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#### Cover Photo:

Chinese Tang Dynasty coins from Gankoreneotek excavations 2007-2008 at Singoor (University of Hazara).

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### Editorial Note

The authors are responsible for the linguistic and technical qualities of their texts. The editors only tried to ensure minimum coherence to the articles. The editors always reserve the right to make all the changes in the manuscripts to maintain the standards of the Journal. Papers under the serial numbers are evaluated through the blind reviews to ensure compliance with the ethical rules of this Journal and the guidelines of Higher Education Commission (HEC), Pakistan.





This issue has been dedicated  
to the memory of  
Prince Miangul Adnan Aurangzeb  
(1960-2022).



# **The Distribution and Contextualization of Protohistoric and Historic Cemeteries around Singoor Village, Chitral, Pakistan**

**Muhammad Zahir**

## **Abstract**

*The present paper contextualizes the results of the intensive archaeological survey around the Singoor village in District Chitral, Khyber Pakhtunkhwa Province, Pakistan. The survey was optimized to specifically identify protohistoric graves through walking across the landscape in the vicinity of Shah Mirandeh graves at Singoor. The survey documented eleven burial sites, including the sites of Gankoreneotek, Gankoreni village, Hindukush Heights Hotel, Chakasht 1 & 2, Mirandeh, Noghur Dhok, Lashino Dhok, Kolambi and Sinjal Graves. Later, the site of Dolamuch was discovered in a subsequent survey carried out in 2008 during the excavations of Gankoreneotek graves. Thus, a total of twelve protohistoric cemeteries, including Shah Mirandeh graves, were documented around Singoor. Of these, three graves' sites Shah Mirandeh, Gankoreneotek and Chakasht 2 have been excavated. The present systematic survey was successful as it resulted in the documentation of one of the densest clusters of protohistoric/historic cemeteries in northern and northwestern Pakistan. The radiocarbon dates obtained from cemeteries around Singoor suggest a date range from 8<sup>th</sup> century cal. BCE to 17<sup>th</sup> century cal. CE, indicating the existence and presence of viable historic burial traditions that were possibly like the protohistoric burial traditions and shared the same landscape contexts.*

**Keywords:** Gandhara Grave Culture; Protohistoric Cemeteries; Singoor Graves; Gankoreneotek Graves; Geographical Distribution; Non-Random Survey; Chitral Archaeology; Historic Cemeteries.

## **1. Introduction**

Chitral is the largest and the most north-western district of the Khyber Pakhtunkhwa province of Pakistan (Fig. 1). District Chitral shares boundaries with Kunar, Nuristan, and Badakhshan provinces of Afghanistan to the north and west, Gilgit- Baltistan province to the east and Districts Upper Dir and Swat to the south and southeast (Zahir, 2017b: 4). The Hindukush, the Hinduraj and Pamir ranges, bordering Chitral, are the most prominent geological and geographical features of the region; these mountain ranges are perforated by several passes and routes that

connect Chitral with Central Asia and South Asia (Israr-ud-Din, 2008: 175; Zahir, 2017b: 4). District Chitral is made of several mountain valleys with their own small rivers that empty into the Chitral River (Zahir, 2017b: 4). Chitral is the major city of lower Chitral region, and it is the administrative centre of District Chitral.

The village Singoor is located about 6 km north of Chitral Museum (Polo Ground, Chitral) on Garam Chashma – Chitral Road (Zahir, 2017b: 4). The village is located on the right bank of the Chitral River, just below the junction of Lut Kho River, coming from north, and Chitral River, coming from east (Zahir, 2017b: 4). The village forms a sub-valley within the larger Chitral Valley, and it is surrounded by the piedmont hills of the Hindukush range (Zahir, 2017b: 4). The sub valley opens to the north, east and west and these openings are formed by the Chitral and Lut Kho Rivers (Zahir, 2017b: 4).

From north to south, the Singoor Valley is about 2.5 km long and is about a kilometre wide from east to west (Zahir, 2017b: 4). The small plains of the Singoor valley, lying between the Chitral River and piedmont hills, represent one of the largest fertile agricultural plains in Chitral and are presently covered by agricultural fields and Chitral Airport (Zahir, 2017b: 4). The plains are irrigated from the Chitral and Lot Kho Rivers, and the Chitral Gol and Singoor Gol streams (Zahir, 2017b: 4). The same water sources might have been utilized in the past for agricultural purposes within this valley. The fertile soil on mountain slopes and fans on the northern and western side of the Singoor village was possibly deposited through erosion and by seasonal torrents from the mountains (Zahir, 2017b: 4). The Singoor Gol, Koti Gol and Daloom Gol are the major non-perennial or seasonal streams that flow through the Singoor village.

Singoor village is situated on an important strategic location at the opening of the Garam Chashma Valley and Upper Chitral regions, such as Mastuj (Zahir, 2017b: 6). Most of the routes connecting Lower Chitral with Upper Chitral, Gilgit – Baltistan, Badakhshan, Central Asia and China passed through or near to Singoor Village (Zahir, 2017b: 6). Thus, we may assume that the current Singoor Village was possibly a major settlement in the past, at least from 1<sup>st</sup> millennium BCE onward (Zahir, 2017b: 6). The piedmont hills form a semicircle on the northern and western sides of the village Singoor; the parameter of this arc measures more than two kilometres in length.



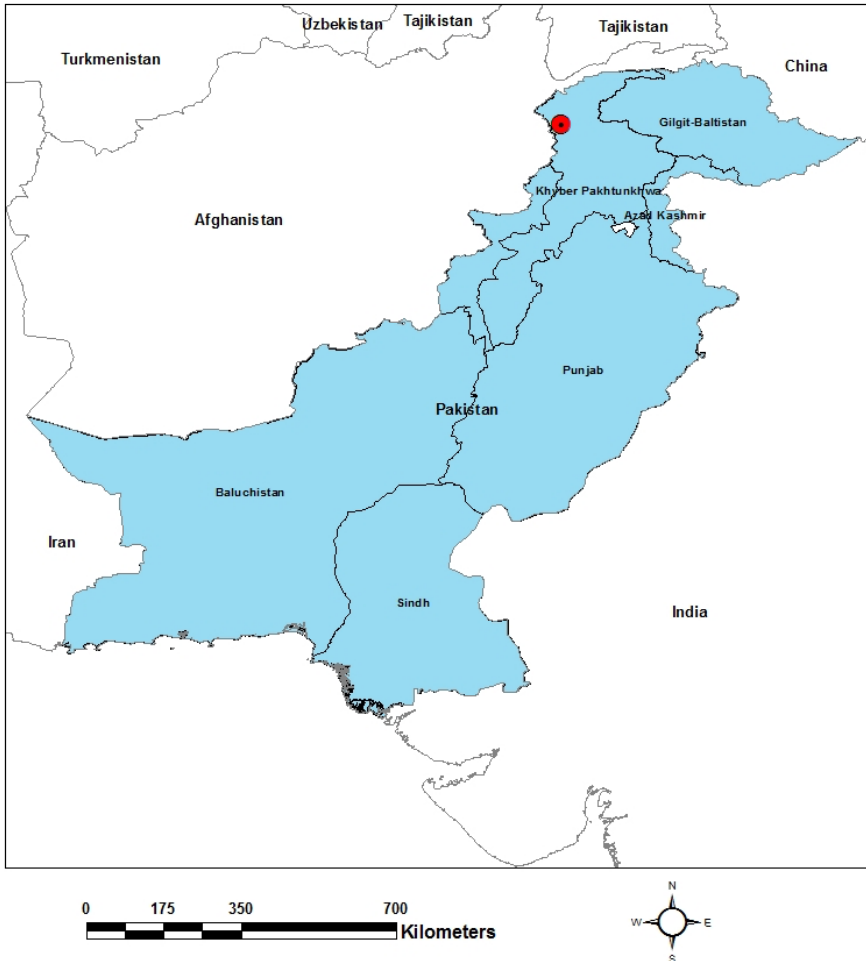


Fig. 1 - Location Map of Singoor village, Chitral, Pakistan.

## **2. Archaeological Research in Chitral**

Compared with the surrounding regions of Dir and Swat, District Chitral has received relatively little attention from archaeologists. British colonial officers and explorers, such as Major John Biddulph and Sir Marc Aurel Stein, were the first to record the presence of archaeological sites in the Chitral region (Biddulph, 1880: 109; Stein, 1921: 34-40, 45-46; 1933: 42). Prof. Raymond Allchin studied a collection of pottery vessels from protohistoric graves in the Ayun village (Allchin, 1970). The Italian

Archaeological Mission, directed by Prof. Giorgio Stacul and primarily working in the neighbouring Swat valley, briefly studied the archaeology of Chitral and recorded the existence of protohistoric cemeteries therein (Stacul, 1969: 99). French and Pakistani archaeologists, working together, recorded the presence of 8000 – 3000 BP or Late Holocene period, stone tools from upper Yasin Valley of Chitral (Gaillard et al., 2002: 25).

A team of British and Pakistani archaeologists conducted a small-scale survey of District Chitral and recorded 15 cemeteries, which they attributed to the Gandhara Grave Culture, including the cemetery at Singoor village or Sangoor – Chakasht (Ali et al., 2002; Dani 1968; Young et al., 2012). A team of Pakistani archaeologists, under the direction of Prof. Ihsan Ali, from the Directorate of Archaeology and Museums, Government of Khyber Pakhtunkhwa (formerly the North West Frontier Province or NWFP) and Hazara University, Mansehra, conducted limited archaeological surveys and excavations in Chitral from 2003 to 2008 (Ali et al., 2005a, b; Ali and Zahir, 2005; Zahir, 2017a). The team carried out excavations at the protohistoric cemeteries of Parwak, located in the middle of Buni and Mastuj towns in the upper Chitral region, and Shah Mirandeh and Gankoreneotek at Singoor (Zahir, 2017a: 3). A team of archaeologists from University of Leicester, UK and Hazara University, Pakistan conducted systematic transect survey in lower Chitral, between the Ayun and Darosh villages during 2009 – 2010 and conducted excavations at the sites of Chakasht graves at Singoor and Chillum Lasht Cave at Ayun (Ali et al., 2013, 2016; Samad et al., 2012; Young et al., 2012; Zahir, 2017b: 4).

### **3. Methods and Results of the Non-Random Systematic Survey**

Systematic landscape surveys are relatively new to the north-western Pakistan and most of the previous archaeological surveys in Pakistan have been conducted through the village-to-village methodology; a method that is based upon ease of access, documentation of archaeological sites near modern or ancient villages or routes and are prone to biasness (for details see Ali et al., 2009, 2010 and Zahir and Khan, 2018, 2020, 2021). Almost all the archaeological explorations in District Chitral, with the exception of the University of Leicester and Hazara University survey in 2009 – 2010, have been based upon village-to-village methodology. The systematic transect survey in the lower Chitral valley, between Ayun and

Darosh villages, resulted in the discovery of the largest number of sites in Chitral. During this systematic survey 17 sites in 2009 and 88 sites in 2010 were documented in a relatively small study area (Ali et al., 2013, 2016; Samad et al., 2012; Young et al., 2012; Zahir, 2017b: 4).

The presence of protohistoric cemetery at Singoor was first reported in 1972 and a single grave was excavated, by non-archaeologists. The cemetery and material culture were directly equated with the presence of Aryans in Chitral and the excavated grave was dated to the 2<sup>nd</sup> millennium BCE (Israr-ud-Din, 1972, 1979). The Singoor site was also recorded in 1997 during the Chitral Survey by the Directorate of Archaeology and Museums, by Government of the then NWFP (now renamed as Khyber Pakhtunkhwa province) under the direction of Prof. Abdur Rahman and they excavated a single ‘double storey’ grave, similar in construction and material as Gandhara Graves from Dir and Swat, at Singoor (pers.comm. Shakirullah, 2019).

The same site was probably reported within the 1999 archaeological survey of the Chitral by the British and Pakistani archaeologists as the Sangoor – Chakasht site, and cist graves were reported from the site (Ali et al., 2002: 651). Ihsan Ali and his colleagues (Ali et al., 2002: 651) recorded the presence of the protohistoric cemeteries or Gandhara Grave Culture sites on piedmont fans/terraces and slopes. The same site was revisited and documented during the 2004 archaeological survey of Chitral by the Directorate of Archaeology and Museums, Government of NWFP under the Direction of Prof. Ihsan Ali (Ali et al., 2005a). Prof. Ihsan Ali and the present author embarked upon excavation of the same site, named as the Shah Mirandeh – Singoor after the nearby hamlet of Shah Mirandeh in the larger Singoor village, in 2005.

The present survey was designed and based upon the information that most of protohistoric cemeteries are located on either fans/terraces or slopes of the mountains. As the site of Shah Mirandeh graves was also located on the slope, it was assumed that it is highly likely that analogous sites would be in comparable locations within the landscape. The purpose of this non-random survey, where the existence and geographical settings of a single large protohistoric site was already known, was to look for similar sites in parallel landscape settings. Thus, the present survey was primed to document the existence of protohistoric cemeteries in the immediate surrounding hills of the Singoor village. The larger hill, to the back of the Singoor village, with a government protected forest on its top, is called Birmogh Lasht, while the lower hills around Singoor are called

### Singoor Dhok.

The slopes of the piedmont hills, Singoor Dhok, of the Singoor village were extensively walked by group of 4 – 5 members, consisting of the author, students of archaeology and a local guide. The survey team walked parallel to each other, separated by 1-5 m from each other depending on the steepness and difficulty of the slope of the hills. Sometimes the steepness of the hills would reduce the parallel line of the survey team to walking in a single profile. Considering the then Sayurj Public School (renamed later as the Langlands Public School and College) as the pivotal landmark for Singoor village and the starting point, the survey was conducted in two transect lines each from north to south and east to west.

The transects lines from north to south measured 2 km in length and their widths, depending upon the steepness of the slopes and visibility in the landscape, varied between 5 to 25 m. The east to west transects, between the Langlands Public School and the Garam Chashma road, measured 1 km in length and varying width of 10 to 25 m as the slopes were gentle and not as steep as on the north-south transects and there were relatively few issues with visibility in the landscape. The parallel transects were separated by about 100 m from each other. The elevation of the transects from east to west varied from 1550 to 1700 m above mean sea level. A handheld GPS was used to follow the transects and to record the location of the sites. The sites were marked due to the presence of a grave structure that do not conform to the Muslim burial tradition in the region. The estimation of the size of the cemeteries was not possible due to the fact that most of the protohistoric graves in northwestern Pakistan have been discovered as a consequence of finding a single grave and later excavations of the site provided evidence of the extent and nature of the discovered site. The sites of Parwak, Shah Mirandeh, Gankoreneotek and Chakasht are examples of this in Chitral, where the extent of site was only possible after the excavations and which were discovered primarily as a result of singular visible graves.

It is possible that some of the Muslim graveyards at Singoor have utilized the same locations of protohistoric or historic non-Muslim graveyards, as in the case of some of the protohistoric cemeteries in other parts of northwestern Pakistan (for details see Zahir, 2012); however, there were no visible evidence of it at Singoor. Thus, the Muslim graves or graveyards were excluded from this survey. Generally, the Muslim graveyards are located within the unirrigated parts of the plains of Singoor

and these do not share the same landscape settings as the protohistoric graves in Singoor. It is possible that some of the Muslim graves were ancient, that is more than hundred years' old such as the at the Muslim graveyard located to the south of the Gankoreneo village. However, due to the presence of strong tradition of up-keeping of the graves by the descendants of the deceased and the continuation of the same grave construction and burial traditions, it is difficult to assign the Muslim graves to any particular historical epoch at Chitral.

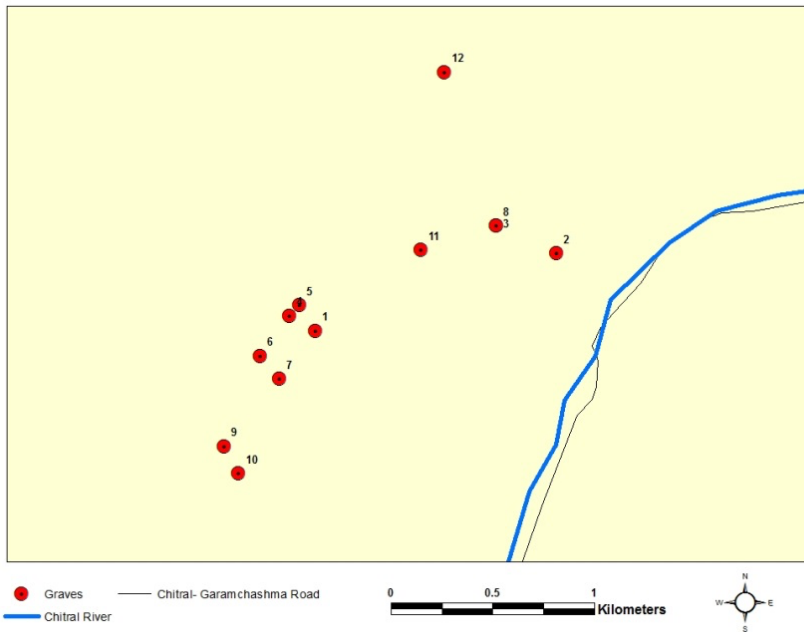


Fig. 2 - Distribution Map of the protohistoric and historic cemeteries around Singoor Village, Chitral.

Four sites each were recorded on the first (that is the sites of Kolambhi, Mirandeh, Chakasht 1 and Chakasht 2) and second (that is the sites of Sinjaal, Lashino Dhok, Shah Mirandeh and Noghur Dhok) north to south transects, while on the east to west transects, the site of Gankoreneotek/Gankoreneo-taek and Hindukush Heights hotel were recorded on the third and Gankoreneo village site was recorded on the fourth transect (Figs. 2-4). The site of Dolamuch – Seen Lasht was discovered in November 2008 outside the east to west and north to south





Fig. 4 - General View of the Singoor Arc (Photograph by Muhammad Zahir).

A total of thirty-three graves were opened up during the course of excavations including remains of twenty-six humans, of which 18 could be studied anthropologically due to poor state of preservation (for details see Hemphill et al., 2018). The majority of graves (twenty-one of thirty-three or 64%) were provided with grave goods. The most common grave goods included pottery vessels, iron arrowheads, bronze anklets and bracelets, bronze bells and carnelian beads. The majority of the graves were either walled or cist graves and were constructed from schist stones and slabs, queried from the nearby hills. One of the most interesting feature of the Shah Mirandeh graves was the finding of the empty/emptied or intended graves. Fifteen of the thirty-three graves or about 46% of the total excavated graves were of this category. Six of these empty/emptied or intended graves were provided with grave goods and sometimes small broken pieces of human bones were also noticed during the excavations, suggesting the possible removal of human remains after the decomposition for secondary burial at other graves or locations. Ten graves contained single burials, four double burials, two triple burials and a single grave



contained the remains of four individuals. Almost all the graves were discovered at less than 50 cm from the ground surface (Hemphill et al., 2018: 1). For the current survey, the Shah Mirandeh site was used as a reference point.



Fig. 5 - Excavations of Shah Mirandeh Graves 2005  
(Photograph by Muhammad Zahir).

2. The site of Gankoreneotek, or Gankorini-o-Taek, was first recorded during the 2004 archaeological survey (Ali et al., 2005a; Zahir, 2016b). The hamlet of Gankoreneotek is a constituent part of the larger Singoor village and is located on the right bank of the Chitral River, at latitude 35°54'7.06"N and longitude 71°48'23.88"E, at an altitude of about 1562 m above mean sea level, on Chitral ~ Garam Chasma Road or the eastern tip of the piedmont arc around Singoor village (Zahir, 2017a; 2018). The Gankoreneotek cemetery is located in the vicinity, across the road, of the Chitral Power Station, on a small earthen hill slope (Ali et al., 2010: 210; Zahir, 2017a). During the archaeological surveys, only few grave structures, primarily cist graves, were visible in the agricultural field terraces and the pits/cuts made during the construction of the houses. The



owners of the houses/agricultural lands also kept few vessels from the destroyed graves from the site and were shown to the survey teams. Although, the evidence on the ground were scanty, the later excavations and house construction activities have shown it to be perhaps the largest protohistoric/historic cemeteries that have been discovered, and most researched, cemeteries in District Chitral.

The site was first excavated by a team of archaeologists from the University of Leicester, UK and Hazara University Mansehra in 2007, primarily to collect bone samples for radiocarbon dating and for understanding the nature and extent of the site (Ali et al., 2008). From the single excavated grave, Grave 1, cremated bones were dated through Waikato University – New Zealand radiocarbon laboratory to 2494±30 BP, ranging between 790 – 420 cal.BCE (at 95% confidence) (Ali et al., 2008; Zahir, 2016a: 288).

Following the initial 2007 work, the Hazara University team conducted the first proper excavations at the Gankoreneotek from November 2007 to January 2008 and excavated a total of 41 graves at the site (Ali et al., 2010: 210; Zahir, 2017a, 2018; Fig. 6). However, the detailed excavations report is yet to be published, hampered by challenges in accessing the excavation datasets. The finding of two bronze Chinese Tang Dynasty coins was perhaps the most important discovery from the excavations at Gankoreneotek – Singoor, representing a milestone in the archaeology of Chitral (Fig. 7).

A different team from Hazara University again excavated the site during June – August 2008, and a brief excavation report was published in 2010 (Ali et al., 2010: 210). The team excavated 39 graves that contained the remains of 54 individuals: ranging from infants, children and adults (Ali et al., 2010: 211–3). The grave goods were dominated by pottery vessels, of different types but primarily consisting of bowls, jars, pitchers, glasses and miniature pots (Zahir, 2018). The metal artefacts included copper/bronze mirrors and hairpins, pendants, ear pendants, bangles, hairpins, arrowheads, dress buttons and knives (Ali et al., 2010: 215, 221). Salvage excavations were conducted at Gankoreneotek site in 2016 to record archaeological remains that were threatened by the destructive house building activities. These excavations were confined to the excavations of four graves (graves 1, 2, 4, and 30) and the reopening of previously excavated grave, GTG\_003 (Zahir, 2017a; Zahir, 2018). The site is currently being excavated by the team of archaeologists, through the Higher Education of Pakistan' National Research Program for Universities

(NRPU) funding, from Hazara University, leading to the discovery of multiple graves, including small-sized empty graves, more than a dozen human skeletons and material culture (pers.comm. Dr. Abdul Hameed, 2022). Without substantial evidence to support, and the existence of broad evidence of historic material culture at the site, historic burials in the vicinity and without proper definition of Iron Age, the site is being dubbed as the Iron Age cemetery by the current team under the NRPU project. The restriction of the Gankoreneotek cemetery to a single technological episode in the history of Chitral seems impulsive and needs extensive corroborations from the site and region.



Fig. 6 - Excavations of Gankoreneotek Graves, Singoor 2007-2008  
(Photograph by Muhammad Zahir).

3. The Hindukush Heights hotel, perhaps one of the best hotels in northern and northwestern Pakistan, is located at latitude 35° 54' 11.51" N and longitude 71° 48' 14.38" E, on a hill top above the Gankoreneotek site. There were no visible grave structures currently at the site of the hotel; however, the owner, Prince Siraj ul Mulk, informed us about the discovery of graves during the construction of the hotel. Prince Siraj ul Mulk was

kind enough to show us some of the antiquities recovered from the graves that are on display at his hotel (Fig. 8). The findings, including six complete vessels, two large copper/bronze anklets, a copper/bronze bowl and a copper/bronze bottle, are unique and broadly compare with findings from protohistoric cemeteries in the region (Zahir, 2021). The graves seem to have been completely destroyed by construction of the hotel. The site was first mentioned in 2012 (Hemphill et al., 2018: 2; Zahir, 2012: 331). The comparative analyses of the grave goods from site suggest that the copper/bronze vessels possibly belonged to mid-1st millennium BCE, while the copper/bronze bangles/anklets could probably be dated from 1st century BCE to 1st century CE (Zahir, 2021: 75). Similarly, the jug with pinched lip could be dated from 5th – 7th century CE, while the drinking pots could possibly be dated to the last quarter of the 1st millennium CE (Zahir, 2021: 75). The analysis of the material culture suggests that this was probably in existence from mid-1st millennium BCE to the end of 1st millennium CE (Zahir, 2021: 75).



Fig. 7 - Chinese Tang Dynasty coins from Gankoreneotek excavations 2007-2008 (Photograph by Muhammad Zahir).

4. The site of Chakasht 1 is located at the latitude 35° 53' 57.21" N and longitude 71° 47' 41.54" E. Chakasht is a relatively large un-irrigated plateau on top of the Singoor village to the northwest and has been

converted into a cricket ground by local children. A single disturbed or illegally excavated cist grave was noted to the northern side of the Chakasht and the site was named as Chakasht 1 graves. The graves were constructed of schist slabs, possibly brought from the nearby hills (Fig. 9). The site was first mentioned in 2012 (Hemphill et al., 2018: 2; Zahir, 2012: 330; 2021: 75-90).



Fig. 8 - Grave goods from Hindukush Height Hotel, Singoor, 2005 (Photograph by Muhammad Zahir).



Fig. 9 - General view of a partially exposed grave from Chakasht - 1, Singoor 2005 (Photograph by Muhammad Zahir).





Fig. 10 - General View of the partially exposed grave from Chakasht - 2, Singoor 2005 (Photograph by Muhammad Zahir).

5. The site of Chakasht 2 is located at latitude  $35^{\circ} 53' 58.83''$  N and longitude  $71^{\circ} 47' 43.11''$  E. The graves are located on the highest side of the Chakasht and are around 400 m apart from Chakasht 1 graves. During the survey, two graves were recorded as their schist slab walls were visible on the surface (Fig. 10). The cist graves were constructed of the schist slab, queried from the nearby hills. The visible graves were of two sizes, the smaller-sized cist (measuring about 30 cm in length) and medium-sized cist (measuring about 105 cm in length). The excavations of the Gankoreneotek revealed that smaller cist graves either contained the remains of infants or secondary/fractional burials of adults or had pot-burials of children/adults. Later on, in 2009, a team of archaeologists from Hazara university excavated about fifteen graves at the site (pers. comm. Mehir Rehman Khalil, 2019). A complete flexed adult inhumation burial was transported to Hazara University Museum of Archaeology and Ethnology for display from 2009 excavations. The site was first mentioned in 2012 (Hemphill et al., 2018: 2; Zahir, 2012: 330).

6. The site of Mirandeh is located to the north of the Shah Mirandeh village at latitude 35° 53' 50.80" N and longitude 71° 47' 36.88" E. The graves, bone fragments and potsherds are visible in the terraces of the fields along the village pathways (Fig. 11). The shape and structure of the graves could not be discerned, as the terrace were covered with wild vegetation and possible human interventions, such as the expansion of the pathway and/or the deposition of soil off the street. The site was first mentioned in 2012 (Hemphill et al., 2018: 2; Zahir, 2012: 331).

7. The Noghur Dhok, literally meaning the hill of the fort in Khovar language of the area, is located on a nearby hill to the Shah Mirandeh graves. The site is located at latitude 35° 53' 47.16" N and longitude 71° 47' 39.86" E. The locals consider the hill to have been occupied by a fort in the distant past; however, no evidence of the fort were encountered during the survey. Potsherds were relatively numerous on the site and were badly eroded. The presence of at least three partially exposed graves were recorded on the surface (Fig. 12). It seems that the graves were either constructed near to the surface or the topmost soil has washed due to erosion and exposing the graves in the process. Two of the graves are cist graves, marked by exposed schist slabs, and are oriented in east to west directions. The third grave is provided with a 20 cm thick covering slab. The area of the grave is marked by stones encompassing the slab. All the recorded graves are rectangular in shape. The northern part of the hill is eroding due to the seasonal torrent, called Singoor Gol, and the building of the small irrigation canal for Singoor village. A large broken pot was seen in the section of the hill at the depth of about 2 m from the surface of the hill. The site was first mentioned in 2012 (Hemphill et al., 2018: 2; Zahir, 2012: 332).

8. The site of Lashino Dhok is located at latitude 35° 54' 11.51" N and longitude 71° 48' 14.38" E. A single grave structure was noted on the surface of the site. The grave, square in shape, was constructed of relatively large schist slabs and the slabs were visible on two sides of the grave (Fig. 13). The grave roughly measured about 1.8 x 1.4 sqm and was broadly oriented in east to west direction. No potsherds were visible on the surface of the site. The site was first mentioned in 2012 (Hemphill et al., 2018: 2; Zahir, 2012: 331).



Fig. 11 - General View of the exposed section of the graves at Mirandeh village, Singoor 2005 (Photograph by Muhammad Zahir).





Fig. 12 - A view of the grave at Noghur Dhok at Singoor 2005 (Photograph by Muhammad Zahir).



9. The site of Kolambhi is located at latitude  $35^{\circ} 54' 11.51''$  N and longitude  $71^{\circ} 48' 14.38''$  E. A single grave structure was recorded on the surface of the site. The grave was round in shape and was constructed of irregular shaped schist slabs and the slabs were visible for more than 50% of the circumference (Fig. 14). No potsherds were visible on the surface of the site. The site was first mentioned in 2012 (Hemphill et al., 2018: 2; Zahir, 2012: 331).



Fig. 13 - A general view of the Lashino Dhok grave, Singoor 2005  
(Photograph by Muhammad Zahir).

10. The Sinjal graves are located at latitude  $35^{\circ} 53' 32.13''$  N and longitude  $71^{\circ} 47' 33.45''$  E. The graves are exposed by cutting of the irrigation canal at the foot of the hill at the top of the Singoor village. The irrigation canal run at the top of the Singoor village. The cutting has exposed at least five graves in the section (Fig. 15). The graves seem to be rectangular cist graves, constructed of large grey schist stones, possibly queried from the hills at the top of the Chakasht plains. The slabs thickness varied from 4 to 10 cm. The grave was oriented primarily in east to west orientation. One of the relatively well-preserved grave section

measures about 61 cm in depth and width. The floor of the grave was also paved with schist slabs of varying lengths as visible in the section. Human bones and potsherds are visible in the section, though there are no potsherds or pottery scatters around the graves. Small-sized broken potsherds are visible in the irrigation canal. Modern houses have been constructed on top of the graves. The small canal is a community based and managed irrigation that brings water from Chitral Gol to the Singoor village. The site was first mentioned in 2012 (Hemphill et al., 2018: 2; Zahir, 2012: 332).



Fig. 14 - General view of the grave at Kolambhi, Singoor 2005  
(Photograph by Muhammad Zahir).

11. The Gankoreneo village is located at latitude  $35^{\circ} 54' 7.65''$  N and longitude  $71^{\circ} 48' 2.41''$  E. The agricultural terraces have exposed protohistoric graves. While graves are encountered during the construction of the houses and the survey team noticed one such grave partially destroyed during the construction of the house. Few of the villagers, by virtue of excavations in their fields or homes, have come in possession of



complete pots, such as spouted drinking vessels and double handled storage jars. The later excavations at Gankoreneotek in 2007 – 2008 revealed that large storage jars with or without handles were used to contain inhumation and cremation burials of both adults and children. The Gankoreneo village graves are cist burials constructed of large flat schist slabs and sealing (Fig.16). The visible graves seem to have been oriented north to south. Potsherds, large vessels' broken parts and human bones were visible in the exposed section of the graves. The site was previously not reported.



Fig. 15 - General view of the exposed graves at Sinjal, Singoor 2005  
(Photograph by Muhammad Zahir).

12. The site of Dolamuch or Dolamush was not recorded during the non-random survey in 2005 but was recorded during field walking of the surrounding hills in 2007 – 2008 at the time of the excavations of the Gankoreneotek. The site is located near the newly constructed village of Seen Lasht at a latitude  $35^{\circ} 54' 35.85''$  N and longitude  $71^{\circ} 48' 6.08''$  E. The site was then located in un-irrigated plains of Dolamuch, which was

actively being converted to agricultural fields. At least five graves were noticed in one of the terraced fields. The graves are provided with walls of schist stones on four sides and relatively large schist slabs as sealing (Fig. 17). A partially destroyed grave seemed to be unique as a large schist slab was used as the floor of the grave and the walls were constructed on top of it. A single cist grave was also visible on the surface of the site with exposed schist slab. No potsherds were visible on the surface; however, the owner of the land during the preparation of the agricultural fields had recovered two large broken parts of querns. The querns were carved of granite stones, probably brought from the river bed about 2 km, and 300 m below, to the south of the site. The site was first mentioned in 2012 (Hemphill et al., 2018: 2; Zahir, 2012: 332).



Fig. 16 - General view of the exposed section of graves at Gankoreneo village, Singoor 2005 (Photograph by Muhammad Zahir).



Fig. 17 - General of the graves at Dolamuch, Seen Lasht, 2008  
(Photograph by Muhammad Zahir).

#### **4. Contextualization and Discussion**

The geographical distribution of the protohistoric cemeteries is key for their interpretations in their chronological and landscape contexts (for details see Zahir, 2012 and 2016b). The protohistoric cemeteries in the Chitral Valley have been included in the Zone 1 or Northern Khyber Pakhtunkhwa Province of Pakistan of the eight recently proposed geographical zones for distribution of protohistoric cemeteries in northern and northwestern South Asia (Zahir, 2016b). This zone primarily consists of the valleys of the Chitral, Panjorka and Swat Rivers and it is bounded by the Indus River and Hindukush mountains in the east and west respectively (for detailed discussions of these geographical zones, see Zahir, 2016b). This zone, also encompassing the regions of Dir and Swat, is considered as the most important geographical unit for understandings of the protohistoric cemeteries due to systematic and sustained research on protohistoric cemeteries, especially the Swat protohistoric cemeteries, since the early 1960s (Narasimhan et al., 2019; Zahir, 2016b). Needless to

mention here that the largest number of protohistoric cemeteries has been recorded from this zone (Zahir, 2016b: 3).

With the addition of the Gankoreneo village site, a total of 262 protohistoric cemeteries have been discovered in northern and northwestern South Asia so far (Zahir, 2016b). These sites generally share the same landscape choices and are mostly located on mountain slopes and terraces, and are closely linked with permanent water resources, such as rivers (Zahir, 2016b: 3). A total of 48 protohistoric sites have been discovered in District Chitral; most of these sites have been recorded in the lower Chitral region and are located around the Chitral city and Ayun village. The excavation, to various degrees, of six cemeteries, namely Noghure Muri, Parwak, Parwak Lasht, Shah Mirandeh – Singoor, Gankoreneotek and Chakasht, have brought to life different aspects of the protohistoric cemeteries in Chitral (Ali and Zahir 2005; Ali et al., 2005a; Hemphill et al., 2018; Stacul, 1969; Zahir, 2017a).

The oldest dates of the Chitral cemeteries are later than the earliest cemeteries excavated in the Dir and Swat Valleys and the Chitral cemeteries continue much longer than the Dir and Swat cemeteries (Zahir, 2012, 2016a). In fact, the Chitral cemeteries continue right up to the 17<sup>th</sup> century CE (Narasimhan et al., 2019: 161 – 162). The presence of 17<sup>th</sup> century CE non-Muslim and/or pre-Muslim burial in a protohistoric cemetery is very interesting. It corresponds well with the believe that in most parts of the Gilgit-Baltistan province and northwestern regions of Khyber Pakhtunkhwa province, especially the Kohistan regions and with the exception of the Swat and Dir regions, organized Islam was introduced largely in the 18<sup>th</sup> century CE (see for example Frembgen, 2008: 258; 1999: 83; Hauptmann, 2008: 353).

The earliest evidence for Islam in northern and northwestern Pakistan comes from the Raja Gira Mosque at Udegram, Swat. The mosque was constructed during the Ghaznavid time in the first half of the 11<sup>th</sup> century CE (e.g., U. Ali and Khan, 1998: 188; Sardar, 2001: 95; Scerrato, 1986: 57, 59; Stein, 1927: 434, 437) In fact, the 17<sup>th</sup>/18<sup>th</sup> centuries CE are very interesting in the history of the District Chitral as there is no authentic historic literature on the region and Chitral was effectively *terra incognita*. The Dynastic history of the Chitral is also not reliable beyond 18<sup>th</sup> century CE. The presence of dominant non-Muslim ideology bearing groups in at least some parts of the Chitral has been recorded meticulously since the later part of the 19<sup>th</sup> century CE (for example see Robertson, 1886).

Site Name	Lab. n°.	Context	Radiocarbon age (BP)	Calibrated date (95% confidence)
1.Gankorinotek	WK-22036	Grave 1	2494 ± 30	790 – 420 cal.BCE
2.Shah Mirandeh, Singoor	WK-22040	Grave 22	2167 ± 30	360 – 110 cal.BCE
3.Shah Mirandeh, Singoor	WK-22038	Grave 1	1975 ± 30	50 cal. BCE – cal.CE 90
4.Shah Mirandeh, Singoor	WK-22039	Grave 21	1499 ± 30	cal.CE 440 – 640
5.Parwak	WK-22759	Grave 31 / Burial 2	1157 ± 37	cal.CE 770 – 980
6.Parwak	WK-22758	Grave 31 / Burial 1	1148 ± 36	cal.CE 770 – 980
7.Parwak	WK-22760	Grave 51	1138 ± 37	cal.CE 770 – 980
8.Parwak	Beta-428663	Grave 52	1200 ± 30	cal.CE 720 – 895
9.Shah Mirandeh, Singoor	Beta-428668	Grave 51	310 ± 30	cal.CE 1485 – 1650

Table 1 – List of radiocarbon dates from protohistoric and historic cemeteries in Chitral (Ali et al., 2008; Narasimhan et al., 2019: 161-2; Zahir, 2016a).

