

THE BEGINNING OF THE IRON AGE IN TRANSOXANIA¹

A. Askarov

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THE discovery of iron triggered off one of the greatest technological revolutions in the history of mankind. But iron implements were slow to come into general use; the metal was at first reserved mainly for ornament. Ferrous metallurgy became widespread after the discovery of the process whereby the metal is produced directly from the ore at a temperature of 900 °C. Molten iron cannot be obtained at less than 1, 530 °C which at that time was unattainable. Unlike copper and bronze, iron was a universally accessible, cheap metal with sound qualities. But forging iron implements involved considerably more labour than did the casting of bronze. The new technology was mastered slowly.

At the very start of the Iron Age, what are known as bronze-and-iron tools and weapons, those with an iron blade and a bronze handle, became widespread in Middle Asia (Soviet Central Asia). Iron soon made its way into all fields of warfare and daily life. It increased labour productivity dramatically, led to a full-scale technological revolution, and played a

¹ See Map 14

crucial part in the development of arable farming and crafts. The spread of iron transformed the whole of society.

Archaeological investigations of Early Iron Age sites have shown that as in the preceding period, the territory of Soviet Central Asia was made up of two broad zones: one peopled by steppe tribes whose livelihood revolved primarily around stockbreeding, and the other settled by communities with a deeply-rooted, advanced arable-farming culture of the ancient Oriental type. The cultures of those two zones developed unequally. The cultural and economic tradition of the advanced southern communities gradually permeated the stockbreeding population of the steppes. The two were always, as archaeological evidence shows, in close contact and passed on their cultural and economic achievements to each other. As a result of these intercultural and interethnic links, Early Iron Age society developed further and more intensively.

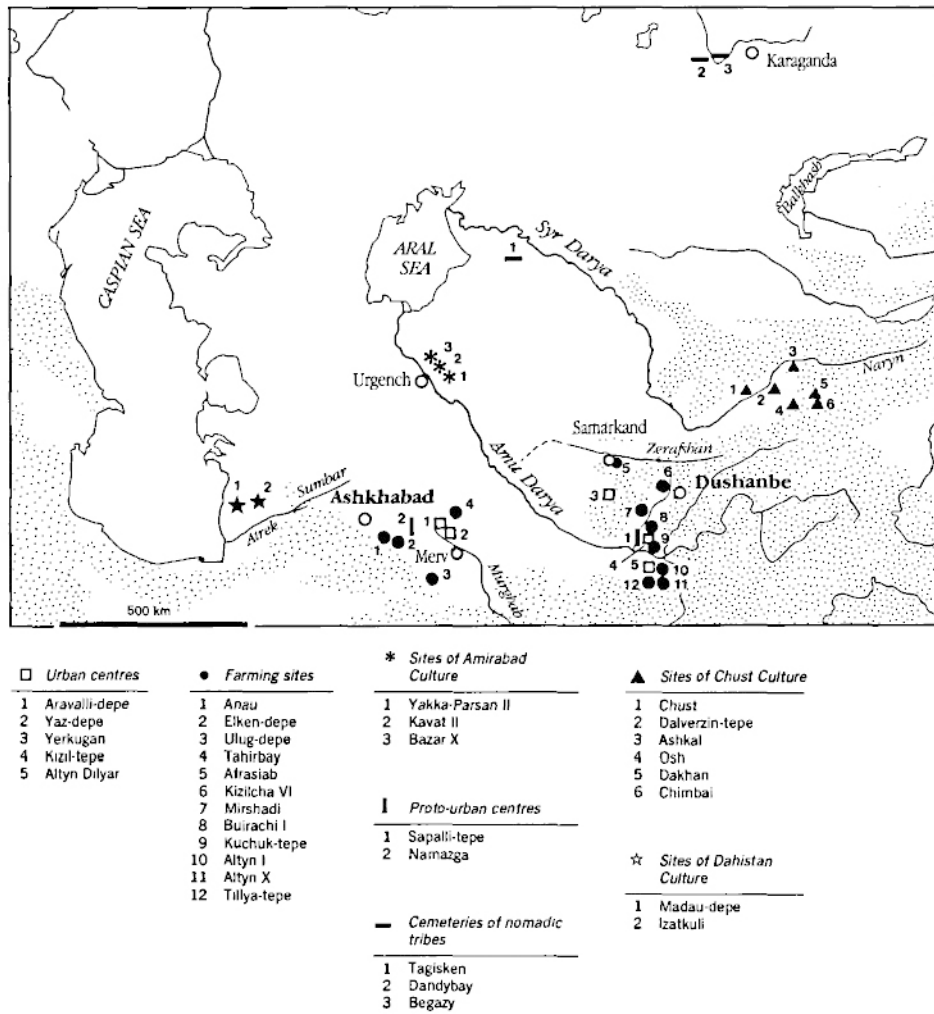
The cultural and economic achievements of either zone were undoubtedly subject to external influences, likewise thereby influencing the cultural development of their neighbours. All this could come about either by peaceful cultural and intertribal relations, by penetration or by conquest. In the final analysis, the overall result of contacts between settled and pastoral tribes was that society advanced and progressed further. Among the main features of that progress in the Early Iron Age was that agriculture and the crafts took a leap forward. This was directly bound up with the development of artificial irrigation systems, with the change from a herding and tilling life-style to a transhumant, stockbreeding and semi-nomadic way of life. The adoption of the new economy was the decisive factor in the further development of the new economic and cultural forms, which is vividly reflected in the material culture of the Soviet Central Asian Early Iron Age.

