himalaya indien frontalière des *Northern Areas* pakistanaises, devenues depuis la province de Gilgit-Baltistan.

Le Prof. Hauptmann me soutint tout au long de mes recherches doctorales, consacrées à l'art rupestre du Ladakh, et me fit l'honneur d'être l'un des membres de mon jury de thèse en 2010. Je garde en mémoire ses remarques constructives et bienveillantes alors que mes proches conservent le souvenir d'un homme simple et bon vivant en dépit de son érudition. Mes recherches post-doctorales ou encore la *Mission Archéologique Franco-Indienne au Ladakh* que je dirige depuis 2013 doivent beaucoup au Prof. Hauptmann qui accepta toujours de rédiger des lettres de soutien. Je suis, comme de nombreux autres archéologues qu'il a formé ou suivi, aujourd'hui orpheline.

Pendant la décennie passée, le Prof. Hauptmann ne s'économisa pas (entretiens dans la presse, réalisation d'un documentaire, articles de vulgarisation, exposition, etc…) pour sensibiliser l'opinion et les pouvoirs publics, à la fois au Pakistan et en Allemagne, sur l'importance culturelle des pétroglyphes du Haut-Indus. Leur submersion programmée par le barrage de Diamer-Basha, dont la première pierre a été posée en 2011 en aval de Chilas, sera une perte patrimoniale terrible puisque c'est ici que se trouve l'une des plus fortes concentrations d'art rupestre au monde. Mon vœu le plus cher est de voir continuer, sous une forme ou une autre, les travaux du Prof. Hauptmann et de l'Académie des Sciences et Humanités de Heidelberg sur les pétroglyphes du Haut-Indus et que leur pérennité soit assurée.



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