Nine radiocarbon measurements from human bones are now available for Chitral and they show the existence of protohistoric burial traditions and historic non-Muslim/pre-Muslim burial traditions from at least 8<sup>th</sup> century cal.BCE to 17<sup>th</sup> century cal.CE (Table 1). The radiocarbon measurements from Gankoreneotek suggest a date range from 8<sup>th</sup> – 5<sup>th</sup> centuries cal. BCE. From the same site, two Chinese Tang Dynasty coins of mid-8<sup>th</sup> century CE have been discovered from a grave (for details see Zahir, 2018). We may assume that the Gankoreneotek site existed at least from 8<sup>th</sup> century BCE till 8<sup>th</sup> century CE. There are two radiocarbon measurements from Shah Mirandeh graves which suggest 4<sup>th</sup> and 1<sup>st</sup> centuries cal.BCE as the earliest date ranges. A couple of other radiocarbon measurements from the same site suggest 7<sup>th</sup> and 17<sup>th</sup> centuries cal.CE as the latest date ranges. Thus, we may suggest that the Shah Mirandeh graves were in existence, possibly intermittently, from at least 4<sup>th</sup> century cal.BCE to 17<sup>th</sup> century cal.CE and that the cemetery could possibly have been in use for around two thousand years. The date ranges from Parwak are consistent and hovers between early 8<sup>th</sup> to late 10<sup>th</sup> centuries cal.CE. The latest dated grave from Shah Mirandeh has an extended burial and not a flexed burial – the dominant protohistoric burial practice within Chitral – and without a proper grave. Thus, it is plausible



to assume that this burial possibly represents the burial of the 'other' in a protohistoric cemetery setting (this phenomenon of otherness in grave contexts would be further explored in future publication by the author).

The earliest dated grave in Chitral comes from the Gankoreneotek, while the latest dated grave comes from the Shah Mirandeh cemetery. Both cemeteries are located on the fringes of the Singoor village, within walking distances from each other. Thus, we may suggest that the protohistoric cemeteries around Singoor were in existence from at least 8<sup>th</sup> century cal.BCE and were used until 17<sup>th</sup> century cal.CE. Thus, in the absence of individual radiocarbon measurements from the current explored sites in the vicinity of Singoor village, it may be assumed that all these explored sites fall within the same chronological framework and date range. This may also mean that within Chitral, we are dealing with both protohistoric and historic cemeteries sharing the same grave construction and burial traditions, and landscapes and locations. The historic cemeteries are non-Muslim and have broadly similar burial traditions as the protohistoric cemeteries from Chitral, Swat and Dir regions of Khyber Pakhtunkhwa and Gilgit-Baltistan region. In fact, going by the ratio of protohistoric and historic dates from Chitral graves, we may suggest that most of the graves, and possibly the cemeteries, are historic in nature. Furthermore, there exist a strong continuity and longevity of the protohistoric cemeteries and burial traditions, and possible continuities of similar ideologies, in Chitral right up to the time of mature Mughal period in South Asia.

Furthermore, the non-Muslim people of Chitral region and neighbouring regions, such as the Nuristan region, were in constant struggle of existence with the neighbouring Muslim regions, such as Kunar, Chitral, Dir and Bajaur till almost the end of the 19<sup>th</sup> century CE, which culminated in the capture of the 'pagan *Kafiristan*' (the land of unbelievers or infidels), their homeland, and its conversion into a 'Muslim *Nuristan*' (the land of light) (Barrington et al., 2006; Robertson, 1886). Thus, it seems that the time between 17<sup>th</sup> to 19<sup>th</sup> centuries CE is an interesting period in the history of Chitral and adjoining regions, where the political control of the non-Muslims or indigenous, progressively decreased and they were either ousted or converted to Islam. The spread of Islam and the contraction of indigenous non-Muslim ideologies in the Hindukush regions as reflected in the archaeology is not well understood and there is huge potential for future investigations into the subject.



The radiocarbon results provide us with a window to view the protohistoric cemeteries in Chitral as linked protohistoric and historic phenomena in northern and northwestern South Asia that need to be further investigated. These measurements also problematize the understanding of the protohistoric cemeteries in northwestern Pakistan as something long gone before the introduction of Islam in the 8<sup>th</sup> – 11<sup>th</sup> century CE. The presence of the indigenous non-Muslim people, such as the Kalasha people of Chitral, coupled with their similar burial traditions as compared with the protohistoric cemeteries and distinct from Muslim and Hindu practices at death and dealing with the bodies, and the possibility of very late arrival of Islam in Chitral, present a very interesting research area and shall be investigated in future. Their cemeteries, with exposed over ground burials in wooden coffins and exquisite grave goods, are in almost similar landscape settings, such as the Bamburet and Birir Valleys' graveyards, as compared to the protohistoric cemeteries in Chitral (Fig. 18). The burial tradition of the Kalasha people needs to be investigated and documented for not only understanding their ideologies linked with death, burials, and choices of the landscape location but also for creating reference materials for detailed analogies with the protohistoric and historic non-Muslim burial traditions in the region. However, a direct or unbroken link between the protohistoric and historic cemeteries in Chitral and their relationship with the living community practicing similar burial tradition is not argued here.

The latest radiocarbon measurements along with the absence of viable evidence of major South Asian religions (such as Buddhism and Hinduism – for example see Zahir, 2017b), the absence of authentic historical records prior to the 19<sup>th</sup> century CE (for example see Israr-ud-Din, 1979) at Chitral make it an interesting topic for future investigation into the continuity of burial traditions and communities in remote, and relatively isolated, regions of the Hindukush mountains.

Furthermore, the relationship between the regions and people of Hindukush and the dominant Iranian Safavid Dynasty during the 17<sup>th</sup> and 18<sup>th</sup> centuries CE, and the relatively large scale movement of the persecuted religious communities under them, such as the followers of the Ismaili (a major Muslim sect in Chitral and Gilgit regions) and Sunni sects of Islam, from Iran into the remote parts of the northern and northwestern Pakistan, is not very well understood and documented in the history and archaeology of the region. It is plausible to assume that their movement for safety into the regions, such as Chitral and Gilgit, was not peaceful and

possibly involved warfare resulting in diminishing indigenous political and economic control and the rise of petty states and Muslim ruling houses in the Hindukush. Thus, it may be argued that the political history of Muslim states in the Hindukush, and their rise during the 17<sup>th</sup> and 18<sup>th</sup> centuries CE, cannot be understood without investigating the role of the Safavid empire and their religious persecutions of the ‘others’ and that future research shall focus on the subject. Additionally, it is interesting to point out here that large scale migrations and their settlements, even in the historic period, in north-western Pakistan from the surrounding regions, such as the major Pashtun tribe Yousafzai’ migration from Afghanistan and settlement in Swat in the 16<sup>th</sup> century CE, have not been vigorously correlated and contextualized with the archaeological and material culture records from the region.



Fig. 18 - General View of the Kalasha graveyard at Bamburet Valley, Chitral 2005 (Photograph by Muhammad Zahir).

The two Tang dynasty coins from Gankoreneotek, Singoor, are of the 11<sup>th</sup> Tang Emperor Su Zong (756 – 762 CE). These were probably cast in 758 – 762 CE, appearing generally to be 10-cash/2-cash coins (*pers.comm.* Late Dr. Mark Blackburn, 2008 and Dr. David Hartill, 2019; for details

see Zahir, 2018). There was a robust relationship between the ancient region of Gandhara in northwestern Pakistan and Tang Dynasty (Nasim Khan, 2018: 308; Rhie, 1988; Zahir, 2018). During the 8<sup>th</sup> century CE, the petty Hindukush states, such as Chitral, assumed a central role between the Chinese and Tibetan empires, and between the Tibetan and the invading Arab armies in the Central Asia. The Arabs in Central Asia, in the beginning of the 8<sup>th</sup> century CE, tried, and failed, to get into alliance with the small kingdoms of the Hindukush against the Chinese. The Tang Emperor Xuanzong recognized this and as a reward sent envoys to these states bestowing the title of kings on their chiefs or rulers, for example the ruler of Mastuj was declared a king in 720 CE (Stein, 1921: 43).

Later, the Tibetans managed to get into alliance with some of the kingdoms, which was not acceptable to the Chinese. Resultantly the Chinese sent at least four expeditions to the northern and northwestern Pakistan during mid-8<sup>th</sup> century CE; however, it was the expedition led by Gao Xianzhi or Kao Hsien-chih, the celebrated Tang general of Korean descent from the Four Garrisons at Tarim Basin, that was successful in dislodging the Tibetans from Chitral and Gilgit in 747 CE (Stein, 1922: 116). In 750 CE, Gao Xianzhi intervened again in the region on the orders of Emperor Xuanzong and removed *P'o-tê-mo*, the ruler of *Chieh-shuai* or Chitral proper and replaced him with his elder brother *Su-chia* and declared him king (Stein, 1921:29, 32). The Chinese influence over the regions of Chitral and Gilgit waned after the defeat of Gao Xianzhi by the Arabs and their allies in 751 CE at the battle of Talas, Farghana (Stein, 1907: 68; 1921: 32; 1922: 130).

In the mid-18<sup>th</sup> century CE under the Qing Emperor Qianlong/Ch'ien-lung (r. 1735 – 1796) the Chinese restored their interests and authority on the petty states of the Hindukush, such as Chitral, and the rulers of Chitral accordingly accepted Chinese sovereignty and suzerainty as late as 1789 CE (Biddulph, 1880: 151; Stein, 1921: 33, 1922: 131). The political relationship between Chitral and China is still almost unknown and future research may find ways to investigate this connexion, especially during the 8<sup>th</sup> to 18<sup>th</sup> centuries CE.

The presence of a dense cluster of protohistoric and historic cemeteries indicate to the possibility of the presence of a large settlement(s) in the past at the Singoor village or its vicinity. However, no archaeological evidence of settlements, except for occasional reports by local people of the presence of potsherds when digging new graves or foundations for new houses in the area, have come. It is possible to

assume that, as is the case with most of the historic settlements in South Asia, the ancient remains of settlement at Singoor are under the modern Singoor settlement and future investigations, such as focused excavations in the middle of the Singoor village, may reveal the presence of settlements linked with the cemeteries all around it. Comparatively, there is dearth of archaeological evidence in the immediate vicinity of the Chitral city, except for possible protohistoric cemeteries at Jhang Bazar and Governor Cottage (Zahir, 2016b: 23).

The presence of a reported Muslim saint Shabor Wali's tomb in the Jhang – Chitral Bazar cemetery in a prominent location and beautiful wooden architecture, attributed to the 18<sup>th</sup> century CE (Shakirullah, 2012a: 21; 2012b), is very interesting and points to the possibility of the presence of Muslim in prominent positions in the 18<sup>th</sup> century in Chitral city. Though, there are some historical references to the presence of the Chitral town in early historic periods, it may not be out of place to suggest that Chitral city, with its valley like settings and large agricultural lands, assumed its prominent role during the 18<sup>th</sup> century CE after the dominance of the Muslims and that Singoor village, before Chitral city, was previously a centre of attraction in the lower Chitral region during the protohistoric and historic epochs as evidenced from archaeology. However, it is worth mentioning that the explosion of population in and around the Chitral city, and its resultant expansion, during the last century might have obliterated some or all the archaeological evidence of Chitral city that could establish Chitral city being an equally important protohistoric and historic centre as the Singoor village.

Except for the Shabor Wali tomb, the earliest Muslim mosques in District Chitral are primarily located in the Darosh town, Ayun Valley, Broz village, Singoor and Upper Chitral regions and not in the immediate surroundings of the Chitral city (pers.comm. Ihsanullah Jan, 2019). Based upon the presence of earliest Muslim monuments, it may be argued that the earliest forms of Islam entered Chitral from the direction of Kunar, Dir, Bajaur through Darosh and Ayun, and from northern passes of Chitral, through Garam Chasma and Mastuj regions, and that the regions around Chitral city were late to link with Islam as evidenced by the latest Muslim monuments. Detailed and focussed archaeological research in future may provide clues to the contemporaneity and the historic and strategic importance of Chitral city and Singoor village and their relationship with each other.

The sites in Singoor are located in extremely strategic locations, overlooking the Singoor village and corresponding valley and the routes that pass through the valley into northern reaches of Chitral, Central Asia and beyond. The locations are still attractive to the local people for building their homes and relatively recent advantageous access to water have resulted in the construction of agricultural fields. With the growth of population and the resultant expansion of the village, most of these sites are actively being destroyed for house construction and conversion into agricultural fields. Antique hunters and illegal diggers, using handheld metal detectors, are vigorously destroying the sites. The Directorate of Archaeology and Museums, Government of Khyber Pakhtunkhwa, and the Government of Pakistan, need to take aggressive actions to stop the destruction and protection of the heritage in and around Singoor village in District Chitral.

## **5. Conclusions**

Singoor is perhaps one of the most important ancient villages in the lower Chitral region and it has remained at the core of archaeological investigations in District Chitral for the last two decades. The sites of Shah Mirandeh, Gankoreneotek and Chakasht around Singoor village have been excavated from 2007 onward, testifying to the importance of Singoor in the study of protohistoric cemeteries in Chitral. The scope of the present survey was to locate protohistoric cemeteries based upon the known location of protohistoric cemeteries and landscape choices and was confined to the identification of graves. The non-random systematic survey of four transects on the north – south and east –west axis along the Singoor village resulted in the documentation of 12 protohistoric, and possible historic non-Muslim, cemeteries, constituting one of the largest clusters of protohistoric cemeteries in a small geographical niche within northern and northwestern South Asia. The cemeteries were identified by the presence of visible graves on the surface, except for the Hindukush Heights hotel, which was identified based on grave goods and testimony of the owner about the presence of graves that were destroyed during the construction of the hotel. The relatively latest radiocarbon measurements from Gankoreneotek and Shah Mirandeh suggest a date range from 8<sup>th</sup> century BCE to 17<sup>th</sup> century CE, attesting to the use of the same locations for about two and half thousand years. This shows tremendous continuity

of burial traditions, landscape choices and utilization of strategic locations in the past. The late dating of the graves at Singoor village make it imperative to study the nonlinear continuity of religious and political ideologies, burial traditions and spread of Muslim religious and political ideologies in this part of the world.

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# **An Introduction to Harappan Mirrors: Studies in the National Museum, Karachi, Pakistan**

**Pranab K. Chattopadhyay / Abdul Ghafoor Lone**

## **Abstract**

*The objective of this paper is to highlight four masterpieces of Harappan mirrors in the collection of the National Museum of Pakistan in Karachi. The origin of those mirrors from Harappa and Mohenjo-Daro and side by side an attempt is made to locate the present location of other mirrors elsewhere.*

**Keywords:** Mirrors, Harappa, Indus Valley Civilization, National Museum of Pakistan.

## **1. Introduction**

Mirror or *Darpan* or *Mukura* or *Ayna* is the essential material objects of everyday life. It helps us in our daily mundane lives, though we rarely ever really appreciate its usefulness. From the dawn of civilization this object is continuing without any substitute even in the 22<sup>nd</sup> century.

Harappan Civilization is contemporaneous with other early state level societies but it has some unique and challenging issues. In the Old World the major state level societies include Harappan or Indus-Saraswati, Mesopotamian, Chinese and Egyptian. Excavations revealed the different Harappan sites in this subcontinent. Regarding periodisation the use of mirrors began in mature *Harappan Phase*, 2600-1900 BCE. A few mirrors had been discovered from the burials of Harappan sites of Pakistan and India.

The National Museum of Pakistan was established in Karachi in 1950. The objective of this paper is to discuss the Harappan Mirrors of their collections. The emergence of mirror in southeast Asia throws even a clearer pattern of intercultural links and trading exchanges over a very wide area in the late third and early second millennia BCE (During Caspers 1996)<sup>1</sup>.

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<sup>1</sup> During Caspers, E.C.I. (1996). The reliability of archaeological evidence for mercantile/ intercultural contacts between Central and South Asia, the Arabian Gulf, and the Near East in the late third and early second millennium B.C. in *Explorations in Art and*

This vast area includes the Indus Valley Civilization, comprising India and Pakistan and its neighbourhoods in North West Afghanistan (ancient Bactria), Baluchistan - Central, Southern Pakistan and Iranian; Uzbekistan, Arabian Gulf areas and Mesopotamia. Archaeological excavations and exploration have long established that the mirrors were extensively used in Ancient India though scanty of specimens is available now.

We shall discuss in this paper, a few masterpieces of mirrors of this museum's collection with a brief discussion on their origin; with a bird's eye view of their archaeological context. The discussed mirrors of this Museum were recovered prior to 1947, before the partition in this subcontinent. In New Delhi, National Museum of India was established in 15<sup>th</sup> August 1949. Both these museums were initiated with the collection of few other museums of this subcontinent.

## **2. Elements of Material and Methodology**

Throughout the world there is a believe that human learnt the use of native copper in Neolithic Period. The human of the then period made small artifacts using the small pieces of native copper by hammering those pieces with the use of heating in small furnace using wood as fuel. But this is not considered as the beginning of metallurgy; that only to be considered when human learnt to extract metal from the ore- minerals. The discovery of copper slag of 7500 BCE at Catalhoyuk, at Anatolia region in Konya province of Turkey is considered as the beginning of metallurgy.

The transition from lithic to metal is noted in Mehrgarh Baluchistan (29.3873°N, 67.6096°E), Pakistan where early beginning of metallurgy in this sub content was noted. The bulk of the worlds' supply to have been from ores based on chalcopyrite, a mixed iron and copper sulphide (CuFeS<sub>2</sub>). That ores exploited at the beginning of Copper Age appear to have been located some distance below the surface of a weathered and oxidized primary outcrop. The iron-oxide regions above the rich copper deposits are known as gossans (Agrawal 2009: 184)<sup>2</sup>. Agrawal

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*Archaeology of South Asia*, (Ed) Debala Mitra), Calcutta: Directorate of Archaeology and Museums, Government of West Bengal, pp. 123-156.

<sup>2</sup> Agrawal, D.P. (2009). *Harappan Technology and its legacy*, New Delhi: Rupa & Co.



also shared much information from Darling (1990)<sup>3</sup>, who shared different aspects of origin of non-ferrous metals. From Sumer of southern Mesopotamia - located in south central Iraq was one of the contemporaneous civilizations of Indus valley, one of the earliest pieces of evidence of copper casting was noted in 2700 BCE. *Cire perdue* (or Lost wax) casting techniques were mastered by Egyptian before 2200 BCE.

The term mirror is a material object which possesses a very smooth surface where regular reflections occur, following the laws of reflections of light. In present days normally the glass sheets with coating of metal like silver, mercury or other materials on one side is used. In ancient period, the mirrors were basically made of copper or copper-tin alloy better known as bronzes. Throughout the old world, bronze - an alloy of copper (Cu) and tin (Sn) were known from very beginning.

Perhaps the formation of first alloying was due to the natural presence of copper and tin minerals together. Pure copper is difficult to melt for its very high melting point 1084.87 °c. The smelters discovered that adding Sn to copper decreased the melting temperature. With repeated experimentation in hundreds of years they identified those three types of alloys with Cu-Sn system. The earliest copper-bronze technology began in Harappan civilization. Those include adzes, axes, chisels, fishhook, knives, pans and ornaments. The copper bronze objects of that civilization were mostly made by using pure copper. 30% of the specimens analysed in Harappa and Mohenjo-Daro were identified as low tin bronze, bearing less than 10% Sn. The ornaments and tools of Harappan civilization were manufactured by casting technique. The famous dancing girl, and a few other statues, models of cart and small vessels were made through precision casting technology, known as *cire perdue* or lost wax techniques. Thus, a well-developed casting technology was flourished in Harappan culture. Those bronze specimens were lesser than a kg in weight.

There is some evidence for smelting copper ores at the site of Harappa in crucibles as well as in larger furnaces. (Hoffman, B. C. 2019:54). Excavation at Binjore in the modern state of Rajasthan, were conducted by the Institute of Archaeology and Excavation branch of the Archaeological Survey of India. They have revealed hundreds of copper

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<sup>3</sup> Darling A.S. (1990), Non-ferrous metals, in *An Encyclopaedia of the History of Technology* (Ed.) I. McNeil, London: Routledge, p. 47-144.

smelting furnaces (Manjul et al 2017)<sup>4</sup>. That indicates import of copper in ingot form, to the Harappan copper smelters. The evidence of bun shaped ingots with an uneven puckered top surface from Mohenjodaro, Chanhudaro, Harappa and Lothal indicate that those were the raw materials for further forging. Cold as well as hot forging were known to the artisans. But those were limited in quantities where the specimens were initially made by casting and subsequently finished by forging. The techniques of forging become too tough. Saws and razors discovered in Harappan sites were made from sheet metal that subsequently forged, to obtain cutting edge. Some of the objects revealed 'twins'- through metallography – indicating annealing, after forging.

Casting technology depends first on the development of furnace for melting the metal and secondly for making proper mould to obtain the desired product. Ancient mould types like open moulds, etc. were discovered in Harappan sites. Casting of low tin bronze objects was easier to pure copper objects. Forging to thin cross section was also possible for pure copper. Casting was easier for low-tin bronze than pure copper. The increase of Sn content above 10% is difficult for forging due to very short forging zone of 50 to 100 °C. That low tin bronze alloy can be termed as  $\alpha$ -bronze, which is only a single-phase solid solution of tin in copper. Low tin bronzes are harder and stronger than pure copper.

Harappan metal workers were very good at making alloys and if they had wanted to make high tin alloys, they would have been able to do this. They clearly did not want to do this and the tin ratio that they used is because that is what they found suitable for the mirrors and other objects that they made. (Hoffman B.C, 2018-19: 175).<sup>5</sup>

The copper-bronze smelters of Harappan culture processed bronze above 10% Sn alloy. This is the major reason for the composition of artifacts of this period and improvement was noted in subsequent Gandhara period in this region.

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<sup>4</sup> Manjul, S.K., Arvin Manjul, P.K. Chattopadhyay, D.C. Pal and A.S. Baidya (2017). Metal Craft of Harappan Culture: A case study at Binjor, paper presented at BUMA-9. Busan, Korea

<sup>5</sup> . Total 324 copper and bronze samples were analyzed for their compositional character by HARP (Harappa Archaeological Research Project during excavation from 1986-to present, including one mirror.

## **2. Technology of Mirror Making**

Two techniques might be employed by the Harappans to make mirrors – forging the mirror blank straight from copper-bronze ingots, then grinding and polishing the mirror surface; the second technique is casting the mirror blank then subsequent finishing techniques. The second technique is easier and experimentally reproduced by Jonathan Mark Kenoyer, leading excavator of Harappa in Pakistan (Personal communication, 20 May 2015). He reproduced a mirror by using sand bivalve mould and finished those with grinding and polishing. Thus, the manufacturing technique has been established. Gandhara mirrors were made with technological improvements over the Harappans.

A mirror is physically combination of three units — polished mirror face, back side and handle/ or a small tang. The mirrors of the Harappan period are round to oval in shape like most of the ancient mirrors. It is very closely associated with an individual and had both aesthetic value and religious significances. Most of the former mirrors were made of cast or forged blanks. Artisans inspect both the surfaces of the blank carefully – then select the best one, which is almost free from surface defects. If surface defects were more, they rejected that piece without any further steps, and scrap that piece and recommends for re-melting in a crucible over a melting furnace.

## **3. Brief Archaeological Information**

The archaeological information related to the source of the mirrors of the collection of National Museum of Karachi, Pakistan; those may be explained as follows. The sources are from Harappa and Mohenjo-Daro. Those were excavated prior to the partition in this part of the subcontinent. If anyone is able to study those categories of mirrors - the entire Harappan mirrors, and then knowledge for the entire Southeast Asian mirrors would be achieved.

### ***Harappa***

The site, Harappa (30.6110° N, 72.8929° E) is one of the largest and most important cities of the Indus Valley Civilization, consists of a series of low archaeological mounds and cemeteries to the south of a dry bed of the Ravi River. The site was initially excavated by M.S. Vats of

Archaeological Survey of India between 1920-21 and 1933-34 (Vats 1940). One of the excavated specimens from Harappa is preserved now in the National Museum of New Delhi (Acc. No. 2602) Pl-I, (Fig. No. 1). Excavations have revealed a number of mirrors from Harappan burials by the archaeologists. We shall discuss afterwards.

Wheeler had discovered a circular handled copper mirror in 1946 from burial 2. Two faces of the mirror are shown in same figure, Pl-I, (Fig. No. 2). The burial revealed an elongated skeleton of a woman aged 30 years. The length of the skeleton was 162.6 cm. Several potteries, round water pot and a few other objects were also revealed. The mirror was in highly corroded state. Wheeler (p. 125) had further referred the composition of it which includes Sn (0.35%) and Pb (2.39%); Ni and as are absent. He had mentioned that it was originated from the (ores of) Aravalli.

### ***Mohenjo-Daro***

Mohenjo-Daro is the next important Harappan site. Discovered and excavated first time by R.D. Banerjee. Excavation continued afterwards by E.J.H. Mackay (1938:478)<sup>6</sup>. The site (27.3243° N, 68.1357° E) is situated in the Larkana district of Sindh province, Pakistan and it was one of the largest and most important cities of the Indus Valley Civilization. Till 1928 there was no evidence of mirror in the excavation at Mohenjo-Daro. Mackay (1938: 483-486) was the first excavator who discovered five mirrors from the DK area of Mohenjo-Daro. The first two mirrors of this site were recovered from upper level and three mirrors from lower level. The sketch / photographs are shown in Pl.2, Figure-2, was the first mirror (Fig. 1) which has been included by Mackay in his volume as plate CXIV, 1.<sup>7</sup> At present this mirror is preserved in National Museum Karachi Pl.2 (Figs. 1-2).

The back side of this mirror Pl.2, (Fig. 2) which is quite plane and somewhat irregular. The polish has completely disappeared from the recessed face of that mirror. The handle is rectangular in cross section at the end and it looks as if there had been another hole close to the mirror itself, but if it was so, then it has been filled up by corrosion afterwards.

The second mirror one of Mohenjo-Daro, shown by Mackay as (Pl. CXVIII, 10), is made of bronze; slightly with the edge of the face raised

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<sup>6</sup> Mackay, E.J.H. (1938). *Further Excavations at Mohenjodaro*, 2 vols. Delhi: Archaeological Survey of India.

<sup>7</sup> D.P. Agrawal 2009: 219.

4.3 mm. The length of that mirror was 266.7 mm, its width is 151 mm and thickness of blade is 10.2 mm Pl.2, (Fig. 2). It is interesting to identify, that mirror now accessioned, with (No.13303 A2601) in the National Museum, New Delhi Pl-2, (Fig. 3). The tang was, however broken now and subsequently under conservation.

From lower level the third mirror, (Pl. CXXX, 24) was 229.4 mm, its width is 165 mm and thickness of blade is 4.32 mm was recovered, Pl-2 (Fig. 4). Another specimen fourth mirror is shown in (Pl. CXXX, 25), Pl-2 (Fig. 5). This mirror is also located now in the National Museum, Karachi.

#### **4. Description of the Mirrors in National Museum, Karachi's Collection:**

In this Museum we have four Harappan mirrors – two from Harappa and two from Mohenjo-Daro. All those were revealed in excavation by the erstwhile Archaeological Survey of India. After partition they have handed over these four such specimens to this museum and two such to the National Museum, New Delhi. Out of the four Harappan mirror specimens in Karachi let us describe those in serial:

##### ***Specimen Pl.3, Sl. No. 1***

The first mirror specimen in this paper (Accession No 54931) is shown in Pl.3, Fig. No. 1 for its' face side. Its' back side is shown in Pl.3, Fig. No. 2. This specimen was recovered from upper level in the DK area of Mohenjo-Daro (Mackay 1938: 483-486). We are aware that Mackay was the first excavator who recorded five mirrors from this site. This was the first one, which was mentioned in Pl. CXIV, 1 of that excavation report.

The height of the mirror, i.e., mirror face and handle – (better we should call it as tang), is 290 mm. The width of the mirror face is 165 mm. with the edge of the face is slightly raised to 4.3 mm. The mirror face is oval in shape, with height 183x164 mm in breadth. The thickness of the mirror blade is varying from 10 to 5 mm. The back side of the mirror face is somewhat irregular. The polish has completely disappeared from the mirror face. Slightly above the handle there is groove. The handle is about 92 mm in length and 11 mm in breadth, and rectangular in cross section with average thickness of 5 mm. At the end of the handle, it appears that

there was another hole close to the mirror itself. Because of the corrosion and subsequent conservation, it was perhaps filled it.

The engineering drawing is shown in Pl.3, Fig. 3. In this drawing one can see that there is a difference of an arc of 15 mm depth exists between the oval mirror face and handle. The edge of the face is clearly exposed there.

### ***Pl.3, Specimen Sl. No. 2***

The second mirror specimen of this discussion (Accession No. H-810) were obtained from Harappa. The Pl.3, Figs. No. 4 and 5 respectively represents the mirror face and the back side of the specimen. The total height of the mirror including mirror face and handle is 140 mm. The face is slightly oval. The handle has some similarities with 'dove tail' shape. The handle has the minimum breadth at the centre. The mirror smith has designed as such it would be gripped at easy. Arc of this handle tip is 9.01 mm. Handle length is 26.74 mm. Thickness of the mirror is 2 mm. The engineering drawing of this specimen is shown in Pl.3, Fig. No. 6.

### ***Pl.3, Specimen Sl. No. 3***

The third specimen Sl. No. 3: was obtained from the DK area of Mohenjodaro. Its accession no (54.930, DK200). It was excavated by Mackay and is shown in Pl. CXXX, 26). The front face of the mirror is shown in Pl.3, Fig. 7 and back side of the mirror is shown in Pl.3, Fig. 8. Size is 95 mm height and the width of the mirror is 53 mm). The length of that mirror was 95 mm, its width is 53 mm and thickness of blade is 5.6 mm. It is important that this mirror now under the National Museum of Karachi with and its present accession number i.e. 54.930.

This mirror is oval shaped with an inbuilt handle. The handle was damaged and subsequently well-conserved. The height of the mirror is 53 mm. The handle is 38 mm height and its breadth at the middle is 9 mm and at the bottom is well curved about 12 mm.

This specimen we are confirming Mackay's claim that it was made for a child for its smaller in size in shape. The engineering drawing of this specimen is shown in Pl.3, Fig. No. 9.



### ***Pl.3, Specimen Sl. No. 4***

The fourth specimen (bears Accession No 543278), were recovered from Harappa. Pl.3, (Fig. No. 7) indicates the front face and the Pl.3, Fig. No. 8 indicates the back side of this mirror. The main feature of this mirror is its oval shaped and that one is connected with a handle, - both processed simultaneously during manufacturing. The height of the mirror including the handle is 190 mm. The breadth of the oval face is 110 mm. The mirror face is about 1 mm. The handle is flat in cross section, with thickness range of 3 mm. The edge at bottom of the handle was chiselled out.

The uniqueness of this specimen is for its back side of the mirror face – having a rim all along and that is varying in thickness with average value of 4.9 mm. The mirror face is flat. The handle is rectangular in cross section 64.9 mm in height and maximum breadth is 19.6 mm at tip of the handle it is 14.7 mm. We observe the presence of this type of rim first time on Harappan mirrors. The engineering drawing of this specimen is shown in Pl.3, Fig. No. 12. In brief, the dimension of the mirrors are shown in Table-1.

The recessing of the faces of all these mirrors was perhaps intended to protect them and to preserve their polish. It is almost certain that the handles at one time encased with wood and therefore than they now are, for these mirrors are very heavy and difficult to hold in their present condition (Mackay 1938: 478).

The mirrors discussed in this paper represent the reference collection of Harappan mirrors of this part of the subcontinent. Because of some technical problems we are unable to separate them from their fragile and conserved states in this museum.

## **5. Conclusions**

The copper metallurgical tradition practiced at Harappa shows that different alloying techniques were in practice at the same time in order to produce metal objects for different application has come out as a strong explanatory model in other regions. It indicates that Indus copper/bronze workers would have been expert in a variety of alloying techniques and production. The evidence of an alloying practice tradition at Harappa based on object appearance allows for incorporating the possibility that some of the ethnographic (Lahiri 1993;1995) and textual (Chakrabarti and Lahiri 1996:137-150) evidence for the use of specific alloys to make

special objects categories or for particular purposes, such as religious ceremony, could have its roots in Harappan copper/bronze metallurgy.

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## **1. Mirrors of Harappa**



Fig. 1 - Mirror Harappa (Access. No. 2602, National Museum, New Delhi).

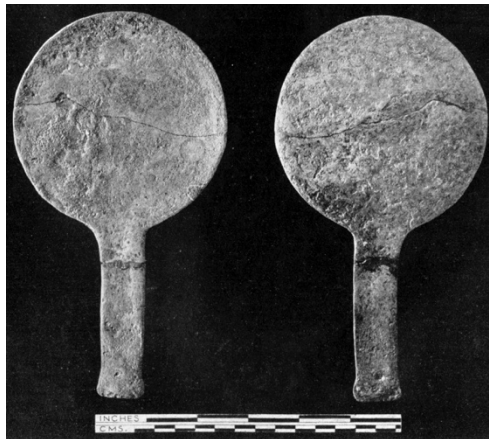


Fig. 2 - Two faces of mirror Harappa, cemetery R 37. (After Wheeler 1946).

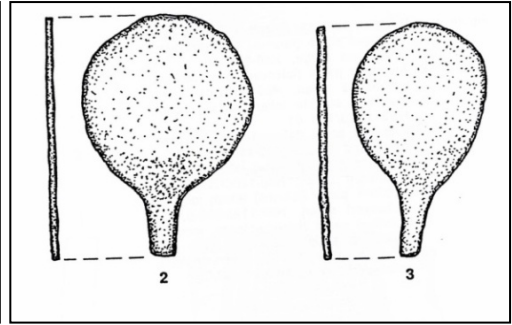


Fig. 3 - In-situ mirror from Harappa  
(Photograph by J. M. Kenoyer)

Fig. 4 - Circular mirrors from burials.



Fig. 5 - Mirror from Harappa  
(Photograph: Harappa Archaeological Research Project).

Fig. 6 - Mirror from Harappa.

**2. Mirrors from Mohenjodaro (after Mackay)**



Fig.1 - Mohenjodaro  
(Pl. CXIV, 1, after Mackay)  
National Museum Karachi

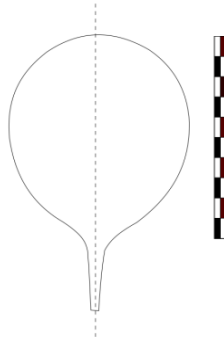


Fig. 2 - Mohenjodaro  
(Pl. CXVIII, 10, after Mackay)

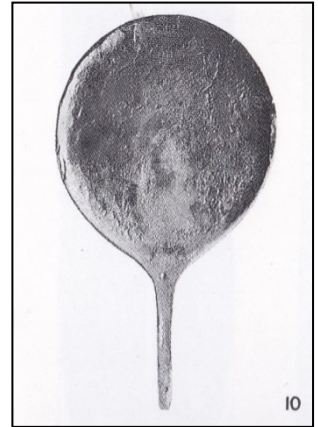


Fig.3 - Mohenjodaro  
(Acc.No. 13303 A2601)  
National Museum New Delhi.



Fig. 4 - Mohenjodaro  
(Pl. CXXX, 24)

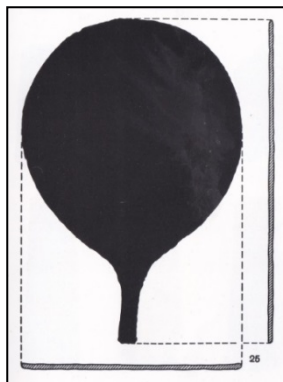


Fig. 5: Mohenjodaro  
(Pl. CXXX, 25)

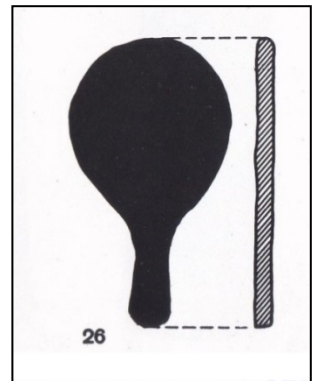


Fig. 6: Mohenjodaro  
(Pl. CXXX, 26)



**Mirrors of the National Museum in Karachi**

**Sl. No. 1: Figs. 1 -2= size. 290x 165 mm (Acc.No. 54931)**

**Mohenjodaro**



Fig. 1 - Front face of Mirror Sl. No. 1. Fig. 2 - The back side of this mirror.

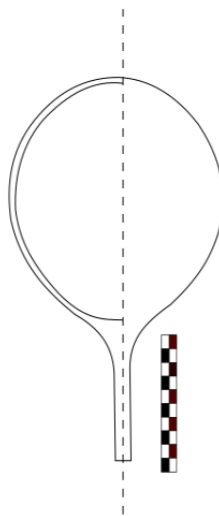


Fig. 3 - Engineering Drawing of Sl. No. 1.

**Sl. No. 2: Figs. 3-4= size. 140 mm x 85 mm (Accession No. H-810)  
Harappa**



Fig. 4 - Front face of mirror Sl. No. 2. Fig. 5 - The back side of this mirror.

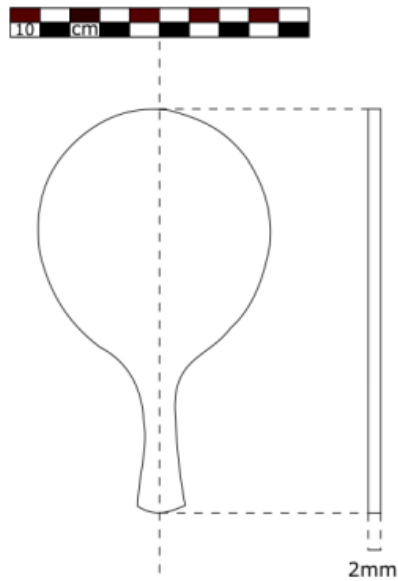


Fig. 6 - Engineering Drawing of Sl. No. 2.

**Sl. No. 3: 5-6= Size 95 mmx53mm = (54.930, DK200) Mohenjodaro**



Fig. 7 - Front face of mirror Sl. No. 3.

Fig. 8 - The back side of this mirror.