The Amirabad Culture

The most interesting Early Iron Age culture of ancient Khorezm was that of Amirabad in the tenth to eighth centuries B.C.². Dozens more settlements were found in the lower reaches of the former channels of Akcha Darya, the ancient delta of the Amu Darya. The most interesting was Yakka-Parsan II, alongside which were found ancient fields, and the remnants of an Amirabad-period irrigation system (Fig. 1) The old channel passed near by, its banks being reinforced with dykes.

Two rows of semi-dugout houses – some twenty in all – were found in the Yakka-Parsan II settlement. Large numbers of storage pits were found around the houses, and the entire site is rich in animal bones, pottery, grain-querns and so on. The houses stood between

² Tolstov, 1962



Map 14 Early Iron Age sites of Central Asia.

two canals that merged to the south, all the doors giving on to the canals. Rectangular in ground-plan, the houses were 90 to 110 m² in area and had two or three rooms. The interiors contained many storage pits and post-holes, each with a long fireplace in the centre. The major finds were pottery, hand-made with a darkish brown, red or greyish slip, the shoulders of the bowls being decorated with small crosses, lattice-work or ‘fir-trees’. According to S. P. Tolstov, the Amirabad culture was genetically akin to the Kaundy complex and dates from the ninth to eighth centuries B.C. It should be observed that the pottery shows more obvious traces of Karasuk influence, the commonest shapes being similar to the ceramics of the latter; this entitles us to date its origins to a somewhat earlier period – the tenth century B.C. Other finds include bronze artefacts – a needle with an eye, a sickle with a shaped handle, a bronze arrowhead with a shaft – and stone moulds for casting shaft-hole arrowheads and sickles. A bronze sickle, large numbers of grain-querns and the

