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The Face Urns of Gandhâra and the Nâsatya Cult

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THE HOMELAND OF THE EARLY ARYAN SPEAKERS IN THE LIGHT OF LOANWORDS IN PROTO-FINNO-UGRIAN ARCHAEOLOGICAL COUNTERPARTS OF THE COMMUNITIES SPEAKING PROTO-INDO-EUROPEAN AND PROTO-ARYAN

The vocabulary associated with wheeled vehicles that can be reconstructed for the Indo-European protolanguage dates the disintegration of Proto-Indo-European c 3500 BC: before this there were no wheeled vehicles anywhere. (Anthony 1995) This date and distribution of the earliest vehicle finds in turn give a good starting point for locating the archaeological culture where Proto-Indo-European was spoken. It should be a culture connected through a chain of genealogically related cultures with the often widely dispersed areas where the various branches of Indo-European were first attested. This and various other criteria have suggested the Srednij Stog culture (c 4500-3350 BC) of Ukraine as the most likely candidate. (Mallory 1989)

Important indications for the location of Proto-Indo-European and of Proto-Aryan (and its successors) are the numerous loanwords borrowed from these languages into Proto-Uralic or Proto-Finno-Ugrian (here taken as synonyms). In all likelihood, Proto-Finno-Ugrian was spoken in the successive Lyalovo (c 5000-3650 BC) and Volosovo (c 3650-1900 BC) cultures, which had their centre on the upper Volga. The Lyalovo culture (characterized by Pitted Ware) expanded around 3900 BC to Karelia, Finland and the Baltic (the ceramic developed into Combed Ware in these regions); in the southwest, on the upper Don, the Lyalovo culture was in contact with the Srednij Stog culture. Around 2300 BC, the southern part of the Volosovo culture was intruded by the Abashevo culture (c 2800-1900 BC), which was descended from the Srednij Stog culture via the intervening Pit Grave culture (c 3500-2800 BC). As a result of this development, several Proto-Finno-Ugrian speaking communities seem to have had a Proto-Aryan speaking elite minority, whose later absorption into the majority left Aryan loanwords in early Finno-Ugrian. (Carpelan and Parpola 2001)

In the southern Urals, the Abashevo culture gave rise to the Sintashta-Arkaim culture (c 2200-1800 BC), the graves of which contain the earliest known horse-drawn chariots (c 2000 BC) The Sintashta-Arkaim culture in turn is the source of the Andronovo cultural complex, which spread widely in southern Siberia and Central Asia between 1800 and 1300 BC. (Epimachov and Korjakova 2004)

**THE SOUTHWARD MIGRATION OF ARYAN SPEAKERS
AND THE BACTRIA-MARGIANA ARCHAEOLOGICAL COMPLEX**

The 'homeland' of the Aryan or Indo-Iranian languages thus was in the steppes of South Russia and northern Central Asia. Yet, as their latter name indicates, they have long been spoken predominantly in India and in Iran (India and Iran denoting here South Asia and Greater Iran in the sense of the Achaemenid Empire). This implies a southward movement from northern Central Asia through southern Central Asia (Turkmenistan, Uzbekistan, Tajikistan and Afghanistan) approximately in the course of the second millennium BCE. During this time, southern Central Asia was in the control of the agriculturally based Bactria and Margiana Archaeological Complex (BMAC) (c 2500-1300 BC). The archaeological record shows that between 1800 and 1300 BC, the Andronovo tribes have been coming to southern Central Asia in increasing numbers, until eventually almost every BMAC settlement was surrounded by their campsites (cf. Gubaev et al 1998; Cattani 2004 [2005]; Hiebert 2001; 2002; Hiebert & Moore 2004 [2005]; Francfort 2005: 295-304).

Undoubtedly the BMAC originally was non-Indo-European in its language, as it owed its birth to forces coming from earlier cultures of southern Turkmenistan, Elam, Iran and Baluchistan (Francfort 2005: 258-261). But it seems that during the second millennium BC, the BMAC was linguistically Aryanized, because the Andronovo culture did spread from the north to the region of the BMAC, but not further to India and Iran and thus did not transport the Indo-Iranian languages there, while on the other hand the BMAC did spread both to Iran and South Asia. Also, an aristocratic grave that recently came to light at Zardcha Khalifa in Tajikistan has shown that the elite of the BMAC had adopted the horse-drawn chariot from the Sintashta-Arkaim culture (Bobomulloev 1997). The Vikings sailing from Scandinavia to the Black Sea and the Caspian Sea through the rivers of Ukraine and Russia took over the rule in the local communities speaking Old Russian. In the Hurrian-speaking kingdom of Mitanni, the Proto-Indo-Aryan speaking rulers adopted in its entirety the local culture where they had seized the power, including the religion, the Hurrian language and the use of the cuneiform script. In these two parallels, the incoming minority language was eventually absorbed, but in the case of the BMAC, the number of Aryan speakers was replenished by successive waves of immigrants from the north.

**THE GANDHĀRA GRAVE CULTURE, ITS BMAC BACKGROUND,
AND THE HORSE**

Situated in and around the Swât Valley in northern Pakistan, on the route that leads from Afghanistan to South Asia, the Gandhâra Grave culture (c 1600-600 BC) occupies a strategic location at one of the principal entrances from Central Asia. This entrance was undoubtedly used by the Rigvedic Aryans, as the Kabul River, the Swât River and other waterways of this region are mentioned in the Rigveda. The horse and the horse-drawn chariot occupy a position of central importance in the culture of the Rigveda. It is therefore very significant that the Gandhâra Grave culture has produced the earliest known evidence of the domesticated horse from this part of South Asia. (Around the same time, the domesticated horse appears at Pirak near the Bolan Pass that connects the highlands of Baluchistan with the plains of the southern Indus Valley.)

The Gandhâra Grave culture first appears during the late part of the Ghâlegay IV Period, between c 1600 and 1400 BC. At this phase it is represented by 'the black-grey, burnished ware ... widespread throughout all the occupation phases of all the valley's settlements excavated so far', which is comparable to the BMAC ceramics at Dashly, Shah Tepe, Tepe Hissar and

Tureng Tepe (Stacul 1987: 121f.). The hypothesis that its presence in the Swât Valley results from immigrations from the west is supported by the evidence of the only known late Ghâlegay IV Period graveyard at Kherai in Indus Kohistan. Here the burial customs are very similar to those typical of the BMAC in southern Bactria, with inhumed bodies placed on their sides with the knees drawn up in a hocker position. (Stacul 1987: 64-65, 71-73, 122) Besides the grey-burnished ware, the late Ghâlegay IV Period had black-on-red painted pottery related to the Cemetery H culture of the Punjab plains. The horse is depicted on several shards of this kind of ceramics at Bir-kot-ghwandai in Swât. (Stacul 1987: 123) Late Ghâlegay IV Period levels of this same settlement have produced bones of the domestic horse and donkey. (Stacul 1987: 123)

The BMAC parallels cited from northern Iran are dated to c 1800-1600 BC. This Gorgan Grey Ware is considered to be the source of the intrusive Early West Iranian Grey Ware that suddenly appears in great quantities all along the Elburz mountains, in Azerbaijan and around Lake Urmia c 1500 BC. The latter ceramic has plausibly been linked with the arrival of the Proto-Indo-Aryan speakers at the Mitanni kingdom in Syria (Young 1985; Parpola 2002a: 78). The presence of the post-Harappan Cemetery-H type ceramics in Swat on the other hand suggests that the carriers of the Gandhâra Grave culture at the Ghâlegay IV Period had close relationship with the Punjab plains and that part of them probably infiltrated to that region. The Cemetery H culture (c 1700-1300 BC) had introduced cremation as a new mode of disposal of the dead, contrasting with the Harappan practice of inhumation burial.

The Gandhâra Grave culture is mainly known from graveyards belonging to the following Ghâlegay V Period, dated to c 1400-1000 BC, and the following Iron Age Period of Ghâlegay VI, dated to c 1000-600 BC. The Gandhâra Graves are rectangular pits, often surrounded by a ring of stones. About two thirds of them are internment burials, with the bodies in a flexed position, men lying on their right sides and women on their left sides. There are skeletons in an anatomically intact position, but also a large number of graves where the bones were secondarily placed in heaps, yet with the head always in the upmost position. These inhumation graves are covered with stones. About one third of the Gandhâra Graves are cremation burials. After a transition period with approximately equal number of inhumation and cremation burials (in some graves even both types of disposal of the dead have been applied), cremation became the dominant mode of burial in the Ghâlegay V Period, while during the Ghâlegay VI Period cremation gradually disappeared. Both inhumation and cremation burials contain both single persons and (quite often) two persons, usually couples that mostly seem to have been buried at different times.

The Gandhâra Graves were early on compared with the cemeteries of the Bishkent and Vakhsh culture of southern Tajikistan (Müller-Karpe 1983: 118). These represent a fusion of the local north Bactrian variant of the BMAC in its late Molali-Bustân Phase (c 1700-1400 BC) and of steppe nomads. Andronovo culture is attested at several sites in southern Tajikistan (Vinogradova 2001). At the necropole of Bustân 6 in southern Uzbekistan, the cremation tradition was brought to the late BMAC (Molali-Bustân Phase) by Andronovo culture (which practised cremation in the steppes of eastern Kazakhstan) represented by various distinctive artefacts including Andronovo ceramics, terracotta human figurines and a horse figurine (Avanesova 1995; 1997). The excavation of the vast BMAC necropole of Gonur has brought to light further parallels between the Gandhâra Graves and the late BMAC. These include, among other things, the exact type of metal pin so characteristic of the Swât graves (though the single Gonur specimen is of silver, the many Gandhâra specimens of copper), anthropomorphic figurines and the burial of a horse (young headless colt) in Gonur. (Sarianidi 2001: 180-182).

Two well-preserved and complete skeletons of the horse were found at the graveyard of Kâtelai in the Swât Valley (Silvi Antonini and Stacul 1972: 288, T. 40 and pl. CLIV b & c; and

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291, T 45 and pl. CLIV a). From the same graveyard comes a small conical capsule made of bronze, with the horse as its top (ibid 422 and pl. LIII a). Particularly important for the theme of this paper is the concave terracotta lid with the figurine of a horse as its handle, for this was found in situ closing a cinerary vase in the graveyard of Loebanr in Swât (ibid 78 and pl. LII c; see Figure 1).



FIGURE 1: A CONCAVE TERRACOTTA LID WITH A HORSE FIGURINE HANDLE, FOUND IN SITU CLOSING A CINERARY URN (T. 19/1), FROM THE GRAVEYARD OF LOEBANR IN SWĀT, NOW IN THE ISLAMABAD MUSEUM. THE DIAMETER OF THE LID IS 31 CM, AND THE HEIGHT OF THE HANDLE, 10 CM. PHOTO ASKO PARPOLA.

While the Gandhâra Grave culture of the Ghâlegay VI Period in many respects continues similar to the preceding Ghâlegay V period, there are some significant changes, above all the introduction of iron. Wheel-turned red and grey ceramic with remarkably thin walls becomes the dominant type of pottery. About the same time, c 1000 BC, iron and a luxury ceramic with remarkably thin walls called Painted Grey Ware (PGW) start characterizing the culture of the Punjab plains and the Ganges-Yamuna Doab (dated to c 1000-400 BC) (eg Agrawal 1982: 251-256). While the Gandhâra Grave culture of the Ghâlegay VI Period is relatively isolated from the plains, some connections between the early PGW and the Gandhâra Grave culture have been noted. At Ahicchatra, the PGW layers have pots with perforations near the neck, resembling the face urns of the Ghâlegay V Period; and terracotta human figurines found in the graves of the Ghâlegay V Period ‘have almost exact parallels in the figurines recovered from the Painted Grey Ware (PGW) levels at Jakhera in Uttar Pradesh’ (Agrawal 1982: 250).

THE PHASES OF THE GANDHĀRA GRAVE CULTURE AND THE IMMIGRATION WAVES OF RIGVEDIC ARYANS

The temporal, geographical and cultural horizons of the PGW culture strongly suggest its equation with the Middle Vedic culture postdating the Rigveda. Iron was still unknown to the Rigveda, but is mentioned from the Atharvaveda onwards. The time gap between the Rigveda

and the Atharvaveda is not great, so if the Atharvaveda belongs to the Iron Age that started c 1000 BC in Swât and the plains of the Punjab, it is reasonable to date the hymns of the Rigveda before this.