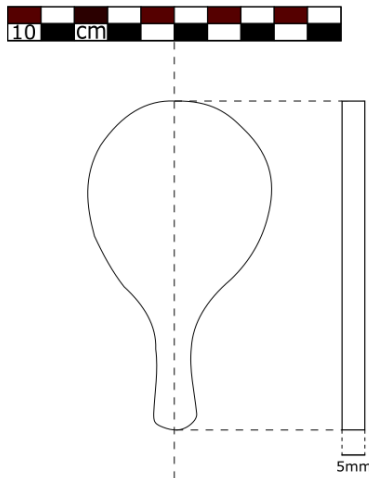


Fig. 9 - Engineering. Drawing Serial. No. 4.

**Sl. No. 4: Size 190 x110 mm (Acc No. 543278) Harappa**



Fig. 10 - Front face of mirror Sl. No 4.



Fig. 11 - The back side.

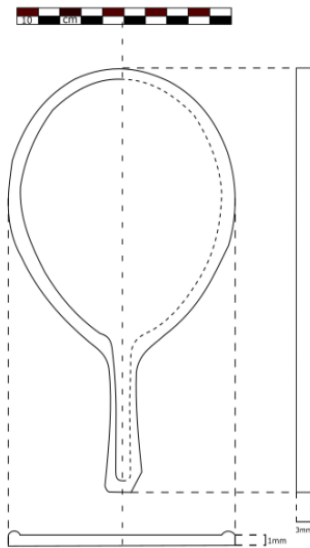


Fig. 12 - Engineering Drawing of Serial. No. 4.

## **Assassination Attempt on the Buddha A Mysterious Relief Panel in the SRO Collection of the Directorate of Archaeology and Museums, Peshawar**

**M. Nasim Khan / Zarawar Khan**

### **Abstract**

*The relief panel (Fig.1) that shows a scene from the life of Buddha is part of the SRO collection, which is now in the possession of the Directorate of Archaeology and Museums (DOAM), Government of Khyber Pakhtunkhwa. Since its first entry to the collection, the sculpture remains unidentified and to our knowledge unpublished. It is a unique or at least a rare example of its kind not only because it depicts one of the most important events of the Buddha's life, but it also represents certain enigmatic figures that needs to be distinguished and identified. In this preliminary study, we are trying to describe the pictorial representation of the episode vis-à-vis the Buddhist texts and also to decipher the characters of the event.*

**Keywords:** Gandhara Art, Assassination attempt on Buddha, SRO Peshawar.

### **1. Introduction**

After the devolution of the Federal Department of Archaeology and Museums, Government of Pakistan, in 2011, the antiquities and other assets preserved in the then Sub-Regional Office (SRO) Peshawar were handed over to the Directorate of Archaeology and Museums (DOAM), Government of Khyber Pakhtunkhwa. Besides thousands of coins and other cultural objects, a good number of sculptures<sup>1</sup>, including the panel under discussion, were shifted to the DOAM and is now the property of the Department.

The present relief panel, which was originally part of the SRO collection, is square in shape and is made of schist. It is highly incrustated and gives the impression that it to be of a whitish colour stone. The scene is depicted within a square frame, whereas the top, left and right borders are decorated with straight branches with opposite ovate leaves in low relief and evenly paired. The lower border of the frame is plain. In the top

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<sup>1</sup> Some of these are catalogued and published in Khan (2015), Tahir Saeed and Khan (2016), Khan (2017).

border, a four petal flower is inserted in the middle of the border. The branches are of a tree like *sāla*<sup>2</sup>, the tree which can also be seen in the landscape of the mountain depicted in the panel.



Fig. 1 - DOAM, SRO (No. 2771) Collection (Photo by M. Nasim Khan).

The rocky landscape, where the scene drops, is nicely displayed and is probably without parallel in the Buddhist art of Gandhāra, as far as the theme and its context is concerned. On the high plain base stands a group of five figures. The central one is of the Buddha who stands with the weight of his body on his right leg. He is shown three quarters to the right

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<sup>2</sup> For similar designs see Zwalf 1996: 398, 494 and 518; Ackermann 1975, Pl. XLVII.a). For comparison, see also Ackermann 1975: Pl. XVII.



and his folded right hand rests on his right bared chest while with his left he grabs the folds of his upper garment. He is bare footed and wears a long *uttariya* and a *paridhāna* which hangs above his ankles. He has a round plain halo behind the head.

In his front, the two standing figures are in *añjalimudrā* and are shown with low height compared to the Buddha. The person stands close to him wears the upper and the lower garment and is also barefooted. He has a knot of hair with frontal loop at his cranium. The figure is probably adorned with neck and ear ornaments (?) and has a round halo behind his head. He is followed by another one but is shown with a slim body and is portrayed in profile. His face is unclear and details are missing. Of the two other figures that stand behind the Buddha, the one depicted immediately and close to him is Vajrapāṇi of Heracles type. He has a muscular body, wearing for a short loincloth and the weight of his body rests on his right leg. The palm of his empty right hand is shown frontally oriented. There is a certain object in irregular shape near to his right or he might be holding in his hand. Would it be a flywhisk or a pebble? In the left corner of the panel and close to him, stands a barefooted figure with a halo behind the head. He has long hair and is shown with a hair bun at his cranium. His both hands are folded in *añjali* pose and wears a long robe, but with a bare right shoulder. All these figures stand at the foot or slope of the steep cliff of a mountain.

The topography of the mountain in the background is quite interesting. To accentuate the wildness and to harmonise it with the theme of the story, the figures of two trees, two animals, a bird and two human figures are added to the landscape of the steep rocky cliff of the mountain. In the top right corner an ibex or ram is pushing, with its head, a huge tree which is tilted towards the left to, probably, block the rolling rock which is pushed by a man who stands on the cliff or the ibex action could be the vice versa. Behind him, another tree and an ibex appear. The ibex is with raised front legs, standing left, but head turns backwards and looking at the man standing behind. Apparently the ibex is preparing to force the tree towards the man standing on the cliff and who is trying to hurl the rock. Under the tilted tree, a figure, which probably emerges from the cliff, is trying to impede the rock from falling over the Buddha who stands below, possibly near to the cave (see *infra*). A bird sits inside a crevice of the cliff and is depicted close and below the emerging figure.



Fig.2 - Taxila Museum (After Khan and Lone 2005, no. 35).



Fig.3 - Taxila Museum, from Giri site (Mohatta Palace Museum).

The vista in the background shows two different settings: the steep cliff of a mountain, where a group of five figures stands, and the panoramic view of the precipice with habitats. The landscape, the hustle and bustle in the backdrop and the presence of the Buddha with his companions may suggest parallelism or coherence with the episode related to the

assassination attempt on the Buddha by Devadatta, the abominable<sup>3</sup> and the traitor cousin of the Buddha<sup>4</sup>. Though the landscape, the overall arrangement of the figures and the synchronism of the actions with their characters suggest that all these actors are part of the same story, however, their identity and role in this episode pose a problem.

## **2. Assassination attempt**

We know from the Buddhist texts that Devadatta's hatred of the Buddha was so strong that pushed him trying three times to kill or get killed the Buddha (see *infra*). The assassination attempt on the Buddha by Devadatta and the attack of Mara on Buddha are both illustrated in the Buddhist art of Gandhāra and, in large, their iconographic features are easily recognisable, however, the attack on Buddha in the mount Gridhrakuṭa is practically absent. The few available examples of the episode are compiled and well-studied by Monika Zin (2006, figs. 2 and 3) but these are either fragments from large panels or they do not show enough details to harmonized exactly the illustrated characters with the textual description of the event. In one of these fragmentary evidences (Fig. 2), one can only guess that the big round object holding by a *Yakṣa* is hurled down by Devadatta who is depicted above. In the second panel Jīvaka is believed dressing the wounded foot of the Buddha (Zin 2006: fig. 2) while in the last panel (Zin 2006, fig. 3), the figures are told of the Buddha, Vajrapāṇi, doctor Jīvaka, Ānanda and Yakṣa Kumbhira. Here, in the left side, Buddha is seated on a throne while Jīvaka is dressing the wounded foot hurt by the rock hurled by Devadatta (Zin 2006, fig. 3).

The assassination attempts on Buddha by Devadatta are discussed in some of the Vinaya texts (see *infra*) and which tell that Devadatta had tried three times to kill the Buddha to take leadership and seize control of the Buddhist order. Andrew Bareau has devoted a detailed study on Devadatta's vicious acts and has elaborately discussed them in the light of the Buddhist texts which he has classified under two series of documents (Bareau 1991: 89-90). If we are to believe in the texts, in the present context, we would then depend more on the texts of the first series since they are more elucidative, particularly the texts of the Sarvāstivādin and Mulasarvāstivādin. The texts of this series agree, at least, on two

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<sup>3</sup> Bareau 1991: 119

<sup>4</sup> Foucher 1900, vol. 1: 168.

assassination attempts on the Buddha by Devadatta— first, to let an angry elephant loose on Buddha in the streets of Rājagṛha and, secondly having rolled a large rock on Buddha from the top of Gṛidhrakuṭa. Bareau says,

“Si l’on en croit les textes de la première série des Theravādin, des Sarvāstivādin et des Mulasarvāstivādin, la haine de Devadatta envers le Buddha est si forte qu’elle la pousse à essayer par trois fois de le tuer ou de le faire tuer. Tous s’accordent pour l’accuser d’avoir lancé sur le Bienheureux un éléphant furieux dans les rues de Rājagṛha et d’avoir fait rouler sur lui un gros rocher du haut du Pic des Vautours.” (Bareau 1991: 119).

The texts of the second series do not provide additional information to reflect them in the present study. Both groups of the texts agree that the occurrence takes place near Rājagṛha on the mountain of Gṛidhrakuṭa<sup>5</sup>. In the text of the second series, only the Mahīśāsaka and the Dharmaguptaka narrate the attempt of Devadatta to kill the Buddha, while the texts of Theravādin, Sarvāstivādin and Mulasarvāstivādin remain silent about these three offenses committed by Devadatta. Bareau tells,

“Dans les textes de la second série, ce sont les Mahīśāsaka et les Dharmaguptaka qui racontent les tentatives d’assassinat du Bienheureux par Devadatta au moyen de tueurs à gage et d’un rocher, les Dharmaguptaka ajoutant celle où le criminel se sert d’un éléphant furieux. Au contraire, les Theravādin, les Sarvāstivādin et les Mulasarvāstivādin restent muets sur ces trois crimes dans leurs textes de la second série.” (Bareau 1991: 119).

The following would be the most relevant and important points, in our context, to be retrieved from the texts of the first series are:

***Text Theravādin: Cullavagga*** (P.T.S), vol. II, p. 180-206) (Bareau 1991:89, 93)

- i. To kill the Buddha, Devadatta hurls a rock from top of the peak of Gijjhakūta/Gṛidhrakuṭa under which Buddha meditates;

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<sup>5</sup> The name Gṛidhrakuṭa is mentioned in different Buddhist texts e.g. Vinaya Piṭaka III, 58-59, 159.160 (Horner translation 1963: 98, 274)

- iii. Though the two peaks of the mountain get close to intercept the rock still;
- iii. A shard of it hurts the foot of the Buddha and bleeds;
- iv. The disciples propose to ensure the protection of their master, but he refuses.

***Text Sarvāstivādin*** (T. no. 1435, p. 257a-267a) (Bareau 1991:95-96)

- i. Buddha meditates in the Yakṣa Kimbala cave under the peak of Gijjhakūta/Gṛidhrakuṭa;
- ii. Devadatta and his four friends drop a large rock on him the moment he leaves the cave;
- iii. The Yakṣa grabs the rock and sends it away;
- iv. But a shard of it escapes;
- v. The Buddha desires a teaching and makes a journey all over the world, on earth and in the various heavens, but he is pursued by the pebble.
- vi. The pebble finally joins him and hurts his foot at the precise moment when the Buddha lands in front of the cave.

***Text Mulasarvāstivādin*** (T. no. 1450, p. 99a-206a) (Bareau 1991: 89, 99-100)

- i. Devadatta throws a big rock on Buddha
- ii. The Yakṣa Kimbila/Kumbhīra grabs the rock in flight
- iii. But a fragment of stone hits the Buddha's body
- iv. Kimbila dies soon after and is reborn among the gods of Trāyatṛiṃśas to whom he tells this story. While Buddha tells a Jātaka in praise of the Yakṣa.
- v. Doctor Jīvaka rush to treat him;
- vi. Ānanda obtains from king Ajātaśastru an extremely rare and necessary remedy medicine in this specific case;
- vii. The medicine turns out to be insufficient, however, and the monks go to look for others, more efficient, even rarer, at the limits of the world.
- viii. The blood having finally stopped flowing from the foot of the blessed One.
- ix. Ajātaśastru, in large cortege, bow down to the feet of the Buddha.

### 3. Discussion

It would not be very easy to reconcile the textual evidence with the pictorial representation because they do not only differ on this subject, but also, because the whole narration would have been difficult for the artist of Gandhāra to elucidate in a limited space of the panel. Despite this fact, the Gandhāran sculptor has intelligently illustrated important aspects of the episode insisting particularly on expressing the characters' thought, feeling and may be their age (see *infra*). For a reason of complexity of the episode, the artist had to decide which segment of the event was more important for the donor or believers of the Buddhist faith and how far the artist could go to cover it in the pictorial representation.<sup>6</sup>



Fig.4 - British Museum (After Zwalf 1996, no. 213).



Fig. 5 - DOAM, Buddha and Vajrapāni holding a torch or a flywhisk (After Nasim Khan 2010, no. 184).

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<sup>6</sup> The complexity of the Buddhist iconography is that it not only differs from locale to locale but sometime it also does not patch up with the Buddhist relevant texts (on this subject, see Nasim Khan 2016, 2018: 22).





Fig.6 - British Museum, Vajrapāṇi wearing a lion's skin (After Zwalf 1996, no. 293).

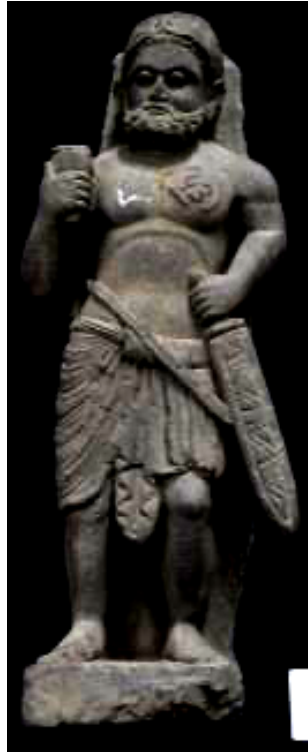


Fig.7 - DOAM, Heracles wearing a lion's skin and is carrying a wine cup (?) and a sword (After Nasim Khan 2015, fig. 18).

The identification of most of the figures is, therefore, a complex issue. Except the figure of the Buddha and Vajrapāṇi/Heracles, the rest of the figures could only be recognised either through their iconographic details or due to pure imagination. Buddha, shown tallest than the rest of the figures, stands in the middle. His physiognomy suggests that the Buddha is slender and looking sick, old and tired and is apparently in the final days of his life. Besides his old age, his life seems menaced and intimidated by different serious facts, e.g., the attempts of Devadatta to kill him and the political unrest in the country (Bareau 1966: 24-25). The exhausted Buddha stands with crooked body, his right closed hand is on his right chest, but his thumb up, a gesture of modesty and at the same time a sign of an accomplishment. The condition of his health in this panel reflects and remembers the words of Devadatta who announced to the Buddha

when he was teaching and giving instruction to the monks and in the presence of king Ajātaśāstru,

“Enough, Devadatta, please do not lead the Order of monks.” And a second time...And a third time Devadatta thus spoke to the Lord: “Lord, the lord is now old, worn, stricken in years...It is I who will lead the Order of monks.” (Cullavaga VII, 3.2-3; translation Horn 264)

After this provocative language used by Devadatta<sup>7</sup>, the Buddha said to him,

“I, Devadatta, would not hand over Order of monks even to Sāriputta and Moggallāna. How then I could to you, a wretched one to be vomited like spittle?” (Cullavaga VII, 3.2-3; translation Horn 264)

With a thirst for power and probably in revenge, as he was insulted by the Buddha<sup>8</sup>, Devadatta made several attempts to harm the Buddha and to lead the Community of the monks, but he failed every time<sup>9</sup>.

The figure standing behind the Buddha is Vajrapāṇi/Heracles<sup>10</sup> who is shown standing on his right flexed leg. His muscular body is naked and only wears a loin cloth. His left hand is cupped under the *vajra* (?) while the gesture of his right hand shows that he is lifting a heavy article which looks like a lion skin<sup>11</sup> or it is a pebble he is trying to intercept.

Next to Vajrapāṇi and in the left field stands a figure with hands in *añjali* pose. He is with bowed head and is looking at the ground, a gesture of reverence on one hand and the sign of paying attention to the discussion that is going on between the Buddha and the figures standing before him, on the other. He wears a monastic robe and has long hair which falls on his shoulder. The hair knot at the top of his head is high and round. The

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<sup>7</sup> See also Bareau 1991: 115-117

<sup>8</sup> See Lamotte 1970.

<sup>9</sup> For a detailed study see Bareau 1991.

<sup>10</sup> Vajrapāṇi in this form is rarely represented in the Buddhist art of Gandhāra. However, for other forms such as Vajrapāṇi of Hermes type we have more examples; for some of the good instances see Figs. 4, 5 in the present text. On the iconography of Vajrapāṇi/Heracles in Gandhāra art see Flood 1989, I-Tien Hsing and Crowell, W.G. (2005) and Tanabe 2005.

<sup>11</sup> Heracles is generally characterised by a mass and a lion skin (see Figs. 6, 7)

halo behind the head is of the same type as those of other haloed figures. Who this figure represents? Is this god Brahma?<sup>12</sup>

The two haloed figures standing before the Buddha are in *añjalimudrā*. With all devotion, they are with bowed heads and probably observantly listening what the Buddha is saying. The one who stands close to the Buddha has long hair, falling on his shoulder, and a flat hair knot or hair bun with a frontal loop arranged at the top of his cranium. The hair style very much looks like that of Maitreya's hair style (see e.g. Tanabe 2007: Pls. II-9, II-10). He is probably adorned with ornaments such as ear ornaments and neck jewellery. In the absence of a *Kamaṇḍalu*, should one still believe it to be the figure of a Maitreya?



Fig. 8 - Maitreya's compliance  
(Peshawar Museum Accession No. PM: 00669).

The person standing behind is partially damaged and the face is not very clear. The figure is with slim thigh, but comparatively with pronounced hips; it is difficult to establish any idea of its gender. Keeping aside the iconographic issues, assuming that the two figures represent a couple, still

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<sup>12</sup> The image can be compared with the one which appears in the Giri sculpture, Taxila, (Fig. 3). Here, Brahma stands with hands in *añjali* pose while the Buddha meditates inside the cave. On the opposite side, stands Indra. The two flying figures, who are tossing flowers, are probably the *yakṣas* or *gandharavas* who are having the same costume as the one appears in our Fig. 2. The two haloed figures in the upper compartment are *devas* who celebrate the event.

it would be difficult to identify who they represent and what is their role in this episode. Should one guess the figures to be of Ajātaśāstru and his consort Vajira?<sup>13</sup> After a futile assassination attack by Devadatta, Ajātaśāstru, *complice* in this crime, decides to renounce or surrenders (Bareau 1991: 100) and Buddha has to reconcile with him<sup>14</sup>. Bareau says,

“Le long texte des Mūlasarvāstivādin se termine par une courte série d’épisodes relatifs aux relations entre le Bouddha et le roi Ajātaśāstru. Ce dernier va, en grand cortège, se prosterner aux pieds du Bienheureux et lui poses diverses questions sur la doctrine et la morale, mais il n’est fait alors aucune allusion à Devadatta ni à ses crimes.” (Bareau 1991: 100)

If otherwise, putting aside once again the iconographic complexity, one could also think about Śāriputra and Maudgalyāyana, the two chief disciples of the Buddha who accompanied him during all this episode or they could simply be *devas* with the same characteristics as to be seen in Fig.3. The text Mulasarvāstivādin makes allusion to Ajātaśāstru subjugation before the Buddha.

#### **4. Conclusions**

To compare the descriptions provided in the three texts of the first series (Bareau 1991: 89), the Vinayapiṭaka of Sarvāstivādin and the Vinayapiṭaka of Mulasarvāstivādin are more revealing on the subject than the Theravādin. Apparently, the narrative in the panel has more in common with the text of the Sarvāstivādin. To combine both the texts and the iconography, we may come to the following conclusion. The panel shows a mountain (A.i: Gijjhakuṭa)<sup>15</sup> and the Buddha (A, B, C) who is standing outside the cave (B.vi)<sup>16</sup>. Among the two figures in the mountain, one is probably Devadatta who is trying to drop the rock on the Buddha (A.i, B.ii, C.ii) while Yakṣa Kimbila is attempting to prevent it from falling on him (B.iii, C.ii). Behind the Buddha stands Heracles and

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<sup>13</sup> Representation of a female with a halo seems rare in Gandhāran art. May be, among the few example is the figure of Hariti in the SSAQ Museum, University of Peshawar.

<sup>14</sup> Fussman says, “Dès l’origin, le bouddhisme a ainsi cherché à se concilier les grands de la terre. La légende bouddhique et les *māhātmya* dont les pèlerins chinois nous on conserve la substance transforment en protecteurs du Buddha les rois de l’antiquité (Bimbisāra, Prasenajit et même Ajātaśāstru),...” (Fussman 1994:25)

<sup>15</sup> The sign in bracket refers to the relevant section of the text here referred to.

<sup>16</sup> The cave is not visible but the overall location is depicted in the panel.

probably Brahma. The object close to Vajrapani's right hand could also be the shard detached from the block of stone dropped by Devadatta on the Buddha (B.iv). In his front stands probably Indra or may be Maitreya<sup>17</sup> to whom does Buddha seem to entrust something to exert (see note 18). Or the two figures standings in front of the Buddha may also represent *devas*, or with less probably one of them is Ajātaśāstru (C.ix). To blend iconography with the Buddhist texts, the possibility of Śāriputra and Maudgalyāyana or Jīvaka (C.v) could not also be ignored.

As far as the role and the reason for the presence of the two animals and the two trees is concerned, we are not quite sure about it. Are they representing the four companions, disguised in animals and plants, of Devadatta? If so, their role would not be to protect the Buddha but to help Devadatta to harm him. Similarly, the role of the small bird, if there was any, in the mount Gijjhakūṭa is hard to understand. May be, her presence is to show that the scene drops at the Gijjhakūṭa. Could the bird in this panel be Gṛidhra?

Although, this carved version of the probable assassination attempt on Buddha by Devadatta seems unique, the proposed identification for certain of the figures is still vague and require further investigation.

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<sup>17</sup> Maitreya seems always carry a pot, directly or indirectly, and is characterized mainly by the flask and his hair bun. In his preaching pose he is generally shown not carrying the pot (see Zwalf 1996: 42), except may be in the case of Peshawar Museum example (PM\_03000). But Maitreya is probably never shown in *añjalimudrā* but, at the most, his right hands is raised in *abhayamudrā* while the left carries the water flask (Zwalf 1996:42). We have a rare example (Fig. 8) where Maitreya stands close to Buddha, touching elbows, with his right hand on his chest, a gesture of compliance, and the other holds the flask.

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## **Earliest Pashto studies by Western scholars from the 16<sup>th</sup> century to the 19<sup>th</sup> century**

**Matteo De Chiara**

### **Abstract**

*This article aims at dealing with the dawn of Pashto studies, from the first mention of this language, in the 16th century, till the first scientific treatises on Pashto grammar, literature and lexicology by Bernhard Dorn, published between 1840 and 1847. The questions this article tries to answer is: how was the documentation of Pashto collected? By whom? For which purpose? The aim of the following overview of all western authors who dealt with Pashto in the initial epoch is also to show how general knowledge increased more and more quickly with the military involvement in the region.*

**Keywords:** Pashto, Afghans, origin of Pashto and of the Afghans, Afghanistan, British India, Persia.

### **1. Introduction**

Since more than two centuries, Pashto — an Eastern Iranian language belonging to the Iranian family, spoken in Afghanistan, Pakistan and important diasporas — is object of academic and public interest and researches. The number of publications dealing with all linguistic aspects of Pashto grew with the passing of time and the resulting bibliography is nowadays quite ample. In spite of this, a general appraisal of Pashto studies does not exist, but only partial bibliographical sketches in specific domains. As a result, one of the main difficulties to be faced when beginning researches into Pashto studies is linked to the difficulty of find scientific bibliography.

This article aims at dealing with the dawn of Pashto studies, from the first mention of this language, in the 16<sup>th</sup> century, till the first scientific treatises on Pashto grammar, literature and lexicology published by Bernhard Dorn, between 1840 and 1847.

This initial period is characterised by the first discovery of this language, the first collections of materials and the tentative of classification within one or the other language family. Since the epoch of the first rapprochements with Hebrew, towards the end of the 18<sup>th</sup> century,

a progressive work has been accomplished, thus reaching, at the beginning of the 20<sup>th</sup> century, a good scientific level, laying the foundations for the successive developments in the second part of the 20<sup>th</sup> century and till nowadays.

This epoch also coincides with the colonial goals of the British government, trying to dominate the region in order to contrast French, before, and successively Russian influence and presence in Persia and Central Asia. Conventionally, we can consider 1919, the end of the third Anglo-Afghan war, as the concluding event of the phase of British colonialism. Even if the British presence did not fade away from this region, the British stopped trying invading Afghanistan and globally lost much of their interest in the knowledge of this country.<sup>1</sup> In the successive epoch, the Soviets will increase their interest for Afghanistan, with a resulting multiplication of Soviet studies on Pashto.

Two main themes develop in the initial period of the discovering of Pashto and of the Pashtuns: their language and their mythical origin. We are interested in the first topic, but it is strictly intermingled with the second and very often influenced by it.

The questions this article tries to answer is: how was the documentation of Pashto collected? By whom? For which purpose? The goal of the following overview of all western authors who dealt with Pashto in the initial epoch is also to show how general knowledge increased more and more quickly with the military involvement in the region.

## **2. Antoni de Monserrat (16<sup>th</sup> century)**

The first official mention of the Pashtun or Pathan tribes is found in the correspondences of Antoni de Monserrat in the 16<sup>th</sup> century.<sup>2</sup> Monserrat

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<sup>1</sup> Indeed, as remarked also by Raverty, in the introduction to his dictionary, the main goal of such an interest was military: “The annexation of the Panjāb - by which a large portion of Afghānistān Proper, containing nearly two millions of inhabitants, came under our rule - demands that due attention should be paid by the government officials to the language of the people over whom they are appointed as rulers and administrators [...] we can only free ourselves from dependence upon them [Indian agents, neither English nor Afghans], by sending as agents into the country men practically acquainted with the language spoken by the people, or, at least, with the language in general use at the Court of the ruler to which they may be accredited” (Raverty 1860: ix).

<sup>2</sup> On Monserrat, cf. Correla-Afonso 1980 and Fuat Sezgin et al. 1997; see also Monserrat’s letters (Monserrate 1914).

was born in 1536 and was the member of the first Jesuit delegation to Goa. Chosen as the ambassador to the court of the Mughal king Akbar, where he could also study Persian,<sup>3</sup> he had the opportunity to participate to the campaign of 1581 of Akbar against his half-brother Hakim and his allies, the Pashtuns.<sup>4</sup> He died in 1600 in India.

He wrote a personal narrative<sup>5</sup> of all the events, regions and people he met. Concerning Pashto, unfortunately he did not let materials or remarks, apart the general sensation on the pronunciation of a proximity with the sounds of Spanish, so that the two languages share apparently some words:

Beyond Gagaris a branch of the Indus was crossed, which rejoins the Indus a little lower down, thus forming a broad island, which was called by the ancients Prasiene [In the time of the Macedonians the Indus bifurcated above Aror, to run for about a distance of 2 degrees in two beds which enclosed between them the large island called by Pliny Prasiene, the Prarjuna of the inscription of the Allahabad column. It now runs at that point in a single stream (Ptolemy p. 83) (note of the editor)] on account of its greenness, I suppose. Camp was pitched on the bank of the Indus in a valley of the district of Hazara. [Hazara, now included in the North-West Frontier Province (note of the editor)] The island mentioned above belongs to a clan of Patanaei who are called Delzacquii [The Delzacs settled in the Peshawar valley in the 14th century A.D., and seem to have been, like the Ghakkars, friendly to the house of Babar (note of the editor)]. [...] Their language is that of other Patanaei, namely Pastoum [Pashtu (note of the editor)]. Its sound is like that of Spanish, and – what is more to be wondered at – it has some of the same words. (Monserrate 1922: 118)

Concerning the Pashtuns living in part of the actual Khyber Pukhtunkhwa, Monserrate states that: “There is not a vestige remaining of the ancient names, districts, cities and towns. The Patanaei originated in Gandara and Suastene. They invaded and occupied a great part of India, having

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<sup>3</sup> “Persian is a very beautiful language, and its vocabulary is well suited to the use of those who are devoted to learned and philosophical studies” (Monserrate 1922: 49).

<sup>4</sup> “Akbar was accompanied on this journey by the Jesuit Monserrate, with whom he enjoyed the evening diversion of discussions on comparative religion. Monserrate has left a Latin diary, more detailed than any of the Muslim chronicles, and with claims to be considered the primary authority for these events” (Caroe 1958: 207). On this campaign, see *ibid.*: 207-210.

<sup>5</sup> The Introduction is dated “*Sanaa, January 7th, 1591*”.

defeated the Christians” (*ibid.*: 136),<sup>6</sup> while he writes about the Pashtuns living in the region of Jalālābād that: “The inhabitants of the Province [of Jalālābād] are the Patanaei, who are controlled by a Mongol garrison. These Patanaei, whom the Mongols call ‘Aufgan,’ live by agriculture” (*ibid.*: 149).

Lastly, in the second part of his work, intended as a commentary to the first part,<sup>7</sup> Monserrate links Pashto with Bactrian and Parthian:

These same Sacae [Sauromatae] founded Indo-Scythia, near the Paharopanisas, whose inhabitants are called Patanaei [Pathans (note of the editor)] and Delazacquii [Dilazaks (note of the editor)], *i.e.* ‘true of heart’. They speak a mixture of the Scythian language of Bactria and the Median of Parthia, called Pastoum. By the Persians they are called Aufgani. The Bactrians were brought into that region first by Eucratides. Subsequently the Parthians were brought in by Mitthridates, the great-grandson of Arsaces, after he had slain the son of Eucratides (Monserrate 1922: xli)

### **3. Judas Thaddaeus Krusiński (1728)**

Judasz Thaddeus Krusiński (1675-1756) was a Polish Jesuit Father, who related the last period of the Safavid dynasty. He was sent to Persia and here he begun the king’s translator. He assisted, in 1722, to the military

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<sup>6</sup> “The tract beyond the Coas [*i.e.* the Kabul river (my note)] and below the junction of the rivers, lying to the east between the Indus and the Suastus, was called by the ancients Gandara [...]: that above the junction and northwards beyond the Suastus was called Suastene [Swat, to the north of the river of the same name (note of the editor)]: and that between the Coas and the Suastus Gorica [This is Gorya of Strabo. ‘Gouryaia designates the territory traversed by the Gourais or river of Ghor which is the affluent of the Kabul river now called the Landai, formed by the junction of the rivers of Panjkora and Swat. Alexander on his march to India passed through Gouryaia.’ (Ptolemy) (note of the editor)]. It is now inhabited by Patanaei under the rule of Xacattgei or Mongols. There is not a vestige remaining of the ancient names, districts, cities and towns. The Patanaei originated in Gandara and Suastene. They invaded and occupied a great part of India, having defeated the Christians. Their country, lying as it does between the Indus, and the Coas or the Suastus, is level and of the same climate as its neighbour India” (Monserrate 1922: 135-136).

<sup>7</sup> “Finally, I have divided my work into two books, of which this first forms an account of the first journey to the court of the King of the Mongols, whilst the second is, as it were, an appendix and commentary upon the first” (Monserrate 1922: xviii).

Afghan campaign in Persia,<sup>8</sup> where he lived between 1707 and 1728. Successively, he was teacher of oriental languages in Rome, Jerusalem, France and Istanbul.<sup>9</sup>

Krusiński's work knew a complex history. The original was written in Latin, but apparently gone lost, as it is not found in any library. However, the Jesuit Jean-Antoine du Cerceau (1670-1730) could read it and took the basic information<sup>10</sup> to compose his own *Histoire De La Dernière Revolution de Perse* in French (Krusiński-du Cerceau 1728) and English (Krusiński-du Cerceau 1733), which would be quite different from Krusiński's original, according to Mitford, the translator of the last edition (see *infra*).<sup>11</sup>

Krusiński's Latin work was successively translated (by himself?<sup>12</sup>) into Turkish and published in 1729 by Ibrahim Padshah, vizier of Sultan Ahmed III, under the title of Tareekh-i-Seeah. Already in 1731, this last was retranslated into Latin by Johann Christian Clodius (1676-1745), professor of Arabic at the University of Leipzig, where he remained all his life, under the title *Hoc est Chronicon Peregrinantis, seu, Historia ultimi Belli Persarum cum Aghwanis gesti* (Krusiński-Clodius 1731). To be noted that neither du Cerceau nor Clodius never went to Persia or India. This last Latin version was in turn translated into English by George Newnham Mitford, "about whom little is known" (Digital Library of Congress), in 1840, with the title *The Chronicles of a Traveller: a History of the Afghan Wars with Persia, in the Beginning of the Last Century, from their Commencement to the Accession of Sultan Ashruf. Being a*

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<sup>8</sup> When Mahmud, Mirwais' son, "led his Ghaljis in a triumphant campaign against Persia. In 1720 he captured Kirman, and in 1722 besieged and took the Safawi capital Isfahan after appalling barbarities" (Caroe 1958: 251): see Roemer 1986: 320-324.

<sup>9</sup> For all information on Krusiński's life, see Malecka 2015 and bibliography. Cf. also Ferrer 2018 and Lockhart 1986: 407-408.

<sup>10</sup> "The story I give to the public is based on a testimony [...], since I have composed it solely on the Memoirs of Father Jude Krusinski, Polish Jesuit" [my translation] (Krusiński-du Cerceau 1728: ii: "L'histoire que je donne au Public est fondée sur un témoignage [...], puisque je l'ai composée uniquement sur les Memoires du Père Jude Krusinski Jesuite Polonois").

<sup>11</sup> "[T]he easy faith of the good Jesuit, and the lively imagination of his French editor, have produced an historical romance, which, though not destitute of information, requires as much knowledge to distinguish between the truth and the falsehood, as would have sufficed for the production of a correct history" (Elphinstone 1815: 436).

<sup>12</sup> Du Cerceau first ascribes the translation into Turkish to the same Krusiński: see also Krusiński-Clodius-Mitford 1840: viii.

*Translation of the "tareekh-i-seeah," from the Latin of J. C. Clodius, Prof. Arab. At Leipzig (Krusiński-Clodius-Mitford 1840).* Mitford devotes a long introduction to the tentative of reconstruction of the history of Krusiński's work.<sup>13</sup>

About the Afghans, we find, in Clodius' translation, a hypothesis of their origin:

The origin of this nation is involved in great obscurity; and it is unknown whether they originated in the province of Sheerwan, which is situated on the Caspian sea, on the verge of Daghestan, or in the plains bordering on that province, beyond the Bab-al-abwab, [...] or were the ancient 'Caspian', or a branch descended from that nation. However, making continual predatory incursions on the Persian and other adjacent

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<sup>13</sup> His final reconstruction of the history of the book is the following: "It is however probable, that the Pole may not have been sufficiently versed in French, to write a history in that language, and might have rather had resort to another, in the use of which he seems from his other works to have been familiar; while the Polish was ill adapted, particularly from the declining state of Poland, to disseminate a knowledge of the memoirs throughout Europe. But if the Latin copy had not been greatly corrected by the Turkish translator, in the opinion of its author, there could have been no occasion to give Clodius the laborious commission of making a retranslation of it into Latin—an effort that he did not long survive, and which he assures us he completed in the almost incredible space of six weeks, though it was in the depth of winter, and he was suffering at the time with a very severe disease, which threatened the most fatal consequences. He does not seem to have seen the other version in Latin, and complains of the difficulty of reducing the flowery style in which the Turkish account had been written. It is probable that the Turks, with a view to remedy errors which they conceived to be propagated in the preceding accounts of this rebellion, determined to counteract their effects, by publishing another in a tongue so generally known as the Latin, among well educated persons in the European states to the westward of them; and at the same time to make it subservient to the purpose of rendering the establishment of a press at Constantinople generally known. If Krusinski had assisted the Effendi in making the Turkish version, it is to be supposed that Ibrahim, who long continued to be a great patron of science, would have made some reference to him; but from the circumstance of his name never being even once mentioned throughout the work, or even that of the author of the version originally used, we may be led to form a decided opinion, that the one translated was Du Cerceau's, which was published both at the Hague, and at Paris, anonymously. At the same time, Krusinski, who attended Ashrufs ambassador to Constantinople, is described in 1729 to be at Kaminiak, and to have passed his latter days there; a place so close to the frontiers of Turkey, that the Turks held possession of it for the last twenty-seven years of the seventeenth century. It may therefore be conjectured that he was versed in the language of the contiguous nation, and that he had not removed far from Constantinople, when his work became one of the earliest specimens of science propagated by the Sultan's press" (Krusiński-Clodius-Mitford 1840: xl-xli).



countries, Teimoor, having conquered, removed them to a more distant country, between India and Persia, so that they might be at the same time secure from all invasions, and equally incapable of inflicting injury on others. Some historians consider this nation to have sprung out of Armenia, since the province of Sheerwan was originally called Albania, and when its inhabitants were styled Albani; and if this were the case, it is very probable Albanians were erroneously called Afghans. The Armenian monasteries, moreover, on the confines of Scheerwan and Karabagh, are called Kendsar, the superintendants of the roads, Aghwanitsch, which in the Armenian language signifies a leader of the Afghans; and in the padshahliks of Kiunge, Rivan, and Nachgivan, on the frontiers of Geelan, the resident Armenians, who take great pride in the names, call themselves Aghwanlik. It is probable that when they inhabited Kendahar, the word Candahar was corrupted in process of time from Kendsar, which by some authors is considered as the castle erected by Alexander the Great. Whilst the Afghans resided among the Armenians, they indubitably followed the religion and customs of that people; but when far away from their native soil, and they had mingled with the Indians, they by degrees embraced the Mahomedan faith. (Krusiński-Clodius-Mitford 1840: 21-22 [my translation])<sup>14</sup>

Du Cerceau's work provides also a hypothesis on the origin of the name

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<sup>14</sup> "Gentem hanc, Provinciam Schirvan, prope littoral maris Caspii in confinibus Daghestanae sitam, aut extra portas Caspiae, Daghistanae conterminos campos inhabitasse, vel ipsum populum Caspium, aut ab eo prognatum incertaeque originis esse, a viris rerum peritis memoriae traditum fuit. Cum vero regions Persicas, aliasque adjacentes, perpetuis excursionibus ac praedationibus infestaret, & Timurus illas sibi subjecisset, querelis incolarum ad illum delatis, praedictam gentem in alias remotiores terras, Persiam inter ac Indiam relegavit, ut hoc modo ab invasionibus molestis, nec parum damni inferentibus liberarentur. Ex gente Armenia esse populum hunc quidam annales referunt, quoniam provincia Schirvan olim Albaniae nomen habuit, eiusque incolae fecundum Geographos Albani diéti fuerunt, et si ita res habet, Aghwanos etiam Albanos per errorem dicios maxime verifimile fit. Hodienum quoque in confinibus Schirwanae ac Karabag siti Armenorum monasterii Kendsar appellati, viarum praefectos Aghwanitsch vocant, quod in lingua Armenica Aghwanorum ducem significat, et in praefectura Kunge et Rivan et Nachgivan ac finibus Kilanae et inter gentem Sahnak dictam habitantes Armeni, nunc ex eo nomine gloriam captantes Aghwanlik se vocant. Et probabile est a viarum praefectis Kendsariensibus, cum Kendaharam inhabitarent, Candaharae vocem temporis lapsu ex Kendsar per errorem corruptam fuisse, in quibusdam Chronicis illud castellum ab Alexandro Magno exstructum jam esse reperitur. Et cum inter Armenos habitarent Aghwani, eorum mores ac religionem secutos eos esse, omni dubio caret, cum vero a solo natali penitus separati, cum Indis commiserentur, paulatim religionem Mohammedicam amplexi fuerunt" (Krusiński-Clodius 1731: 11).

“Afghans”. As this is missing from the version provided by Clodius, we can deduce that this is a reasoning of the same du Cerceau:

The *Aghvans*, who were originally of the Province of *Szyrvan*, which was anciently call'd *Great Albania*, and which is situate between the *Caspian Sea* and Mount *Caucasus*, were formerly subdued by *Tamerlane*, who could not reduce them till after many Battles, wherein he cut a great Part of them to Pieces. But as this unmanageable People, not used to bear the Yoke, were continually revolting, and took Arms again upon the first Occasion that offer'd, he thought he could not make sure of them, but by transplanting them to another Soil, being persuaded, that when they were once out of the Sight of their own Country, they would at the same Time lose that Love of Liberty and Independence which had engag'd them in so many Rebellions, and which had given him so much Trouble and Fatigue; and in order to keep them under the stricter Subjection, he plac'd them between *Persia* and the *Indies*, upon the Confines of each of those two Empires, which he had equally reduc'd to his Obedience. 'Tis said, that they were anciently Christians, of the *Armenian* Sect, but that they turn'd Mahometans for Want of the Assistance and Instructions of their Priests and Doctors, whom *Tamerlane* took away from them, that they might sooner embrace that Religion. As to their Name, that alone seems to justify what is said of their Origin, with respect to *Albania*; for as in the *Armenian* Tongue our Letter *L* is chang'd into *GH*, and our *B* into *V* Consonant, so of the Word *Albans* is formed *Aghvans*. (Krusiński-du Cerceau 1733: 137-139 [my translation])<sup>15</sup>

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<sup>15</sup> “Cette Nation originaire de la Province de *Szyrvan*, qu'on nommoit anciennement la grande Albanie, & qui est située entre la Mer Caspienne & le Mont-Caucase, fut autrefois subjuguée par Tamerlan, qui ne pût la réduire qu'après bien des batailles où il en tailla en pièce une partie. Mais comme ce peuple intraitable & peu accoutumé à porter le joug, se soulevoit sans cesse, & reprenoit les armes à la première occasion qui s'en présentoit ; il crut ne pouvoir s'en bien assurer qu'en le transportant dans une autre contrée, persuadé qu'en perdant la vûe de leur païs, ils perdroient en même tems cet amour de la liberté & de l'indépendance qui les avoit engagés dans tant de revoltes, & qui lui avoit causé à lui-même tant d'inquiétudes & de fatigues : & afin de les tenir dans une sujettion plus étroite, il les plaça entre la Perse & les Indes, sur les confins de l'un & l'autre de ces deux Empires qu'il avoit réduits également sous sa puissance. On prétend qu'ils étoient anciennement Chrétiens, du Rit Arménien ; mais que privés du secours & des instructions de leurs Prêtres & de leurs Docteurs, que Tamerlan leur avoit enlevés pour les pouvoir amener plus facilement au Mahometisme, ils s'y étoient peu à peu laissés aller. Au reste leur nom seul semble autoriser ce qu'on dit de leur origine par rapport à l'Albanie ; car comme dans la langue Armenienne on change notre lettre *L* en *GH*, & notre *B* en *V* consonne, des *Albans* on en a fait les *Afghvans*” (Krusiński-du Cerceau 1728: 140-142).

On the question of the origin of the Afghans, Mitford devotes some pages to the presentation of the matter and to some other opinions (cf. also *infra*). In particular, he stresses as the Jewish genealogy proposed for Pashto by W. Jones (see *infra*) was accepted also in Rees' Cyclopaedia (1819, s.v. *Afghans*) and also assumed for the Turks, then he concludes:

A history of the origin of the Afghan nation, by a Christian ecclesiastic like Krusinski, from materials given him by Afghans, may therefore derive some interest by having undergone the ordeal of correction by a Turk; more especially if reference be made to similar parts of history [...] wherein are accounts of the contests between the Turkish branches of Ghiznee and of Seljouk, in the eleventh century, for the country now inhabited by the Afghans and their neighbours. It may be remarked, however, that though in the genealogy now submitted, as one corrected by the learned Turk, so well versed in history as Ibrahim Effendi, Teimoor be represented to have brought the Afghans from near Daghestan, and established them between Persia and India, in accordance with an ancient custom in Asia, when conquered inhabitants proved turbulent, Ferishta, the historian whom General Briggs has so carefully translated, relates how, in 1008—that is three hundred years before Teimoor appeared on the banks of the Indus—10,000 Turks, Afghans, and Khiljees, with 6000 Arabian horse, pursued and slew twenty thousand Hindoos; and how, in 1049, the Afghans in Sind and Mooltan declared, though unsuccessfully, their independence: nay, even in his introduction, he states the Mahomedan Afghans to have laid waste Kirman, &c., as early as A.D. 682. “The Abdoollees (the Iluzarehs of this volume, and the Douranees of the present day),” writes the historian of Caubul, who is quoted as to their position within the boundaries of Afghanistan, “were only lately moved to their present seats;” and by that writer are stated to be Toorkomans; whilst in Krusinski's and Ibrahim's joint account they are called Afghans, and may, therefore be deemed a connecting link between the two now distinct races of Turks and Afghans, who are thus represented to be derived from a common stock, the ten tribes of Israel. (Krusinski-Clodius-Mitford 1840: xxxiii-xxxv).

As a conclusion of this section, however, we may note as unfortunately Krusinski did not provide any linguistic information on Pashto, nor did the two other French travelers — Jean-Baptiste Tavernier (1605-1689), *Les six voyages de Jean-Baptiste Tavernier, ecuyer baron d'Aubonne, qu'il a fait en Turquie, en Perse, et aux Indes*, Paris 1676-1677, and Jean Chardin (1643-1713), *Journal du voyage du chevalier Chardin en Perse et aux*

*Indes orientales : par la mer Noire et par la Colchide*, Paris 1686<sup>16</sup> — let any information concerning Pashto and the Afghans.

#### **4. Louis André de La Mamie de Clairac (1750)**

Louis André de La Mamie de Clairac (1695-1752)<sup>17</sup> never went to Persia, but took benefice of his staying in Istanbul between 1724 and 1727 to gather information on Persia: this allowed him to write a *Histoire de Perse, depuis le commencement de ce siècle*, published in 1750.<sup>18</sup> In the first volume of this work, he presents the Pashtuns and their legendary history. In particular, at p. 2 he writes:

This people, generally understood under the name of *Afghvan* or *Awgan*, is divided into three principal Tribes, who, like most other Oriental Nations, trace their gealogy back to Noah. Japheth, they say, had three sons, Armen, Aghvan & Cardvel: the first two of these brothers remained in Armenia, which takes its name from that of the eldest, just as Cardvel, which is part of Georgia, takes its name from that of the youngest, who went to live in that country. [My translation]<sup>19</sup>

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<sup>16</sup> For a presentation of this edition see Chardin-Stewart 2018.

<sup>17</sup> For all information on Clairac, see Laporte 2003 and references.

<sup>18</sup> “En témoin de son temps, Clairac mit à profit son séjour à Istamboul pour prendre des notes sur les affaires iraniennes, alors fort troublées depuis plusieurs décennies. Ces notes devaient lui permettre de publier un quart de siècle plus tard ce qu’il semble avoir considéré comme l’œuvre principale de sa vie, une *Histoire de Perse* en trois volumes, sur les affaires et les convulsions internes de ce pays” (Laporte 2003: 241-242). Cf. also Lockhart 1938: 307-308: “Although the author was never nearer Persia than Constantinople (where he was from 1724 to 1727), he obtained through the friends whom he made there and through French diplomatic and consular officials [...] of his acquaintance a large amount of data relating to Persia [La Mamye-Clairac also utilised a number of works such as du Cerceau’s version of Krusinski’s Memoirs, the *Relation* of Père Reynal, the *Relazione della Rivoluzioni* [sic] *di Persia* (which I have not seen), by the Sieur Joseph, a Georgian who was interpreter at the French Consulate at Isfahan, etc. [note of the Author]]

<sup>19</sup> “Ce peuple compris en general sous le nom de *Afghvan* ou *Awgan* est divisé en trois principales Tribus, qui, comme la plupart des autres nations Orientales, font remonter leur génealogie jusques à Noé. Japhet, disent-ils, eut trois fils, Armen, Aghvan & Cardvel : les deux premiers de ces freres resterent dans l’Arménie qui tire ce nom de celui de l’aîné, comme le Cardvel, qui fait partie de la Géorgie, tire le sien de celui du cadet qui alla s’habituer dans cette contrée”.

Concerning the origin of the Pashtuns, see also below. However, Niccolao Manucci (1638-1717), in his *Storia do Mogor*, first published in 1705, states: “The Pathāns might

And adds, concerning their language, that (p. 8):

With regard to their language, it is rough, coarse, and has no connection with any other. This circumstance supports what I have said about their origin, or at least makes it clear that they are a very ancient Nation and distinct from those with whom they are neighbours. [My translation]<sup>20</sup>

He confesses to have been wrong in his opinions about the Afghans, but to have in any case included them in his work, due to the amount of time spent in his researches.<sup>21</sup>

The work by de Clairac is very accurate and of great intellectual honesty, as can be seen by his notes concerning the name itself of the Afghans. Here, de Clairac offers a useful overview of all quotation forms, in order to clarify the etymology and the place of origin of this people:

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collect eighty thousand horse and much infantry. But they are scattered in different parts of the kingdom, and differ from the Paṭhāns who live beyond the river [Indus] and to the west of it, about whom the Mogul has to be very careful, for at one time they claimed the crown. [...] In spite of these dissensions they are all of one race, descended from an ancient prince called Pastô (Pushtū). He had many sons [... list of the sons and tribes]. In this manner they entitle themselves after their ancient princes, and the name of Paṭhān has come down from the first prince, Pastô. Their language differs from the speech of India” (Manucci 1907, II: 453-454).

<sup>20</sup> “A l’égard de leur langue, elle est rude, grossiere, & n’a nulle rapport avec aucune autre. Circonstance qui appuye ce que j’ai avancé sur leur origine, ou du moins qui fait connoître que c’est une nation très-ancienne & distincte de celles dont elle est voisine”.

<sup>21</sup> “The uncertainty in which I was on the origin of the Aghvans had made me begin with a rather long digression, in which, based on the title of Cosaishite which Aschraf took, and on some other appearances as plausible as they were false, I tried to prove that these peoples were Arabs. M. Freret, not very favourable to my conjectures, maintained that they were Indoscythians. I had a lot of trouble to delete my dissertation, however dry, however boring, however out of place it was, apparently because it had cost me a lot of research and care. I decided to write to Constantinople, and the Aghvans were declared to be Indoscythians, and I was found to be wrong, which should surprise no one, since I was not surprised myself” [my translation] (de Clairac 1750: xiv: “L’incertitude où j’étois sur l’origine des Aghvans m’avoit fait commencer par une assez longue digression, où fondé sur le titre de *Cosaïschite* que prenoit Aschraf, & sur quelques autres apparences aussi plausibles que fausses, je m’efforçois de prouver que ces peuples étoient Arabes. M. Freret peu favorable à mes conjectures soutenoit qu’ils étoient Indoscythes. Toute seche, toute ennuyeuse, toute déplacée qu’étoit ma dissertation, j’avois beaucoup de peine à la supprimer, & cela apparemment parce qu’elle m’avoit coûté beaucoup de recherches & de soins. Je m’avisai d’écrire à Constantinople, les Aghvans y furent déclarés Indoscythes & je me trouvai avoir tort, ce qui ne doit étonner personne, puisque je n’en fus pas surpris moi-même”).

The difficulty of unravelling the true name of a people who are the main cause of the revolutions I am dealing with, is the first thing that has stopped me. Father Jerome<sup>22</sup> calls him *Aquan*: the new Memoirs of the Missions of the Society of Jesus in the Levant Volume 3.<sup>23</sup> *Akvan*: the letter written from Tauris, *Algavan*:<sup>24</sup> the letters written from Aleppo and Julfa,<sup>25</sup> *Aghuani*: Father Reynal,<sup>26</sup> *Aghve*; finally Father du Cerceau, Herbert, Frescurati, the anonymous Turk, Sanson, in his *Voyage de*

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<sup>22</sup> The very de Clairac provides a bibliography and short biography of the authors of his sources. The Pere Jérôme is the author of the *Relazione del Padre Fia Hieronimo d'Avenione Carmelitano Scalzzo* and was charged of establishing in Bandar-Abbas the commerce for the Company of Ostende. He remained in Ispahan from 1722 to 1725, when he left for Constantinople, where he met de Clairac: "I gave a French translation to this Minister [M. Joseph], who sent it to the Author of the *Mercur* de France, who had it printed in September 1726" [my translation] (de Clairac 1750: liii: "j'en donnai une traduction Française à ce Ministre [M. Joseph], qui l'envoya à l'Auteur du *Mercur* de France, qui la fit imprimer en Septembre 1726").

<sup>23</sup> He refers here to p. 350 "I will say in passing, that the greater part of the inhabitants of this Province [Sirvan], were formerly transported to the other extremity of Persia in the mountains, between *Belk Kabul*, and *Candahar*, where they have preserved their first name, with little change, being called *Akvans*, but the harshness of the place has perverted their nature. They have become thieves, and render themselves formidable to the Caravans, who pass through the Indies" [my translation] (*Nouveaux mémoires* 1723: 350, part of the *Mémoire de la province du Sirvan. En forme de lettre adressée au Pere Fleuriau*, pp. 333-392: "Je dirai en passant, que la plus grande partie des habitans de cette Province [le Sirvan], fut autrefois transportée à l'autre extrémité de la Perse dans les montagnes, entre *Belk Kaboul*, & *Candahar*, où ils ont conservé leur premier nom, avec peu de changement, étant nommés *Akvans*, mais l'âpreté des lieux a perverti leur naturel. Ils sont devenus voleurs, & se rendent redoutables aux Caravannes, qui passent aux Indes").

<sup>24</sup> "Letter written from Tauris on 7 July 1723 by a Capuchin Missionary, to a Capuchin of Aleppo. *Gaz. of Holl.* 13 Oct. 1723" (de Clairac 1750: lix: "Lettre écrite de Tauris le 7 Juillet 1723 par un Missionnaire Capucin, à un Capucin d'Alep. *Gaz. de Holl.* 13 Octob. 1723").

<sup>25</sup> Reference to the volume 3 of the *Lettres édifiantes et curieuses, écrites par des missionnaires de la compagnie de Jésus. Mémoires du Levant* (Lyon 1704), where indeed they are called *Aghuans*. The letter was written the 28 of August 1726.

<sup>26</sup> "Relation of what happened in the last Persian war, during the years 1722, 1723, 1724 and 1725, by the R. P. Reynal, Missionary of the Society of Jesus in Syria, with notes by M. Joseph. [...] It can be found without these notes in the *Mercur* de France of December 1726, and it was moreover printed in 4. in Paris the following year" [my translation] (de Clairac 1750: lxv: "Relation de ce qui s'est passé dans la dernière guerre de Perse, pendant les années 1722, 1723, 1724 & 1725, par le R. P. Reynal, Missionnaire de la Compagnie de Jésus en Syrie, avec des notes de M. Joseph. [...] On la trouve sans ces notes au *Mercur* de France de Décembre 1726, & elle a d'ailleurs été imprimée in 4. à Paris l'année suivante").

*Perse*, and Pere Sebastien Manrique, in his *Itinerario de las misiones*,<sup>27</sup> *Afghvan*, *Aghwan* ou *Aghvane*. Dourri-Effendi (...) and Mustafa-Effendi<sup>28</sup> on the contrary, name him *Efgan*, and in this they agree with the Circular Letter written in 1727 by the Grand-Visir concerning peace. Mister Joseph<sup>29</sup> calls him *Awgan*, which is more or less the same, as the

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<sup>27</sup> In reality, the form adopted by the Frey Sebastien Manrique is *Aguvanes*. Thus runs the narrative of Manrique's journey in 1742-1743: "After we had, on the first day, registered at the custom-house there all the goods I had, the Mirza ordered six hundred horsemen to go on in advance, in three squadrons, with orders to keep ahead and reconnoitre along the road on account of the Aguvanes [fn. of the editor], folk who inhabit those rough mountains and inhospitable ranges and sally forth thence, like wild intractable animals, to attack the defenceless travellers who pass through these wilds" (Manrique 1927, II: 256). At p. 261-262, he adds an interesting remark: "As a rule the Grand Mogol has fifteen thousand cavalry in this place, under the command of [397/2] a Nababo or Viceroy and experienced veteran Captains. This is necessary because of the propinquity of the inimical Persian, as well as the fact that the mountains of Kandahar are inhabited not only by the Aguvanes, of whom I spoke, but also by the Peysanes or Petanes [fn. of the editor]; (according to the more popular pronunciation), who are one and all strong, fierce men of a much lighter complexion than that of the Industanes, but naturally barbarous, cruel, and addicted to highway robbery and theft. For this reason the Mogol has to be continually on the march". In the fn. the editor comments that: "Manrique here makes a distinction between Afghāns and Pathāns (Petanes), though none actually exists. See *Hobson-Jobson* [see Yule and Burnell 1903], s.v. Puttan. The Afghāns call themselves *Pukhtūn* or *Pushtūn*, according as to whether the hard or soft dialect is in use. Bellew, however, supports Manrique by stating that the race is 'Afghān', and was called *Pathān* merely because it resided in a Pathan country. Several early maps show the Pathāns north of Qandahār and the Afghāns to the south".

I will not focus here on the origin and difference among the terms "Afghan", "Pashtun" and "Patan", on which many authors concentrated. Among the authors of the first half of the 19<sup>th</sup> century, see Vigne 1840: 167: "The meaning of the word Patan, which is synonymous with Afghan, has been already given from Lieutenant Burnes, signifying the 'mast', or chief of his tribe". See also Klaproth 1810: 76ff. On the whole subject, see the shrewd and accurate remarks by Shah Mahmoud Hanifi 2008; see also his more recent articles, in particular: Hanifi 2012, 2013 and 2016.

<sup>28</sup> "Memorandum on the Efgans, followed by notes on some proper names used therein. Done for me by M. Desroches, then Secretary to M. de Villeneuve, under the dictation of Mustafa-Effendi, one of the Secretaries of Reys-Effendi" [my translation] (de Clairac 1750: lxii: "Mémoire sur les Efgans, suivi de notes sur quelques noms propres qui y sont employés. Fait pour moi par M. Desroches, alors Secrétaire de M. de Villeneuve, sous la dictée de Mustafa-Effendi, l'un des Secrétaires du Reys-Effendi").

<sup>29</sup> "Letter from Father Joseph de Reuilly, written from Aleppo on 11 June 1726, to Father Eusebe, Superior of the Capuchins in Tripoli. *Merc. de France, January 1727*" [my translation] (de Clairac 1750: liv: "Lettre du R. P. Joseph de Reuilly, écrite d'Alep le 11 Juin 1726, au R. P. Eusebe, Supérieur des Capucins à Tripoli. *Merc. de France, Janvier 1727*").



Turks often use e for a in proper names; Tavernier<sup>30</sup> *Augan*; and Cherefeddin,<sup>31</sup> *Ouganian* and *Ougani*. It is easy to see that almost everything comes down to whether one should say *Aghvan* or *Awgan*. M. Delisle,<sup>32</sup> who no doubt sensed this difficulty, evaded it by putting in his map of Persia made in 1724, *Ouganes* or *Aguanes*. The first of these names given by Cherefeddin appears to be the oldest; however, I have only used the other, because it is more in keeping with usage. In addition, I have made from *Aghvane*, for that is how the word is pronounced, *Afghvan*, after the example of the Father du Cerceau. This author and that of one of the letters which make up the third volume of the new Memoirs of the Missions of the Levant, say that this Nation formerly inhabited Chirvan, which is ancient Albania; they allege as proof of this fact the Armenian pronunciation, which from *Alban* makes *Aghvan*. Father Krusinski, to whom I have written, is of the same opinion; he bases himself on the tradition of these peoples, who acknowledge that they were Christians, of the same rite as the Armenians, and on the annals of the latter, which assure the same thing [...] As for the title taken by the Patriarch, since the pronunciation of the country changes the letters *lb* into *ghv*, it obviously concerns the *Albanians* or *Aghvans* of Albania, that is to say, the inhabitants of Chirvan,<sup>33</sup> and not the Aghvans of Candahar

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<sup>30</sup> See above.

<sup>31</sup> “History of Timur-Bec, translated from the Persian of Cherefeddin-Ali, contemporary author, by M. Petit de la Croix. *Paris 1722*” [my translation] (de Clairac 1750: lii: “Histoire de Timur-Bec, traduite du Persan de Cherefeddin-Ali, Auteur contemporain, par M. Petit de la Croix. *Paris 1722*”).

<sup>32</sup> Guillaume Delisle (1675-1726) draws a plan of Asia in 1723. Here he indicates, in correspondence of Candahar [sic] “Augans”, near the “Patanes”, located in the Mogol State. The same in the “Carte de la Turquie de l’Arabie et de la Perse” of 1701.

<sup>33</sup> “Interestingly, Saint-Martin 1818 links these “Aghovans” to the Abkhaz: Ibn-Haukal mentions, in his geography written in Arabic, a country called *Abkhaz*, which was situated in the neighbourhood of Derbend, and which must be distinguished from that of the Abkhaz, which is situated at the western end of the Caucasus. It seems to me to be the same as that of the Aghovans; and I am moreover very much inclined to believe that the manuscript should read, instead of *Abkhaz* ابخاز, the name of *Abkhan* اتخان; a lesson which is confirmed by the testimony of Masudi” [my translation] (Saint-Martin 1818, I: 222: “Ibn-Haukal fait mention, dans sa géographie écrite en arabe, d’un pays appelé *Abkhaz*, qui étoit situé dans le voisinage de Derbend, et qu’il faut bien distinguer de celui des Abkhaz, qui est situé à l’extrémité occidentale du Caucase. Il me paroît être le même que celui des Aghovans ; et je suis en outre très-porté à croire qu’il faut lire dans le manuscrit, au lieu d’*Abkhaz* ابخاز, le nom d’*Abkhan* اتخان; leçon qui se trouve confirmée par le témoignage de Masoudy”).

Some pages later (pp. 224-225), Saint-Martin speaks against the identification of these Afghovans with our Afghans: “Some writers, basing themselves on the great resemblance

and Herat, who have, in my opinion, nothing in common with them, except a name which they share with other Nations, and which in itself is a generic term which means nothing other than *peoples*. [...] One cannot doubt, especially after reading the foregoing, that the *Ouganians*; the *Ouganis*, and the *Awgans* or *Aghvans* are the same people. [...] It would therefore be constant that these peoples inhabited Candahar before the reign of Timur. (de Clairac 1750: xxv-xxx [my translation])<sup>34</sup>

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between the name of the Aghovans or Albanians and that of the Afghans, who played such an important role in the last political revolutions of Asia, have concluded very lightly that these two peoples had a common origin” [my translation] (p. 224), concluding that any proof can be put forward this identification, especially because “the Afghans of India are not called *Aghwan* اغوان, as F. Krusinski writes in the Turkish translation of his Memoirs, but *Afghan* افغان; and the latter name is the only one met with in Eastern writers” [my translation] (p. 225: “Quelques écrivains, se fondant sur la grande ressemblance qui se trouve entre le nom des Aghovans ou Albaniens et celui des Afghans, qui ont joué un rôle si important dans les dernières révolutions politiques de l’Asie, en ont conclu fort à la légère que ces deux peuples avoient une origine commune. [...] les Afghans de l’Inde ne s’appellent point *Aghwan* اغوان, comme le P. Krusinski l’a écrit dans la traduction Turque de ses Mémoires, mais *Afghan* افغان; et ce dernier nom est le seul qu’on rencontre dans les écrivains orientaux”).

<sup>34</sup> “La difficulté de démêler le véritable nom d’un peuple qui est la principale cause des Révolutions dont je traite, est la première qui m’a arrêté. Le Père Jérôme[...] l’appelle *Aquan* : les nouveaux Mémoires des Missions de la Compagnie de Jésus dans le Levant Tome 3.[...] *Akvan* : la lettre écrite de Tauris, *Algavan* :[...] les Lettres écrites d’Alep & de Julfa,[...] *Aghuani* : le Père Reynal,[...] *Aghve* ; enfin le Père du Cerceau, Herbert, Frescurati, le Turc anonyme, Sanson, dans son Voyage de Perse, & le Père Sébastien Manrique, dans son *Itinerario de las misiones*,[...] *Afghan*, *Aghwan* ou *Aghvane*. Douiri-Effendi (...) & Mustafa-Effendi[...] au contraire, le nomment *Efgan*, & ils conviennent en cela avec la Lettre circulaire écrite en 1727 par le Grand-Visir au sujet de la paix. Le Sieur Joseph[...] le nomme *Awgan*, ce qui revient à peu près au même, les Turcs mettant souvent *e* pour *a* dans les noms propres ; Tavernier[...] *Augan* ; & Cherefeddin,[...] *Ouganian* & *Ougani*. L’on voit aisément que presque tout se réduit à sçavoir si l’on doit dire *Aghvan*, ou *Awgan*. M. Delisle,[...] qui sans doute a senti cette difficulté, l’a éludée en mettant dans sa carte de Perse faite en 1724, *Ouganes* ou *Aguanes*. Le premier de ces noms donné par Cherefeddin paroît le plus ancien ; cependant je ne suis servi que de l’autre, parce qu’il est plus conforme à l’usage. Au reste, d’*Aghvane*, car c’est ainsi que ce mot se prononce, j’ai fait *Aghvan*, à l’exemple du Père du Cerceau. Cet Auteur & celui d’une des lettres qui composent le troisième volume des nouveaux Mémoires des Missions du Levant, disent que cette Nation habitoit autrefois le Chirvan, qui est l’ancienne Albanie ; ils alleguent pour preuve de ce fait la prononciation Arménienne, qui de *Alban* fait *Aghvan*. Le Père Krusinski à qui j’en ai écrit est du même sentiment, il se fonde sur la tradition de ces Peuples qui reconnoissent avoir été Chrétiens, du même rit que les Arméniens, & sur les annales de ces derniers qui assurent la même chose [...] Quant au titre que prend le Patriarche, puisque la

## 5. Lorenzo Hervas (1784 and 1786)

Lorenzo Hervas y Panduro (1735-1809) was a Jesuit linguist.<sup>35</sup> Notwithstanding the fact that he never went to Persia or India<sup>36</sup> (but he traveled to America), he composed an encyclopedic work in Italian dealing with the world languages (see in particular vols. XVII-XXI<sup>37</sup>). In his *Catalogo delle lingue conosciute e notizia della loro affinità, e diversità* (vol. XVII), he cites Pashto as a dialect of the Hindustani:

In the Mediterranean provinces of Hindustan, and on the coasts of its peninsula, which extend as far as Indus, the *Hindua*, *Seike*,<sup>38</sup> and *Bebendina*<sup>39</sup> languages are spoken. The *Hindua* language (from Syriac *Hindu* Indian) seems to me the ancient, and natural language of Hindustan. It is still spoken in some countries of Persia, where there are

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prononciation du pays change les lettres *lb* en *ghv*, il concerne évidemment les *Albaniens* ou *Aghvaniens* de l'Albanie, c'est-à-dire les habitants du Chirvan,[...] & non les Aghvans du Candahar & du Herat, qui n'ont, selon moi, rien de commun avec eux, qu'un nom qu'ils partagent avec d'autres Nations, & qui par soi-même est un terme générique qui ne signifie autres chose que *peuples*. [...] L'on ne peut douter, sur-tout après avoir lû ce qui précède que les *Ouganiens* ; les *Ouganis*, & les *Awgans* ou *Aghvans* ne soient les mêmes peuples. [...] Il seroit donc constant que ces Peuples habitoient le Candahar avant le regne de Timur”.

<sup>35</sup> Many works studied Hervas and his work. Among others, cf. Fuertes Gutiérrez 2015 and bibliography.

<sup>36</sup> He complains the lack of data for Asia and declares having got his information from other Jesuits in missions in these areas: see Hervas 1784: 108-109.

<sup>37</sup> Vol. XVII: *Catalogo delle lingue conosciute e notizia della loro affinità, e diversità*, Cesena 1784; vol. XVIII: *Origine, formazione, meccanismo, ed armonia degl'idiomi*, Cesena 1785; vol. XIX: *Aritmetica delle nazioni e divisione del tempo fra gli orientali*, Cesena 1787; vol. XX: *Vocabulario poligloto, con prolegomeni sopra piu di CL lingue. Dove sono scoperte nuove, ed utili all'Antica storia dell'uman genere, ed alla cognizione del meccanismo delle parole*, Cesena 1787; vol. XXI: *Saggio pratico delle lingue, con prolegomeni e una raccolta di orazioni dominicali in più di CCC lingue e dialetti*, Cesena 1787.

<sup>38</sup> He considers the *Seike* language a “Tartar dialect mixed, it seems, with the language of Tibet (which is certainly a Tartar dialect) and the Hindustani dialect, is spoken by *Seiki*, who have become powerful, and respectable in Hindustan” [my translation] (*ibid.*: “dialetto Tartaro misto, a quel che sembra, del linguaggio del Tibet (il quale è certamente dialetto Tartaro) e del dialetto Indostano, si parla da' *Seiki*, che sono divenuti potenti, e rispettabili nell'Indostan”): would he intend here the Khotansaka?

<sup>39</sup> “The *Behendina* language, or *Gora* proper of the *Gori*, or *Giaouri* of Hindustan, and Persia appears to be a pure dialect of Persian” [my translation] (*ibid.*: “La lingua *Behendina*, o *Gora* propria de' *Gori*, o *Giaouri* dell'Indostan, e della Persia sembra un puro dialetto della Persiana”).

Indians. The main dialects of this language are *Padtano*, *Dacnese*, or *Telugiko*, and Mongolian, or Hindustani. [...] The *Padtano* is used in much of Hindustan and by *Padtani*, who believe themselves to be descended from Persians, Turks and Arabs. The Safi believe themselves to be descended from the *Padtani*. (Hervas 1784: 122-123 [my translation]).<sup>40</sup>

The information Hervas provides is quite contradictory. For instance, in the volume *Aritmetica delle nazioni e divisione del tempo fra l'orientali* (1786), he provides the numerals of the “*Padtanica*” language (n. 279, pp. 134-135). While telling that he took this information from the sixth volume of the “supplement a’ commentarj dell’Accademia Petropolitana, ove si mettono gli eruditi trattati di Teofilo Sigefrido Bayer sulla storia del regno Battriano de’ Greci, e l’Opera di Cristofaro Walter intitolata *dottrina Indiana de’ tempi*”, he states that “the *Padtany* [language], which is a Daknian dialect [i.e. of the Dhakan province], takes it from the city *Padthana*” [my translation].<sup>41</sup> The numerals are of Indian origin, nothing to do with Pashto (*ek, dô, thin, tschahâr, pângi, tscheha, sâth, ath, nov, dës*).

In his successive works, the volumes 20, *Vocabolario poliglotta*, and 21, *Saggio pratico delle lingue*, both published in 1787, Pashto is not mentioned at all.

However, since 1800 he begun republication of his work in Spanish. In the second volume, *Catálogo de las lenguas de las naciones conocidas, y numeracion, division, y clases de estas segun la diversidad de sus idiomas y dialectos* (vol. II, Madrid 1801), while speaking of the Industan, he quotes five nations: the *indostana* or *indiana*; the *hebreá*; the *gaure* or *gauri*; the *arábiga*; and lastly the *tátara* or *tártara*. On the fourth he adds (p. 138):

The descendants of these and other conquering Arabs who ruled in these countries, established their court at Delhi, which is now one of the two

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<sup>40</sup> “Nelle provincie mediterranee dell’Indostan, e nelle coste della sua penisola, che si prolungano fino all’Indo, si parlano le lingue *Hindua*, *Seike*,[...] e *Bebendina*.[...] La lingua *Hindua* (dal Siriaco *Hindu* Indiano) sembrami l’antica, e naturale dell’Indostan. Parlasi ancora in alcuni paesi della Persia, ove sono degl’Indiani. I dialetti principali di questa lingua sono il *Padtano*, il *Dacnese*, o *Telugiko*, e il Mongolo, o Indostano. [...] Il *Padtano* si usa in gran parte dell’Indostan, e da’ *Padtani*, i quali si credono discendenti da’ Persiani, da’ Turchi, e dagli Arabi. I Safi si credono discendenti da’ *Padtani*.”

<sup>41</sup> “la [lingua] *Padtanica*, ch’è dialetto Daknico [i.e. of the Dhakan province], lo prende dalla città *Padthana*”.

capitals of the Moghul empire, and is called *Patan* by the Hindustanis. The domination of these Arabs introduced many words of their language into the Hindustani language: and it is commonly called the *Moorish-Hindustani* language, which, mixed with Arabic words, is spoken in some of the northern provinces of Hindustan. [my translation]<sup>42</sup>

## 6. Peter Simon Pallas (1786)

After the first quotations, Pashto is more extensively mentioned in the work of the Russian zoologic Peter Simon Pallas (1741-1811), *Linguarum totius orbis vocabularia comparativa*, St. Petersburg, 1786 (reprinted with a preface by Harald Haarmann, Hamburg, 1977-1778); ed. rev. by Fedor I. Jankovich de Mirievo, *Sravnitel'nyj slovar' vsekh yazykov i narechij po azbuchnomu poryadku raspolozhennyj*, 4 vols., St. Petersburg, 1790-1791. Starting point of this project, financed by Katherine II of Russia for the Academy of Sciences of Saint Petersburg, was the creation a comparative dictionary of all languages of the world, transcribed in Cyrillic and with Russian translation, of 273 words from 200 languages: numbers 76-80 are occupied by Persian, Kurdish, Pashto, Ossetian [= Iron] and [Ossetian] Digor, with materials coming from the collection by the German naturalist and explorer Johann Anton Güldenstädt (1745-1781).

In this work, Pashto occupies n. 78. Thus runs the list of Pashto words: n. 1 Xwday 'God', 2 asmon 'sky', 3 plar 'father', 4 mur [mor] 'mother', 5 sway [zoy] 'son', 6 xur [instead of lur] 'daughter', 7 wrur [wror] 'brother', 8 xur 'sister', 9 mele [meɾə] 'husband', 10 awrata 'wife', 13 sway [zoy] 'boy', 14 zalay [saray] 'man', 15 xaleq 'people', 16 zar [sar] 'head', 18 poza 'noose', 20 ztirge [størge] 'eyes', 23 kwak [ɣwaɟ] 'ears', 24 očole [wəɕwulay] 'forehead', 25 ixte [wextə] 'hairs', 27 xula 'mouth', 29 xax [ɣāx] 'tooth', 30 žiba 'tongue', 31 iżre [ǰira] 'beard', 32 malkalay [for mayzay?] 'neck', 33 ogar [oɟa] 'shoulder', 35 laš [las] 'hand', 36 guši [angušt] 'fingers', 37 nuk 'nail', 40 pxi [pʰa] 'foot', 41 singun [jangun] 'knee', 42 sarman [carmən] 'skin', 43 goxi [ɣwaɰa] 'meat', 44 adukay [haɖukay] 'bone', 45 wini [wina] 'blood', 46 zile [zɾə] 'heart', 47 poy [pāy] 'milk', 60: xaxade [for xādi 'joy?'] 'love', 75 nmar

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<sup>42</sup> "Los descendientes de estos y de otros árabes conquistadores que dominaron en dichos países, establecieron su corte en Deli, que al presente es una de las dos capitales del imperio del Mogol, y se llaman *Patan* por los indostanos. La dominacion de estos árabes introduxo muchas palabras de su lengua en la indostana : y comunmente se llama lengua *moro-indostana*, la que mezclada con palabras arábiga se habla en algunas provincias septentrionales del Indostan."