Although the Gandhâra area was well known to the Rigveda, it was already in the periphery in the Middle Vedic period, when the epicentre of the Vedic culture had moved to the Ganges-Yamuna Doab. Traces of the specifically Rigvedic Sanskrit gerund in –tvî in the Gândharî Prâkrit and in modern Dardic languages of the north-western mountain regions strongly suggest that the Indo-Aryan tribes which introduced the Rigvedic poetry to the Punjab entered the subcontinent through Gandhâra, and that some of these Rigvedic Indo-Aryans remained in these regions and in their isolation preserved their language with remarkable archaisms. This agrees with the relative isolation of Gandhâra in the archaeological record, starting c 900 BC.

For a long time it has been generally agreed that the Rigvedic speakers of Indo-Aryan came to the subcontinent in two successive waves. These two waves could be equated with the two earlier phases of the Gandhâra Grave culture, the Ghâlegay IV and V Periods with entrance points around 1600 and 1400 BC respectively. The most notable tribes of the earlier wave were the Yadu and the Turvas'a, and the Anu and the Druhyu; these tribes had already settled in South Asia when the later wave came there with the Pûru and the Bharata as its most notable tribes. This latter wave brought to north-western South Asia those Indo-Aryan speakers who composed the hymns of the so-called family books of the Rigveda, books II-VII. These hymns were collected first, and are therefore the oldest preserved ones. The poetry of the earlier wave seems to have survived and transmitted essentially in its own original style and form, but in a later version already influenced by the poetry of the family books, because it was collected and codified later. The early Yadu and Turvas'a tribes are mentioned in a positive tone most often by the Kânva poets. With some simplification, one might equate the poetry of the earlier wave with that composed by the Kânva and Ângirasa poets. It is preserved chiefly in books VIII, I and X of the Rigveda, in (the strophic tradition if not the actual hymns of) the Sâmaveda, and – as shown by Stanley Insler (1998) – in the Atharvaveda. These poems have a number of linguistic and other peculiarities – including some remarkable archaisms – which set them apart from the family books and connect them with the later epic and classical Sanskrit. (Parpola 2002a: 54-59)

The Kânvas must have entered the subcontinent through Gandhâra, and the Kânva poets of the Rigveda have resided there. Suvâstu, the ancient name of the Swât river, is mentioned in the Rigveda only in the Kânva hymn 8,19 (verse 37). Women from Gandhâra are mentioned once in book I. Besides toponyms, cultural criteria back up the location of the Kânva poets in ancient Gandhâra. Thus, in contrast to the family books, the Kânva hymns repeatedly refer to sheep herding and to agriculture with plough, which were both practised in Gandhâra. Out of the five Rigvedic occurrences of the word ushtra 'camel', four are in book VIII and one in book I. The Kânva hymns are the only ones in the Rigveda to have proper names of the type 'having god NN as his guest', such as Medhâtithi. This name type connects them with the Proto-Indo-Aryans of Mitanni and elsewhere in Western Asia. The Mitanni Aryans took northern Syria in their control by 1500 BC, coming fairly certainly from the North Iranian branch of the BMAC. This took place around the same time as the Ghâlegay IV Period immigration of the Gandhâra Grave culture from the BMAC into the Swât Valley and the surrounding regions. (Parpola 2002a: 59-61.)

The main later wave of Rigvedic Aryans seems to have arrived under the leadership of King Divodâsa from the Kandahar region of Afghanistan, where he was born on the banks of the Sarasvatî River, probably the modern Arghandâb. (Parpola 2002a: 46-48.) Divodâsa fought for forty years against Dâsa forts in a mountainous area, which suggests the route from Kandahar to Kabul over the mountainous eastern Afghanistan, the only region of Afghanistan where the

fortress-manor (qala) with massive pakhsa walls is the typical housing type. (Parpola 2002b: 260-273.) The oldest Kandahar (Shahr-i Kuhna), dated to c 1000-600 BC, had ‘a wall of pakhsa (an iron-hard mixture of gravel and clay), 1.4 m thick’ (Whitehouse 1978: 12). It is possible that this later wave of Indo-Aryan migration to South Asia around 1400 BC was prompted by the arrival of the Old Iranian speakers in Central Asia, which may be connected with the wide spread of the new type of handmade painted pottery named after Yaz Depe I (c 1400-1000 BC) and accompanied by the total absence of graves, suggesting the practice of exposure funeral characteristic of the Zarathushtran religion (Parpola 2002a: 68f.; Francfort 2005: 294).

Divodāsa’s son (or grandson) Sudās fought the famous battle of ten kings in the Punjab, so the great majority of the Rigvedic Aryans connected with the family books are likely to have crossed the Gandhāra and pushed on to the plains (where the late Cemetery H culture prevailed). One part of them, however, remained in Gandhāra, namely the Atri clan associated with the fifth book and its eponymous poet Atri. There is evidence that the Atris were in close and friendly contact with the Kānvas, which suggests that they resided in each other’s neighbourhood. The Atri hymn 5, 53 mentions the Kābul and Kurum along with other rivers of Afghanistan and northwest Pakistan, which clearly places the Atris in Gandhāra.

THE NĀSATYA CULT OF THE KĀNVAŚ AND ATRIS AND THE BEGINNINGS OF THE GHARMA RITE

In the Sintashta-Arkaim culture men of the aristocratic elite were buried with had their horses and chariots. I have argued that the Nāsatyas or As’vins, as the deified two-man team of the chariot warrior and his charioteer, were at the head of the Proto-Aryan pantheon. The distribution and typology of the cheek plates of chariot horses has shown that the ultimate source of the Mycenaean Greek horse chariot was in the southern Urals, and together with this new showpiece of power the Greeks seem to have received the associated mythology of the two divine horsemen, the Dioskouroi, who in Sparta were associated with the dual kingship. The Baltic religion as well had ‘sons of the (Sky) God’ associated with horses, who wooed the solar maid (the dawn), as did their Aryan and Greek counterparts. In India, the dual kingship manifested itself in the close collaboration of the king and the high priest (purohita), who in ancient times is said to have acted as the king’s charioteer. Though the Nāsatyas were first replaced at the top of the pantheon by Mitra and Varuna, the dual kings of the gods, and these in turn by the war god Indra and his high priest Agni, who also acted as his charioteer, the Vedic texts still occasionally identify the king and his charioteer with the As’vins. (Parpola 2005.)

Among the singer families of the Rigveda, the Kānvas and Atris are prominent worshippers of the Nāsatyas. Out of the 54 complete hymns addressed to the As’vins, as many as 33 are in ‘Kānva’ books: sixteen in book I, twelve in book VIII, and five in book X. Six hymns are in the Atri book V. There are eight As’vin hymns in book VII, which belongs to the Varuna-worshipping Vasishthas. The contrast with the remaining ‘family books’ is great: book II has just one hymn, book III just one hymn, book IV has three hymns, and book VI only two. The references to the gharma rite, which is special to the As’vins, have a similar distribution pattern: they are by far most frequent in books I, V, VII, VIII and X. As the poets of the family books otherwise favour Indra, it can be assumed that the Atri worship of the As’vins started after their settlement in Gandhāra under the influence of the Kānvas. (Zeller 1990: 1, 163f.; Parpola 2004 [2005]: 106).

In the Rigveda, Sage Atri is the person most closely connected with the gharma rite, the ‘hot offering’ of milk and ghee to the As’vins. Later called pravargya, this offering was performed twice a day, in the morning and evening, during the preparatory phase of the Soma sacrifice,

the principal rite connected with the cult of Indra. Some of the principal acts in the pravargya rite – all accompanied by mantras – are the following. A specially prepared clay pot is placed on a separate mound near the gârhapatya fire, filled and anointed with ghee, surrounded with live coals and fuel and fanned until the pot glows red-hot. Then all priests and the sacrificer stand up and reverently watch the pot. The adhvaryu and pratiprasthâtr priests (identified with the As'vins among the gods) milk a cow and a goat and pour the milk into the heated pot which is full of boiling ghee. A pillar of fire issues from the pot. When the pot has cooled down a little, it is brought to the âhavanîya fire, and offerings to Indra and the As'vins are poured into the fire. The pot is filled with curds, which overflows into the âhavanîya. The remainder of the curds is partly used for an agnihotra offering and partly eaten by the priests and the sacrificer. The gharma pot and all accessory implements are placed upon a black antelope skin on a throne. On the last day the gharma implements are taken to the place of their disposal and laid down on the ground in the shape of a man or of the sun. (Parpola 2004 [2005]: 109f.)

According to Jan Houben, who has examined the Rigvedic evidence related to the gharma rite, this was originally an independent rite, which the Atri clan developed and incorporated in the Soma sacrifice. Then 'the Gharma ritual apparently spread to other [Rigvedic] families as well, and remained in connection with a sacrificial worship to the As'vins' (Houben 2000: 17). All the ten books of the Rigveda contain hymns or verses addressed to the As'vins, or at least some references to them. Yet it is clear that in most of the family books the As'vins occupy a very subordinate position compared to Indra. Even the Atris predominantly worship Indra. We may assume that they introduced the gharma rite into the Indra cult because in Gandhâra they became under the influence of the As'vin-worshipping Kânvas. The post-Rigvedic legends telling us how the As'vins got a share in the Soma sacrifice are likely to refer to this stage of development. The incorporation of the As'vins' gharma offering as a minor component in the Soma sacrifice, one of its many heterogenous elements, and the As'vins' obtaining a share of Soma in fact signals their submission to Indra. As'vins had now become second-rate deities of the Vedic pantheon, mainly associated with healing. They are expressly called physicians, and were looked down by other gods on account of their too close relationship with human beings.

According to the S'atapatha-Brâhmana (14, 2, 2) and the Kaushîtaki-Brâhmana (8, 3), the As'vins asked to get a share of the Soma sacrifice, but this was refused by Indra. Finally, however, the As'vins got the âs'vina cup of Soma (offered in the morning outside the actual place of sacrifice) as a reward for healing the originally 'headless' Soma sacrifice. The As'vins healed the Soma sacrifice by providing it with a head in the form of the pravargya rite, which originally belonged to them and which rite was not liked by Indra. In accordance with this model of legendary history, the Vedic sacrificer is not supposed to perform the pravargya rite in his first Soma sacrifice (which was at first 'headless'), but only from his second sacrifice onwards.

THE GHARMA VESSEL AND THE CINERARY FACE URN OF THE GANDHÂRA GRAVE CULTURE

The concept of 'head' is indeed very much associated with the gharma vessel, which is called mahâvîra 'great hero' or 'Makha's head'. In a legend narrated in the S'atapatha-Brâhmana (14, 1, 1), the gharma vessel is actually equated with the head of a decapitated divine hero. The gharma pot has a parallel in the vessel most characteristic of the Gandhâra Grave culture, namely the face urn, the funerary vessel which is made to look like a human head. Such an urn functions as an ossuary into which select bones were collected in the cremation burials. As already observed, cremations constitute about one third of the Gandhâra Graves, and predominate in the Ghâlegay V Period. The face urns are characteristic of the Ghâlegay V Period; they have either

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just holes for the ‘eyes’ and the ‘mouth’ or also a protruding ‘nose’ (see Figure 2).



FIGURE 2: A GANDHÂRA GRAVE CULTURE (GHÂLEGAY V PERIOD) FACE URN FROM ZARIF KARUNA NEAR PESHAWAR, NOW IN THE ISLAMABAD MUSEUM. PHOTO ASKO PARPOLA.

Attempts have been made to trace parallels to this distinctive artefact from other archaeological cultures of Eurasia, particularly by Giorgio Stacul (1971). Stacul suggested a connection with the anthropomorphically inspired face urns with cremation remains that have been found in the final phase of the Middle Danubian culture of Baden-Pécel (c 2000 BC). In the Balkans and the Middle Danube, anthropomorphic containers go back to the Late Neolithic period, when they were not yet related to burial rites. In spite of the several other parallels noted by Stacul between the Gandhâra Graves and the cultures of the Great Hungarian Plain, it has not been possible to confirm their historical connection. The distance in space and to some extent in time is considerable. Rather, the Gandhâran face urns seem to be an independent local development.

The parallelism in the head symbolism between the gharma vessel in the cult of the As’vins – the ‘possessors of horses’ -- and the face urn of the Gandhâra Graves appears not to be just a coincidence, for the earlier mentioned horse-shaped handle of the lid of a face urn (see Figure 1) associates these urns with a cult involving horses. Equally significant is the fact that the conspicuous three-dimensional ‘nose’ of the later face urns has a counterpart in the gharma vessel.

The S'atapatha-Brâhmana (14, 1, 2, 17) describes the preparation of the gharma vessel thus:

He then takes a lump of clay and makes the Mahâvîra (pot) with [the mantra], 'For Makha thee! for Makha's head thee! ... a span high, for the head is, as it were, a span high; -- contracted in the middle, for the head is, as it were, contracted in the middle. At the top he then draws it out [unnayati] (so as to form) a spout [mukham 'mouth'] of three thumb's breadths (high): he thereby makes a nose [nâsikâm] to this (Mahâvîra, or Pravargya).

It is true that the description does not exactly match the making of the face urns of the Gandhâra Graves, but it is remarkable that the gharma pot alone of all the vessels described in the Vedic literature is expressly told to have a 'nose'. It is also true that the S'atapatha-Brâhmana is the only Vedic text to mention this 'nose', and although its present redactions are younger than the texts of the Black Yajurveda, it goes back to an earlier version and its contents in some respects differ entirely from all the other texts. That it can well have preserved ancient traditions prevalent among the Kânvas is quite likely on the basis that one of the two redactions belongs to the Kânvas. The 'nose' of the face urn and the gharma pot should have some specific function, and it indeed is meaningful when considered in the context of the As'vin cult. (Parpola 2004 [2005]: 108f.)

THE ATRI LEGEND AND THE RELATION BETWEEN THE GHARMA RITE AND THE FUNERAL

Comparing the gharma vessel with the cinerary urn of the Gandhâra Grave culture implies that there should be a close relationship between the gharma rite and the funeral. I think such a relationship does indeed exist. According to the Rigveda, the gharma rite was instituted by Atri and offered by his descendents out of gratitude to the As'vins, because these had saved Atri from the distress of the rbîsa pit. It was the As'vins who had first given the hot gharma drink to Atri while saving him, so the gharma rite imitates the service rendered by the As'vins. I am arguing that the Atri legend reflects the Atri clan's initial adoption of the cremation burial and the associated cult of the As'vins as funeral deities, who revive the dead by means of their drink of heated milk. These funeral practices new to them the Atris took over from the Kânvas, with whom they established friendly relations while settling in Gandhâra. Let us first examine the legend about Atri and some parallel cases, and then the relationship of the gharma rite and the Vedic funeral customs. (Parpola 2004 [2005]: 121)

THE NÂSATYAS AS GODS OF REGENERATION

According to Rigveda 6, 50, 10, the As'vins 'delivered Atri from big darkness', according to Rigveda 7, 71, 5 'from a narrow place and darkness'. These expressions usually refer to death and to the state of an embryo. It has been pointed out that many persons whom the As'vins have helped seem to be already dead or in a death-like state, in the dangerous zone of 'in between' (Oberlies 1993: 184). Atri, Kakshîvat, Cyavâna, Vandana and several other persons were thus in distress, in a pit, in great darkness, decrepit with old age, lying buried and dead, when the As'vins came and 'helped' or 'saved' them by 'rejuvenating' them. As 'healers' and 'saviours' the As'vins were thus essentially revivers of the dead, in other words, funeral gods, though it seems that this has not been generally recognized. (Parpola 2004 [2005]: 121; 2005: 30)

In the Greek tradition, the Dioskouroi were also 'saviours' (sôtêres), who helped in all kinds

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of trouble, particularly in peril at sea, in battle-field, and in illness, but who also figure in funerary inscriptions. They are frequently depicted on Roman sarcophagi. In his book, *The Myth of Return in Early Greek Epic* (1978), Douglas Frame argues that *nóstos* ‘homecoming, return’ in early Greek religion primarily meant ‘return from (darkness and) death’, ‘coming back to (light and) life’, and that the miracles performed by the Dioskouroi – and the *Nâsatyas* (the *As’vins*) – as saviours largely denote revivals from death.

‘In the *Iliad* ... the rôle of the chariot seems to be chiefly as a means of transport to and from the battlefield. Generally the warrior leaps down to fight – his charioteer standing by to carry him out of danger if things go badly’ (Wace and Stubbings 1962: 521). The rescue function thus belonged to the charioteer, and the term *nâsatya-* ‘effecting safe homecoming, rescuer, saviour’ therefore denotes this member of the chariot team, although it is used in the *Rigveda* in an elliptic dual of both the *As’vin* twins. Sanskrit *nâsatya-* is related to Greek *néstôr*, which in Homer is the name of the old king of Pylos, famed as a horseman (*hippóta*) and an experienced charioteer. Both words go back to the Proto-Indo-European root **nes-* ‘to come home safely’, from which are derived also among others Greek *nóstos* ‘homecoming, return’, Sanskrit *astamaya-* ‘homecoming, sunset’, Gothic *ganisan* ‘to be saved’ and Modern German *genesen* ‘to be healed’. (Parpola 2004 [2005]: 120; 2005: 12)

SYMBOLISM OF THE NOSE

We can now return to sort out what is the meaning of the ‘nose’ of the *gharma* pot and the face urn of the Gandhâra Graves. As a result of the sound change which turned Proto-Indo-European **e* into **a* in Proto-Aryan, the root **nes-* ‘to come home safely’ became homonymous with the word *nas-* ‘nose’. Folk-etymologically the *Nâsatyas* were associated with the nose and its two nostrils (*nâsâ*).

The word *nâs-* ‘nose’ occurs only twice in the *Rigveda*. In 2, 39, 6 the two *As’vins* are compared to the nose with its two nostrils (*nâsâ* in the dual) – note that the nose of one face urn has the detail of two nostrils. The other reference is 5, 61, 2c, in a hymn addressed to the *Maruts*, the gods of storm and battle, who in verses 12-13 are represented as driving a chariot, but in verse 2 apparently as riders: ‘(where is) the saddle (literally, seat) on the back (of the horse), (where) the rein (literally, the restrainer) of the two nostrils (of the horse)?’ (*prshthé sâdo nasór yâmah*). This verse shows that the Sanskrit words *yama-* (meaning ‘twin’ as well as ‘rein’) and *nâs-* (meaning ‘nose’ as well as ‘to save’) – both associated with the *As’vins* in the *Rigvedic* language – had connotations definitely linked with a key skill in horsemanship, the control of the horse through its nostrils.

The myth about the ‘nose-birth’ of the *As’vins* is briefly related in one of the *Yama* hymns of the *Rigveda* (10, 17, 1-2) and more extensively in the *Nirukta* (12, 10), the *Brhaddevatâ* (6, 127 – 7, 6 ed Tokunaga) and elsewhere. The mother of the divine twins assumed the shape of a mare and became pregnant with the *As’vins* when she sniffed the seed of the brightly shining sun-god *Vivasvant*, her husband, who had assumed the shape of a stallion but in haste emitted his seed on the ground.

The *As’vins* are invoked as deities of generation, and in Vedic rites of human fertility, the nose plays a central role. In a *Rigvedic* prayer for the birth of a son, the two *As’vins*, the lotus-garlanded gods, are asked to place an embryo in the wife (10, 184, 2). In the next verse of the same hymn, the embryo is equated with the fire, the embryo of the waters, who is hidden in the *as’vattha* wood: ‘The embryo, whom the *As’vins* create with the golden fire drill, him we call hither for you, so that he may be born in the tenth month.’ According to the *Kaus’ika-Sûtra* (35, 6-10) of the *Atharvaveda*, the life-cycle rite of *pumsavana* aiming at the birth of a son is

performed as follows. Fire is drilled with a fire-drill, which consists of a female plank of s'amî wood, and of a male stick of as'vattha wood. (According to the Brâhmana texts, the as'vattha got its name from the fire which in the shape of a horse, as'va, stood [sthâ-] one year in this tree.) Then the fire-drill is ground into powder, which is mixed with butter coming from a cow that has born a male calf. The mixture is put with the thumb of the right hand into the right nostril of the wife. The powder of the fire-drill can also be mixed with a honey-drink (madhu-mantha), which consists of honey, curds and ghee, and which the wife is then made to eat.

This 'nose-birth' of the Nâsatyas is ritually included also in the pravargya rite. When collecting the clay out of which the gharma pot is to be fashioned, at the moment when a goat is milked so that its milk flows over the clay, a horse is made to sniff at the clay while the adhvaryu priest recites: 'Grant life, grant prâna, apâna, and vyâna, sight, hearing, mind, voice, body, strength, mass – grant me all this!' (cf. Âpastamba-S'rautasûtra 15, 2, 2-3). The milk here symbolizes the generating seed, as does the reviving gharma drink of heated milk that the As'vins gave to Atri. According to the Aitareya-Brâhmana (1, 22), the gharma vessel is the male member, and the milk is the seed. The seed is poured into the fire, the womb of the gods, as generation, so one who sacrifices with the pravargya rite is reborn as an immortal god. (Parpola 2004 [2005]: 123f.; 2005: 35)

Postscript: On the topic of the very first paragraph of this paper on page 1 see now: Parpola, A (2008) 'Proto-Indo-European Speakers of the Late Tripolye Culture as the Inventors of Wheeled Vehicles: Linguistic and archaeological considerations of the PIE homeland problems' pp. 1-59 in Jones-Bley, K, Huld, ME, Della Volpe, A and Robbins Dexter, M (ed.), Proceedings of the Nineteenth Annual UCLA Indo-European Conference, November 2-3, 2007 (Journal of Indo-European Studies Monograph 54), Washington DC: Institute for the Study of Man.

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Stone “Harvesters” of Neolithic Tradition from Northern Indo-Pakistan Valleys

GIORGIO STACUL

The picture of Neolithic and post-Neolithic cultures of the Indo-Pakistani valleys, dated from the Third to the Midsecond millennium B.C., highlighted some types of lithic tools which can hardly be compared with similar ones in southern Asia. We are referring to some forms of sickle, provisionally called by scholars “harvesters”, where some basic shapes emerge: the rectangular/oval sickle with two notched sides (Fig. 1), and a similar form, with polished surfaces, with one or two small holes (Fig. 2). Similar shapes from Swat, in northern Pakistan, may be dated around the mid-second millennium B.C. (Stacul, 1987), while in Kashmir stone “harvesters” have been recovered in layers dated from 2000 B.C. or later (Sharma, 1982; Thapar, 1985).

It is well-known that the so-called “harvesters” of Neolithic tradition have been recovered not only in Kashmir and in Swat, but also in different sites of Inner Asia, such as Karuo in Tibet (Xu Chaolong, 1991) or in Sikkim (Sharma, 1970/79). However the early and most extended area concerning this industry corresponds to the Neolithic culture of Yang Shao in northern China. By contrast, in South Asia where settled important protohistoric civilization, similar evidence is lacking.

In an attempt to closely examine the function of the described artefacts, some scholars draw attention to the notches and the holes, and believed that both were used for hafting, in order to fasten the sickle to the hand with strings. According to Anderson, this assumption was supported by the recovery in the Chinese area of some “modern” iron sickles dressed with strings (Anderson, 1943).

However, as for the use of the so-called “harvesters”, Chang state that such artefacts could have been employed to perform different tasks, such as for weeding, cutting, harvesting, skinning and scraping (Chang, 1986). At any rate, it was also remarked that, apart from systematic micro-wear analysis, any deduction on the possible use of such artefacts is only conjectural.

In Kashmir and in Swat the same lithic assemblage featured by notched and holed sickles, also include polished celts (Fig. 3), stone querns (Stacul, 1994), mortars and hammers, which were recovered from pit-structures.

The pit-structures from Swat consist of circular to oval cavities of different size, while in Kashmir large rectangular features have been also discovered. According to stratigraphical evidence, some very large and deep pits have probably been used as dwelling and working places, while some others were probably employed as granaries (Coningham and Sutherland, 1998), while small cavities including miniature vessels may attest ritual functions.

Looking at pottery associated with the lithic artefacts, it may be remarked that in Kashmir and in Swat the storage jars and some cooking-pots were usually featured by mat- or basket impressions on the base (Thapar, 1985, Fig. 13; Stacul, 1987). They are frequently featured by rippled rims and sometimes by a clay band around the neck.