‘sun’, *myašt/myašta* [myāšt] ‘moon’, 77 *sturi* ‘star’, 82 *baran* [bārān] ‘rain’, 84 *tandar* ‘thunder’, 85 *wawri* [wawra] ‘snow’, 86 *yax* ‘cold’, 87 *wraz* ‘day’, 88 *špa/spa* ‘night’, 90 *maxi* [māxām] ‘evening’, 91 *čil* [for which word?] ‘summer’, 95 *kal* [kāl] ‘year’, 96 *erast* [waxt] ‘time’, 97 *pisməge/smak* [jməka] ‘earth’, 98 *ubə/udu* [obə] ‘water’, 100 *zint* [sind] ‘river’, 102 *šiga* [šəga] ‘sand’, 103 *smak* ‘clay’, 106 *gar* [ɣar] ‘mountain’, 112, *oor/ur* [or] ‘fire’, 121 *kani* ‘stone’, 122 *ašrep* ‘gold’, 123 *zar* [spinzər] ‘silver’, 127 *waxe* [wāxə] ‘grass’, 128 *ona* [wəna] ‘tree’, 138 *patay* [pətay] ‘field’, 140 *ule/urbiši* [instead of *oṛə* ‘flour’ and *orbəše* ‘barley’ respectively] ‘corn’, 143 *čarap* [instead of *šarāb* ‘wine’] ‘grapes’, 144 *mahay* ‘fish’, 148 *gaay* [ɣāyi] ‘ox’, 149 *kwa* [ɣwā] ‘cow’, 150 *mak* [məğ] ‘ram’, 153 *xirbišay* [for which word?] ‘pig’, 154 *spey* [spay] ‘dog’, 155 *pišik* [pišo] ‘cat’, 157 *mirge* [məryə] ‘bird’, 158 *ozər* [for which word?] ‘pen’, 159 *čirk* [čərg] ‘cock’, 160 *wya* [hagəy] ‘egg’, 162 *kas* [for *qāz*] ‘goose’, 163 *ordek* [for which word?] ‘duck’, 165 *iivi* [yəwe] ‘plough’, 179 *rotay* [roṭi] ‘bread’, 180 *čarab/araki* [šarāb] ‘wine’, 195 *patay* [pətay] ‘field’ [repetition of n. 138], 200 *asmaa* [for *asmān* ‘sky’] ‘thunder’.

Of the 200 words, only 82 Pashto words are recorded and, apart the difficulties of the transliteration of some letters not represented in Cyrillic, as *ɣ* or the retroflexes, very often mistakes of spelling and of meaning are found: cf., for instance, n. 6 “*xur* ‘daughter’”, instead of Pšt. *lur* (*xur* means ‘sister’); n. 33 “*ogar* ‘shoulder’”, instead of Pšt. *oḡa*; n. 35 “*laš*”, instead of Pšt. *las*; n. 85 “*erast* ‘time’”, instead of Pšt. *waxt*; n. 123 “*zar* ‘silver’”, instead of Pšt. *spinzər* (*zər* means ‘gold’); n. 200 “*asmaa* ‘thunder’”, in reality ‘sky’.

The endings of feminine words in *-e* account for a western informant (in Pashto *-e* indicates the plural of feminine nouns, while in *fārsi* ending *ə* are pronounced *-e*).

N. 97, “*pisməge/smak* ‘earth’”, is particularly interesting, as we find “*pisməge*” instead of Pšt. *pə zməka* ‘on earth’.

However, notwithstanding the many mistakes, this is the first tentative to offer a short Pashto lexicon to Europe and will represent the very beginning of the successive Pashto lexicography.<sup>43</sup>

<sup>43</sup> I do not deal here with works on Pashto written in Pashto, on which see Kushev 2001. In particular, mention can be done here to the following six publications:

- the *Maʿrifat al-afghānī* (“Learning of the Afghan Language”) by Pīr Muhammad Kākar, 1773, “a textbook whose author pursued the aim to create a guide for studying the Afghan language” (Kushev 2001: 3), where one can find, according to Kushev (*ibid.*) lists of words, expressions and phrases, and also “a general dictionary with five thematic sections and one alphabetical section”;

## 7. Henry Vansittart and William Jones (1799)

The Pashto language was also linked to Hebrew for the first time by the late William Jones (1746-1794),<sup>44</sup> in the appendix to an article of Henry Vansittart (1756-1787),<sup>45</sup> published in 1799,<sup>46</sup> but received already in 1784, with a letter “dated CALCUTTA, March 3, 1784”.<sup>47</sup> The author of this article translated a “*Persian* abridgement, composed by *Maulavi* Khairu’ddin, of the *áfráru’l afághinah*, or the secrets of the *Afghans*, a book written in the *Pushto* language by Husain, the son of Sabir, the son of Khizr, the disciple of *Hazrat* Sha’h Ka’sim *Sulaimáni*, whose tomb is in *Chunárgur*” (Vansittart 1799: 119).<sup>48</sup> Jones (1799: 76) stated in this occasion that “the *Pushto* language, of which I have seen a dictionary, has a manifest resemblance of the *Chaldaik*”, and that “a considerable district under their [*i.e.* of the *Afghans*] dominion is called *Hazáreth*, or *Hazáret*,

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- the *Āmad-nāma-yi afghānī* (“Introduction to the Afghan Language”), published at Rampur at the beginning of the 19<sup>th</sup> century (Kushev 1980: 68), in the dictionary section contains “nouns of kinship, parts of the body, animals, birds, etc. and closes with the months of the solar year”;

- the *Riyād al-mahabbat* (1806-1807), written by Mahabbat Khān, contains a Pashto-Persian dictionary, of which B. Dorn [1847] made great use;

- the *Farhang-i irtidā’ī* by Nawwāb Muhammad Irdidā Khān composed in 1810 in three languages, *i.e.* Pashto, Persian and Hindustani, but, according to Kushev (2001: 8), remained virtually unknown to Western Pashto scholars;

- the *Ājā’ib al-lughāt* by Ilahyār Khān (1813), a dictionary in four languages, Pashto, Persian, Arabic and Hindustani, intensively used by Raverty [1860] for his dictionary;

- the *Afrīdī-nāma* or *Farhang-i Afrīdī* (1815), a small dictionary in five languages – Persian, Pashto, Kashmiri, English and Hindustani –, “intended for purely practical use” (Kushev 2001: 8).

<sup>44</sup> On the rich and impressive life and scientific production of W. Jones, see, among others, Cannon 1964 and Franklin 1995.

<sup>45</sup> It should be this Henry Vansittart, died in 1787 in Calcutta, according to Burke 1866: s.v. Vansittart.

<sup>46</sup> A first résumé of this article was published in the *Memoirs of Science and the Arts. Or, an Abridgement of the Transactions* 1, 1793, p. 219.

<sup>47</sup> At the end of the letter by H. Vansittart, he stated that “Under these impressions I venture to lay before the Society the translation of an abridged history of the *Afghans*; a tribe at different times subject to and always connected with the kingdoms of *Persia* and *Hindustan*. I also submit a specimen of their language, which is called by them *Pukhto*; but this word is softened in *Persian* into *Pushto*”.

<sup>48</sup> This information is already quoted in the first volume of the *Supplement to the Encyclopædia, or Dictionary of Arts, Sciences, and Miscellaneous Literature*, published in 1803, s.v. *Afghans*, where an etymology of the ethnonym *Patan* is also proposed: the name would be derived “from the *Hindi* verb *Paitna* ‘to rush’ which was given to them by one of the Sultans whom they served, in consequence of the alacrity with which they had attacked and conquered his enemies” (p. 5).

which might easily have been changed into the word used by Esdras<sup>49</sup> (*ibid.*):

This account of the Afghans may lead to a very interesting discovery. We learn from the book of Esdras, that the ten tribes after a wandering journey, came to a country called Arsareth; where we may suppose they settled. Now, the Afghans are said by the best Persian historians to be descended from the Jews; they have traditions among themselves of such descent; and it is even asserted that their families are distinguished by the names of Jewish tribes, although since their conversion to Islam they studiously conceal their origin; the Pushto language of which I have seen a Dictionary, has a manifest resemblance to the Chaldaic; and a considerable district is called Hazara, which might easily have been changed into the word used by Esdras. I strongly recommend an enquiry into the literature and history of the Afghans.<sup>50</sup>

The article just translated a poem and did not deal with the Pashto language, but notwithstanding, as acknowledged by B. Dorn successively (Dorn 1847: i), “Sir William Jones, misled by some treacherous indications, pronounced the Jewish origin of the Afghans and the affinity of their idiom to the Chaldaic”. The starting point of W. Jones’ statements (Jones 1807: 129) was 2Esd. 13, 45, where it is narrated how the ten lost tribes of Israel settled in a region called *Arsareth*,<sup>51</sup> by him associated with the region of Hazarah.<sup>52</sup>

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<sup>49</sup> See also Jones 1807: 169-170 [the Eight Anniversary Discourse, on the Borders, Mountaineers, and Islanders of Asia, delivered 24th February 1791], stating that “there is very solid ground for believing, that the *Afghans* descended from the *Jews*; [...] because *Hazaret*, which appears to be the *Asareth* of ESDRAS, is one of their territories; and, principally, because their language is evidently a dialect of the scriptural *Chaldaick*”.

<sup>50</sup> Cf. also “*The Israelitish Origin of the Afghans considered being an abridgment of a paper read at the Literary Institute, Peshawar, by Rev. T. P. Hughes*” [?].

<sup>51</sup> “<sup>40</sup>Those are the ten tribes, which were carried away prisoners out of their own land in the time of Osea the king, whom Salmanasar the king of Assyria led away captive, and he carried them over the waters, and so came they into another land. <sup>41</sup>But they took this counsel among themselves, that they would leave the multitude of the heathen, and go forth into a further country, where never mankind dwelt, <sup>42</sup>That they might there keep their statutes, which they never kept in their own land. <sup>43</sup>And they entered into Euphrates by the narrow places of the river. <sup>44</sup>For the most High then shewed signs for them, and held still the flood, till they were passed over. <sup>45</sup>For through that country there was a great way to go, namely, of a year and a half: and the same region is called *Arsareth*. <sup>46</sup>Then dwelt they there until the latter time; and now when they shall begin to come, <sup>47</sup>The Highest shall stay the springs of the stream again, that they may go through: therefore sawest thou the multitude with peace” (2Esd. 13, 40-47; my italics).

<sup>52</sup> The region of Hazarajat, or Hazaristan, is located in central Afghanistan and would be the birth place of the Hazara people. It is divided in three central provinces of Bamyan, Daykundi and Ghor, ed includes Maidan Wardak, Ghazni, Orūzgān, Balkh, Sar-e Pol,



At the beginning, this hypothesis was accepted by many explorers and scholars on the basis of the prestige of W. Jones,<sup>53</sup> but was soon discarded.<sup>54</sup>

## **8. Thomas Tychsen (1804)**

Thomas Christian Tychsen (1758-1834), another scholar who dealt marginally with Pashto, even if never travelled to Asia, in an article in Latin, “De Afganorum origine et historia commentatio”, published in the *Commentationes Societatis Regiae Scientiarum Gottingensis* (1804), provides critics on the previous hypothesis on the origin of the Pashtuns:

As to the origin of the Afghans, although there are many opinions, two seem to prevail, the first, which you may call European, for it is generally accepted by the learned men in Europe, derives from the Albanians, the inhabitants of the Caucasus mountain, the Afghans, the other, which is said to be of the Afghans and Persians, from the ancient Hebrews. (Tychsen 1804: 44 [my translation])<sup>55</sup>

Here, the first hypothesis is firstly ascribed to Krusinski and Clodius (see above),<sup>56</sup> while the second refers to Jones and Vansittart (see above) and

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Samangan and Baghlan.

<sup>53</sup> For instance, A. Burnes (1834, I: 164), at the end of the presentation of the different information, writes: “Since some of the tribes of Israel came to the East, why should we not admit that the Afghans are their descendants, converted to Mahommedanism? I am aware that I am differing from a high authority; but I trust that I have made it appear on reasonable grounds”. The “authority” is obviously M. Elphinstone (see below). W. Moorcroft and G. Trebeck (1841) just note the Jewish features of some Afghans, described as “very Jewish-looking person” (*ibid.*, II: 348). Vigne 1840 (pp. 166-167) provides the following genealogy: “They say, that the eldest of Jacob’s sons was Judah, whose eldest son was Osruck, who was the father of Oknur; the father of Moalib, the father of Farlai, the father of Kys, the father of Talut, the father of Ermiah, the father of Afghana, whence the name of Afghans”.

<sup>54</sup> For the reconstruction of the way followed by the ten tribes of 2Esd. to reach *Arsareth*, see Moore 1861: 67-79, in chapter III, “How and where did they go?”. For other critics, see also Elphinstone 1815: 157 and Forster 1854: 290.

<sup>55</sup> “De origine Afganorum cum plures sint sententiae, duae tamen inprimis regnare videntur, altera, quam Europaeam dicere possis, est enim a viris doctis in Europa fere recepta, ab Albanis, Caucasi montis accolis, Afganos deducit, altera, quae Afganorum et Persarum esse fertur, a veteribus Hebraeis”.

<sup>56</sup> Cf. also Jacob Reineggs (1744-1793), who participated to a diplomatic mission to Caucasus: in his work, *Allgemeine historisch-topographische Beschreibung des Kaukasus*, he linked the Afghans with the Armenians: “The singing Indian changed the name Ahwan, which sounded barbaric to him, into Afg’an according to his linguistic organs, and so both names soon became common to this people, which Strabo already knew under the name Avgasians and confused with the Albanians” [my translation]

indirectly to Müller (1762: 149-150).<sup>57</sup>

Tychsen provides many elements in order to confute both theories and on the second adds:

Moreover, it seems to him wrong, while the language of the Afghans is similar to the Chaldean, which, if they had retained the language of their ancestors, the Israelites, must have been Hebrew. In the specimen of the Pushto speech, which I have attached to this comment, I have indeed discovered no resemblance to the Chaldean. (Tychsen 1804: 55 [my translation])<sup>58</sup>

And he concludes his discourse with the following words:

If we believe the Indian narrative just mentioned, the origins of the Afghan race date back to the sixth century before Chr. In the age of Alexander the Great there is still no mention of the name of the Afghani. Alexander indeed reached their regions, but the names of the peoples are not mentioned here among the writers. Scholars are of the opinion that Qandahar was founded in these regions as Alexandria, on account of the name also having some resemblance to Secander, in the manner in which the Orientals address Alexander. But Rennelius, a most acute man, taught them that they were in error; yet the Paruetios mountains of Ptolemy have the same for the Qandaharians. From this time the Afghans were unknown for several centuries; in fact, we have seen previously that it is legendary as regards the narration of their actions at the beginning, their favor and honor with Muhammad in the century. VII. (*ibid.*: 58 [my translation])<sup>59</sup>

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(Reineggs 1796: 162-163: “Der singend redende Indier verwandelte den ihm barbarisch klingenden Namen Ahwan, nach seinem seinern Sprachorgane in Afg’an, und so wurden bald beide Namen diesem Volke gemein, das Strabo schon unter dem Namen Avgasier kannte, und mit dem Albanier verwechselte”).

<sup>57</sup> Gerhard Friedrich Müller (1705-1783) was an explorer and ethnologist: in his work he let notes about all the people living within the Russian boundaries. Concerning the inhabitants of Bukhara he relates the tradition concerning the ten lost tribes of Israel (see Müller 1762).

<sup>58</sup> “Porro male sibi constat, dum chaldaicae similem perhibet Afganorum linguam, quae, si maiorum, Israelitarum, sermonem illi retinuerunt, hebraica esse debet. In specimine sermonis Pushto, isti commentationi adnexo, equidem nullam cum chaldaica similitudinem deprehendi”.

<sup>59</sup> “Si fides narrationi Indicae modo memoratae, origines gentis Afganicae ad seculum ante Chr. sextum referendae erunt. Alexandri M. etate nulla adhuc nominis Afganici, mentio. Regiones eorum attingit quidem Alexander, sed populorum nomina nulla hic memorantur apud scriptores. Candaharam esse Alexandriam in his regionibus conditam opinati sunt viri docti, nominis etiam aliqua similitudine cum Secander, quo modo Alexandrum adpellant Orientales, ducti. Sed errasse eos docuit Rennelius, vir acutissimus; idem tamen montes Paruetios Ptolemaei pro Candaharensibus habet. Ab hoc

However, as it was noted by Adelung successively (1806: 254), “Tychsen knew nothing of their language except a few lines from the fourth [read second] volume of the *Asiatik Researches*” [my translation].<sup>60</sup>

### **9. Johann Christoph Adelung (1806)**

The orientalist Johann Christoph Adelung (1732-1806), basing his *Mithridates*, published in 1806, on Pallas’ work (see above), stated that between Pashto and Caldean, “was probably just coincidental” (“wohl nur bloss zufällig war”).

Pashto occupies pp. 252-255 of his work: at the beginning he provides concise historical and geographic information. On the hypothetical Jewish or other origin of the Pashtuns, in particular, he states that:

What is claimed partly by them, partly by others about their origin in Egypt, where Moses is said to have driven them out, about the Jews and their king Saul, about Alexander the Great, about the Armenians, about the Georgians, about the Arabs, about the Albanians and Alans in the Caucasus, etc., has no historical basis and is partly refuted by their language. They are probably the original people of the mountains between Indo-Eastan and Persia. (Adelung and Vater 1806: 252-253 [my translation])<sup>61</sup>

At the end of his description, he quotes just seven words (‘father’, *plar*, ‘sky’, *asmo*, ‘earth’, *smak*, *pism’ige*, ‘bread’, *rotai*, ‘day’, *uras*, ‘today’, *nen-uras*, ‘bad’, *bati*), in order to show some lexical features: while discarding a Jewish origin, he detects 27 words on 102 of Persian origin:

Jones found much similarity between their language and Chaldean, which was probably only coincidental. Tychsen knew nothing of their language except a few lines from the fourth volume of the *Asiatik*

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inde tempore ignoti sunt Afgani per plura secula; quae enim de eorum apud Muhammedem gratia et honore rebusque sec. VII. ineunte gestis narrantur, fabulosa esse supra vidimus”.

<sup>60</sup> “Tychsen kannte von ihrer Sprache nichts als einige Zeilen aus dem vierten [read second] Bande der *Asiatik Researches*”.

<sup>61</sup> “Was theils von ihnen selbst, theils von andern von ihrem Ursprunge aus Aegypten, wo Moses sie vertrieben haben soll, von den Juden und ihrem Könige Saul, von Alexandern dem Grofsen, von den Armeniern, von den Georgiern, von den Arabern, von den Albanen und Alanen am Kaukasus u. s. f. behauptet wird, hat keinen historischen Halt, und wird zum Theil schon durch ihre Sprache widerlegt. Wahrscheinlich sind sie das Urvolk in den Gebirgen zwischen Indostan und Persien”.

*Researches*. In the *Vocabul. Petropol.* [Pallas work: see above] there are 102 Afgan words, which *Güldenstedt* compares in his journey with many Ossetian words in order to establish their Caucasian origin. But among all of them, only 13 are similar, some of which concern objects of action and are therefore immediately recognised as foreign descendants, and some of which are also found in other completely different languages, so that nothing can be concluded from them. Among these 102 words, I have found few Indian, just as few Turkish-Tataric, but 27 Persian. It therefore appears to be a separate root language, which has been mixed with foreign, especially Persian words. (Adelung and Vater 1806: 254-255 [my translation and underlined])<sup>62</sup>

The statement that “It therefore appears to be a separate root language, which has been mixed with foreign, especially Persian words” at the end of this quotation is noteworthy for its modernity. Interestingly, Adelung also tries an etymology of the name “Patans”, to him derived from Ind. *Paitna* ‘angreifen [to attack]’ at the epoch of the Ghurid dynasty, in the XIIth century (pp. 253-254).

## 10. Heinrich Julius Klaproth (1810 and 1823)

(Heinrich) Julius Klaproth (1783-1835) was an important orientalist who, from Saint Petersburg, was sent to China with a Russian embassy at the age of 22, in 1805.<sup>63</sup> In a second journey, he could visit Caucasus, and published successively his *Reise in den Kaukasus und Georgien in den Jahren 1807 und 1808*. His main work is the *Asia Polyglotta*, published in 1823, after he moved to Paris in 1815. In this work Klaproth presents a description of the languages and peoples of Asia: Pashto occupies the pages 54-61. After a short but clear introduction, 214 German words with Pashto translation are presented.

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<sup>62</sup> “Jones fand viel Ähnlichkeit zwischen ihrer Sprache und der Chaldäischen, welche denn wohl nur bloss zufällig war. Tytsen kannte von ihrer Sprache nichts als einige Zeilen aus dem vierten Bande der *Asiatik Researches*. Im *Vocabul. Petropol.* [Pallas work: see above] befinden sich 102 Afganische Wörter, welche *Güldenstedt* in seiner Reise mit so viel Ossetischen vergleicht, um ihren Kaukasischen Ursprung zu begründen. Allein es sind unter allen sich nur 13 ähnlich, welche theils Gegenstände der Handlung betreffen, folglich so gleich als fremde Abkömmlinge erkannt werden, theils sich auch in andern völlig verschiedenen Sprachen befinde, daher daraus nichts zu schliessen ist. Ich habe unter diesen 102 Wörtern wenig Indische, eben so wenig Türkisch-Tatarische, aber 27 Persische gefunden. Es scheint daher eine eigene Stammsprache zu seyn, welche mit fremden, besonders Persischen Wörtern vermischt worden” [my underlined].

<sup>63</sup> For all information concerning Julius Klaproth, see Walravens 1999 and 2002.

About the mythical origin of the Afghans from one of the tenth tribes of Israel and the resemblance of Pashto with Hebrew (see above), Klaproth is very critical (he speaks of “fables and tales”, “Fabeln und Erzählungen”), in particular towards William Jones, writing not only that the former tradition of the true descendant of the Afghans was covered with a new false one, but also that all the rest is completely false:

In its place they later substituted an imaginary one, drawn from a Qoranic-Jewish source, which makes them descendants of the ten Israëlite tribes who remained in captivity. *W. Jones*, a rather learned man, but a most uncritical head, as might be supposed, first seized upon this legend, found it probable, and spread it to the world by the added lie that he had found in a dictionary of the Afg’an language *manifest resemblances to the Chaldaik*. Although he did not have to give the slightest proof of this resemblance, the Afg’an were nevertheless proclaimed and accepted in Europe as descendants of the Jews. (Klaproth 1823: 54 [my translation])<sup>64</sup>

After having demolished the other preceding hypotheses about the origin of the Pashtuns, finally he concludes that Pashto belongs to the “Indo-Germanischen” family, as proven by the list of about 200 words shown after this introduction:

Against all these fables and tales, the language of the Afg’an serves as the best refutation; for it shows, neither in words nor in grammar, the slightest resemblance to Hebrew, Chaldaic and Arabic, or other Semitic dialects, and the Arabic words introduced by Islam and by the Mohammedan culture of the people, can no more be taken into consideration here than in the case of the Turkish in Constantinople, or like the Gallicisms of which German was teeming a hundred years ago. The following list of more than two hundred Afg’an words, which I have compared with all Indo-Germanic languages and dialects, shows incontrovertibly that the Afg’ans belong to this tribe, and are to be regarded as a link in the great chain of peoples which extends from the

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<sup>64</sup> “An ihre Stelle haben sie später eine erkünstelte, aus Qoranisch-Jüdischer Quelle geschöpft, gesetzt, die sie zu Nachkommen der zehn in der Gefangenschaft zurückgeblieben Israëlitischen Stämme macht. *W. Jones*, ein ziemlich gelehrter Mann, aber höchst unkritischer Kopf, griff, wie es sich vermuthen liess, diese Sage zuerst auf, fand sie wahrscheinlich und verbreitete sie in der Welt durch die hinzugefügte Lüge, dass er in einem Wörterbuche der Afg’anischen Sprache *manifest resemblances to the Chaldaik* gefunden habe. Obgleich er von dieser Ähnlichkeit nicht die geringste Probe zu geben hatte, so wurden dennoch die Afg’an in Europa als Nachkommen der Juden proclamirt und angenommen”.

Ganges to the British Isles, and as such has remained in its old rightful place until now. (*ibid.*: 56 [my translation])<sup>65</sup>

The 214 words are arranged alphabetically according to the German meaning and are put in comparison with Persian, Kurdish, Ossetian, Sanskrit, etc. Compared with Pallas' work (see above), there are in Klapproth's list 155 more words:<sup>66</sup> *wrusi* 'Augenbraune [eyebrow]', *zangi*, *šax* [written *шax*, with *ш* = *š* and *ch* = *x*] 'Ast [branch]', *čini*, *šile*, *xwer* 'Bach [brook]', *nes*, *džira* 'Bauch [belly]', *bumba* 'Baumwolle [cotton]', *mučai* 'Biene [bee]', *tirxau* 'Bitter [bitter]', *pani* 'Blatt [leaf]', *nil* 'Blau [blue]', *šin* 'Blaugrün [blue-green]', *sikir*, *sika*, *surp* 'Blei [lead]', *lundi* 'Blind [blind]', *asmah*, *brišne* 'Blitz [lightning]', *gsul* 'Blume [flower]', *tai* 'Brust [breast]', *sine* 'Busen [bosom]', *koti* 'Butter [butter]', *kos* 'Cunnus [vulva]', *pirte* 'Dick [thick]', *tiari* 'Dunkel [dark]', *neri* 'Dünn [thin]', *ospana* 'Eisen [iron]', *urirer* 'Enkel [grandson]', *xar* 'Esel [ass]', *xware* 'Essen [food]', *rosta* 'Fasten [fasting]', *oser*, *wasyr* 'Feder [feather]', *dešmen* 'Feind [enemy]', *ker* 'Feld [field]', *lere* 'Fern [far]', *koli* 'Fett [fat]', *polat* 'Feuerstahl [firesteel]', *ku* 'Fuerschwamm [sponge]', *lamba* 'Flamme [flame]', *rod*, *sint*, *sin* 'Fluss [river]', *jar* 'Freund [friend]', *psarlai* 'Frühling [spring]', *xpé* 'Fuss [foot]', *maxse* 'Gehirn [brain]', *ser*, *sir* 'Gelb [yellow]', *baisi* 'Geld [money]', *urbiš* 'Gerste [barley]', *tyx* 'Gesicht [face]', *parun*, *parjun* 'Gestern [yesterday]', *sar* 'Gold [gold]', *xendek* 'Graben [ditch]', *sur* 'Greis [old man]', *lui* 'Gross [big]', *serg'un* 'Grün [green]', *xo* 'Gut [good]', *gely* 'Hagel [hail]', *malkalai*, *g'ial'a* 'Hals [neck]', *saxte* 'Hart [hard]', *xunix*, *kar* 'Haus [house]', *postoke* 'Haut [skin]', *tade* 'Heiss [hot]', *rana* 'Hell [bright]', *munei* 'Herbst [autumn]', *nen-uras* 'Heute [today]', *kuxt* 'Hirse [millet]', *lor*, *lior* 'Hoch [high]', *lergi* 'Holz [wood]', *gubina* 'Honig [honey]', *čirgé*

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<sup>65</sup> "Gegen alle diese Fabeln und Erzählungen dient die Sprache der Afg'an als beste Widerlegung; denn sie zeigt, weder in den Wörtern noch in der Grammatik, die geringste Ähnlichkeit mit dem Hebraischen, Chaldaischen und Arabischen, oder anderen Semitischen Mundarten, und die durch den Islam und durch die Moh'ammedanische Kultur des Volkes eingeführten Arabischen Wörter, können hier eben so wenig in Betracht kommen, als beim Türkischen in Konstantinopel, oder wie die Gallizismen von denen das Deutsche noch vor hundert Jahren wimmelte. Das hier folgende Verzeichniss von mehr als zweihundert Afg'anischen Wörtern, die ich mit allen Indo-Germanischen Sprachen und Dialekten verglichen habe, zieht unumstösslich dass die Afg'anen zu diesem Stamme gehören, und als ein Glied in der grossen Völkerkette anzusehen sind, die vom Ganges bis zu den Britanischen Inseln reicht, und als solches bisjetzt an seinem alten rechten Platze geblieben ist".

<sup>66</sup> In Pallas' work there are 14 words more: *asmaa*, *asmon*, *erast*, *ixte*, *kwa*, *mak*, *malkalay*, *ozer*, *patay*, *smak*, *ule/urbiši*, *waxe*, *xaxade*, *zar*.

‘Huhn [chicken]’, *ha!* ‘Ja! [yes!]’, *xusai* ‘Kalb [calf]’, *spinaxal* ‘Kalk [lime]’, *sale, sare* ‘Kalt [cold]’, *ux, um* ‘Kameel [camel]’, *panir* ‘Käse [cheese]’, *bakir* ‘Kiesel, Feuerstein [pebble, flint]’, *puxāk* ‘Kleid [dress]’, *oloke* ‘Klein [small]’, *alukei* [instead of (*h*)*aḍukay*], *hedukei* ‘Knochen [bone]’, *skary* ‘Kohle [coal]’, *waše* ‘Kraut [herb]’, *bagir* ‘Kupfer [copper]’, *lan* ‘Kurz [short]’, *uhid, us ‘d* ‘Lang [long]’, *tered* ‘Lang [long]’, *urusi, wro* ‘Langsam [slow]’, *swendum* ‘Leben [life]’, *spog* ‘Leicht [light]’, *urum* ‘Lend [lend]’, *xe* ‘Links [left]’, *šund ‘i* ‘Lippe [lip]’, *surei* ‘Loch [hole]’, *qašug* ‘Löffel [spoon]’, *merru* ‘Mann [man]’, *kiwar* ‘Mays [mays]’, *čale, čare* ‘Messer [knife]’, *jes* ‘Messig [brassy]’, *poi, py, šodi, šoude* ‘Milch [milk]’, *maste* ‘Milch, saure [milk, sour]’, *maspixin* ‘Mittag [noon]’, *miašta* ‘Monat [month]’, *miašta, spos ‘my* ‘Mond [moon]’, *saba* ‘Morgen [morning]’, *xoli* ‘Mütze [cap]’, *zet* ‘Nacken [neck]’, *nisdi* ‘Nahe [near]’, *num* ‘Name [name]’, *posa* ‘Nase [nose]’, *baderai* ‘Niedrig [low]’, *kuak* ‘Kuh [cow]’, *g ‘ore* ‘Öhl [oil]’, *gil* ‘Penis [penis]’, *as* ‘Pferd [horse]’, *kina* ‘Quelle [spring]’, *lüge* ‘Rauch [smoke]’, *kin* ‘Rechts [right]’, *nynmi* ‘Regenbogen [rainbow]’, *uris ‘i* ‘Reiss [tear]’, *sir, sur* ‘Roth [red]’, *ša* ‘Rücken [back]’, *šora* ‘Salpeter [saltpetre]’, *malga* ‘Salz [salt]’, *tiroa* ‘Sauer [sour]’, *pse* ‘Schaaf [sheep]’, *žahas* ‘Schiff [ship]’, *xob* ‘Schlaf [sleep]’, *mâr* ‘Schlange [snake]’, *batti* ‘Schlecht [bad]’, *sir* ‘Schnell [fast]’, *kepei* ‘Schuh [shoe]’, *tor* ‘Schwarz [black]’, *kokurt* ‘Schwefel [sulphur]’, *xirbišai, sarkus* ‘Schwein [pig]’, *xoli* ‘Schweiss [sweat]’, *drun* ‘Schwer [heavy]’, *tura, ture* ‘Schwert [sword]’, *lur* ‘Sichel [sickle]’, *čile, dobei, orey* ‘Sommer [summer]’, *zapli* ‘Stiefel [boot]’, *xage* ‘Süss [sweet]’, *uras, rjud* ‘Tag [day]’, *kanada* ‘Taub [deaf]’, *kuteri* ‘Taube [dove]’, *lur, ljur* ‘Tochter [daughter]’, *merg* ‘Tod [death]’, *tiše, ske* ‘Trinken [drinking]’, *derwase, war* ‘Thür [door]’, *mum* ‘Wachs [wax]’, *kamin, gen ‘em* ‘Weizen [wheat]’, *zengel* ‘Wald [forest]’, *germi* ‘Warm [warm]’, *lar* ‘Weg [way]’, *aurata, artina* ‘Weib [woman]’, *post, pasteh* ‘Weich [soft]’, *spin* ‘Weiss [white]’, *lik* ‘Wenig [little]’, *sili* ‘Wind [wind]’, *semei* ‘Winter [winter]’, *bix* ‘Wurzel [root]’, *xax, g ‘ax* ‘Zahn [tooth]’, *bsa* ‘Ziege [goat]’.

Many of these words repeat the mistakes of transcription and meaning already done by Pallas, even if there are some improvements, as *qâs* ‘Gans [goose]’.

However, already in 1810 Klaproth had published a work, the *Archiv für asiatische Literatur, Geschichte und Sprachkunde*, in which he had dealt also with Pashto.

In the third chapter, in particular, *Ueber den Ursprung der*

*Aghuanen* (Klaproth 1810: 76-100), he states that the birth place of the Afghans was the chain of the Suleyman mountains: “The headquarters of the *Ághûâns* has always been the mountain *Solimân kûh* سليمان كوه, which lies to the south-west of *Chandahâr*, and is still regarded by them as their ancestral place” (*ibid.*: 77).<sup>67</sup>

After this statement, he proposes his analysis of the presumed origins and juxtapositions of the Afghans:

The now almost universally accepted opinion that the *Ághûâns* are descended from the former *Albanians* also has little going for it, and is based almost entirely on similarity of name and on the Armenian corrupted pronunciation *Achbania* and *Achwania* for *Albania*. I have closely examined the *Ághûân* words supplied by Gùldenstädt, as well as the following phrases in this language, and found that it belongs to the Median tribe, which proves its great similarity to *New Persian*, *Send*, *Pehlwi*, *Kurdish*, *Ossetian* and the *Slavic* and *Germanic dialects*. Whether one can therefore derive this people from Media and the region of the Caspian Sea is still very much a question, because not a single historical date comes to our aid in such a hypothesis. On the contrary, it must have always lived in the mountains between Persia, Hindostan and Bactria; and would have to be regarded as a link in the great *Indo-Mediterranean-Slavic-Germanic* chain of peoples, which extends from the Ganges to the British Isles, standing at its rightful place in it. (*ibid.*: 81 [my translation]).<sup>68</sup>

He then provides 23 sentences in Pashto, with Persian parallels, at the end of the chapter, a “Vocabolarium”, containing about 170 words, always the same, successively also listed again in his work of 1823 (see above), but

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<sup>67</sup> “Der Hauptsitz der *Ághûân* war immer das Gebirge *Solimân kûh* سليمان كوه, welches südwestlich von *Chandahâr* liegt, und noch jetzt von ihnen für ihren Stammort angesehen wird”.

<sup>68</sup> “Die jetzt fast allgemein angenommene Meinung, dass die *Ághûân* aus dem ehemaligen *Albanien* abstammen, hat ebenfalls wenig für sich, und beruht fast nur auf Namensähnlichkeit und auf der Armenischen verderbten Aussprache *Achbania* und *Achwania* für *Albania*. Ich habe die von Gùldenstädt gelieferten *Ághûânischen* Worte, so wie die hier folgenden Phrasen in dieser Sprache genau untersucht, und gefunden, dass sie zum Medischen Stamm gehört, welches ihre grosse Aehnlichkeit mit dem *Neu-Persischen*, dem *Send*, *Pehlwi*, *Kurdischen*, *Ossetischen* und den *Slavischen* und *Germanischen Dialecten* beweist. Ob man indessen darum dies Volk aus Medien und der Gegend des Kaspischen Meeres herleiten kann, ist noch sehr die Frage, weil uns bei einer solchen Hypothese kein einziges historisches Datum zu Hülfe kommt. Im Gegentheile dürfte es wohl immer in den Gebirgen zwischen Persien, Hindostan und Bactrien gewohnt haben; und wäre in der grossen *Indisch-Medisch-Sclavisch-Germanischen* Völkerkette, die vom Ganges bis zu den Britannischen Inseln reicht, als ein Glied anzusehen, das an seinem rechten Platze in derselben steht”.



this time with comparison from Persian and other “Medischen” dialects, and the table of Pashto numerals.

## **11. William Carey and Joshua C. Marshman (1813)**

The two missionaries William Carey (1761-1834) and Joshua C. Marshman (1768-1837)<sup>69</sup> were both based in Serampore, from where they conducted their work of translation of the Holy Writings into the Indian languages. In the sixth volume of the *Monthly Circular Letters Relative to the Missions in India*, in an article entitled “Memoir Relative to the Translation of the Sacred Scriptures”, they provide a list of languages in which to translate the New Testament: Pashto is one of them, the translation being “carried forward as far as the epistle to the Romans; and the gospel of St. Matthew is now in the press”.<sup>70</sup> They somehow validate William Jone’s statement of the descent of Pashto from Hebrew, writing that “Nor is this conjecture altogether void of probability” (Carey and Marshman 1813: 158)<sup>71</sup> and they support this hypothesis with the same arguments:

The language [Pushtoo] contains a greater number of Hebrew words, than is found in that of any nation in India: and indeed the ancient Media,

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<sup>69</sup> The first biography of the three was written by a son of Joshua Marshman, John Clark Marshman: see Marshman 1859.

<sup>70</sup> The New Testament in Pashto was published in 1818 as volume V of the publication of The Holy Bible: cf. Carey et al. 1818.

<sup>71</sup> In a note at the end of the article, they quote the opinion of an “esteemed friend, attached to the late embassy into Cabul” (Elphinstone 1815: 166), who adds: “If we examine the ancient geographers relative to this spot, we shall find it termed *Ariane*. Pomponius Mela, in describing the tracts of country between the Indus and Persia, places *Ariane* next the Indus; [note of the author: “*Indis proxima est Ariane, deinde Aria, et Cedrosis, et Persis ad sinum Persicum*”] next to *Ariane* he places *Aria*; and between that and Persia, *Cedrosis*. Relative to *Aria* and *Ariane*, the learned Bochart in his well known work on Sacred Geography, observes, that *Hara*, whither the sacred historian says, 1 Chron. v. 25. “the children of Israel are (detained in captivity) unto this day,” (probably the time of Ezra,) is *Media*, and that Jerom in his translation, neglecting the aspirate, writes it *Ara*. He then adduces the testimony of Herodotus and Pausanias to prove, that *Media* was by them termed *Aria*, and the Medes *Arii*; and further quotes a passage from Apollodorus proving that *Ariane* was in reality the same with *Aria*. [...] If *Media* be the *Ariane* of Pomponius Mela, as that lay next the Indus, it must be precisely the country now inhabited by the Afghans and the Buloochees; and if it be *Aria*, it is still the country which borders closely upon Afghanistan. Persia, between which and *Aria*, Pomponius Mela places *Cedrosis*, is scarcely three hundred leagues west of the Indus; and Candahar the chief city of Afghanistan, lies about a hundred leagues to the west of the Indus” (*ibid.*: 167-168). The work of Samuel Bochart (1599-1667) is the *Geographia sacra*: see Bochart 1646.

according to Pomponius Mela and other ancient geographers, was a farthest, within a few hundred leagues of this country. The inhabitants are now however enveloped in the darkness of Mahometanism. Their alphabet is the Arabic with such letters added as enable it to express the sounds of the *Sungskrit* language. (*ibid.*: 158)<sup>72</sup>

## 12. Montstuart Elphinstone (1815)

Montstuart Elphinstone (1779-1859)<sup>73</sup> is one of the most important personalities of the 19<sup>th</sup> century for British India. Among other charges, in 1819 he was appointed Lieutenant-Governor of Bombay. His work of 1815, *An Account of the Kingdom of Caubul*, remains a masterpiece and fundamental source of information on Afghanistan, and continues to be quoted until nowadays. In his work Elphinstone describes in detail the adopted method for the comparison of Pashto with the other languages and it is worth being read *in extenso*:

Of two hundred and eighteen hundred words which I compared [note of the Author: “The comparison was made in the following manner: - I drew up a Pushtoo vocabulary, which I believe was correct, and which had the advantage of being compared with one compiled by Mr. Irvine: similar vocabularies of the Zend and Pehlevee languages were made for me by a friend to whose kindness I have often been indebted. They were taken from two learned Parsees, and compared with Anquetil du Perron’s lists. The same friend procured the Georgian, Armenian, Hebrew, and Chaldee vocabularies. My own acquaintance with Persian and Hindostanee, was sufficient, with the help of dictionaries, for the purpose I had in view; and for the Shanscrit, each word was compared with all the numerous synonyms in the Amercosh, which were read to me by a Pundit. (...) Since I wrote the above, I have had an opportunity of examining a list of about one hundred Curdish words, and I find among them five of the hundred and ten which I have mentioned as original Afghaun words, besides several common to the Curdish and Persian both

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<sup>72</sup> Among others, also George Henry Rose (1771-1855) accepts this statement: “Besides this, those distinguished oriental linguists, the Serampore missionaries, whose authority is decisive in such a matter, have ascertained, that their [of the Afghans] tongue, the Pushtoo, contains more Hebrew roots than any other of the numerous oriental languages which have been the subject of their labours” (Rose 1832: 302).

<sup>73</sup> For information on the life and epoch of Elphinstone, see Yapp 1980 and 1998. Hanifi 2019 contains an interesting analysis of Elphinstone’s influence and a useful presentation of various aspects of his works.

languages. (...)”<sup>74</sup> with the corresponding ones in Persian, Zend, Pehlevec, Shanscrit, Hindostaunee, Arabic, Armenian, Georgian, Hebrew, and Chaldaic, I found one hundred and ten that could not be referred to any of those languages, but seemed distinct and original. Of the remainder, by far the greater part were modern Persian; but some of these were introduced into the latter language from the Zend, and many more from the Pehlevec, while a good number were words of those languages not employed in modern Persian. Some of these Zend and Pehlevec words are, however, common to the Shanscrit, the three languages having a great affinity; and some words also occur, which are to be found in Shanscrit alone, as do five or six words of the Hindostaunee language. It is probable some Punjaabee words would also be detected, if the list were compared with a vocabulary of that language. (Elphinstone 1815: 190-191)

His conclusion is explicit concerning W. Jones’ proposal: “Not one word of the two hundred and eighteen has the smallest appearance of being deducible from the Hebrew or Chaldaic, Georgian or Armenian”.

In the appendix E he lists some 365 Pashto words, more or less following the same structure found in the work of Pallas, i.e. starting from Xwdāy ‘God’ (Khoda in Elphinstone). He provides the two variants, Western and Eastern, the former much more documented. Many mistakes of Pallas list are corrected, as Loor ‘Daughter’; Ozhu ‘shoulder’, Eastern Ogu; Las ‘Hand’ (defined by Elphinstone ‘the whole arm’, opposed to ‘the hand alone’, Mungol); Speen Zer ‘Silver’, = ‘White Gold’.

The methodology of Elphinstone is very accurate: he is also attentive to dialectology,<sup>75</sup> showing thus a modern linguistic sensibility. As a general evaluation of Elphinstone’s work and approach about Pashto, we can quote a Hanifi (2019: 27):

From the perspective of book history, at least, it is significant that much of the information Elphinstone conveys about Pashto is contained in the para-narrative Preface, Introduction, Footnotes and Appendices of *An Account*. In terms of the structure of the book, we can conclude that the

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<sup>74</sup> Hanifi comments this note in detail in his article “A book history of Mount Stuart Elphinstone’s *An Account of the Kingdom of Caubul*” (see Hanifi 2019: 21-22).

<sup>75</sup> Rightly, Hanifi mentions Elphinstone’s importance for dialectology: “His [Elphinstone’s] bifurcation of Pashto into Eastern and Western Dialects set the stage for arguably the most developed component of Pashto language study. This is the sub-field of Pashto language study we can refer to as Pashto dialectology that has been engaged by all major subsequent authorities on the language including but not limited to Bernhard Dorn, Henry George Raverty, James Darmesteter, Georg Morgenstierne and Herbert Penzel [sic]” (Hanifi 2019: 23-24).

para-narrative consideration of Pashto is grafted upon the distinctly Persianate content and narrative of the Durrani state structure. This conclusion represents a major epistemological intervention for decentring, displacing and destabilising Pashto and Pashtuns as the cultural and historic essence of the Afghan state structure.

### **13. John Malcolm (1815)**

Sir John Malcolm (1769-1833)<sup>76</sup> is a prominent figure in the history of British India. He was in India since 1783 and was appointed Governor of Bombay from 1827 to 1830. In 1815 he published a *History of Persia from the Most Early Period to the Present Time. Containing an Account of the Religion, Government, Usages, and Characters of the Inhabitants of that Kingdom* (see Lambton 1995), where he dealt also with the “Affghan” tribes, their origin and language. Notwithstanding his doubts concerning the hypothetical Jewish origin of the Pashtuns, he highlights their originality, among the people of the region, for “personal appearance and many of their usages”:

The origin of the Affghan tribes,<sup>77</sup> who inhabit the mountainous tract between Khorassan and the Indus, is variously traced by different historians. Some assert that they are lineally descended from the Jewish tribes, made prisoners by Nebuchadnezzar;<sup>78</sup> and the principal chiefs are

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<sup>76</sup> On the life and the epoch of Sir John Malcolm, see Harrington 2010.

<sup>77</sup> “The author of a manuscript History of the Affghans observes, that some derive the name Affghan from its Persian meaning, ‘lamentation’, because these tribes bewailed their banishment from Judea. Others say that Affghan was the grandson of Saul, and was employed by Solomon in building the temple. This author refers to two histories of this nation, the Tarikh Affghanah, and the Tarikh Ghour, *i.e.* the History of the Affghans, and the History of Ghour. It appears, he says, from these works, that the Affghans consider themselves as partly descended from the Copts of Egypt and partly from the Israelites; but nothing is adduced to support this assertion” (note of the Author).

<sup>78</sup> “We are told by one of these writers that Nebuchadnezzar, after putting to death many of the prisoners, banished them into the mountains of Ghour, where they multiplied greatly, and soon became masters of the country. They maintained a correspondence with the Jews in Arabia; and when those changed their religion for that of Mahomed, a letter was received from a converted Jew, called Khálud, informing them of the appearance of a new prophet, and invoking them to join his holy standard. Several Affghan nobles went to Arabia; the principal was Keis, who, we are informed by Affghan authors, traced his descent through forty-seven generations to Saul, and through fifty-five to Abraham. This chief, with others, was introduced by Khálud to the prophet, who condescended to treat them with great favour; he bestowed on Keis the title of ‘Abdool Rusheed’, and that of Malik, or ‘ruler’, a name to which Mahomed said he was entitled, as the descendant from the ruler of Israel. These chiefs, after they became Mahomedans, accompanied the prophet to attack Mecca, and were distinguished by their zeal and valour. Keis after this

said to trace their families to David and Saul.<sup>79</sup> Although their right to this proud descent is very doubtful, it is evident, from their personal appearance and many of their usages, that they are a distinct race from the Persians, Tartars, and Indians; and this alone seems to give some credibility to a statement which is contradicted by many strong facts [...], and of which no direct proof has been produced. (Malcolm 1815, I: 596-597)

At p. 597, fn. †, he completely discards Jones' proposal concerning a presumed Jewish origin of Pashto:

There is no affinity whatever between the Hebrew tongue and the Pushtoo, or modern language of the Affghans; and no inscriptions have been discovered to support a belief of their Jewish extraction. Their own vague traditions cannot be admitted as conclusive on such a subject.

#### **14. Friedrich Wilken (1820)**

Friedrich Wilken (1777-1840), director of the library of the University of Heidelberg since 1807, became in 1817 Professor of History and Oriental Studies at the University of Berlin and chief librarian of the royal library, then in 1821 dean of the Berlin University.

Wilken never travelled in Asia. However, in 1820 he published in the *Abhandlungen der königl. Akademie der Wissenschaften in Berlin. Aus den Jahren 1818-1819* a fine article of 30 pages: "Ueber die Verfassung, den Ursprung und die Geschichte der Afghanen". In this article, Wilken firstly presents geography, history and customs of the Afghans.<sup>80</sup> Concerning the name 'Afghanistan', in particular, he states that it is used

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returned to his native country, blessed with the prayers of the prophet, and accompanied by some inhabitants of Medina, who were to aid him in propagating the faith he had learnt in Arabia, among the mountaineers of Ghour. His success was so great, that before his death, in the fortieth year of the Hejrah, all his subjects were converts. He died at the age of eighty-seven, leaving three sons, to whom much of his power and influence descended. His memory is still revered. Every modern chief of Affghanistan endeavours to trace his descent to the illustrious Keis — *History of the Affghans, Persian MSS*" (note of the Author).

<sup>79</sup> "Almost all Mahomedan writers claim this descent for the Affghans; and I possessed for some time a genealogical table, in which an attempt was made to prove all the principal families of Affghanistan direct descendants of the kings of Israel" (note of the Author).

<sup>80</sup> At the beginning of his article, Wilken quotes some of the most recent travelers to Afghanistan, as for instance George Forster (died 1792) (see Forster 1798), and the presumed somatic Jewish features of the Pashtuns. For an overview of the "discovery of Afghanistan in the era of imperialism", see Nawid 2019.

only by scholars dealing with the Persians: “The Afghans themselves do not encompass the country they rule with a peculiar general name. For the name Afghanistan, by which the Persians designate the empire ruled by the Afghans, is in use only among their scholars” (Wilken 1820: 239 [my translation]).<sup>81</sup>

Wilken justifies the affinity existing between the western Afghans and the Persians, from one side, with the strong longstanding contacts: “The western Afghans have grown closer to the Persians, have adopted their education to some extent, and have even allowed the New Persian language to influence their dialect, while the eastern Afghans have resisted all education” (*ibid.*: 242 [my translation]).<sup>82</sup>

On the other side, he acknowledges that all historical accounts place the Afghans in the region between Persia and India, then they should belong to one of these two genetically linked roots: “Already according to their original residences, which according to all information are to be sought in the mountains between Persia and Hindostan, we must necessarily count them either among the Indians or Persians, by the way closely related tribes of peoples” (*ibid.*: 258 [my translation]).<sup>83</sup>

And conclusively he cites the opinion of Klaproth that the Afghans belong to the Medians: “Mr. Julius Klaproth [...] concludes from the language of the Afghans, of which he communicates a significant number of words, that the Afghans belong to the Median tribe, and I believe that this opinion can be raised to the level of evidence” (*ibid.*: 257-258 [my translation]).<sup>84</sup>

Wilken, however, does not hide two methodological problems, the first related to the lack of data, the second to the great number of loanwords. On the former he states:

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<sup>81</sup> “Die Afghanen selbst umfassen das von ihnen beherrschte Land nicht mit einem eigentümlichen allgemeinen Namen. Denn der Name Afghanistan, womit die Perser das von den Afghanen beherrschte Reich benennen, ist nur bei ihren Gelehrten gebräuchlich”.

<sup>82</sup> “Die westlichen Afghanen haben sich mehr den Persern genahert, deren Bildung zum Theil sich angeeignet, und selbst der Neu-Persischen Sprache einen Einfluss auf ihre Mundart eingeräumt, während die ostlichen jeder Bildung widerstrebt haben”.

<sup>83</sup> “Schon nach ihren ursprünglichen Wohnsitzen, welche nach allen Nachrichten in den Gebirgen zwischen Persien und Hindostan zu suchen sind, müssen wir sie notwendig entweder zu den Indern oder Persern, übrigens einander nahe verwandten Volkerstammen, rechnen”.

<sup>84</sup> “Herr Julius Klaproth [...] schließt aus der Sprache der Afghanen, wovon er eine bedeutende Anzahl von Wörtern mittheilt, dass die Afghanen dem Medischen Stamme angehören, zu begründen: und ich glaube, dass diese Meinung zur Evidenz sich erheben lässt”.

The most important proof of the Persian-Medic descent of the Afghans, however, lies indisputably in their language. All the aids hitherto available for the knowledge of the Pushtu language are, however, by no means adequate, for the idioms given in the treatises by Vansittart and Mr. Klaproth are too few in number to provide a reasonably adequate knowledge of the grammatical structure of the language; and the dictionaries, both the one in the appendix to Elphinstone's travels and the one provided by Mr Klaproth, are not sufficiently systematic. (*ibid.*: 258 [my translation])<sup>85</sup>

On the second:

For for a thorough knowledge of languages, especially those which have experienced a strong interference of foreign words, it is not sufficient that one accepts the first best word presented, but the synonymous expressions must be collected, so that one can distinguish what is original and what is admixed. The words of the aforementioned vocabularies have been collected without taking this important requirement into account. [...] One can see from these language samples, however, that the Pushtu language has lost its original purity through a very strong admixture of Arabic and New Persian words, which is also very natural in the relationship of the Afghans to the Arabs and Persians. But for this very reason, nothing can be done to establish the relationship between the Afghan and Persian languages by comparing individual words; and the more striking and immediate the similarity of individual words, the less weight they carry in the balance. (*ibid.*: 258-259 [my translation])<sup>86</sup>

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<sup>85</sup> "Der wichtigste Beweis für die persisch-medische Abstammung der Afghanen legt aber ohnstreitig in ihrer Sprache. Alle bisher für die Kenntniss der puschtu-Sprache vorhandenen Hülfsmittel sind indess keinesweges zurechend denn die in den Abhandlungen von Vansittart und Herrn Klaproth mitgetheilten Redensarten sind in allzu geringer Zahl, um sich daraus eine eingermassen genügende Kenntniss des grammatischen Baues der Sprache zu verchafften; und die Wörterverzeichnisse, sowohl das in dem Anhang zu Elphinstone's Reise befindliche als das von Herrn Klaproth mitgetheils, sind nicht planmässig genug abgefasst".

<sup>86</sup> "Denn für eine gründliche Kenntnis von Sprachen, besonders solchen, welche eine starke Einmischung von fremden Wörtern erfahren haben, ist es nicht genügend, dass man das erste beste dargebotene Wort annehme, sondern es müssen die gleichbedeutenden Ausdrücke gesammelt werden, damit man unterscheiden könne, was ursprünglich und was zugemischt ist. Die Wörter der genannten Vokabularien sind, ohne Berücksichtigung dieser wichtigen Forderung, gesammelt worden. [...] Man sieht aus diesen Sprachproben indess so viel, dass die Puschtu-Sprache durch eine sehr starke Einmischung von arabischen und neupersischen Wörtern ihre ursprüngliche Reinheit verloren hat, was in den Verhältnissen der Afghanen zu den Arabern und Persern auch sehr natürlich ist. Aber eben deswegen ist für die Begründung der Verwandtschaft der Afghanischen und Persischen Sprache nichts mit der Vergleichung einzelner Wörter

Lastly, Wilken once again, after having compared some Pashto and Persian words, concludes in favour of the origin of Pashto from “medisch-persischen” roots of Pashto:

With these reasons I believe to have proved the Medo-Persian origin of the Afghans, as far as certainty can be reached in investigations of this kind, and conclude this section with the remark that this people most probably became known under its present name already to the ancients by the march of Alexander the Great to India. (*ibid.*: 261 [my translation])<sup>87</sup>

In the postscript, Wilken declares that he could check, at the last moment before publication of his article, the translation of the New Testament in Pashto published at Serampore in 1818 (see above Carey and Marshman). The conclusions he draws, on the base mainly of a lexical comparison, is that in Pashto there is also a mass of loanwords coming from languages other than Arabic and Persian<sup>88</sup> and, notwithstanding the many similarities with other languages, Pashto can be considered an independent dialect.<sup>89</sup>

### **15. Alexander Eduard Friedrich Eversmann and Martin Hinrich Carl Lichtenstein (1823)**

In 1820, Eduard Eversmann (1794-1860),<sup>90</sup> disguised as a merchant,

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auszurichten; und je auffallender und unmittelbarer die Aehnlichkeit einzelner Wörter ist, je weniger Gewicht bringen sie in die Waagschaale”.

<sup>87</sup> “Ich glaube mit diesen Gründen den medisch-persischen Ursprung der Afghanen erwiesen zu haben, so weit sich in Untersuchungen dieser Art die Gewissheit erreichen lässt, und schliesse diesen Abschnitt mit der Bemerkung, dass dieses Volk höchst wahrscheinlich unter seinem jetzigen Namen schon den Alten durch den Zug Alexanders des Grossen nach Indien bekannt wurde”.

<sup>88</sup> “I. The language of the Afghans has evidently experienced very strong admixture from other languages, not only from the Persian, but from the Arabic, even from the Syriac or Chaldean; it has itself appropriated some grammatical forms not only from the Persian, as the language directly related to it, but also from the other languages mentioned” [my translation] (Wilken 1820: 262: “I. Die Sprache der Afghanen hat offenbar sehr starke Zumischung aus andern Sprachen erfahren, nicht bloss aus der persischen, sondern aus der arabischen, ja selbst der syrischen oder chaldäischen; sie hat selbst manche grammatische Formen nicht bloss aus der persischen, als der ihr unmittelbar verwandten Sprache, sondern auch den übrigen genannten Sprachen, sich angeeignet”).

<sup>89</sup> “II. in spite of all the harmonisation of the Pushtu language with Persian that has just been demonstrated, that language nevertheless still has so many peculiarities, especially also in the basic forms, that it fully asserts its place as an independently developed dialect” [my translation] (Wilken 1820: 266: “II. Bei aller so eben nachgewiesenen Uebereinstimmung der Pushtu-Sprache mit der Persischen, hat jene Sprache gleichwohl noch immer so viele Eigenthümlichkeiten, besonders auch in den Grundformen, dass sie ihren Platz als unabhängig ausgebildete Mundart vollkommen behauptet”).

<sup>90</sup> For general information, cf. Mearns and Mearns 1988.



travelled to Bukhara, in order to collect materials of natural history. In the appendix to *Reise von Orenburg nach Buchara*, published in 1823 and containing the journal of Evermann's journey, Hinrich Lichtenstein (1780-1857), professor of zoology at the University of Berlin, after the presentation of a specimen of vocabulary of Pashto, compared with Russian, German, Tatar and Persian, and of some elements of Pashto conjugation, all issued from Klaproth's work, concludes the obvious closeness between Pashto and Persian: "That the Afghan language has the greatest similarity with the Persian language is easily seen from the preceding dictionary" (Lichtenstein 1823: 34 [my translation]).<sup>91</sup>

## 16. Charles Stewart (1829)

In 1829, in the volume 28 of *The Asiatic Journal and Monthly Miscellany*, an article by Major Charles Stewart (1764-1837)<sup>92</sup> was published, "On the Origin of the Afgháns or Patans", in which he also quotes the opinion of John Malcolm on the origin of Pashto (see above). In this interesting essay, he tries to ascribe the origin of the Afghans to different sources:

[G]enerally speaking, the Afgháns, instead of being of Jewish extraction, are descended from the Geté and Huns; that the Khiliji are of a Turkish origin; the Lody are a mixed race of Arabs and Huns, and all the other tribes are branches from these, except the Hazary, who did not enter India till about the middle of the thirteenth century, and were part of the followers of Holakou Khan. (Stewart 1829: 286)

Indeed, he reconstructs thus the early origins of the Pashtuns:<sup>93</sup>

[E]arly in the fifth century [A.D. 420 (note of the Author)], the ancient Huns having been driven from the north of China, the greater number of them proceeded towards Europe, the remainder to Aksou and Kashgar; from thence they spread themselves to the Caspian sea and the frontiers of Persia [...]. These Huns, afterwards bore the title or name of *Te-li* or *Tie-lé*; and because they dwelt along the banks of the river Oxus, they called them *Ab-te-lé*, that is, the "Telites of the river"; from this has been formed the names of *Abtelites*, and by corruption, *Euthalites* and *Nepthalites*, which has given rise to the belief that they were Jews of the tribe of Nepthali, who had been transported to that country during the

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<sup>91</sup> "Dass die afgahnische [sic] Sprache mit der persischen die grösste Aehnlichkeit hat, sieht man aus vorhergehendem Wörterbuche leicht".

<sup>92</sup> For general information, cf. Holland 1898.

<sup>93</sup> Stewart takes his information from de Guignes 1756-1758.

period of the captivity. In the above paragraph there are two remarkable circumstances, first the name of *Abtelé*, which so nearly resembles that of *Ab-da-li*, one of the most distinguished of the Afghán tribes; secondly, the origin of the tradition of the Afgháns being descended from the Israelites [...] It is not that the Huns were the sole masters of those countries; a number of other Scythian nations had been previously established here, viz. the Ssu, the Ousion, the Yuechi or Geté [...]” (*ibid.*: 278-279).

In spite of the novelty of his proposal about the origin of the Pashtuns, Stewart’s analysis of Pashto is quite wrong. Indeed, he does of Pashto a mixture of many other languages:

Concerning Pashto, the modern Afghán language, called Pookhtú or Pooshtú, is a mixture of Túrkish, Arabic, Persian, and Hindy, but so disguised in pronunciation, as to be scarcely recognised by the natives of those countries. Persian is understood by the higher classes, and they all use the Persian character in writing. (*ibid.*: 286)

### **17. James Baillie Frazer (1834)**

Also J.B. Frazer (1783-1856),<sup>94</sup> a renowned traveller, writer, and artist, let some notes about Pashto and the Pashtuns. After having criticised the presumed Jewish origin, simply constating that “but, setting fable and conjecture aside, there is no doubt that the country in question has been inhabited by their tribes from a very distant period” (Frazer 1834: 299), concerning Pashto he writes:

The Pushtoo dialect appears to consist of an original stock, embracing a considerable proportion of Persian, with a few words of Zend and Sanscrit; but no trace of similarity could be discovered to the Hebrew, Chaldaic, Georgian, or Armenian tongues. (*ibid.*: 304)

### **18. Conrad Malte-Brun and Jean Jacques Nicolas Huot (1835)**

Conrad Malte-Brun (1775-1826) was the pseudonym of Malthe Conrad Bruun, a geographer and journalist, who composed an ambitious work, the *Précis de Géographie Universelle ou Description de toutes les parties du monde*, in six volumes, successively republished in eight volumes, the last two being posthumous and was edited and augmented by Jean Jacques Nicolas Huot (1790-1845). This latter, who published the eighth volume in

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<sup>94</sup> For information on Frazer, see Wright 2000.

1835, in the “*avertissement*” explains as “The description of Asia, as it was known in 1811, when it appeared in this *Précis*, is so different from what is known today about this ancient and important part of the globe, that we have had to resolve [...] to redo almost entirely everything concerning the regions we offer in this volume, and to be extremely severe in the choice of those passages of Malte-Brun’s text that could be retained” (Malte-Brun and Huot 1835: v [my translation]).<sup>95</sup> In particular, for Afghanistan Huot made use of the travels by Elphinstone, Burnes, Pottinger<sup>96</sup> and Christié.<sup>97</sup>

In the section devoted to Afghanistan, “*livre cent trente-unième*”, Malte-Brun and Huot repeat the information concerning the presumed Jewish origin of the Afghans (*ibid.*: 451-452). Concerning Pashto, we read that “The language of the Afghans is called *pouk’hto* or *pouchtou*; it is divided into three main dialects: *dourahni*, *berdourahni* and *patahni*, which are used by the many Afghan tribes. These dialects differ not only in pronunciation but also in the words themselves” (*ibid.*: 455 [my translation]).<sup>98</sup> Their information come from Elphinstone 1815.

## **19. Christian Lassen (1836 and 1838)**

Christian Lassen (1800-1876),<sup>99</sup> was professor of Old Indian language and literature at the University of Bonn; during his long career he dealt in particular, among others, with Sanskrit and Old Persian philology. Incidentally, in his work of 1836, *Die altpersischen Keil-Inschriften von Persepolis*, he remarked that the three Iranian languages actually spoken, Kurdish, Persian and Pashto, show strong similarity: “The three languages that still hold their own in Iranian territory, Kurdish, Persian and Afghan,

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<sup>95</sup> “La description de l’Asie, telle qu’elle était connue en 1811, époque à laquelle elle parut dans ce *Précis*, est si différente de ce que l’on sait aujourd’hui sur cette antique et importante partie du globe, que nous avons dû nous résoudre [...] à refaire presque entièrement tout ce qui concerne les régions que nous offrons dans ce volume, et à être extrêmement sévère sur le choix des passages du texte de Malte-Brun qui pouvaient être conservés”.

<sup>96</sup> Eldred Pottinger (1811-1843) was an army officer known as the “Hero of Herat”. He let a journal of his travels in Balochistan and Sindh (see Pottinger 1816).

<sup>97</sup> Charles Christie (d. 1812) travelled in Persia: “[a]n abstract of his journal is appended to Pottinger’s account of this expedition” (Ekbal 1991).

<sup>98</sup> “La langue des Afghans se nomme *pouk’hto* ou *pouchtou*; elle se divise en trois principaux dialectes: le *dourahni*, le *berdourahni* et le *patahni*, en usage chez les nombreuses tribus afghanes. Ces dialectes diffèrent non seulement par la prononciation, mais par les mots mêmes”.

<sup>99</sup> See Karttunen 2007.

have all suffered the same mutilation” (Lassen 1836: 182 [my translation]).<sup>100</sup>

In his work of 1838, *Zur Geschichte der griechischen und indoskythischen Könige in Baktrien, Kabul und Indien durch Entzifferung der altkabulischen Legenden*, he indicates the Kabulistan or a nearby region as the homeland of the Pashtuns, who would be issued from the “Medisch-Persischen” family. He also acknowledges Pashto as a mixture of Iranian and Indian:

I know that the Afghans are said to have been recognised in eastern Kabulistan as early as Alexander’s time; [...] so the scholarly academic’s own correct proposition is that the Afghans belonged to the Medo-Persian tribe [...]. Also, the language of the Afghans shows a clear distance from our coinage. [...] Although I cannot acknowledge the Afghan language so early in the Indian Marrow, I readily admit that the original seats of the Afghans were close enough to Kabulistan, and that there would therefore be nothing conspicuous in it if their language were not purely Iranian, but, like that on the coins, an intermediary between the Iranian and Indian linguistic areas, only as it is more western, with a predominant inclination towards the Iranian peculiarities. (Lassen 1838: 174-175 [my translation])<sup>101</sup>

## 20. Robert Leach (1839)

Lieutenant Robert Leach<sup>102</sup> in 1839 published a very short *Grammar of*

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<sup>100</sup> “Die drei Sprachen, die mit altangeerbtem Rechte in dem Iranischen Gebiete sich noch behaupten, Kurdisch, Persisch, Afghanisch, haben aber alle eine gleiche Verstümmelung erlitten”.

<sup>101</sup> “Ich weiss zwar, dass man schon zu Alexanders Zeit die Afghanen im östlichen Kabulistan erkannt haben will; [...] so ist des gelehrten Akademikers eigener richtiger Satz, dass die Afghanen zum Medisch-Persischen Stamme gehörten [...]. Auch zeigt die Sprache der Afghanen einen deutlichen Abstand von unserer Münzsprache. [...] Obwohl ich nun nicht das Afghanische so frühe in der Indischen Mark anerkennen kann, so gebe ich gern zu, dass die Ursitze der Afghanen nahe genug an Kabulistan gränzten, und dass somit nichts auffallendes darin syn würde, wenn ihre Sprache nicht eine Rein-Iranische wäre, sondern, wie die auf den Münzen, eine vermittelnde zwischen dem Iranischen und Indischen Sprachgebiete, nur da sie westlicher steht, mit vorwaltender Neigung zu den Iranischen Eigenthümlichkeiten”.

<sup>102</sup> It is not clear if this is the same person as Lieutenant Robert Leech. On this latter we know that: “On Christmas Day 1837 Burnes dispatched Lieutenant Robert Leech (d. 1845) to Kandahar to do all he could to separate the Sardars and the Persians” (Findlay 2014: 48). On Alexander Burnes (1805-1841) and the epoch preceding the first Anglo-Afghan war, probably the best presentation is that by Hopkirk 1992. See also Yapp 1980. Robert Leech is the author of the *Vocabularies of Seven Languages, Spoken in the Countries West of the Indus*, published in 1838 at Bombay: here, he provides a concise vocabulary of some languages: Bariki (= Ormuri), Pashai, Laghmani, Kashgari, of the

*the Pashtoo, or Afghánee Language*:<sup>103</sup> this is probably the first grammar of Pashto in a Western language, even if in the same year Ewald had published a short article containing some grammatical information (see below). Pashto is here characterized as “decidedly of Sanscrit complexion” (Leach 1839: 1). Leach pays attention to dialectal differences: The difference between the Peshawar and Candhar dialect is, that in the former the Persian *خ* is used, when in the latter the Sanscrit *;* occurs. The Candharee is reckoned the purest dialect” (*ibid.*).

Notwithstanding the shortness of this grammar, many new elements are added to the knowledge of Pashto of the epoch: a phonetic table, declension of nouns and adjectives, conjugation of verbs, a basic lexicon and ample phraseologies. If in 1815 Montstuart Elphinstone just quoted the words from the previous works without great improvements, about 25 years after that, the knowledge and information on Pashto seems to have been much improved. In these years indeed, many political, military and religious missions took place.

## **21. Heinrich Ewald (1839)**

Heinrich Ewald (1803-1875), a German orientalist, once again came back to the hypothesis of the belonging of Pashto to the Semitic family of languages, defining it a “Thorheit [folly]”, since clearly Pashto is an “indo-persischen” and “indo-germ.” language:

So much will be clear from this that to derive Pushto from Semitic is folly. [...] In short, Pushto relates to Semitic like all Indo-Germanic languages, especially the New Persian. It is true that, apart from the words borrowed from the Arabic, it has a large number of words which are not so easy to prove in the related languages: here alone it must be borne in mind the broad basis of the Indo-Germanic language stem, that mass of finally related languages which we have hitherto scarcely begun to get to know in their entire extent. (Ewald 1839: 309-310 [my translation]).<sup>104</sup>

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highlands of Deer (= Dir), Tirhai (= Tirahi) and of the Moghal Aimaks. James Bird (1797-1864), who was Secretary to the Bombay Asiatic Society, adds some notes on the origin of the speakers of each language and a final note on the origin of the Afghans, which however does not add new information.

<sup>103</sup> The identical work was also published the same year in the vol. 85 of the *Journal of the Asiatic Society* (pp. 1-16).

<sup>104</sup> “So viel wird hieraus deutlich sein, dass das Puschtu aus dem Semitischen abzuleiten Thorheit ist. [...] Kurz, zum Semitischen verhält sich das Puschtu wie alle indo-germ.

In his short article “Ueber das Afghanische oder Puschtu”, Ewald provides short phonetic, grammatical and lexical information, on the base of Elphinstone’s presentation,<sup>105</sup> but also of the translation of the New Testament in Pashto, published in 1818 by the Serampore mission.

## 22. Eugène Boré (1840)

Eugène Boré (1809-1878), a French missionary who conducted archaeological excavations in Persia and taught Eastern languages at the Collège de France, in his work of 1840, *Correspondance et mémoires d’un voyageur en Orient*, associates Pashto to a “dialecte analogue au persan primitif [dialect analogous to early Persian]”, at the same time refuting the hypothetical identification of the “Aghovans” with the “Afghans”:

It is with even less reason that some scholars, misled by a resemblance of names, have confused the Aghovans and the Afghans, feudal tribes, scattered in the south of Persia, and which, more than any others, remind us of the ancient Parthians. The Afghans possess a dialect analogous to the primitive Persian; and they have not, according to Mr. W. Jones, a Jewish or Chaldean origin. Their identity with the Aghovans has once been supposed to lead to their being considered descendants of Israel; for the country of Kir, where the Assyrians transplanted the captive tribes, seems to some interpreters to be the region watered by the Kur, the Cyrus of the Greeks. (Boré 1840: 193 [my translation])<sup>106</sup>

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Sprachen, namentlich das neups. Zwar hat es ausser den aus dem Arab. entlehnt eine Menge Wörter welche in den verwandten Sprachen nachzuweisen nicht so leicht ist: allein hier ist zu bedenken, von welchem breiten Grunde der indo-germ. Sprachstamm ist, jene Masse von zuletzt verwandten Sprachen die wir bis jetzt ihrem ganzen Umfange nach kaum anfangen kennen zu lernen”.

<sup>105</sup> “It is true that Elphinstone’s excellent work on Kabul, published as early as 1815, included a list of about 200 Pushto words and, against the usual derivation of the Afghans from the ten tribes of Israel, although still uncertain and uncertain, established the relationship of their language to the Indo-Persian ones” (*ibid.*: 285-86 [my translation]: “Zwar hat das vortreffliche Werk Elphinstone’s über Kabul bereits im J. 1815 ein Verzeichniss von etwa 200 Puschtu-Wörtern mitgetheilt und gegen die gewöhnliche Ableitung der Afghanen von den zehn Stämmen Israels, wiewohl noch schwankend und unsicher, die Verwandtschaft ihrer Sprache mit den indo-persischen aufgestellt”).

<sup>106</sup> “C’est avec moins de raison encore que quelques savants, trompés par une ressemblance de noms, ont confondu les Aghovans et les Afghans, tribus féodales, disséminées au midi de la Perse, et qui, plus que toutes les autres, nous rappellent les anciens Parthes. Les Afghans possèdent un dialecte analogue au persan primitif; et ils n’ont point, selon M. W. Jones, une origine juive ou chaldéenne. Leur identité avec les Aghovans une fois supposée a conduit à les considérer comme des descendants d’Israël; parce que le pays de Kir, où les Assyriens transplantèrent les tribus captives, semble à des

The “Aghovans”, indeed, were another people living in the Caucasus and wrongly called “Albaniens”:

The Aghovans, gentlemen, were a peculiar people, whom Pompeus first made known to us, during his expedition in the Caucasus. The Greeks and Latins, by an inaccurate transcription of their name, called them *Albanians*. They occupied the high mountains and valleys bordering the Caspian Sea, which today make up Dagestan and Chirvan. (*ibid.*: 48 [my translation])<sup>107</sup>

### **23. Bernardino Biondelli (1841)**

The Italian linguist Bernardino Biondelli (1804-1886) never travelled to the East. Anyway, in his *Atlante linguistico d'Europa*, he quotes the three idioms, according to him belonging to the Persian family: Pashto, Kurdish and Balochi:

In addition to the aforementioned idioms, there are still three distinct languages living in Asia, which, in some respects, can be ascribed to the Persian family, although they may have originally belonged to another type. These are: the *Afghan*, *Kurdish* and *Beluchik* languages.

The former is peculiar to almost all the numerous and proud inhabitants of the vast kingdom of Kabul, who call themselves *Pusctâneh*, and are known in India by the name of *Patani*, in Persia by that of *Afghans*. The enormous discrepancies of the authors who wrote about the origin of these peoples, and the poverty of the materials that could be gathered about their language, do not allow us to establish with certainty what affinity united them to the other nations. They claim to be descended from an Israelitic tribe, on whose ill-founded opinion William Jones believed he recognised some analogy between their language and Chaldean. [...]

Having said this, it is quite clear that, whatever their first origin, their ancient settlement among the Indians and Persians, civilised peoples in far greater numbers, their residence in India for about four centuries, as well as the frequent incursions they made before and after that time into India and Persia, must have imprinted on their language a dress resembling the Indian type, all the more so since they had no literature of

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interprètes être la contrée qu'arrose le Kour ou Kur, le Cyrus des Grecs”.