STONE “HARVESTERS” OF NEOLITHIC TRADITION

However in Swat, during Period IV in the Ghalegai sequence (c. 1700-1400 B.C.), these types of pottery were associated with other kind of wares, expression of a different tradition. We refer to the black-on-red painted ware and the black-burnished ones, which suggest contacts with surrounding cultural areas (Stacul 1987, fig. 29-33).

In spite of the small amount of the recovered material, the faunal remains from Swat Period IV suggest a mixed farming economy, according also to a possible transhumant life. Reference to the minimum number of the main identified species, including mainly cattles, sheeps and pigs, support this assumption (Compagnoni, 1987; Jawad, 1998).

As for the cultural links between the northern Indo-Pakistan subcontinent and the Inner Asia, a problem was raised by Xu Chaolong, who stressed the occurrence in a late Neolithic layer of Burzahom, in Kashmir, of a painted vessel suggesting the early Harappan pottery tradition, which included a large set of carnelian beads. “As the cultural links over the Himalayas have been confirmed” Xu observed, “we have to consider the possible cultural influence from the Indus Valley into the Tibetan Plateau, beyond Kashmir, since the Harappan people had travelled as far as Shortugai in Central Asia (Xu Chaolong, 1991).

According to some scholars, Kashmir and Swat represented the western-most limit of diffusion of some “northern-Neolithic” traits or traditions peculiar of Inner Asia, including the notched and holed sickles (Van Dreim, 1998). The assumption that such stone artefacts were probably used as “harvesters” or reaping tools, could be supported in Swat by the great variety of cultivated plants, from calcolithic times on, such as wheat, barley, lentils and rice (Costantini, 1987). However, waiting for specific analysis, this represents a provisional hypothesis only.

The assumed migration across the Himalaya range by “northern Neolithic” peoples, was probably connected with population movements of the late Yang Shao culture in China (Chang, 1986).

As for linguistic evidence, Parpola observes that the difference between Tibetan and Himalayan language is considerable, but some distance – he adds – may be an apparent effect of historical change (Parpola, 1994).

It may be supposed that migrations, supported by linguistic evidence, give rise to cultural innovations, according to the traditions of the newly coming peoples. In this regard it is well-known that in large part of northern China, in Neolithic times, the millet was the main agricultural product. In Kashmir and in Swat, by contrast, wheat, barley, lentils and rice represented the earliest cultivated plants, while millet was introduced in post-Neolithic times only. It should be added that the ceramic industry here is not comparable with any Chinese neolithic pottery. However, the discovery in Kashmir of dog burials, suggesting costumes of early China, is of special interest (Pande, 1970; Parpola, 1994).

Consequently it may be assumed that the introduction in the Indo-Pakistan subcontinent of “harvesters” and other items peculiar of Inner Asia, was not necessarily related with ethnic changes, but probably was the result of long-distance contacts and interactions. It may be also supposed that the spread of holed and notched sickles in Kashmir and in Swat, was connected with the development of agriculture in these valleys. Infact harvesting tools – if this was the purpose of some described types of sickles or knives – cannot have been required by non-farmers peoples or by peoples where agriculture is scanty. Therefore the introduction of such artefacts in the northern Indo-Pakistani valleys was very probably connected with internal economical factors rather than with external ones. The question, of course, still remains open.

The possible relation of the stone notched and holed sickles with agriculture, may be supported in Swat by the evidence from the excavation at the hilly site of Kalako-deary (Stacul, 1994a). Here a lot of pit-structures dated to Period IV were located. It may be supposed that some pits were used as granaries, as suggested by some scholars. But others, according to

the nature and the disposal of the items, were employed for domestic activities. At this site, 37 grinding slabs made from local schist, with almost flat working surface, suggesting plants processing, as well as 11 large stone mortars were recovered (Stacul, 1994b). In addition 13 stone holed sickles, corresponding to the total of similar tools from the Swat Valley, were also found from pits of the same site. Here, large parte of the pottery consisted of storage jars and cooking pots, featured by rippled rims and mat- or basket- impressions on the base. The vegetal remains mostly include barley.

Such evidence may suggest not only some particular activities performed at this site, as the cultivation of cereals, but also a distribution of the work in the Valley, during the same period, according to the morphology of the country. In this regard, the comparison with another site from Swat, as Bir-kot, settled along the Swat River some few kilometres for Kalako-deray, is significant. At Bir-kot no holed sickles have been found, but in layers of Period IV the pottery was featured by a variety of forms and styles, which may in part suggest Harappa Cemetery H.

In sum, a cultural movement which emerged in northern China and was identified by some scholars as “Northern Neolithic” complex (Fairservis, 1975) spread into the Inner Asia and reached the northern Indo-Pakistani subcontinent around 3000 B.C. or later. Settlement remains and artefacts from Tibet, Sikkim and Butan support these connections.

Beyond the Himalaya Range, the earliest traces of this complex were recorded in Kashmir, while at the beginning of the 2nd millennium they reached the Swat Valley in the present Pakistan. Here, during Period IV of the Ghalegay sequence (dated from about 1700 to 1400 B.C.), notched and holed sickles formed part of the Swat culture, identified by Parpola, according to linguistic evidence and archaeological connections, as Aryan or Proto-Rgvedic (Parpola, 1995).

In the meantime I remember that the archaeological evidence from Swat Period IV does not include graveyards or single graves. Consequently Period IV cannot be identified with the so-called Gandhara Grave Culture, i.e. a phrase introduced by Dani (Dani, 1967) in spite of the deep cultural differences between periods. Period IV is characterised by some specific aspects, including the black-on-red painted pottery with floral and animal representations. By contrast, the subsequent periods V, VI and VII represent a deeply different set of association elements, as shown by the occurrence of the face-urns in Period V or the iron metallurgy in Period VII.

However, artefacts types such as the holed sickles or “harvesters” did not reach the area of the great food-producers civilizations. In all likelihood environmental factors and a different agricultural technology marked the limit of their diffusion.

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The Evolution of Moulding Techniques in the Ceramic Sequence of the Swat Valley (North-West Pakistan)

EMANUELE MORIGI

Although the pottery sequence of the Swat Valley has been studied for almost 50 years, technological aspects, so far, have been largely neglected. During the examination of the ceramic collection recovered in excavated sites like Ghalegay, Bir-kot-ghwandai, Loebanr III, Aligrama Kalako-deray and in the protohistoric graveyards of Swat (Butkara II, Loebanr I, Katelai I) (Figure 1) (Silvi Antonini and Stacul 1972; Stacul and Tusa 1975, 1977; Stacul 1967, 1969, 1976, 1978, 1980a, 1980b, 1981, 1987, 1993a, 1993b, 1993c, 1995, 1997) we realized that several different techniques (coils, slabs, wheel throwing, moulding, paddle and anvil) were in record and could have been combined, in some cases, in the forming techniques of individual vessels (Rice 1987; Vidale 2000). Complex forming techniques were attested in a preliminary investigation, in the study of historic ceramics picked up in the Kandak Valley (south-west of Bir-kot-ghwandai). Ethnoarchaeological studies carried out in the North-Western Frontier Province of Pakistan, as well, indicate that the tradition of combining different techniques survived in present and recent times (Rye and Evans 1976).

One of these techniques is moulding, i.e. adapting clay into moulds or chucks for obtaining a preliminary clay structure to be modified by further processing. In the Swat sequence, at least



FIGURE 1: MAP OF THE SWAT VALLEY, WITH INDICATE SITES EXCAVATED BY ITALIAN ARCHAEOLOGICAL MISSION

THE EVOLUTION OF MOULDING TECHNIQUES

from the 2nd millennium BC onwards, to the early centuries AD, moulding, usually combined with coils or with the potter's wheel, continued to represent a primary forming technique.

THE APPLICATION OF MOULDING TECHNIQUES IN PROTOHISTORIC SWAT

The first ceramics produced with moulding techniques date back to Period IV (ca. 1700-1400 BC) of the Swat sequence. Period IV is characterized by a black-grey or brown pottery generally with a coarse paste, also known in Period III (ca. 1900-1700 BC), associated with a red fine pottery in some cases painted with black decorative bands or zoomorphic figures (Stacul 1987). Both present a base structure of superimposed coils and a surface later regularized on the potter's wheel, in red fine ware, or by free-hand, in coarse ware (Morigi and Bianchetti 2005). However, some cases of black-grey or brown coarse ware show traces of moulding (in particular, some bowls with mat-impressions on the external base). Mat-impressions are not a form of decoration, but the mark of a fabrication technique that used small woven bases as potter's bats, aiming at a better manipulation of the object during its forming. For the example, in the vessel in Figure 2a, a grey bowl from Loebanr III, a bottomless mould was placed on a woven bat. Irregular slabs were pressed into the mould until they covered bottom and walls. In the two available sections the order of superimposition of the slabs is different, but the presence of a double clay coating is constant.

Other examples of this kind of bowl with mat-impression present a different construction: into the mould were pressed only two large slabs, to form walls and bottom. In some cases the clay was first positioned in the bottom and then raised to form the walls (Figure 2b); in other cases the sequence was the reverse (Figure 2c). The slab used to form the walls was applied and shaped against the mould.

All these vases present a mat-impression on the external base, even if the use of mats in ceramic construction obviously does not necessarily imply the use of a mould or chuck.

Another example of probable application of moulding in Period IV is a bowl on stand, with a fairly purified paste, compact surface and soapy texture (Figure 3). In this brown ware specimen one sees that the bowl (upper part) and the foot (lower part), were made separately, most probably within moulds. The upper parts, like the external surface of the foot, were regularized, smoothed and burnished, so the use of moulds and or coils cannot be ascertained.

In Periods V, VI and VII (ca. 1400-300 BC) of the Swat sequence, the moulding process was used for ovoidal or globular jars. These jars, recovered mostly in protohistoric graves or in the excavation of hill settlements, include the famous anthropomorphic urns with face-like features. They were shaped in four different parts (or transversal sections) formed in sequence and assembled one above the other.

Moulds were doubtless used in the first phases of construction. In a fragmentary globular jar found in a tomb pilfered near the village of Dwolasmane-patai in Kandak Valley (Site 38, see Olivieri and Vidale 2005: 135) the forming techniques may be observed in detail (Figure 4). First of all, the potter made the lower body inside a mould; the bottom was covered by one or more clay slabs forms, and adapted to the surface (zone A). In every case the base is circular and slightly raised from the wall. Then followed the application of coils. In this case coils seem to proceed from above, as suggested by the joints visible on fracture and their superimposition. In Figure 4, the application order is D, C and B joining A. The coils were pressed and thinned against the mould by using a kind of anvil. This tool left on their inner surface series of round impressions, averaging in diameter 4-5 cm. As the inner anvil marks in some cases are visible on the exterior as well, we suppose that a final stage of regularization took place after the