<sup>107</sup> “Les Aghovans, Messieurs, étaient un peuple particulier, que Pompée nous a le premier fait connaître, lors de son expedition dans le Caucase. Les Grecs et les Latins, par une transcription inexacte de leur nom, les ont appelés *Albaniens*. Ils occupaient les hautes montagnes et les vallées limitrophes de la Mer Caspienne, qui composent aujourd'hui le Daghistan et le Chirvan”.

their own and modelled themselves on the doctrines and writings of the Persians and Indians. For this reason, their language can be classified in the Persian family, from which it took more forms and roots, but not because it had a common origin. From the superficial information that we have been able to acquire up to now, it seems that Afghan was originally a *sui generis* language, which in time lost most of its primitive characteristics, assuming those of the more civilised nations with which it was in constant contact. The dissonance of the opinions of the various linguists in this regard, and the hesitancy with which, following Klaproth, I annotate it in this family, derive mainly from the paucity of materials; For the one hundred Afghan words recorded in the great *Petropolitan Vocabulary*, the two hundred produced by Klaproth in the *Asia polyglotta*, and the arid hints scattered in the works of Tychsen, Gldensted, Elphinstone and others about this language, seem insufficient for a mature judgement. (Biondelli 1841: 51-53 [my translation]).<sup>108</sup>

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<sup>108</sup> “Oltre gli accennati idiomi, vivono ancora nell’Asia tre lingue distinte, che, per alcuni aspetti, si possono ascrivere nella famiglia delle persiane, sebbene in origine appartenessero forse ad altro tipo. Tali sono: la lingua *afghana*, la *kurda* e la *belcica*.

La prima  propria di quasi tutti i numerosi e fieri abitanti del vasto regno di Cabul, che si chiamano da s medesimi *Pusctneh*, e sono conosciuti nell’India col nome di *Patani*, in Persia con quello di *Afgani*. Le enormi discrepanze degli autori, che scrissero intorno all’origine di questi popoli, e la povert dei materiali che si poterono raccogliere intorno alla loro lingua, non consentono di stabilire con certezza quale affinit li congiungesse alle altre nazioni. Essi pretendono discendere da una trib israelitica, sulla quale malfondata opinione Guglielmo Jones credette riconoscere qualche analogia tra la loro lingua e la caldaica. [...]

Ci premesso, vedesi abbastanza chiaro che, qualunque fosse la prima loro origine, il loro antico stabilimento tra gli Indiani ed i Persiani, popoli civili e di gran lunga pi numerosi, la loro residenza nell’India, pel corso di quattro secoli circa, oltre le frequenti incursioni che, prima e dopo quel tempo, fecero, s nell’India che in Persia, devono aver impresso nella loro lingua un abito somigliante al tipo indiano, tanto pi se si consideri, che, non avendo letteratura propria, si modellarono sulle dottrine e sugli scritti dei Persiani e degli Indiani. Per questo appunto la loro lingua pu classificarsi nella famiglia delle persiane, dalle quali prese infatti maggior numero di forme e di radici; ma non gi perch avesse comune con queste l’origine; mentre dalla superficiale notizia che s’ potuto acquistare sinora, pare che l’afghana fosse in origine una lingua *sui generis*, che col tempo smarri la massima parte de’ suoi primitivi caratteri, assumendo quelli delle nazioni pi incivilite colle quali fu in continuo contatto. La dissonanza delle opinioni dei vari linguisti, a questo riguardo, e l’esitanza colla quale, seguendo Klaproth, l’annvero in questa famiglia, derivano principalmente dall’esiguit dei materiali; perocch i cento vocaboli afgnici registrati nel gran *Vocabolario petropolitano*, i duecento prodotti da Klaproth nell’*Asia polyglotta*, e gli aridi cenni, sparsi nelle opere di Tychsen, Gldensted, Elphinstone ed altri, intorno a questa lingua, sembrano insufficienti ad un maturo giudizio”.



## **24. Johannes Albrecht Bernhard Dorn (1840, 1842, 1845 and 1847)**

The orientalist Johannes Albrecht Bernhard Dorn (1805-1881) even if “never visited Afghanistan, but he nevertheless established the scientific basis for Afghan studies”:<sup>109</sup> he is probably the most important personality for Pashto in the first half of the 19<sup>th</sup> century. Thanks to Dorn, Pashto at last entered the scientific and systematic field of linguistics.

In 1840 he published a long work dealing with Pashto grammar. In the very introduction he totally discards and refuses any connection of Pashto with Hebrew, rightly remarking as lexical similarities or presumed physical resemblance cannot testify in favour of such a linguistic link:

And if - one cannot be surprised enough - even in recent times English missionaries in Serampore, who after all knew Afghan, claimed to have discovered more Hebrew roots in it than in any other Oriental language, anyone who has only a superficial knowledge of Pushto and conscientiously examines this assumption will soon be convinced of its nullity: those missionaries, in their investigations, which, by the way, could not have been anything less than thorough, undoubtedly also took into account the Arabic words in use in Pushto, of which there are indeed a very considerable number, and since these are of Semitic origin, and their roots coincide with the roots of Hebrew words, regarded them as evidence of the occurrence of Hebrew roots; the number of such genuine Afghan words which can be compared with Hebrew is not greater, indeed far less, than in various other languages which have ever been compared with Hebrew. Since the evidence derived from the relationship of the languages is self-contradictory, and the other reasons, e.g. the similarity of the Afghan face formation to that of the Jews, the similarity of some customs occurring among both peoples, etc., can also be and have been applied to other peoples, I believe I am justified in rejecting the Jewish origin of the Afghans, and in disregarding it altogether in the investigation of the Pushtu. (Dorn 1840: 1-2 [my translation])<sup>110</sup>

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<sup>109</sup> Luzhetskaya 1995: see there and bibliography for a biography of Dorn. Luzhetskaya rightly states that Dorn established particularly the first systematic description of Pashto: see however Leach 1839, quoted above.

<sup>110</sup> “Und wenn auch – man kann sich darüber nicht genug wundern – noch in neuerer Zeit englische Missionäre in Serampore, die doch des Afghanischen kundig waren, in demselben mehr hebräische Wurzeln als in irgend einer andern morgenländischen Sprache entdeckt zu haben vorgaben, so wird Jeder, der das Pushtu nur oberflächlich kennt, und jene Annahme gewissenhaft prüft, sich bald von der Nichtigkeit derselben überzeugen: jene Missionäre haben bei ihren Untersuchungen, die übrigens nichts weniger als gründlich gewesen sein können, ohne Zweifel auch die in dem Pushtu

On the contrary, he clearly states that Pashto belongs to the “indo-germanischen Sprachstamme”, even if further researches, he writes, are necessary in order to clarify the links of Pashto with other more ancient Iranian languages, as Avestan and Pahlavi:

If Pushtu also belongs to the Indo-Germanic language stem, then the approximations to Send and Pehlwi are already very faded, and if we examine the genuine Afghan words closely, we find that the result established by Elphinstone, that by far the greater part of them are quite peculiar words not belonging to any other language stem, still requires closer examination, inasmuch as many of them can be traced back to Indian roots, so nevertheless that proposition will still be partly correct, until our more exact acquaintance with other languages, and especially with Pehlwi, will enable us to make more extensive comparative investigations. (*ibid.*: 4)<sup>111</sup>

The work presents the entire grammar of Pashto, following this order: I. alphabet, II. vowels, III. names, IV. adjectives, V. pronouns, VI. numbers, VII. verbs. In the appendix, Dorn declares having read Leach's short grammatical survey of Pashto and offers some remarks.

The following articles, Dorn 1942, 1945a and 1945b, complete the general and detailed information on Pashto grammar. The first article, “Nachträge zur Grammatik der Afghanischen Sprache” (1842), contains some additions to the grammar; “Zusätze zu den Grammatischen

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gebräuchlichen arabischen Wörter, deren es allerdings eine sehr bedeutende Anzahl giebt, in Rechnung gebracht, und da dieselben semitischer Abkunft sind, und ihre Wurzeln mit den Wurzeln hebräischer Wörter zusammenfallen, als Belege für das Vorkommen hebräischer Wurzeln angesehen; die Anzahl solcher ächt afghanischer Wörter, welche mit hebräischen verglichen werden können, ist nicht grösser, ja weit geringer als in verschiedenen anderen Sprachen, welche je mit dem Hebräischen verglichen worden sind. Da nun der von der Verwandtschaft der Sprachen entlehnte Beweis in sich selbst zusammenfällt, und die übrigen Gründe, z. B. die Aehnlichkeit der afghanischen Gesichtsbildung mit der der Juden, die Uebereinstimmung einiger bei beiden Völkern vorkommenden Gebräuche u. s. u. ebensowohl auch auf andere Völker angewendet werden können und angewendet worden sind, so glaube ich mich berechtigt, die jüdische Abkunft der Afghanen zu verwerfen, und bei der Untersuchung über das Pushtu ganz unbeachtet zu lassen”.

<sup>111</sup> “Gehört das Pushtu auch dem indo-germanischen Sprachstamme an, so sind doch die Annäherungen an das Send und Pehlwi schon sehr verblichen und untersuchen wir die ächt afghanischen Wörter genau und finden dass das von Elphinstone aufgestellte Ergebniss, dass bei weitem der grössere Theil derselben ganz eigenthümliche keinem anderen Sprachstamme angehörende Wörter sind, noch näherer Prüfung bedarf, sofern viele derselben sich auf indische Wurzeln zurückführen lassen, so wird dennoch jener Satz noch so lange theilweise richtig sein, bis un seine genauere Bekanntschaft mit anderen Sprachen, und namentlich dem Pehlwi, in den Stand setzen wird, ausgebreitetere vergleichende Untersuchungen anzustellen”.

Bemerkungen” (1845a) presents conjugation (preterit, future, present participle, past participle and imperative) of 84 verbs; the last article, “Auszüge aus afghanischen Schriftstellern” (1845b), is a collection of Pashto texts, ranging from Pashto magazines to various Diwans. In total, these articles on Pashto grammar occupy about 300 pages, an excellent result, if we consider that this is the first scientific Pashto grammar.

In 1847 Dorn publishes the first chrestomathy of Pashto (*Chrestomathy of the Pushtu or Afghan Language to Which is Subjoined a Glossary in Afghan and English*), also containing the first long bilingual glossary Pashto-English. After a quick critical review of the works of his predecessors (W. Jones,<sup>112</sup> J. Leyden,<sup>113</sup> J. Klaproth,<sup>114</sup> A.E.F. Eversmann,<sup>115</sup> F. Wilken<sup>116</sup>) and of two lexicographic works found by him in the East-India-House di Londra,<sup>117</sup> Dorn remarks definitely, confirming his previous researches:

It was reserved to our time to establish, on incontrovertible evidence the fact that the Pusthū belongs to the great family of Indo-Persian languages, without bearing the least resemblance to any of the Semitic dialects. (*ibid.*: ii)

In the *Chrestomathy*, we find miscellaneous translations from works belonging to different genders, such as the Ayāri Dāniš by Malik Xušhāl; the Maxzan pašto by Axund Darwezah; selections from the Diwans of Abd-ur-Rahman, and so on.

The glossary at the end of the volume occupies 230 pages (pp.

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<sup>112</sup> “Sir William Jones, misled by some treacherous indications, pronounced the Jewish origin of the Afghans and the affinity of their idiom to the Chaldaic” (Dorn 1847: ii).

<sup>113</sup> “Dr. Leyden [...] had made the language and the literature of the afghans an object of his researches, but far from entering into philological inquiries, contented himself with giving a few extracts from the makhzan pushtu, in illustration of his subject” (*ibid.*). J. Leyden, indeed, published the first article on the Roshaniyya, the sect founded by Bayazid Ansari, also said Pir Roshan. On this manuscript see Strangford 1863: 53 and Pelevin 1994: 343.

<sup>114</sup> “The researches of Klaproth, who first endeavoured to give an insight into the grammatical structure of the Pushtu, are full of blunders, and by no means calculated to convey a correct idea of that idiom” (*ibid.*: iii).

<sup>115</sup> “Mr. Eversmann’s essay is chiefly founded on Klaproth’s researches” (*ibid.*).

<sup>116</sup> “The remarks of Mr. Wilken, founded on the Pushtu translation of the new testament, are too short to give more than a very superficial idea of some grammatical particularities of the language” (*ibid.*).

<sup>117</sup> “In the East-India-House in London there are two copies of a grammatical and lexicographical work on the Pushtu, entitled ‘gardens of friendship’ (*ryāz almuhabbat*) [...]. When, in 1829 [cf. Dorn 1829], I translated the history of the afghans, I made some extracts from it, and succeeded in compiling the outlines of an afghan grammar which appeared a few years ago” (*ibid.*).

387-620), with about 7,000 words, and tries also to provide etymologies. Dorn states the difficulty of his work and very honestly explains as in front of words of unknown origin he preferred leaving a blank: a similar attitude found in the first etymological dictionary by G. Morgenstierne (EVP, of 1927), where many words are said being of “unknown origin”: in the second edition (NEVP, of 2003) these words have disappeared (together with the most part of the dialectological remarks), with a considerable loss of information. Dorn writes:

The most difficult and irksome task which I had to fulfil in order to make the work answer the purpose for which it was undertaken, was the composition of the Glossary; the groundwork of which is the vocabulary furnished by Muhabbat Khan; nor did I think myself at liberty, to omit a single word inserted by the latter with the only exception of the names of Afghan tribes and territories not occurring in the *Chrestomathy*. But neither the words found therein, nor those given by Mr. Elphinstone, Klaproth, Eversmann, Leach etc. will suffice for the reader of continuous Afghan composition. I was frequently obliged to recur either to the Persian or Hindustani dictionary to make out the signification of unknown words borrowed from those idioms, but which in the mouth of the Afghans had undergone so entire an alteration as to leave almost no discernible trace of their original orthography. In spite of the most careful and unwearied researches, I must leave some words without having ascertained their true meaning. (Dorn 1847: XII-XIII)

## **25. Conclusions**

In this article I have presented an overview of all scholars, travellers, missionaries and soldiers, who came across Pashto and Afghanistan and published any information on these, from the beginning to the *Chrestomathy of the Pushtu* by Bernhard Dorn, published in 1847. The first mention of Pashto is found in the work of a missionary of the 16<sup>th</sup> century, Antoni de Monserrat: since then, we will wait until 1728 to find the next quotation of Pashto and the Pashtuns. Significantly, the first short descriptions of Pashto come from missionaries: the Jesuits Antoni de Monserrat, Judasz Thaddeus Krusiński and Lorenzo Hervas y Panduro, the Baptists William Carey and Joshua C. Marshman, and the Catholic Eugène Boré. Of these missionaries, the only Lorenzo Hervas never went to Afghanistan, Persia or India. However, with the exception of Carey and Marshman, who provided the translation of the New Testament in Pashto,

all other authors did not let any significant data on Pashto.

These first reports arouse the curiosity of a number of scholars, in the most part of Russian nationality or thus naturalized, who tried to provide some new materials and reflections: Louis André de La Mamie de Clairac, for instance, listed all names under which were known the Afghans until his epoch. Peter Simon Pallas was the first to provide, in 1786, a list of about 80 Pashto words; Julius Klapproth published more than 200 words in 1810 and lastly Montstuart Elphinstone, in 1815, provided a list of 365 Pashto words. Finally, with Bernhard Dorn, with whom our narrative stops, we find a real glossary, containing about 7,000 words. Dorn is also the author of a grammar and of a Chrestomathy, with in total about thousand pages published: in a little bit more than one century, from 1728 to 1847, the knowledge of Pashto had increased remarkably.

It also should be noted that many of the authors who dealt with Pashto never visited Afghanistan, Persia or India: however, Pashto and Pashtun culture begun to be described and known better and better. And even wrong opinions, as Jones' derivation of Pashto from Hebrew, had the merit to improve the knowledge of Pashto and to stimulate new and in-depth researches.

The three most important authors of this epoch are without a doubt Julius Klapproth, Montstuart Elphinstone and even more Bernhard Dorn: the successive epoch of Pashto studies, that under the British colonialism, from the first to the third Anglo-Afghan war, will take advantage of their publications and will definitely introduce Pashto studies in the scientific linguistic researches of the 20<sup>th</sup> century.

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# **Feasibility Study for Establishment of International Institute of Comparative Civilizations at Taxila 1997**

**Mohammad Rafique Mughal**

## **Abstract**

*The article presents a document of great importance for the history of Taxila Institute of Asian Civilizations. It is the first feasibility study prepared in 1988 under the guidance of A.H. Dani as a blueprint for what was to become the Institute. The publication of this document thirtyfive years later shows once again anticipatory spirit of its inspirer.*

**Keywords:** Taxila, Institute, Comparative Civilizations.

## **Editorial Note**

*To promote the concept of multiple identities of humankind but having common heritage, the UNESCO launched the “Silk Roads Project - Integral Study of the Silk Roads: Roads of Dialogue 1988- 1997”. It prompted extensive study of cultures and civilizations of the vast territories across Asia, northern Africa and parts of Europe from Nara to Venice. Five scientific expeditions were also organized on the Desert Route, Maritime Route, Steppe Route, Nomads Route and Buddhist Route. The Project also included establishment of six international institutes, one of which was to be located at Taxila near Islamabad, Pakistan. In 1996, the author was commissioned by the UNESCO to undertake feasibility study for establishment of “International Institute of Comparative Civilizations (IICC) at Takshaschila (Taxila).” The idea was originally conceived by the renowned scholar, Professor Ahmad Hasan Dani. A proposal was prepared and finally presented by the author to the delegates in Paris, discussed and unanimously approved. The IICC was established immediately at Quaid-e-Azam University, Islamabad until it was possible to move to the proposed location at Giri in Taxila valley. It is still functioning at Islamabad under the changed name of Taxila Institute of Asian Civilizations (TIAC).*

*Dr. Ghani-ur-Rehman, current Director of the TIAC was surprised to know that a copy of original report as submitted to the UNESCO existed. He insisted to publish it since it reflected original thinking on the subject and what has been accomplished so far or needs to be done in future. The text remains unchanged.*

## **1. Introduction: A Historical Background**

The beautiful valley of Takshashila which is now known as Taxila, has been a very famous centre of learning in ancient times. The renowned University of Takshaschila has been very well known in the ancient world. As a centre of higher learning and Buddhist art, history, and culture, Taxila played a leading role in the formation and development of human institutions particularly in Asia throughout history for more than 1000 years beginning from the 6th century B.C. Today, innumerable Buddhist religious and settlement sites which are dotting the valley of Taxila bear testimony to the great historical and cultural significance of this area. Taxila was located on the ancient Silk Route and therefore, it was a meeting place of many cultures, religions, and traditions which gave a unique character to the culture of the Gandhara region, of which Taxila valley was an integral part (Figure 1). It seems very appropriate to establish an institute of higher learning at such a cultural and historical centre as Taxila, devoted to the study of comparative religions, civilizations and languages. Such a step would be in line with the traditions of ancient university of Takshaschila and also precisely within the principles and objectives of the UNECSO relating to the promotion of education and cultural awareness among developing countries, and strengthening of cooperation among member states.

The ancient remains of Taxila are on UNESCO's World Heritage list and fall within a "Conservation Zone" declared by the Government of Pakistan and are "protected" under the Antiquities Act, 1975. It is located next to the Federal capital area of Islamabad on the main National Highway and principal Rail road, about 25 kilometers from Islamabad which is also an international airport. Besides the ancient remains, the modern towns of Taxila, Wah, and Hasan Abdal are also located in the fertile valley of Taxila.

## **2. Fields of Study/Discipline**

It is proposed that in an international institute functioning in collaboration and affiliation with other related institutions of the region may focus on the following three major disciplines:

- a) Comparative Languages and Linguistics
- b) Comparative Civilizations
- c) Comparative Religions

### **3. Twee of Academic Institute**

The subjects mentioned under (B) above, are of specialized kind and therefore, should focus on in-depth study, research and thorough analysis of comparative religions, civilizations, and languages of Asia and other parts of the world. It is hoped that the International Institute of Comparative Civilizations (hereafter IICC) would emerge as the first of its kind for the promotion of world religions, languages and civilizations.

It is suggested that the Institute of Comparative Civilizations at Taxila (IICC) with interregional linkages and international status should be a high level research institute awarding M.Phil. and Ph.D. degrees in three major disciplines and related fields. It is proposed to be a very special institution catering to the requirements of international community of scholars and students, and also in line with the spirit of UNESCO in promoting cooperation and cultural appreciation of human kind. It should emerge as an independent institution located in South Asia having affiliations with relevant institutions in Asia and other countries.

### **4. Linking Arrangements**

The International Institute of Comparative Civilizations (IICC) would establish institutional linkages/affiliations particularly with those of other countries in Central Asia, South and Southeast Asia, the Gulf and China. The IICC will collaborate in particular, with those institutions which concentrate on ancient civilizations and cultural heritage as the International Institute for Central Asian Studies (IICAS) at Samarkand. There are several other related research and teaching institutions namely Post-Graduate Research Institute, Colombo, Deccan College Post-Graduate Research Institute, Pune, School of Oriental and African Studies, London, IsMEO, Rome, CNRS, Paris etc. The IICC will remain open to any kind of academic linkage and any research programmes with other institutions of the world, for which modalities may have to be worked out.

## **5. Creating a MNEESCO Chair**

A special Chair of Professor may be created by the UNESCO in one of the three disciplines, preferably in Comparative Religions who may be selected through an open competition. The Chair may be given for at least three years with an additional period of two years, if no substitute is possible to find.

## **6. Human and Technical Resources**

### ***Human resources***

The IICC will require teaching faculty and supporting staff in the first place and an organization for management of the three disciplines. The three departments will require some supporting and secretariat staff which are listed below.

For managing the IICC, it is proposed to constitute a Board of Governors on which University Grants Commission, Ministry of Education and UNESCO should be represented. In addition, two more members who may be major contributors of funds be included in the governing board. They may have an elected Chairperson. To begin with, a Project Director may be appointed to start managing the affairs of IICC, who would then occupy the place of Director/Vice Chancellor when new campus of the Institute is established.

### ***List of personnel for teaching***

- a) Three Professors
- b) Three Associate Professors
- c) Three Assistant Professors
- d) Three Assistants
- e) Six Naib Qasids
- f) Three Watchmen

### ***List of personnel for management***

- a) Director/Vice Chancellor

- b) Secretary to the Director and Board of Governors
- c) Registrar
- d) Accounts Officer
- e) Administrative Officer
- f) One Clerk
- g) Four Naib Qasids
- h) 10 Watch & Ward Staff
- i) 1 Driver
- j) Librarian
- k) Assistant Librarian
- l) Computer Lab Engineer/Incharge
- m) Computer Lab Technician
- n) 5 Gardeners
- o) 5 Sweepers
- p) 2 Electricians
- q) 2 Plumbers
- r) 1 Electrician
- s) Cafeteria Incharge
- t) 2 Hostel Wardens

## **7. Technical Resources**

For the planning and designing the IICC buildings and implementing an approved scheme, technical manpower is available from within the country but should be engaged through an open competition and selection. The Board of Governors of IICC will be responsible to locate such technical and professional personnels from Pakistan and other countries.

### ***Laboratory Facilities***

The IICC besides teaching, training and research, will also be engaged in the research and documentation of cultural data on ancient civilizations, monuments and sites, epigraphical and other records of human kind in Asia. For this purpose, essential equipments to give first aid to the works of art found in the field may be obtained. However, for detailed analysis of

materials of different kind and adopting appropriate measures for their preservation, the Conservation Laboratory at Taxila which is being established at the Taxila Museum Campus will be utilized. This new Conservation Laboratory at Taxila will be fully equipped to undertake any kind of conservation on any kind of material. Therefore, there will be no need to duplicate the efforts by creating a new laboratory at IICC. In fact, the Conservation Laboratory at Taxila may be affiliated with the IICC.

### ***Library Facilities***

Various national and international organizations will be persuaded to donate books to the IICC. In fact, efforts have already been initiated. The Royal Asiatic Society, London has sent a set of their journals for the library which has already been received in Islamabad. Some Pakistani scholars are also willing to donate their personal libraries to IICC wherever such a library is established. It is also intended to request the foreign teams and scholars working in Pakistan and educational or research institutions of various countries to donate books and journals to the library.

### ***Equipments***

For the procurement of equipments, it is proposed to request the UNESCO and some donor countries to provide necessary equipments for teaching and research. The following is the tentative list of equipments to be acquired.

- a) Photographic equipments consisting of video and other cameras, cassette recorder, camera stand, enlarger, photo laboratory material and equipment.
- b) Micro film reader
- c) Photocopying machine
- d) Audio visual aids, such as projectors, screens etc.
- e) Computers; laptop and desktop, laser printer, voltage stabilizers
- f) Fax machine and telephones and internet facilities
- g) Survey and drawing equipment and materials
- h) Vehicle ,double-cabin or large jeep type

- i) Storage almirahs, racks and cabinets for maps, photographs etc.
- j) Furniture for various technical sections, library racks, tables, chairs, first aid lab, laboratory tables and materials.

## **8. Proposed Site for Establishment Of IICC And Technical Features**

### ***Temporary Location***

To begin with, it is proposed that the Centre for the Study of Central Asian Civilization already functioning at the Quid-e-Azam University campus, be upgraded to the level of an Institute. The space for office and classrooms is already available. The Vice Chancellor has agreed in principle, to vacate the adjacent Sociology Department and hand it to the Centre for Central Asian Civilization. The space will be available from the Quid-e-Azam University free of cost temporarily. It will consist of five halls and several rooms which should be sufficient to make a beginning of IICC until a separate campus is established in the Taxila valley. The Vice Chancellor of the Quid-e-Azam University informally has agreed in principle to these arrangements of accomodating IICC by upgrading the existing Centre for the Study of Central Asian Civilization to the level of an Institute. This matter will be placed before the Quid-e-Azam University Academic Council for passing a resolution which will have to be approved by the University Syndicate. The Academic Council is going to meet very soon and is expected to receive permission to teach at M.Phil and Ph.D. level in the three subjects specified under the fields of study (above).

It seems that there will be no waiting period for starting the IICC. The objectives of establishing an Institute can immediately be fulfilled first at the Quid-e-Azam University campus and then at its proper location.

### ***Permanent Site of IICC***

It is necessary to have new construction according to the special requirements of IICC. The Centre for the Study of Central Asian Civilization at Quid-e-Azam University where the proposed Institute may be located temporarily will not require any modifications because the space will not be available for permanent housing of the IICC.



### ***Location of Proposed Site***

The Taxila valley was re-examined by this author with the purpose of finding a suitable place for the location of IICC. After one week of travels and study of topography, it seems that the most appropriate place would be somewhere between the triangle marked by Dharmarajika Stupa, Jaulian Monastery and Giri. (Figure 2)

### ***Rationale for Selecting Giri***

The proposed site near Giri between the triangular area indicated on the map seems to be ideal for possible location of the IICC. It is somewhat away from the main urban centre and is marked by a beautiful setting of natural environment. The Buddhist monasteries and stupas were usually located in the most picturesque areas of Swat and Taxila. Similarly, this Institute devoted to the study of comparative civilizations of human kind should be located at an equally beautiful place. The existing archaeological remains of the fortress of Giri and Buddhist monastic establishment including the monuments of Islamic period could be integrated within the building complex.

An access metalled road is already provided to the area which can be widened and the area could be developed further. The area is also very easily accessible from Islamabad and Taxila because of its proximity to both the places and is on the Silk Route and National Highway leading to Peshawar and beyond to Afghanistan on the one hand, and to China across the Karakorum Highway on the other. Different types of shops (meat, vegetable, fruit etc.) are also located in the nearby towns where electricity is also available at the site.

### ***Alternative Sites***

If Giri is not found a suitable site for any reason, then it is proposed to locate the IICC on the road to Khanpur, either near Mohra Moradu or Jaulian. This area is already well developed where all the facilities such as electricity, gas and communications are available. This area is also equally beautiful as we go inside the valley.

### ***Acquisition of Land***

It is suggested to 500 acres of state land may be marked for this purpose and the Government of Pakistan be persuaded to donate this piece of land for the International Institute of Comparative Civilizations at Taxila.

### ***Types of Buildings to be Established***

The following categories of buildings are proposed to be established.

- a) Academic Block
- b) Administration Block
- c) Library
- d) Residential Block (for students and staff)
- e) Auditorium
- f) Sports Complex
- g) Meditation Hall
- h) Market Place
- i) Computer Centre
- j) Cafeteria

### **9. Area Covered by Building Type**

Area for all the buildings of the Institute is given as under. (For details, see Annexure 1)

1	Academic Block	21,867
2	Administrative Block	3,125
3	Library Building	18,000
4	Computer Centre	5,000
5	Cafeteria	1,559
6	Meditation Hall	5,175
7	Sports Complex	12,102
8	Auditorium	8,000
9	Market Place	2, 144
10	Residential block	
11	For Staff Residences	74,500
12	Hostels For Students	57,642
	<b>TOTAL AREA</b>	<b>209,114</b>

## 10. Estimated Budget for Establishing the Institute

### *Construction Cost*

The cost of construction includes the woodwork, doors, windows, glass and electric wiring. All the furnishings are exclusives. The cost of construction of each part of the Institute is given as under. (For details see Annexure 1.)

	Particulars	Area in Square Feet	Cost per Square Feet	Total Cost
1	Academic Block	21,867	900	19,680,300
2	Administrative Block	3,125	700	2,187,500
3	Library Building	18,000	800	14,400,000
4	Computer Centre	5,000	600	3,000,000
5	Cafeteria	1,559	500	779,500
6	Meditation Hall	5,175	500	2,587,500
7	Sports Complex	12,102	600	7,261,200
8	Auditorium	8,000	800	6,400,000
9	Market Place	2,144	400	857,600
10	Residential block			
	For Staff Residences	74,500	500	37,250,000
	Hostels For Students	57,642	500	28,821,000
		209,114		123,224,600
<b>TOTAL AREA</b>		<b>209,114</b>		<b>123,224,600</b>

OR US\$ =3,080,615

[1\$ = Rs. 40]

***Cost of Developing the Area***

Cost will have to be incurred on developing the infrastructure for the Institute and also on landscaping.

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Particulars	
1	Development of Infrastructure (Levelling, Roads, Sewage etc) ia 21% of cost of construction of covered Area
	25,877,166
2	Land Development for Plantation and Landscaping ia 2% of the cost of construction of covered Area
	2,464,492
<hr/>	
TOTAL	28,341,658

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***Cost of Fixed Assets***

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Particulars	
1	Cost of Furnishing and Cost of Fixed Assets and Equipments to be Purchased for the Institute R 72a of construction cost of covered Area.
	88,721,712
<hr/>	
TOTAL	88,721,712

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Or US \$ =2,218,043

***Total cost of establishing the institute***

Particulars			
1	Construction Cost	123,224,600	3,080,615
2	Cost of Developing the Area	28,341,658	708,541
3	Cost of Fixed Assets	88,721,712	2,218,043
	TOTAL	<u>240,287,970</u>	6,007,199

[15 - Rs. 40]

***Estimated cost of running the institute***

**Following is the per month cost to be incurred by the institute.**

1	Salaries Payable to all the Staff	500,000
2	Telephone , Electric and Gas bills to be paid	200,000
	TOTAL	<u>700,009</u>

**11. Ways and Means of Financing**

***Funds available from University Grants Commission***

The University Grant Commission, Islamabad, has agreed in principle to provide funding for one Professor for teaching Linguistics and Comparative Languages. Qualified persons are available from the Asian countries for these subjects. Similarly, suitable scholars to teach Comparative Civilizations may be possible to support financially by the Government of Pakistan or through private donors.

### ***Campaign to Raise Funds***

An international campaign may be launched to raise funds from different sources because the UNESCO may not be in a position to provide all the funding for the establishment of IICC, construction of all the buildings, provision of requisite equipments and to meet recurring costs needed to run the Institute. The Centre for the Study of Central Asian Civilization has Rs.300,000 as fixed deposit, out of which the Journal of Central Asia is published regularly. The following measures are proposed to raise funds for the IICC.

Efforts may be made to create endowments by different governments, institutions, industries or multinational companies for creating chairs and for construction of various components of the Institute. The foreign scholars and international teams working in Pakistan especially those from the Buddhist countries may be persuaded and encouraged to generate funds for donation to the Institute. They can be encouraged to construct buildings within the approved plan of overall development and layout of the Institute which can be appropriately named after the donors. This would provide them a base for their research works in Pakistan and adjoining regions and opportunities to interact with scholars from different countries.

A Pakistan-Japan Colloquium is going to be held in September 1997 on the significance of Gandhara in human history. Funds could be raised on that occasion. Similar colloquia could be held in Pakistan by other Buddhist countries for fund raising.

The UNESCO could provide equipments and funding for supporting the UNESCO Chair at IICC. Other Chairs could be funded by Pakistan and other countries.

A special cell for raising funds could be created right in the beginning and under supervision of the Board of Governors so that while the IICC is coming up, sufficient funds are generated and are available for utilizing to run the Institute. It seems that eventually the IICC will represent a real international centre of scholars from all the regions and world institutions where specialized studies relating to the development of human civilizations will be carried out.

Suggested project schedule.

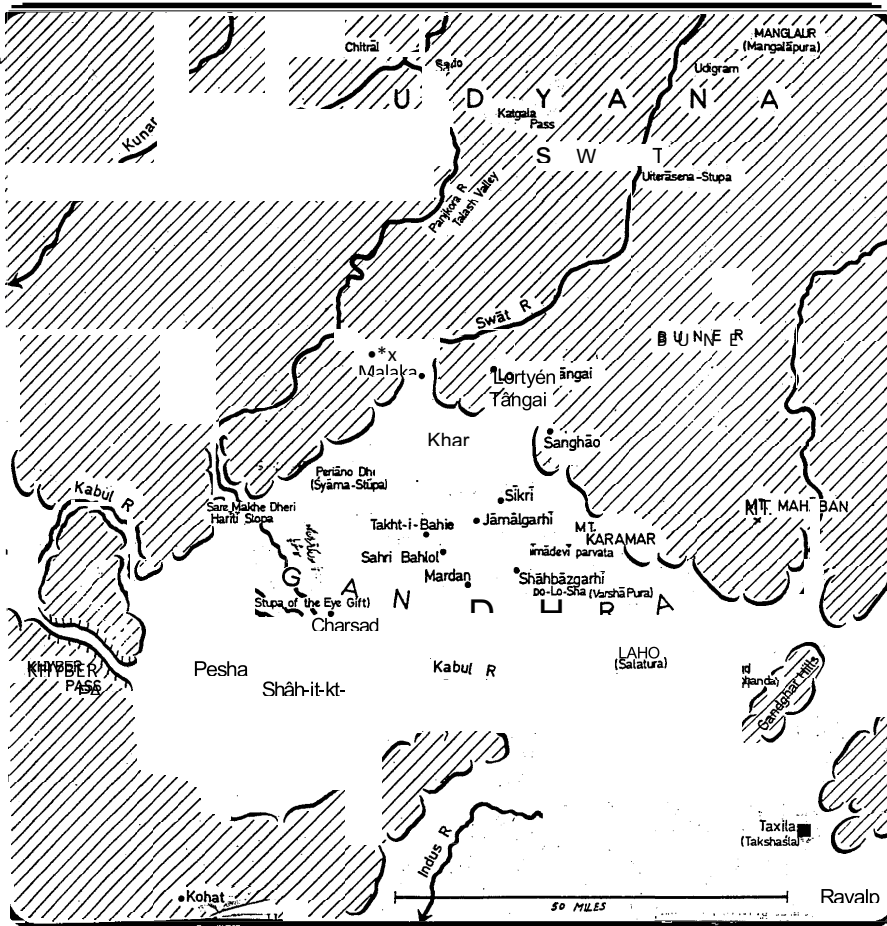


Figure 1 - The location of Takshaschila (Taxila) in the famous Gandhara region of Pakistan.

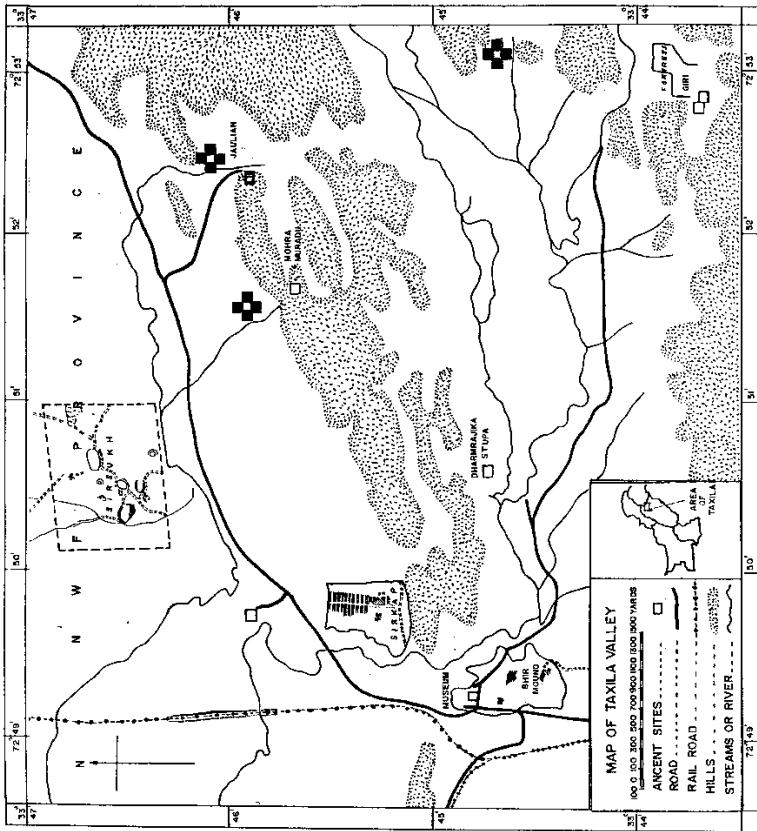


Figure 2: The Taxila Valley showing suitable places for possible location of the proposed International Institute of Comparative Civilizations.

As already mentioned, a beginning can be made at the existing Centre for the Study of Central Asian Civilization at the Quid-e-Azam University where suitable space will be available free of cost belonging to the Centre and the Sociology Department. Simultaneously a preliminary work for the designing and planning of the IICC at the proposed site may be taken up and completed within 5 years or earlier, if possible, so that the IICC could be shifted to a new campus.