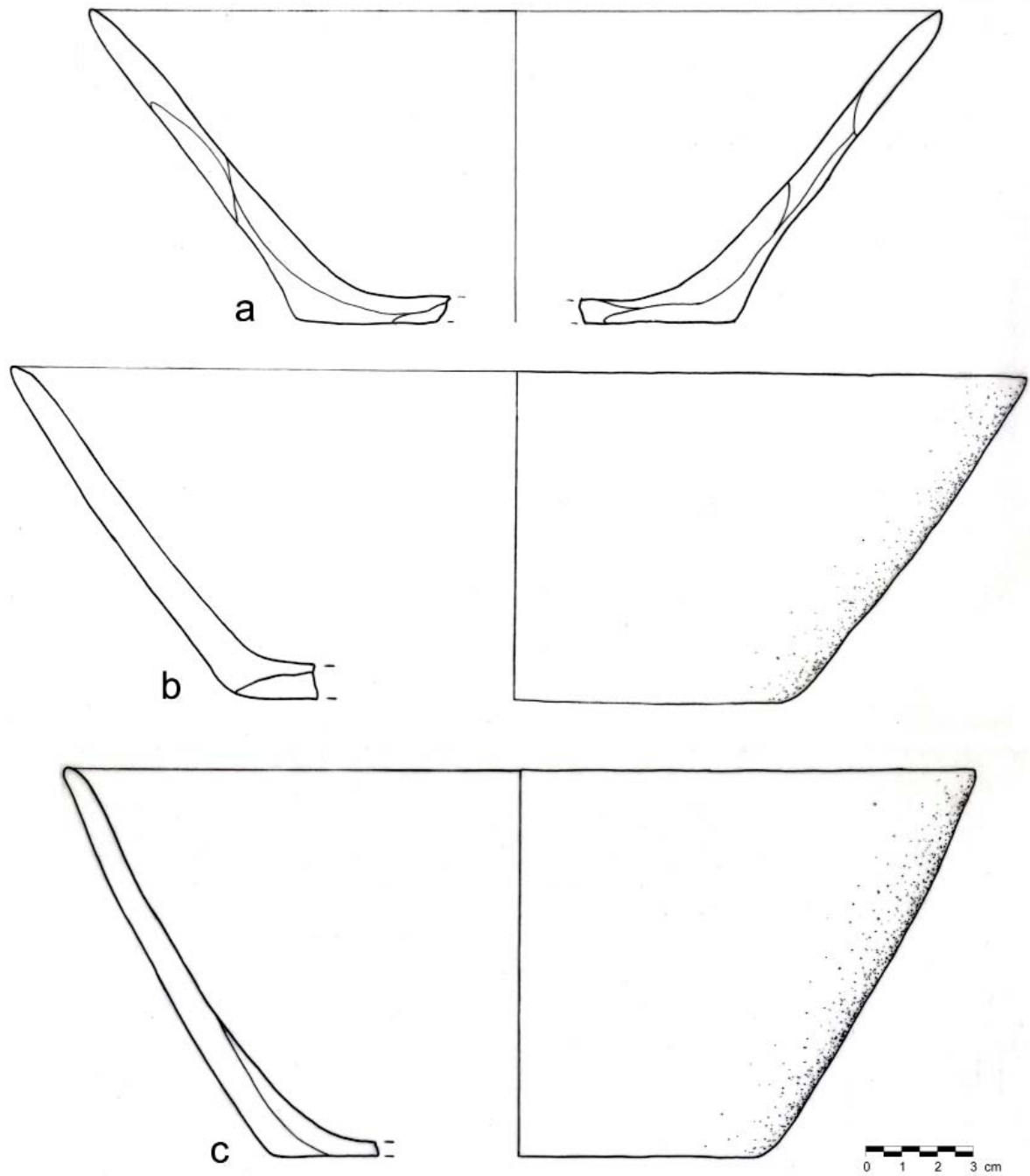


FIGURE 2 - DIFFERENT SLABS FORMING SEQUENCE RECOGNIZED IN TRUNCATED CONE BOWLS OF PERIOD IV FROM LOEBANR III. PROBABLY SLABS WERE APPLIED

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FIGURE 3 - BOWL ON STAND OF PERIOD IV, FROM LOEBANR III.

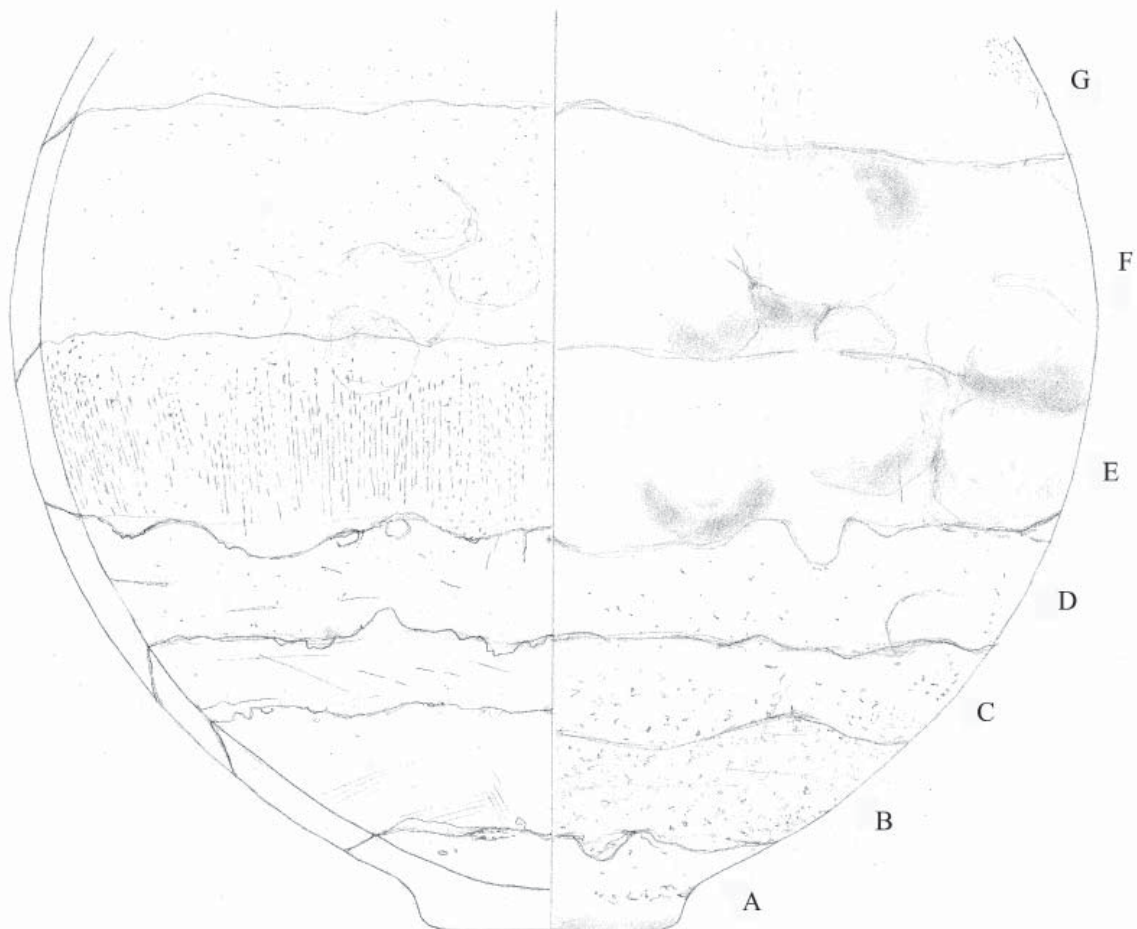


FIGURE 4 - FRAGMENTARY GLOBULAR JAR FOUND IN A TOMB PILFERED NEAR THE VILLAGE OF DWOLASMANE-PATAI (KANDAK VALLEY).

moulded parts had been partially dried and were assembled. The two halves were finally joined with a central coil or strip. Vertical marks on the joining strip in the internal surface are due to hand friction or to the use of some tools for pressing the clay onto the mould walls. The external surface of the vase, instead, shows a sand coating applied to prevent sticking to the moulds. The upper part or shoulder was made with the same technique. The only difference is the presence of circular opening on the upper end, where the rim was meant to be added. In this example, the shoulder is only partially preserved (coils G and F), so it is difficult to say if the shoulder and the base were made from the same mould or not.

The preliminary structure of the vessel was finished by joining the two mould pieces through one or more superimposed coils to form the maximum expansion at the joint. The rim, too, was made with applying one or more coils at the upper opening of the vase and then shaping it on the wheel. In all cases the final phases included finishing of the exterior by scraping (for the coarser vessels) slipping, polishing, burnishing (for the finer jars).

In others example of assembled jars the asymmetrical profile and the point of junctions are evident. Most of the unbroken jars show an axial shift among neck, body sections and base. The rim was separately made by wheel-turning before assembling the pieces (Figure 5).

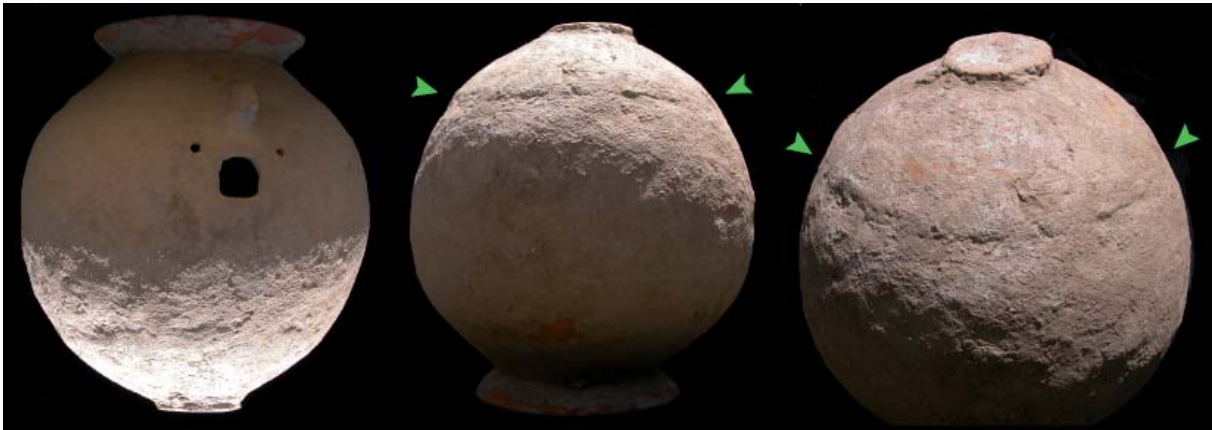


FIGURE 5 - LARGE GLOBULAR JAR SHAPED IN FOUR PARTS WITH ASYMMETRICAL PROFILE AND EVIDENT POINT OF JUNCTION.

Figure 6 represents a medium-sized ovoidal jar, where two different moulds were used for the base and shoulder, because the two profiles are different and on the shoulder's exterior there is a relief decoration that had to be present in negative on the mould.

In this light, the distinctive funerary urns of the Swat graveyards appear to have been mass-produced with fast, sequential processes, even if manufacturing resulted in scarcely finished and rather fragile vessels (because of the joints) and irregular contours. In the grave furnishings, on the other hand, the quality of individual vessels is highly variable. In future, one should also assess the variations between vessels used in daily life and those specifically made for funerals.

From the second half of the 1st millennium BC appear some little or medium wheel-turned bowls, called thali bowls and attested at Bir-kot-ghwandai until Kushana times (Callieri 1990). Some of these bowls, dated to 4th-3rd century BC (Figure 7), found by G. Stacul in the final protohistoric and early historic levels of Aligrama and Bir-kot-ghwandai trenches were studied by the means of x-ray radiography. The lower part of the bowl was built with an opportunely shaped slab of clay pressed into a mould centred on the wheel. Then a coil was positioned on the external edge of the base and turned on the wheel until it reached the required form. During

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FIGURE 6 - MEDIUM OVOIDAL JAR WITH RELIEF DECORATION PRODUCED BY MOULD.

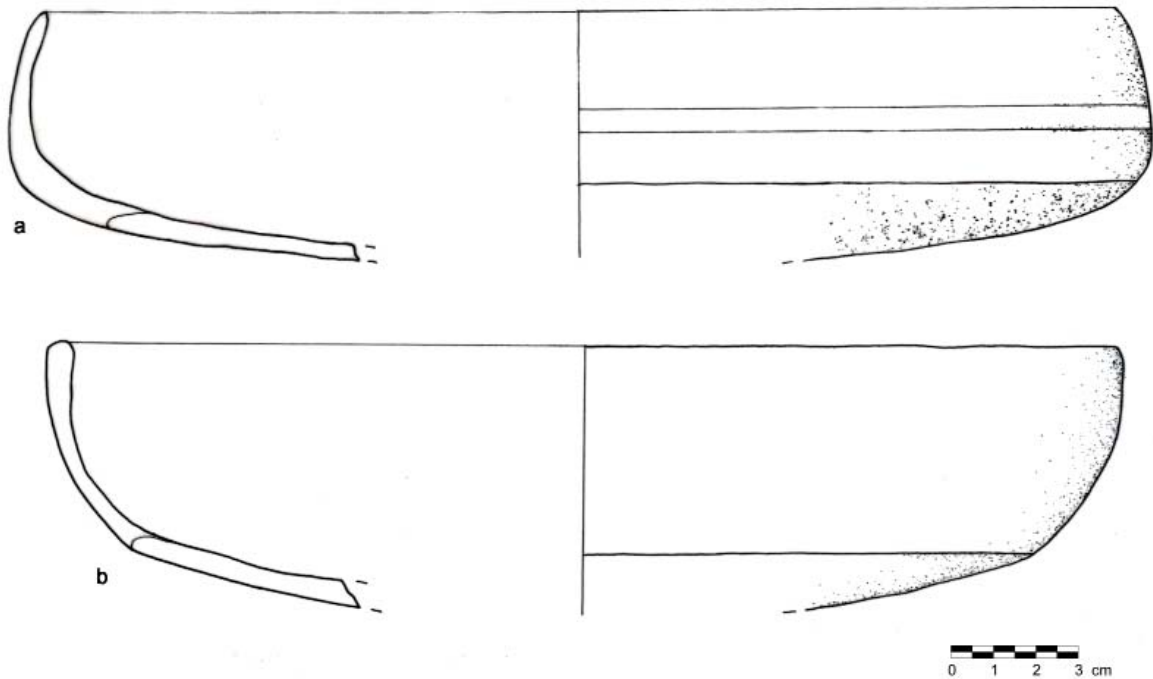


FIGURE 7 - DRAWING OF THALI BOWLS DATED TO 4TH-3RD CENTURY BC.

this phase, also the clay pressed into the mould was turned, or at least its internal surface. This hypothesis is confirmed by x-ray radiographies. In the example of Figure 8 it is possible to see the different orientation of porosity: horizontal, elongated and with parallel orientation in the upper part of the bowl shaped by wheel-throwing, while chaotic orientation is prevalent in the lower part, shaped into a mould.

In only one case the vessel, after being detached from the mould, was positioned on the wheel and turned again in order to smooth the entire external surface.

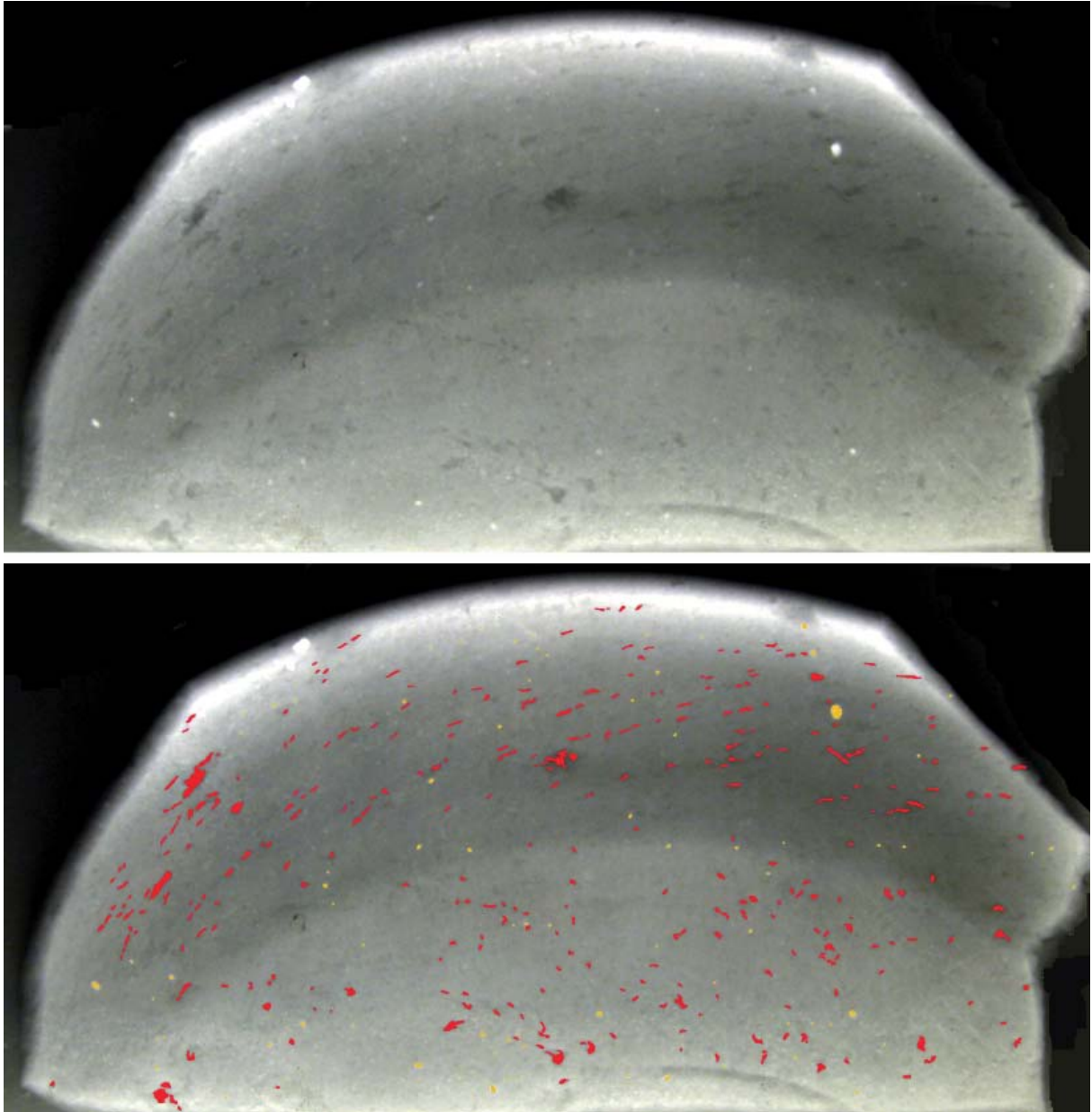


FIGURE 8 - X-RAY IMAGE OF THALI BOWLS DRAWING IN FIGURE 8B (POROSITY IN RED, LITHIC INCLUSIONS IN YELLOW).

MOULDING TECHNIQUES IN EARLY HISTORIC PERIOD

In spring 2004, we completed the survey of the Kandak and adjacent areas in front of the Barikot hill (Figure 1) (Olivieri and Vidale 2005). The study of the Kandak collection provided new details on the manufacturing techniques used in early historic times. Although dating of these surface assemblages is still preliminary, typological comparisons may be established with important sites and sequences of northern Pakistan such as Charsada (Wheeler 1962; Ali 1994), Damkot (Rahman 1968-69), Shaikhan Dheri (Dani 1965-66) and Taxila (Marshall 1951).

Moulding is well attested also in the early historical period. A peculiar sturdy hemispherical bowl from Gul[angaso]-dherai (Site 3, see Olivieri and Vidale 2005: 131), a site whose foundation dates back to the 3rd-2nd century BC, was evidently made with a mixed technique very similar to that used for thali bowls (Figure 9): first a truncated cone-shaped mould was centred on the potter's wheel, and the lower body of the bowl was built inside; later the potter shaped the upper part of the vessel, adding to the piece a large and thick coil and later building the rest with the same technique. After drying, the vessel was easily detached from the mould because of the shrinkage. While the vessel was still in a leather-like state of hardness, it was upturned and re-centred and turned on the wheel in order to reduce the excessive thickness of the lower body.

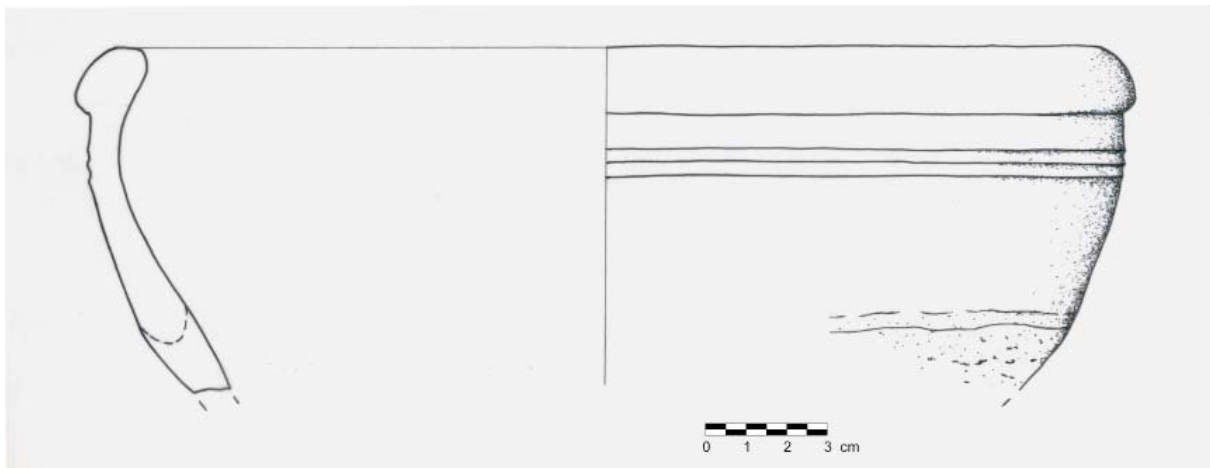


FIGURE 9 - HEMISPHERICAL BOWL FROM GUL[ANGASO]-DHERAI (3RD-2ND CENTURY BC).

At Jaur-bandai (late Kushana times and later periods) (Site 49, see Olivieri and Vidale 2005: 137) some of the bowls were probably built with coils and then shaped on the wheel. Other vessels were built with a similar technique, but using an open mould spread with sand for detaching the bases. In some samples that preserved part of the bottom, the lower external surface was roughly scraped with a blade-like tool.

In the same site, many fragments of moulded dishes of different chronology were picked up (Figure 10). Potters used large open and slightly concave moulds centred on the potter's wheel. The surface of these forming tools was spread with a layer of coarse sand, then flat slabs of clay were applied onto them, with the mould in rotation. On the edge potters built short vertical, irregular rims. The joint was quite coarse. Dishes, finally, were slipped only in the interior. Few fragments of jars, as well, demonstrate the use of moulding also for restricted vessels.

A jar base fragment is a unicum, found in layer 12 of Ghalegay (dated to Maurya times),

because it was built inside a basket impressed on the external surface (Figure 11).

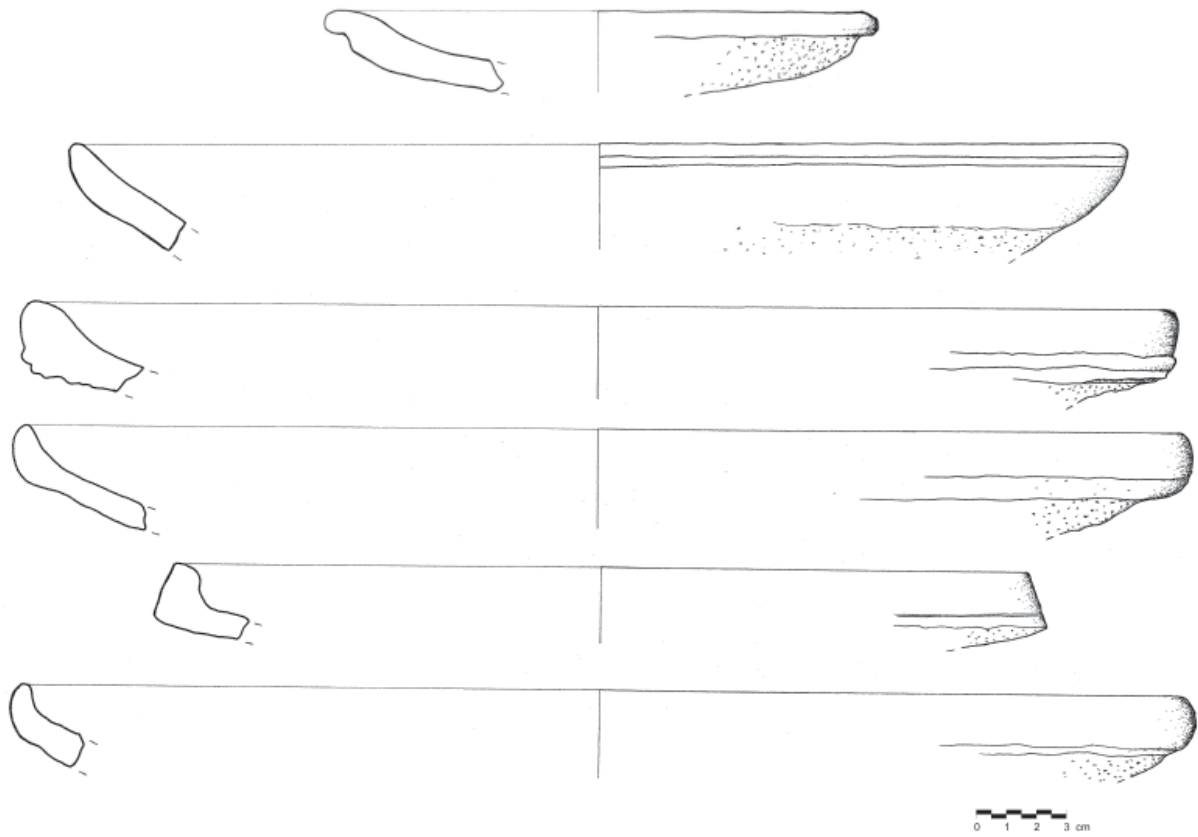


FIGURE 10 - DISHES FROM JAUR-BANDAI.