It is proposed that all the buildings of the IICC be completed by 2002 A.D. or in five years and then, the Institute be shifted from its temporary location in Islamabad to the permanent site in the Takshashila valley.



## ANNEXURE

Details of all the buildings to be constructed for the Takshashila Institute.

### 1. Academic block

	DESCRIPTION	Dimensions	Square Feet
1	3 Class Rooms	30 x 25	2,250
2	1 Laboratory	50 x 30	1,500
3	1 Toilet	20 x 12	240
4	Office For Professor	15 x 14	210
5	Office for Associate Professor	14 x 12	168
6	Office For Assistant Professor	12 x 12	144
7	Office For Secretary/Assistant	10 x 12	120
8	1 Toilet	6 x 8	48
			<b>4,680</b>
	Area Covered by Three Academic Blocks = 3 x 4680		14,040
	<b>Add</b>		+
9	1 Common Room for All Male Students	17 x 14	238
10	1 Common Room for All Female Students	15 x 12	180
11	Toilets For female students	10 x 12	120
			<b>14,578</b>
	Add 50% for circulation		7,289
	<b>TOTAL AREA OF ACADEMIC BLOCK</b>		<b>21,867</b>

## 2. Administrative Block

	DESCRIPTION	Dimensions	Square Feet
1	Director	17 x 14	238
2	Toilet	8 x 8	64
3	Office of Secretary/Assistant	12 x 15	180
4	Treasurer's or Accountant's Office	12 x 15	180
5	Cashier's Office	12 x 10	120
6	Registrar's Office	12 x 15	180
7	Office of Assistant to the Registrar	12 x 12	144
8	Record Room	12 x 15	180
9	Information officer/ Receptionist's office	12 x 15	180
10	Toilet Block	16 x 12	192
11	Committee Room	25 x 17	425
			<b>2,083</b>
	Add 50% for ventilation		1,042
	<b>TOTAL AREA OF ADMINISTRATIVE BLOCK</b>		<b>3,125</b>

## 3. Cafeteria

	DESCRIPTION	Dimensions	Square Feet
1	Seating Capacity For 35 people [@ 25 sq. ft. (5x5) per person]		875
2	Kitchen	12 x 15	180
3	Store	8 x 10	80
4	Desk of Cafeteria Incharge	8 x 8	64
			<b>1,199</b>
	Add 30% for ventilation		360
	<b>TOTAL AREA OF CAFETERIA</b>		<b>1,559</b>

#### 4. Meditation Hall

	DESCRIPTION	Dimensions	Square Feet
1	Meditation Room	30 x 18	540
2	Toilet + Wash Room	15 x 10	150
			<b>690</b>
	5 Meditation Rooms will be built = 5 x 690		3,450
	Add 50% for ventilation and lobby		1,725
	<b>TOTAL AREA OF MEDITATION HALL</b>		<b>5,175</b>

#### 5. Sports Complex

	DESCRIPTION		Square Feet
1	Badminton Court	55 x 25	1,375
2	Basket Ball Court	100 x 60	6,000
3	Squash Court	50 x 30	1,500
4	Table Tennis Court	23 x 20	460
5	Toilets and Lockers For Male Students	30 x 15	450
6	Toilets and Lockers For Female Students	20 X 15	300
			<b>10,085</b>
	Add 20% for waiting and ventilation		2,017
	<b>TOTAL AREA OF SPORTS COMPLEX</b>		<b>12,102</b>

## 6. Market Place

	DESCRIPTION	Dimensions	Square Feet
1	Doctor's Clinic / Dispensary	14 x 18	252
2	Barber Shop	12 x 15	180
3	Laundry Shop	12 x 15	180
4	Book Store Photostating Shop	14 x 18	252
5	General Store	12 x 15	180
6	Bank	17 x 25	425
7	Public Call Office	12 x 15	180
			<b>1,649</b>
	Add 30% for Ventilation		495
	<b>TOTAL AREA OF MARKET PLACE</b>		<b>2,144</b>

Other perishable items like meat, poultry, vegetables, fruit etc can be bought from the nearby towns.

## 7. Library Building

	DESCRIPTION	Square Feet
1	Librarian Desk	
2	Assistant Librarian	
3	Reference Section	
4	Micro Films	
5	Reading Areas	
6	Shelves For 100,000 Books	
	<b>TOTAL AREA OF LIBRARY BUILDING</b>	<b>18,000</b>

## 8. Computer Centre

	<b>DESCRIPTION</b>	<b>Square Feet</b>
1	Computer Centre Incharge's Office	
2	Technical Support Room	
3	Store Room	
4	Supervisor's Desk	
5	Computer lab for 35 students	
	<b>TOTAL AREA OF COMPUTER CENTRE</b>	<b>5,000</b>

# **Photogrammetric Analysis and 3D Modeling of Early Muslim Glazed Pottery Collection at Hazara University Museum, Pakistan**

**Shakirullah / Muhammad Zahoor / Asim Rasheed**

## **Abstract**

*Today, photogrammetric and 3D computer modeling is the essential and fundamental techniques utilized in archaeology and other heritage-related fields. In the areas of conservation, preservation, restoration, and mediation of architectural, archaeological, and cultural heritage, they offer essential responses to scientific needs. There aren't many computer-based automation tools for pottery classification in the realm of archaeology. Lacking computer vision-assisted technologies, archaeologists are unable to see a full pot from a single shattered fragment in three dimensions. The strength and widespread use of computer-based automation techniques have not yet had a truly positive impact on Pakistan's archaeology. The methods for obtaining 3D data for fragments have been extensively addressed, but the methods for virtual reconstruction have not received enough attention. There is a large collection of early Muslim glazed pottery housed in Hazara University Museum of Archaeology. The aim of the present study was to reconstruct and complete the object from pottery fragments and to determine the drawing, designs, and color combination of selected pottery. For this purpose, fragments of two different pots from the same collection were selected. The result of this study revealed a complete 3D model of each broken glazed ceramic pot with help of proposed techniques and computer applications.*

**Keywords:** *Photogrammetry, Muslim, Glazed, Pottery, 3D reconstruction.*

## **1. Introduction**

The Ghaznavid are credited with the invention of glazed pottery. Due of its special qualities, glazed ceramics are well-known and are displayed in numerous museums across the world (Gulmini et al., 2013). The Hazara archaeological and Ethnological Museum, Hazara University Mansehra has a substantial collection of glazed ceramics from the early Muslim era. This collection consists of many kinds of bowls, plates, and lamps with calligraphy, floral and geometric designs, birds, and human figures as

ornamental themes. The shards, which were formerly in a private collection, were presented by the former Governor, Khyber Pakhtunkhwa Province (formerly known as NWFP). Through scientific analysis of this unique collection, can place it in the Ghaznavid period originated at southern Afghanistan's in two famous schools of glazed ceramics i.e. Lashkari and old Bust Bazars.

Archaeologist Jean-Claude Gardin (1977) conducted a thorough investigation of the pottery found in Bust and Lashkar-i Bazar and divided all of the discoveries into many groups. A first subdivision dealt with dividing pottery into glazed and unglazed categories. Unglazed pottery was further separated into five groups and subsequently into series depending on form and decoration, forming a relatively consistent collection as far as paste features are concerned. In terms of glazed pottery, Gardin divided it into three main categories that were also based on chronology. These categories were distinguished by painted decoration on engobe, painted and incised decoration on engobe, and painted decoration without engobe. The 3D reconstruction of ancient pottery has been done in the rest of the world while in Pakistan rare attempts have been made so far.

## **2. Review of Literature**

In the middle of the 1980s, researchers were considering methods that would sketch, preserve, store, and restore the excavated fragments. Many strategies are used to put together jigsaw puzzles and reconstitute their 3-D models in neuroscientific matching items. The process of using B-splines for shape illustration is described by Half and Laflin (1984). It enables three-dimensional curved solids of rotation to build figures based on the B-spline profile, producing sketches of the ceramics. This technique has the advantage of allowing photographs of the 3D construction of pottery profiles, compression prior to computer storage area for future display, and record examination.

An accurate model for the estimate of the pottery profile was provided by Hal and Flusser in (1997). By determining the radius of one sherd, they were able to establish the parameters defining the subject's diameter and edges. They also provide proof that the crossings of the fragment's area with a number of parallel planes result in parallel arcs with a single axis and varying widths. The piece is right-oriented for making a circular arc. Essentially, the estimated laser plane and the fragment surface intersect to create the circular arc. Both synthetic and actual ceramic data

were used for testing. According to the bottom-up design, Sablatnig and Menard (1997) employed the profile curvity for the reconstruction full pot and its computerized classification. Regardless of the absence of other ceramic fragments, Üçoluk and Toroslu (1999) concentrated on damaged three-D surfaces reaping the corresponding of consecutive contour pixels of two pottery fragments. Using simulated broken objects, a Noise Tolerant set of criteria were used to achieve first-class matching. Through analysis of the damaged surface boundary curves, they fit and align the vase fragments.

Based on the vessel axis in general location, the profile-curve and z-axis, a portion of the exterior pottery, smash-curves to the complete pottery, and 3D euclidean variations, Willis and Andrews (2001) calculated the statistics of the pot herds, enabling the geometric parameters to merge and form, as a result. The framework for the automated reconstruction of broken pottery was developed by Andrews and Laidlaw in (2002). The geometric correlations were constructed using X2 statistics.

Papaioannou, Karabassi, and Theoharis (2002) focused on the matching and alignment of parts for an automated 3D reconstruction. Through computing, the algebraic surface with axial symmetry was used. Kampel and Sablatnig (2003) based their automated reconstruction on the profile of the fragments. An automatic archival was created by Kampel and Sablatnig (2003b) to classify and recreate the ceramics. A semi-automatic device was invented by Melero, Torres, and León (2003). Pots were mechanically put together by Willis, Orriols and Cooper (2004) using three-dimensional pieces.

The fundamental concept that sets their methodology apart is how they present the examination of two assemblages of Israeli Iron Age ceramics. By accessing data through restrictions, Lui and Pottmann (2006) examined 3D reconstruction. These restrictions may specify the surface type or establish geometric relationships between the surface of the object's component pieces, such as orthogonality, parallelity, and others. Instead of mechanically reassembling 3D solid objects, Huang et al. (2006) developed a segmentation technique that is entirely based on the graph cuts method based on region functions.

A typical vessel model was created utilising 3D convexhull technology by Cohen, Zhang, and Jeppson (2010). The Graphical Processing Unit (GPU) depth Maps approach was recommended by Belenguer and Vidal (2012). Kashihara (2012) suggested a silhouettes-based technique for automatic reconstruction. Goel and Singh (2005)



described the features and internal workings of a computer-aided design tool used to classify and recreate ceramic artefacts in archaeology. With limited resources, Barreau and Nicolas (2014) used photogrammetry to recreate pottery from ceramic shards. Their research provides a clear explanation of their methodology. Kampel and Sablatn (2004) used automatic fragment orientation to focus on the parentage of the profile line.

Rotation axis and profile were employed to restore the ceramics in which the laser scanner and light scanner were used. A technique for creating 3D models of ancient Greek pottery is presented by Koutsoudis et al., (2009). From these models, digital signatures were recovered using algorithms. The software automatically or partially classified that signature. The results of a comparison of human and digital reconstruction procedures in terms of robustness, integrity, and usefulness are presented by Eleni Kotoula (2016). Three distinct semi-automatic fragment alignment and matching algorithms were used. It is advised to employ a combination of strategies when using various software applications. For the modelling methodologies, the applications of the digitally restored artefact were discussed.

### **3. Methodology**

A systematic research methodology was used in this study. Due to the scarcity of primary data sources, initial secondary data collection took the form of papers on 3D reconstruction. This study can be used as a reference for majority of investigations that have been done on the 3D reconstruction of pottery. The fundamental information, including the texture, structural types, and pot measurements, were provided by the Hazara University Museum. The reconstruction and examination of ceramics were aided by these dimensions and textures. In the theoretical context, the technique is applied to literary and archaeological sources. The common practices of searching libraries and the internet for literature about the development of 3D ceramic reconstruction also yields literary sources.

#### ***Acquiring Data***

In order to take specific measurements for analysis, a thorough study of 3D reconstruction of pottery was conducted. This was followed by careful photography of the pot in various poses to obtain the texture for the 3D reconstruction.

### ***Photography***

The study relies on photogrammetric reconstruction of archaeological ceramics, hence a high-end digital single-lens reflex camera with a good lens and good resolution is required. Better outcomes and high-quality images will emerge from this. Without photos, archaeological research is insufficient. Every pot fragment was photographed in detail, with thorough photography being used. From these pictures, the Left Texture aspects from the field notes were retrieved. The future conservation, preservation, and restoration efforts will benefit from all these field photos, which are also a type of historical record.

### ***Adobe Photoshop***

Adobe Photoshop is a fantastic tool for producing, altering, managing, and maintaining images for the online and printed media. It might very well be used to create web designs for a website or to update high-resolution photos for crucial introductions. With "Edit" for object type, "layer" for creating distinct layers, and "Filter" for geometric precision, the creation of geometries and textures was processed in Adobe Photoshop. Adobe Photoshop created the texture from number of extracted image fragments and applied it to the mesh's surface. After that, the generated mesh was exported in ".obj" format and loaded into Maya for modelling.

### ***Autodesk Maya***

Maya was employed for the ceramic modelling. Maya, sometimes known as Autodesk Maya or simply Maya, is a 3D computer graphics program. A 3D modelling and animation program that supports 3D printing is Autodesk Maya. A program called Maya is used to create 3D objects for use in architecture, television, and film. In Maya, there are four different layouts. The left views show the object from the top, front, and side, while the perspective view is in the top right corner. Afterward, choose the edge and extrude the shape in accordance with the reference image. Now, there are several choices for editing the mashup. Numerous more terms include fractional, absolute, offset space, global, and local. Choose a mesh object, then choose the faces and edges you want to bevel. The chosen edges and faces will then bevel in Maya. When the model is finished, the UV unwrapping process comes next. After unwrapping, take a texture snapshot,

which you may then import into Photoshop to edit. and after that, apply the texture to the model in Maya.

### ***Matlab***

To analyse ceramics, Matlab was employed. Matlab combines a programming language that natively expresses matrix and array mathematics with a desktop environment optimised for iterative analysis and design processes. For writing scripts that mix code, output, and formatted text in an executable notebook, it comes with a live editor.

## **4. Analysis and procedure**

The applications are mostly used by archaeologists for ceramic analysis. First, choose a piece of the fragment preserved in the 2D profile for input. The GUI was displayed on a screen when the Matlab application is first executed. The file selection window thereafter opened as we perused the input and the selected ceramic fragment's 2D profile (which is stored as a.png file) was selected. We Set the radius to mm and then press the Build button to create a 3D model of the original body's selected fragment. Also here we will get the analysis of this pottery on the basis of radius, tangent, curvature & capacity of the pottery.

### ***Radius***

r=radius (the line segment from center to parameter, dr= the change of radius along the y-axis of rotation. Mathematically to calculate a curvature at a particular point following formula is used.

$$\begin{aligned} \text{Radius of curvature} &= \frac{[1+(\frac{dy}{dx})^2]^{3/2}}{|\frac{d^2y}{dx^2}|} \\ &= \left( \frac{y^2 + x^2}{y^3} \right) \end{aligned}$$

That is  $\frac{d^2y}{dx^2}$ . Second order differential equation.

### Tangent

(T) tangent: A line that touches any straightforward point on a curve. Dt is the difference in the curve's tangent. The result of ds from the reference point is dt as shown in figure 1.

$$i = \frac{dy}{dx}$$

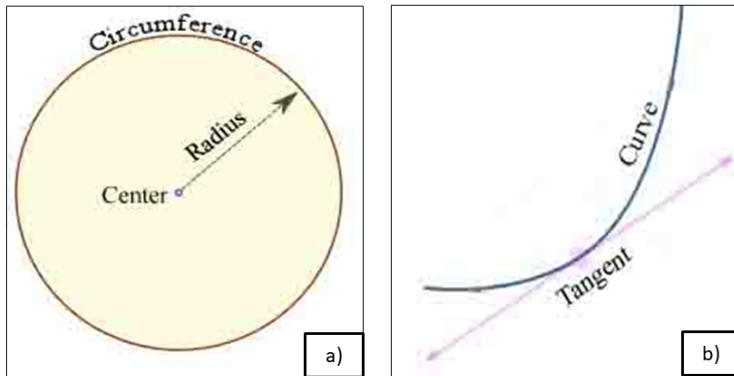


Fig. 1: a) Radius of circle, b) Tangent of circle.

### Curvature

The pace in which a curve's direction changes in relation to its length is known as "curvature" in mathematics. Dc=change of curvature is the function of dt with ds.

$$k = \left| \frac{dt}{ds} \right|$$

### Capacity

Capacity is shown in v mathematically volume of vessel/Pottery is calculated by following.

$$V = r^2\pi H \text{ i.e } \pi=3.14 \text{ or } 22/7.$$

## 5. Results

### Sample-1 (Bowl: Acc #: HUM 00368)

<p><b>Step-1 Begin initialization code</b></p> <pre>gui_Singleton = 1; gui_State = struct('gui_Name',    'bowl 1, ... 'gui_Singleton',  gui_Singleton, ... 'gui_OpeningFcn', @Pottery_cluster_OpeningFcn, ... 'gui_OutputFcn',  @Pottery_cluster_OutputFcn, ... 'gui_LayoutFcn',  [], ... 'gui_Callback',   []);</pre> <p><b>Step-2 Draw boundary from fragment from an input</b></p> <pre>B=imread(PathName FileName); B = B(:, :).[r,c] = find(B,1,'first'); B = bwtraceboundary(B,[r,c],'N'); tmp=B(:,1);B(:,1)=B(:,2);B(:,2)=-tmp+max(tmp); [~,tmp]=min(B(:,2));tmp=B(tmp,:);</pre> <p><b>Step-3 Smoothing the curve</b></p> <pre>idx=1:9: length(B); B=B(idx,:); axes(handles.axes3) plot(B(:,1),B(:,2)),hold on R=str2double(get(handles.edit4,'String')); axis=max(B(:,1))+R; plot([axis axis],[min(B(:,2)) max(B(:,2))],'-k') text(axis+5,max(B(:,2)),'Axis of rotation') text(axis+5,max(B(:,2))/2,['Diameter = ' num2str(2*R) 'mm']) xlim([min(B(:,1)) (2*axis-min(B(:,1)))]) mirror=B(:,1)+2*(axis-B(:,1)); plot(mirror,B(:,2),'r')</pre>	<p><b>Step-4 Radius</b></p> <pre>[~idx]=max(B(:,2)); ref=B(idx,:); tmp=0; hold on,plot(ref(1),ref(2),'*'),hold off text(ref(1),1.1*ref(2),'Reference point') ra(idx)=axis-ref(1); for i=idx+1: length(B) s(i)=tmp+sqrt((B(i,1)-B(i,1))^2+(B(i,2)-B(i,2))^2); tmp=s(i); ra(i)=axis-B(i,1); end tmp=0; for i=idx-1: -1:1 s(i)=tmp+sqrt((B(i+1,1)-B(i,1))^2+(B(i+1,2)-B(i,2))^2); tmp=s(i); ra(i)=axis-B(i,1);</pre> <p><b>Step-5 Tangent</b></p> <pre>theta=diff(B(:,2))./diff(B(:,1)); theta=abs(theta); theta=atan(theta); theta(length(theta)+1)=theta(end); theta(idx)=pi;</pre> <p><b>Step-6 Curvature</b></p> <pre>K=diff(theta)./(diff(s)); K(length(K)+1)=K(end); axes(handles.axes1) plot(s,ra),title('Radius'),grid on axes(handles.axes4) plot(s,theta),title('Tangent'),grid on axes(handles.axes5) plot(s,K),title('Curvature'),grid on</pre>	<p><b>Step-7 Determining the pottery capacity</b></p> <pre>[~idx1]=max(B(:,2)); [~idx2]=min(B(:,2)); tmp=B(idx1,:); x1=tmp(1); y1=tmp(2); tmp=B(idx2,:); x2=tmp(1); y2=tmp(2); m=(y2-y1)/(x2-x1); y=@(x) m*(x-x1)+y1; inner=[]; if m&lt;0 for i=1: length(B) tmp=B(i,:); x=tmp(1); y=tmp(2); y=y(x); if y&gt;y1, inner=[inner,tmp]; end end elseif m&gt;0 for i=1: length(B) tmp=B(i,:); x=tmp(1); y=tmp(2); y=y(x); if y&lt;y1, inner=[inner,tmp]; end end end [tmp,I]=sort(inner(:,2),'descend'); tmp2=inner(:,1); tmp2=tmp2(I); inner=tmp2,tmp; Vol=0; for i=1: length(inner)-1 tmp=inner(i,:); r=axis-inner(i,1); dy=inner(i,2)-inner(i+1,2); Vol=Vol+(pi*(r^2)*dy); end Vol=(1e-1)*Vol; title(['The capacity = ' num2str(Vol) ' L'])</pre>
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Fig. 2: Different steps during Computer programming (Bowl: Acc #: HUM 00368).

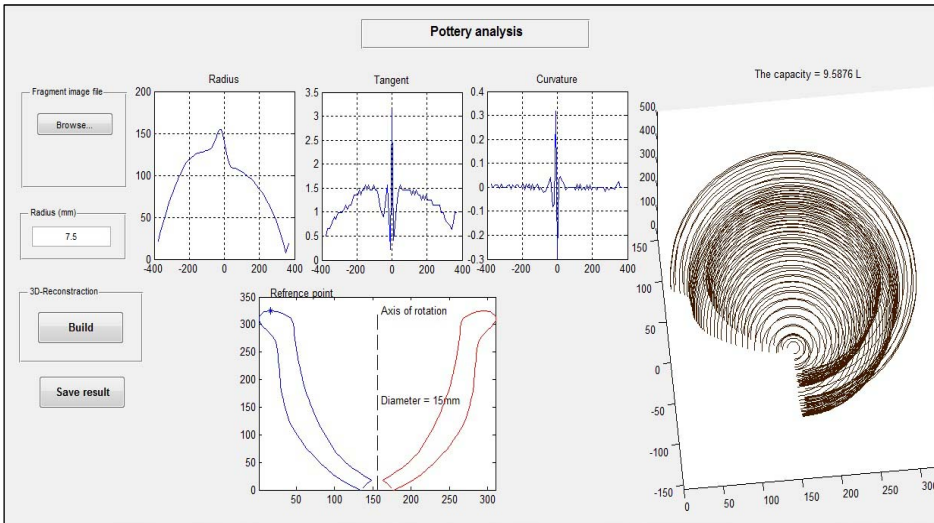


Fig. 3: Output result after processing different steps (Bowl: Acc. #: HUM 00368).

Sample-2 (Bowl: Acc. #: HUM 00392)

<p><b>Step-1 Begin initialization code</b></p> <pre>ggui_Singleton = 2; gui_State = struct('gui_Name', 'bowl 2, ... 'gui_Singleton', gui_Singleton, ... 'gui_OpeningFcn', @Pottery_cluster_OpeningFcn, ... 'gui_OutputFcn', @Pottery_cluster_OutputFcn, ... 'gui_LayoutFcn', [] , ... 'gui_Callback', []);</pre> <p><b>Step-2 Draw boundary from fragment from an input</b></p> <pre>B=imread(PathName FileName); B = B(:,:2)/r,c = find(B,2,'first'); B = bwtraceboundary(B,r,c,'N'); tmp=B(:,:2);B(:,:4)=tmp+max(tmp); [~,tmp]=min(B(:,:1));tmp=B(tmp,:);</pre> <p><b>Step-3 Smoothing the curve</b></p> <pre>idx=1:9; length(B); B=B(idx,:); axes(handles.axes3);plot(B(:,2),B(:,4)),hold on R=str2double(get(handles.edit4,'String')); axis=max(B(:,1))+R; plot([axis axis],[min(B(:,4)) max(B(:,4))],'-k') text(axis+5,max(B(:,4)),'Axis of rotation') text(axis+5,max(B(:,4))/4,['Diameter = ' num2str(2*R) 'mm']) xlim([min(B(:,1)) (4*axis-min(B(:,1)))]) mirror=B(:,2)+4*(axis-B(:,2)); plot(mirror,B(:,4),'r')</pre>	<p><b>Step-4 Radius</b></p> <pre>[~ idx1]=max(B(:,4)); ref=B(idx1,:); tmp=0; hold on;plot(ref(1),ref(4),'*'),hold off text(ref(1),1.1*ref(4),'Reference point') ra(idx)=axis-ref(2); for i=idx+1: length(B) s(i)=tmp+sqrt((B(i,2)-B(i,2))^2+(B(i,4)-B(i,4))^2); tmp=s(i); ra(i)=axis-B(i,1); end tmp=0; for i=idx-2: -2:2 s(i)=tmp+sqrt((B(i+2,2)-B(i,2))^2+(B(i+4,4)-B(i,4))^2); tmp=s(i); ra(i)=axis-B(i,4);</pre> <p><b>Step-5 Tangent</b></p> <pre>theta=diff(B(:,4))/diff(B(:,2)); theta=abs(theta); theta=atan(theta); theta(length(theta)+2)=theta(end); theta(idx)=pi+;</pre> <p><b>Step-6 Curvature</b></p> <pre>K=diff(theta)/(diff(s)); K(length(K)+1)=K(end); axes(handles.axes1) plot(s,ra),title('Radius'),grid on axes(handles.axes4) plot(s,theta),title('Tangent'),grid on axes(handles.axes5) plot(s,K),title('Curvature'),grid on</pre>	<p><b>Step-7 Determining the pottery capacity</b></p> <pre>[~ idx1]=max(B(:,4)); [~ idx4]=min(B(:,4)); tmp=B(idx1,:); x1=tmp(2); y1=tmp(4); tmp=B(idx2,:); x2=tmp(2); y2=tmp(4); m=(y1-y2)/(x2-x1); y=@(x) m*(x-x2)+y2; inner=[]; if m&lt;0 for i=2: length(B) tmp=B(i,:); xt=tmp(2); yt=tmp(4); yr=y(xt); if yt&gt;yr, inner=[inner,tmp]; end end elseif m&gt;0 for i=2: length(B) tmp=B(i,:); xt=tmp(2); yt=tmp(4); yr=y(xt); if yr&gt;yr, inner=[inner,tmp]; end end end [inner,]=sort(inner(:,4),'descend'); tmp2=inner(:,2); tmp2=tmp2(1); inner=[tmp4 tmp]; Vol=0; for i=2: length(inner)-4 tmp=inner(i,:); rx=axis-inner(i,2); dy=inner(i,4)-inner(i+2,4); Vol=Vol+(pi*(r^2)*dy); end Vol=(1-e-1)*Vol; title(['The capacity = ' num2str(Vol) 'L'])</pre>
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Fig. 4: Different steps during Computer programming (Bowl: Acc #: HUM 00392).

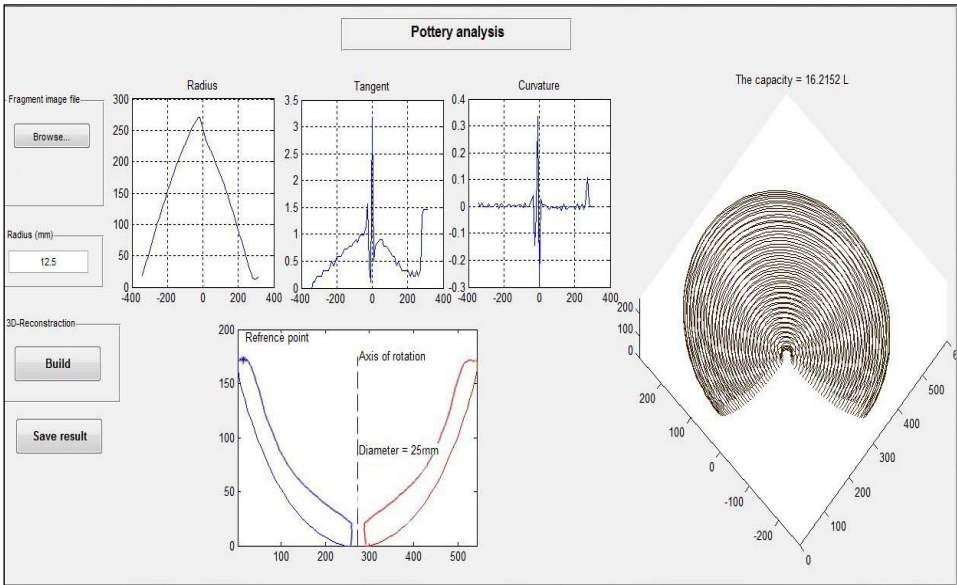


Figure 5: Output result after processing different steps (Bowl: Acc. #: HUM 00392).

### ***3D Reconstruction of Broken Pottery***

Sample-1 Bowl: Acc. #: HUM 00368

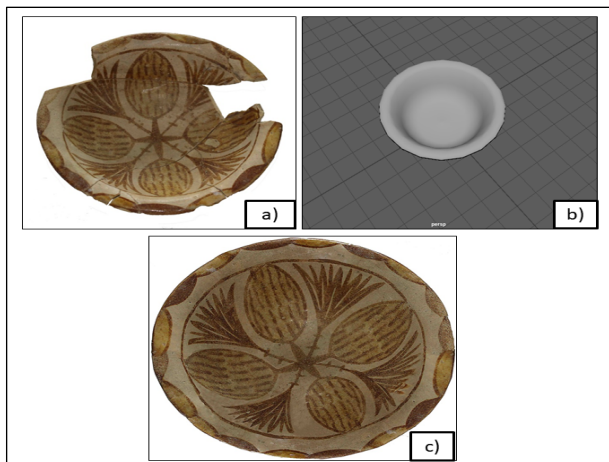


Fig. 6: a) Original broken pot before process, b) 3D model, c) production of a complete pot after process.

Sample-2 (Bowl: Acc. #: HUM 00392)

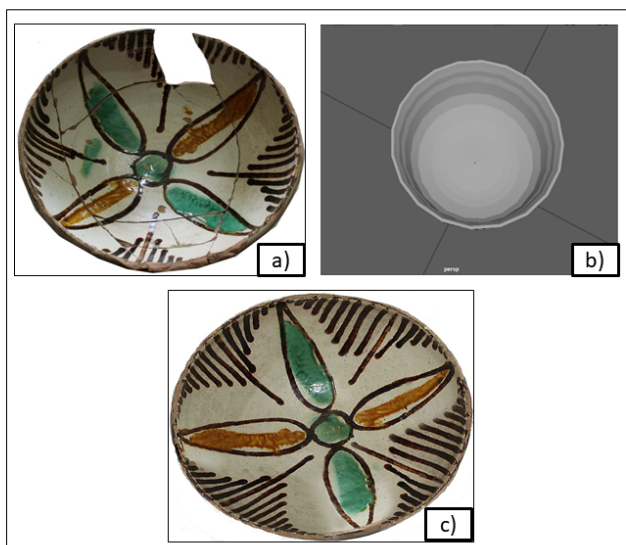


Figure 7: a) Original broken pot before process, b) 3D model, c) production of a complete pot after process

## **6. Discussions**

Archaeology and other heritage fields use photogrammetric and 3D computer modelling as essential and fundamental techniques nowadays. In the areas of conservation, preservation, restoration, and mediation of architectural, archaeological, and cultural heritage, they offer the essential responses to scientific needs. There aren't many computer-based automated tools for reconstructing pottery in the field of archaeology. Lack of support for computer vision-aided tools prevents archaeologists from being able to envision a full pot from a single shattered fragment in three dimensions. Although computer-based automation techniques are powerful and widely used, archaeology has not been completely impacted by them. Although the strategies for obtaining 3D data for fragments have been extensively addressed, not enough attention has been paid to them.

In order to share knowledge about cutting-edge techniques and methodologies utilised in the archaeological reconstruction of pottery, this research combines fundamental information on 3D reconstruction as a distinct field. Glazed ceramics from the early Muslim era are on display at the Hazara University Museum. There are many kinds of bowls, plates, lamps, calligraphic artwork, pheasants, and ducks, as well as floral and geometrical designs. With the exception of Pakistan, the rest of the globe has completed the 3D reconstruction of pottery. There are not many publications on 3D reconstruction, and each method addresses a distinct classification subproblem for a data set, such as ceramics, pottery, or mixed or textured pottery, for example. Furthermore, no existing technique makes use of the pottery's front and back view properties.

Here, we talked about a piece of software that can create full 3D pots. We demonstrated how to make a variety of arbitrary artificial 3D pots using some traditional Ghaznavid pottery forms. The ancient Ghaznavid pottery was highlighted because, of the entire artefact types that might have a significant impact on human history and living, ceramics are unquestionably the most significant. The idea of 3D pot parameterization for analysis has been our main focus. A programme was created to quickly offer a data set for the creation of 3D shapes centered on ceramic artefacts in terms of standard coordinate systems and data structures. The three primary parts of our suggested system are discussed in this section. The features were included in the reference dataset for the texture.

The first component was to extract a collection of photographs, getting every viewpoint from every pot. The photogrammetry feature of



Adobe Photoshop was used for 3D restoration. This software was chosen for its user-friendliness and capacity to produce incredibly detailed 3D models. The goal is to capture all viewing angles. A first sequence of photographs illustrating a semicircle with a distance camera-object as regular as feasible will be taken in order to get the required outcomes. The object rotated through 180 degrees to finish the series and receive the initial covering. To capture the largest possible region, more photo collections were taken from various angles.

The second one was to generate a 3D representation of the pot into the Maya 3D model using geometric features. Photoshop was used to process the creation of the geometry and textures. The points cloud's colour information used to calculate the mesh's colour. With help of Photoshop texture from various image fragments was extracted which later applied to the mesh's surface. Both a "average" fusion mode and a "generic" mapping mode was available for this stage. The resulting mesh processed through scaling. A measure of distance was taken with the tool "rule" between two points whose real distance is known. The proportionality factor between these two distances determined by dividing the real distance by the measured distance on the mesh. Maya is made up of five modules: Reading, Math, Display, Reconstruction, and Output. Reading reads various types of digital models; Math contains a large mathematical library, particularly the matrix library and vector library; Display displays the model on the screen; Reconstruction restores the broken sherds using rotation axis and complete profile; and Output saves and outputs the restored model. The geometric features generate a radius, which yields the value of the tangent and curvature of the pot using Matlab for the study.

The third component was to extract the diameter of each pottery. We can reuse sets of commands by storing them in program files using both scripts and functions. Since they save commands exactly as we would input them at the command line, scripts are the simplest kind of software. Functions offer more versatility because we can input values and receive output values in return.

## **7. Conclusions**

Digital reconstruction is a very recent field. It would undoubtedly be advantageous to conduct research, build tools to make it accessible, and try to promote it among archaeologists. The study of ceramics has been regarded as a valuable cultural resource for reconstructing number of

aspects of ancient society. Computer applications have so remained underdeveloped in Pakistan, especially regard to the digitization of artifacts in archaeology. In this study, pottery from the Hazara University Museum Mansehra was examined, and an application is shown that may be utilized to repair shattered pottery pieces and add missing textures. Although we can complete the entire profile (model, shape, and texture) of the pot, the suggested technique and computer program is not just for reconstructing shattered pottery but also for an excavated piece of pottery. This would help not just Pakistani archaeologists but also several other academics who are interested in ceramic reconstruction.

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## *Obituaries*

### **Editorial Note**

The importance of the two scholars who passed away in the last few months, Gérard Fussman and Michael Jansen, is such that their obituary can only take the form of a long article or, better still, consist of a series of contributions. Only through a collective effort will it be possible to illustrate the multifaceted contribution of these two scholars to our knowledge of the ancient cultures of Pakistan and Afghanistan. The following pages, in their meagre incompleteness, certainly do not make such claims. It is hoped, however, that in the wake of these, contributions will soon appear in this and other Pakistani journals that account for the stature of these two late colleagues of ours.

Luca M. Olivieri

*Obituaries*



G rard Fussman (Photo: SEEACH)

**Gérard Fussman**

1940-2022

French Indologist

Professor of Sanskrit at the University of Strasbourg (1972-1984).

Professor at the chair “Histoire du monde indien” at the Collège de France

Member of the Délégation Archéologique Française en Afghanistan

Member of the Pak-German Project “Rock Carvings and Inscriptions along the Karakorum Highway (Pakistan)” (Heidelberger Akademie der Wissenschaften).

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Michael Jansen (Photo: Kultope Archaeological Park)

*Obituaries*

**Michael Jansen**

1947-2022

Dr.-Ing. Professor

1979 - Ph.D. “Architecture of Indus Valley Civilization”  
Co-Project leader of the 1978-1987 DFG (Deutsche Forschungsgemeinschaft)/  
IsMEO research project ‘Moheno-Daro’

1988-1993 Lecturer RWTH Aachen University  
1994-1996 Dean Faculty of Architecture, RWTH Aachen University in Germany  
Professor emeritus at RWTH Aachen University in Germany  
Professor for history of urbanization, conservation and heritage management at  
the German University of Technology in Oman (GUtech)

Director of the German Research Centre Mohenjo Daro  
Managing Director at German University of Technology in Oman  
Member ICOMOS Germany  
Member UNESCO International Advisory Committee on Pakistan and  
Afghanistan  
ICOMOS Senior Consultant  
Board member Bamiyan Expert Working Group (UNESCO)  
Board member UNESCO International Safeguarding Campaign Mohenjodaro  
(Pakistan)  
President Research Centre Indian Ocean (RIO)  
President Deutsch-Pakistanisches Forum

Co-Organiser of the Exhibition “The Buddhist Heritage of Gandhara” (Bonn,  
Berlin 2008, New York 2011)

1987 – ‘Sitara-e-Imtiaz’ (Star of Distinction, Pakistan)  
2019 – ‘Hilal-e-Imtiaz’ (Crescent of Distinction, Pakistan)

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\* The order follows the contents.



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