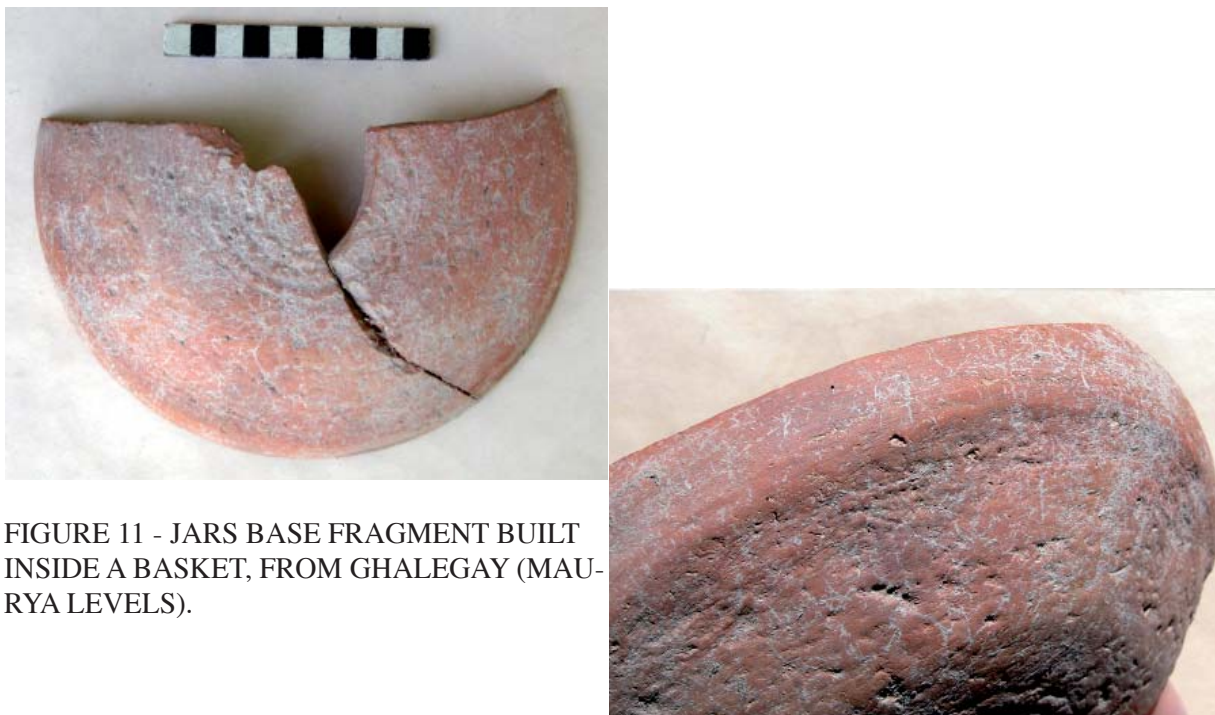


FIGURE 11 - JARS BASE FRAGMENT BUILT INSIDE A BASKET, FROM GHALEGAY (MAURYA LEVELS).

CONCLUSIONS

To conclude, the use of moulding is identifiable on the base of different diagnostic indicators: (1) Coils or slabs presses into moulds visible in fracture sections, like in the funerary jars of Figure 4. The order of application may be reconstructed. Joints among the coils or slabs permit to establish the order of application of the clay and determine the cases realized by mould; (2) Relief decoration (not applied) on the external surface, like in the jar of Figure 6; (3) Presence of sand on visible surface or in X-ray radiography. Bands of very small inclusion on a possible indicator of moulding, because the sand was spread between clay and mould to make easier detachment; (4) Chaotic porosity on a possible indicator of the pressing clay slabs or coils within moulds.

The role of moulding in the ancient ceramics of the Swat valley has been so far overlooked, as well as the continuity of this type of techniques from the early 2nd millennium BC onward . It seems that present potting technologies are firmly rooted in a long local evolution.

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Relative and Absolute Chronology of Farming Monuments in the Late Bronze and Early Iron Age in Northern Bactria (South-West Tajikistan)

N.M. VINOGRADOVA

Archaeological monuments of South-West Tajikistan is part of Bactrian historical cultural region and it is its peripheral north-eastern region. At present only within the limits of “unified Bactria” it is possible to give their historical interpretation.

In the Late Bronze Age (the second half of the 2nd millennium B.C.) this region becomes the zone of contact of three large historical cultural communities which differ as to their provenance. Ancient monuments of farming population representing the Sapalli culture as well as monuments of the steppe Bronze of the Beshkent-Vakhsh and Andronovo cultures are indicative in this respect. In the late 2nd and early 1st millennium B.C. in the Early Iron Age, some tribes, the bearers of Yaz I culture come from southern regions of Turkmenia and Uzbekistan to South-West Tajikistan. This culture contains features of painted ware. The latest excavations confirm the conclusion that archaeological complexes of the Late Bronze and Yaz I monuments are partly in coincidence.

Scholars suggest different names for farming monuments of Bactria and Margiana: the Namazga culture (Kohl 1981: VII), the Oxus culture (Frankfort 1984: 174), the Sapalli culture (Askarov 1977), Bactrian-Margiana archaeological complex – BMAC (Sarianidi 1990: 77). Today F.L. Kohl has changed his view point and calls these monuments BMAC emphasizing a great importance of peaceful infiltration of northern cattle breeders into the local traditional culture of farmers (Kohl 2005: 66-68). V.M. Masson assumes a possible existence of the whole group of local civilization united by the notion “protobactrian centre” (Masson 1988: 536-541). A. Askarov and T. Širinov suggest that we should unite archaeological settled farming complexes of the south of Central Asia, North-Eastern Iran and Northern Afghanistan and consider them a cultural notion which can be called the Namazga historical cultural community (Askarov, Širinov 1993: 42). In our opinion, the monuments of Northern Bactria can have the same name, i.e. the Namazga culture taking into consideration that it has several local chronological variants, in particular, the north-Bactrian variant, i.e. the Sapalli culture (Vinogradova 2004: 71).

At present due to new archaeological evidence in South-West Tajikistan scholars succeeded in revealing a whole stratum of ancient farming culture of the Late Bronze Age. The early and Middle Bronze monuments have not been discovered yet on the territory of South Tajikistan. The population that left these monuments here is not autochthonal. It is genetically connected with bearers of the Sapalli culture revealed in the south of the present Uzbekistan. In later stages of the development of this Sapalli culture (Molali, Bustan phases) in the Late Bronze Age a gradual resettlement of the farming tribes from south-western part of Northern Bactria (Southern Uzbekistan) to the north-east, on the territory of South Tajikistan is taking place.

CHRONOLOGY OF FARMING MONUMENTS

In South Tajikistan farming tribes settled in oases. The archaeological materials make it possible to single out three of them (Vinogradova 2004:13): 1) The Hissar valley (cemeteries of Tandyriul, Zar-Kamar); 2) valleys in the middle current of the Vakhsh in the area of Nurek sea and in the upper reaches of the river Tairsy (the settlement and necropolis of Kangurtut, the settlements of Dakhana, Teguzak and Nurek graveyards); 3) Parkharo – Kulyabskie valleys – in the basin of the Kyzylsu (the graveyards of Kyzlar-Kala, Khodja Goib, Parkhar).

Among stray finds in the region under the study the copper axes from kishlaks of Arakchin and Sharshar, not far from Dushanbe, as well as two burials in the Shakh oasis near the city of Kizlar of Shaartuz region should be mentioned.

The comparative analysis of archaeological material of farming settlements and cemeteries of South-West Tajikistan allows to arrange these monuments according their chronological order. The materials of the necropolis Tandyriul and stray finds from the burials of Kyzlar-Kala, Parhar can belong to the **first earlier group**. The **second later group** includes the settlements and graveyards of Kangurtut, the settlements of Dakhana, Teguzak. The graveyards of Nurek occupy an intermediate position between these two groups. This division is confirmed by comparison of excavations of these monuments with Surkhan Darja finds of the Sapalli culture (table 1).

The monuments of the first and second chronological groupes correspond to the Molali and Bustan stage of the Sapalli culture (table 1). At first A. Askarov (Askarov 1977: 60-63) singled out three chronological stages in the Sapalli culture: the Sapalli stage (the lower stratum of Sapalli-tepa, the Djarkutan stage (the upper stratum of Sapalli-tepa, the lower stratum of Djarkutan) and the Molali stage (the upper stratum of Djarkutan). Later on he and co-author B. Abdullaev singled out one more chronological period between the Djarkutan and Molali stages – the so called Kuzali stage (Askarov, Abdullaev 1983: 40). Further excavations of the settlement of Djarkutan and the graveyards of Djarkutan IVb and Bustan IV, V allowed U. Rakhmanov to subdivide the Molali stage into two chronological stages: the Molali and Bustan stages proper (Rakhmanov 1987: 13). In a later monograph A. Askarov and T. Širinov suggest dividing the archaeological complexes of Djarkutan into three periods designating them by Roman numerals – Djarkutan I, II, III according to the earlier singled out stages of the Sapalli culture – Djarkutan, Kuzali and Molali-Bustan periods (Askarov, Širinov 1993: 81, 82). On the basis of new researches in the graveyard of Djarkutan 4c T. Širinov and S. Baratov divide Djarkutan III into two stages – Djarkutan IIIa = the Molali period and Djarkutan IIIb = the Bustan period (Širinov, Baratov 1997: 88).

The final variant of the division into periods of the Sapalli culture monuments is the following: the first stage – Sapalli, the second stage- Djarkutan (Djarkutan I), the third stage – Kuzali (Djarkutan II), the fourth stage – Molali (Djarkutan IIIa), the fifth stage – Bustan (Djarkutan IIIb).

Not long ago young German researchers made an attempt to introduce new terminology and corrections into the relative divisions into periods of the Sapalli culture monuments. The most ancient stages – Sapalli and Dzharkutan stages were called Spätbronzezeit I (SB I) and to call later stages - Kusali, Molali and Bustan Spätbronzezeit II (SB II). The absolute chronology of these stages covers the period from 1950-1450 BC (Kaniuth, Teufer 2001:104). In publications of Uzbek researchers a clear descriptions of settlements stratigraphy and of funeral complexes of the Sapalli culture is lacking. On the basis of typological analysis of pottery and argumentation M. Teufer suggests changing the present relative division into periods. He believes that the monuments of the Kuzali and Bustan stages are more ancient then the settlements and graveyards of Molali (Teufer 2005:205-206). Thus, the monuments of South-West Tajikistan of the Bustan stage

(for example, Kangurtut) refer to SB IIa, and Kuzali and Molali (the graveyard of Tandyriul) belong to a later SB IIb phase. In our opinion, such a revision of the present divisions into periods of the monuments of the Sapalli culture is not grounded. There is no doubt about succession of the three complexes of Djarlutan I, II, III in the stratigraphic sections of the settlements of Djarkutan (Širinov 2002: 30-33) and funeral complexes of graveyards. In the necropoleis of Djarkutan 4A, Djarkutan 4B and Bustan 6 there are stratigraphic data concerning burials which overlays each other. Unfortunately, in most cases this data has not been published by Uzbek archaeologists. In the graveyard of Bustan 6 (Avanesova 1997, fig. 1) there were established two successive stages – an earlier Molali stage and a later Bustan stage (Avanesova 1997: 148; 2009: 61-89). In our view, the scheme of the relative divisions into periods of the Sapalli culture suggested by German researchers is not confirmed, and first of all, owing to the stratigraphic data. In this research we will keep to the generally accepted scheme of the relative divisions into periods elaborated by Uzbek archaeologists.

As to the ceramics of graveyards of the first chronological group (Table I) of Tandyriul, Kyzlar-Kala (Vinogradova, Lombardo 2003, fig. 3, 2-10; 27, 11-14) the most similar its analogies are traced in the following monuments of the Molali stage (Djarkutan IIIa) of the Sapalli culture: the graveyard and settlement of Molali (Sagdullaev 1989: 12; Pugachenkova 1972: 88, fig. 23), the burials of Djarkutan IIIa period, in the graveyard of Djarkutan 4c (Širinov, Baratov 1997: 89), the Molali burials in the graveyards of Djarkutan 4a, Djarkutan 4b (Askarov, Abdullaev 1983: 25), Bustan 6 (Avanesova 1997, fig. 9).

The second group of monuments (Table II) first of all those containing ceramics can be compared with the Bustan stage (Djarkutan IIIb) of the Sapalli culture – the settlement of Djarkutan (hills 7, 9, “the citadel” – the layers of Djarkutan III period, the closed complex in well 5, the palace – the late layers of Djarkutan III period (Širinov 2002, fig. 43, 1-12, B; fig. 44, A.C; fig. 63, c; fig. 64; fig. 65), Bustan 4 (Rakhmanov 1979: 35-42), Buirachi I (Sagdullaev 1989: 20), Djarkutan III graveyards in Djarkutan 4c, Djarkutan 4a graveyards (Širinov, Baratov 1997: 105, 117), the Bustan burials in Bustan 6 graveyard (Avanesova 1997, fig. 10, 14).

In comparison with the first group of monuments quantitative changes regarding the main types of ware (Table I-II) are taking place in the second chronological group: there occur more “goblets”, pot – like vessels, bowls. Ceramics become coarser, the engobe covers only the upper part of the object. Shapes of vessels undergo some modifications: the size of reservoir of bowls decreases, a stem of bowls is larger in height; a jug neck is less marked out, shapes with slightly raised shoulders disappear; “goblets” have a maximum diameter in the lower part of the vessel; crater-shaped objects are rare; there appear deep bowls instead; shapes of glasses and jars appear.

Some chronological distinctions are traced on metal objects. The finds of copper axes from Arakchin and Sharshar (fig.1,4,5) are the earliest in the first chronological group. The implements which are similar in type to Sharshar axes (fig. 1,4) are found in Sarazm (Isakov 1991, fig. 78, 2) in Dashly 3 (Sarianidi 1977, fig. 32 – a casting form), in Sapalli-tepe (Askarov 1977: 196, table XXXII,2). The axe from Arakchin (fig.1,5) has a wide range of analogies (Kuzmina 1966: 8,9). E.E. Kuzmina attributes these finds to the late 3rd – the early 2nd millennium B.C. Silver bracelets from the cemetery of Parkhar (fig. 1,7,8) can be early metal objects of this group of monuments. There were also found fragments of ceramics which can be placed into the Molali period of the Sapalli culture. The analogies for four-petal rosettes represented on Parkhar bracelets can be found in southern settled farming complexes: a four-leaf ornament is often depicted on seals and amulets in Bactria and Margiana in the Late Bronze Age (Askarov, Širinov 1993, fig. 24, 4, 3) as well as on some chlorite bottles from plundered graveyards of Bactria (Amiet 1986, fig. 159).

CHRONOLOGY OF FARMING MONUMENTS

There are no chronological distinctions among the metal objects of the first and second group. Alloys with a high content of tin are typical of them. Tin alloys are typical of metal of Molali-Bustan monuments of the Sapalli culture (Askarov, Ruzanov 1990: 6). In the previous stages of this culture and in Murgab, Northern Afghanistan mainly arsenious bronzes occur (Terekhova 1990: 201; Sarianidi 1976: 82). In the Late Bronze Epoch the north-eastern regions of steppe cultures become the principal source of metal in Northern Bactria. Shapes of metal objects revealed in graveyards and settlements of South Tajikistan have a wide range of analogies among monuments of both the farming and steppe culture (Vinogradova 1991: 77; Vinogradova 1994: 40; Vinogradova 1996: 183; Ravich 2004: 200).

Of interest is the fact that forms of objects in the burials and graveyards of Tandyriul (fig. 2,1-18), Kangurtut (fig. 3) have parallels, first of all, in the circle of monuments of the farming culture. Miniature knife-shaped plates, razors, small spades, bowls are similar to funeral inventory of the archaeological complexes of Molali-Bustan in Southern Uzbekistan (Ionesov 1990: 16, 17). Other metal objects from the graveyard of Kangurtut have parallels among original objects used in everyday life and on armament: pitchforks are among the plundered graves in Northern Afghanistan (Sarianidi 1977:78,fig.37), in North-Western Iran – Hissar III (Schmidt 1933, T. CXV, H I66, H775); a mirror with a handle – the Molali graveyard (Belyaeva 1973: 40), Karapichok (Vinogradova 1987, fig. 4, 3), Dashly 3 (Sarianidi 1977: 81, fig. 40, 1, 2); leaf-shaped ear-rings or temporal pendants with a handle – some analogies in Sapalli-tepe (Askarov 1977, t. XXXIX: 1–3).

Decorations and day spindle whorls from Tandyriul (the first chronological group) are also similar to some corresponding objects of farming culture. Two-and-three composite disc-shaped paste beads occur in the graveyard of Parkhai I in Southern Turkmenia (Khlopin 1983, t. III: 10). Axe-shaped beads made of lazurite, paste and other stone rocks from Tandyriul have a specific form (fig.3,21-23). Precise parallels to them are uncovered in Molali complexes of Djarkutan 4c and Bustan 6 graveyard (Širinov, Baratov 1997: 95). As to other beads such as biconical, paste tubular and flat paste disc-shaped beads, clay biconical-shaped spindle whorls there are many analogies among monuments of Central Asian farming culture. The presence of original decorations made of paste and semiprecious stones, clay spindle whorls and heads is a characteristic feature of the first chronological group.

The analysis of materials from settlements and graveyards of South-Western Tajikistan makes it possible to conclude that single finds of copper axes in the Hisar Valley could appear as far back as in the Middle Bronze period – Namazga V, i.e. at the very end of the IIIrd – the beginning of the IIInd millennium B.C. A wide spread of monuments of the Sapalli culture begins in the Late Bronze Age at the Molali stage and continues in the Bustan period. This period includes the second half of the IIInd millennium B.C.

The dating of Namazga VI monuments according to a radiocarbon method (C14) is still debatable among representatives of Russian archaeological school on one hand, and West-European and American scholars on the other. The former place these finds in the middle and second half of the IIInd millennium B.C. (Sarianidi 1990: 74; Askarov, Širinov 1993: 81; P'jankova 1986: 56-58; Vinogradova 1994: 42; Khlopin 1983: 57) which corresponds to the traditional chronology of Eurasian steppe cultures (Itina 1977: 139; Kuzmina 1985: 24; Zdanovich 1988: 8). West-European and American schools which in their research are based on calibrated dates C 14 (Lyonnet 1993: 195; Hiebert 1994: 77; Francfort 1989: 242; Götzelt 1996) consider these monuments to be more ancient and refer them to the first half of the IIInd millennium B.C. these dates in their turn correspond to the calibrated dates for steppe cultures (Görsdorf and all. 1998). According to E.E. Kuzmina, at present, in the interests of scientific accuracy either a traditional method of synchronization with cultures of Europe, Ancient East and China or a radio-

carbon method should be used. A few dates (C14):1500+60 B.C. (Tigrovaya Balka) and three dates from the settlement of Kangurtut are suggested for the lated Bronze monuments in South-West Tajikistan. The latter are in a chronological interval between 1976/1756 and 1594/1291 B.C. (Vinogradova 2004:106). The radiocarbon dates from the settlement of Djarkutan (hill VI – temple excavations) have been recently published by German scholars. The time of the temple functioning is approximately determined between 1800 and 1600-1450 B.C. (Görsdorf, Huff 2001: 85). It should be taken into consideration that for South-West Tajikistan monuments the “effect” of delay (Masson 1982: 13) is possible, so they can belong to the second half of the IInd millennium B.C.

In the lated IInd millennium B.C. and at the turn of the IInd-Ist millennium B.C. in Central Asian southern regions there spread a new archaeological complex represented by Yaz I period. The distinctive feature of the complex is the presence of painted ware. The latest archaeological evidence does not exclude a partial coexistence of the archaeological complexes of Namazga VI and Yaz I (Shaidullaev 2000: 98). The time of the beginning of the Early Iron Age on the territory of Central Asia is still a subject for discussion. In 1959 V.M. Masson attributed the beginning of the Early Iron Age to Yaz I period, i.e. 900-650 B.C. (Masson 1959: 108). The most ancient finds of iron objects on the territory of Central Asia discovered at the settlement of Anau A.S. Sagdullaev refers to the IXth-VIIth centuries B.C. (Sagdullaev 1982: 233). Of special interest is a recent find revealed by Sh. B. Shaidullaev in the citadel of Djarkutan. It is a fragment of a knife haft with iron rivets. Judging by ceramics it can belong to the Djarkutan period of the Sapalli culture, the XIIIth century B.C. (Shaidullaev 1998: 39-41).

In the south of Tajikistan Yaz I type ceramics was found in the upper layers of the settlement of Kangurtut and Teguzak. In the basin of the Kyzylsu river of Vosseisky region there was discovered a farming settlement of this culture – Karim Berdy (Vinogradova 1986: 80-86; P’yankova 1996: 195). Among all the complexes of Yaz I the ceramic material of Karim Berdy has the closest analogies in Northern Bactrian monuments – at Kuchuk tepe (Kuchuk IA and IB) (Shaidullaev 2000: 80-87). Of interest is the fact that in the first phase (Kuchuk IA) the wheel-made pottery make up 28%, and in the second phase (Kuchuk IB) painted ware are lacking, but a percentage of wheel-made pottery greatly increases and equals 70%. A. Askarov and L.I. Albaum attribute Kuchuk I period to the first half of the VIIIth century B.C. (Askarov, Albaum 1979: 67), i.e. it is possible to approximate the upper limit of Bronze Age monuments to the very end of the IInd – the early Ist millennium B.C. The beginning of the Early Iron Age in South-West Tajikistan can be dated from the same period.

The chronology of Yaz I type monuments in South Tajikistan is connected with the division into periods of the Late Bronze monuments which as we can see seem to disappear soon and for some time they coexist with settlements of Yaz I culture. At present the settlement of Karim-Berdy is the only one in south Tajikistan, but a further search of such intermediate monuments from the Late Bronze Age to the Early Iron Age is very significant in solving problems of dating and provenance of cultures containing painted pottery.

CHRONOLOGY OF FARMING MONUMENTS

TABLE 1
RELATIVE CHRONOLOGY OF THE MONUMENTS IN THE LATE
BRONZE AND EARLY IRON IN N.BACTRIA

Cultures						
Farming (Sapalli)		Steppe				
		Bishkent-Vaksh				
		Andronovo	Bishkent		Vaksh	
Early Iron Age – Yaz I (XIII–IX mill. BC)						
Djarkutan, citadel Kutchuk I	Karim-Berdy, Kangurttut, Tegusak (upper layer)	Site Kirov (upper layer)	?		TigrovajBalka Tashguzor	
Later Bronze Age (XV–XI mill. BC)						
Bustan (Dzharkutan III b)	Period 2 nd chronological group (Kangurttut, Tegusak)	Site Kirov (lower)	Tulhar (catacomb)		Gelot, Guliston, Obkukh, Makonimor	
Molali (Dzharkutan III a)	Period 1 st chronological group (Tandyryul)	Kumsai	Tulkhar (pit with slopes) Tulkhar(cremation)		?	

THE LIST OF ABBREVIATIONS

AMI – Archäologische Mitteilungen aus Iran, Berlin

AMIT – Archäologische Mitteilungen aus Iran und Turan, Berlin

ART – Arkheologičeskije raboty v Tadzhikistane, Dušanbe

MAIKTS – Mezhdunarodnaja assotsiatsija po izucheniju kul'tur Tsentral'noj Azii. Informat-sionnyj bžulleten, Moskva.

MIA – Materialy po istorii I arkheologii SSSR, Moskva–Leningrad.

VDI – Vestnik drevnej istorii, Moskva

SA – Sovetskaja arkheologija, Moskva

RA – Rossiiskaja arkheologija, Moskva

SSA – South Asian Archaeology

EW – East and West, Rom

IMKU – istoria materyalnoi rultury Uzbekistana, Tashkent

SAI – Svod archeologičeskych istochnikov, Moskva

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