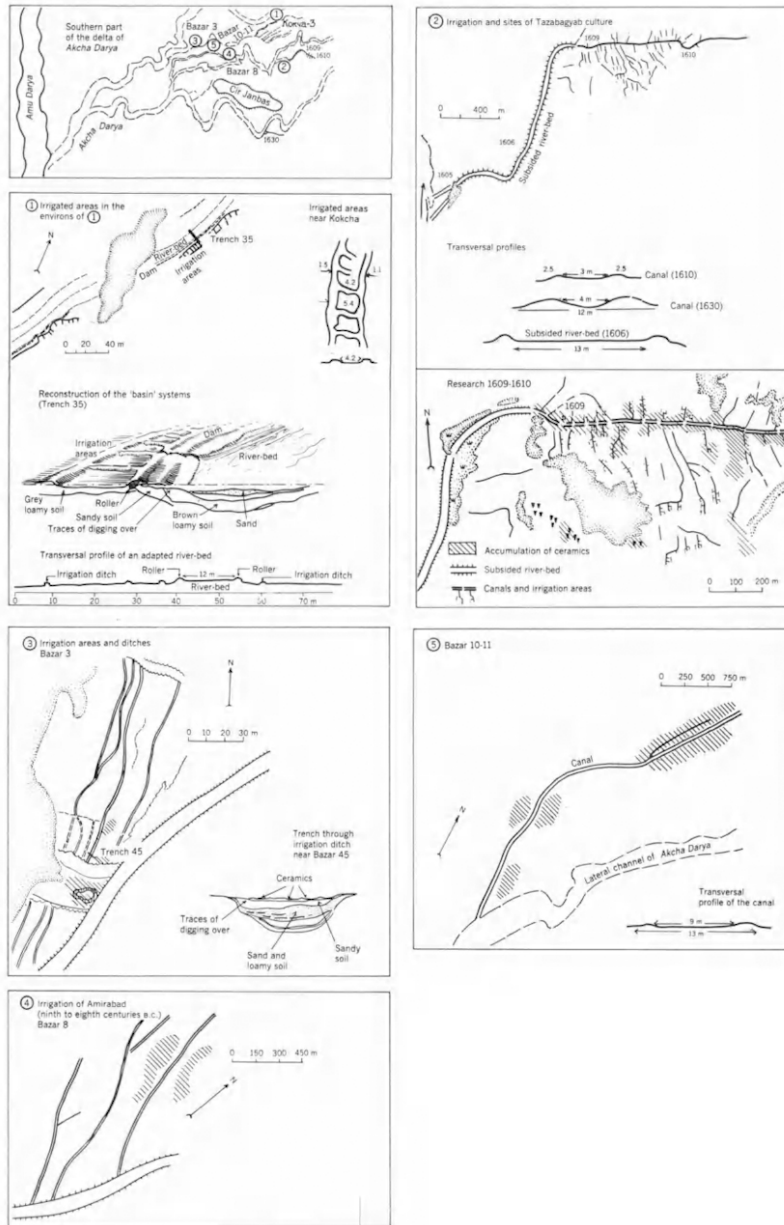


FIG. 1 Phases in the development of irrigation systems in the lower reaches of the Amu Darya in the Bronze and Early Iron Ages. Ancient Khorezm (After B.V. Andriannov.)

advanced irrigation network and fields together show that agriculture was widely practised, while the bone finds further indicate that the population was engaged in stock-breeding.³

³ Itina, 1977a pp. 147–72.

The Culture of the Northern Tagisken Tribes

The most striking view of the Early Iron Age of Transoxania is afforded by the tenth-to-eighth-century-B.C. mausoleums of the northern Tagisken plateau to the east of the Aral Sea. The Tagisken mausoleums are outstanding monuments of the Early Iron Age and a testimony to the advanced standard of cult architecture and building techniques among the ancient stockbreeders of the region to the east of the Aral Sea.

The Tagisken sepulchres take the shape of tumuli and number over seventy. They fall into northern and southern groups. The early tumuli are time-worn ruins of large mausoleums built of rectangular raw bricks measuring $54 \times 28 \times 10\text{--}12$ or $48 \times 32 \times 10\text{--}12$ cm, and surrounded by small tombs of various shapes and sizes but chiefly of the enclosure kind, annexed to them or grouped around them. At one large mausoleum seven tombs were found, at a second, six and, at another, three. The cemetery apparently consisted of several large mausoleums and a number of smaller tombs surrounding and between them.⁴ The central chamber of the mausoleums and inner corridor contained burial goods such as pottery, bronze implements, bronze or gold ornaments. One aspect of the ritual was that parts of animals were buried with the dead.

Ritual cremation appears to have been practised on the Tagisken and at the culmination the entire building was set ablaze. It is unlikely that it was left in its ruined state; it may be that the mausoleum was again roofed over after the cremation, where the brick columns were used to support the roof.⁵ Another hypothesis, however, is that all the mausoleums have been plundered and set on fire. M. P. Gryaznov suggests that the plundering preceded the burning, prompting the thought that it was done long ago, possibly by the contemporary builders, who then fired the structures to cover their tracks, since the walls and the structure proper were not disturbed and the fire left its marks on the floors of the mausoleums.⁶

The tombs annexed to the mausoleums were rectangular enclosures, also of raw bricks, where the leader's kin and close friends were buried. A particular place among these structures goes to a complex built on to the north wall of one of the large mausoleums. Its central chamber contained the remains of a woman together with an assortment of vessels and ornaments – gold and carnelian beads, a massive gold ear-ring and a bronze pin. To the west was a chamber in which some forty vessels of various shapes and sizes stood around a fireplace.

⁴ Tolstov, 1962; Tolstov et al., 1963 pp. 3–90.

⁵ Itina, 1997b.

⁶ Gryaznov, 1966.



FIG. 2 Northern Tagisken: Mausoleum No. 6.

There is another group of structures from the same period as the annexes. Also built of brick, they were considerably simpler in ground-plan than the mausoleums, but retained all the basic principles of their construction. The outer wall was not square but round, and between it and the rectangular chamber was a circular corridor. The entrance was again on the east side and the same system of post-holes was used, but there were no columns and the beams were an integral part of the design here.

The largest mausoleum on the Tagisken is No. 6, the ruins of a rounded sepulchre some 25 m in diameter (Fig. 2). The inner walls of the burial chamber were faced with a thick layer of wicker and twigs and – judging by the 100 or more bronze nails that were found – hung with carpets. In the corners were groups of vessels which clearly stood there for a purpose. Sickle-shaped bronze knives, bronze needles and gold articles were found. This mausoleum was found to contain a rich collection of vessels, numbering over sixty. One was even adorned with four small gold scrolls on the rim (Fig. 3).

The hand-made pottery, with its slip and white incrustation, is similar in shape and decoration to Karasuk ceramics. The cultural resemblance of Tagisken to Dandybay-Begazy in central Kazakhstan or the Karasuk culture of southern Siberia is obvious. Tagisken pottery, however, differs in its wider range of shapes, the elegance and lavishness of its decoration and the presence of wheel-pitchers, spherical jugs with narrow, pool-shaped necks. These vessels are closely paralleled in the Bronze Age pottery of the southern oases.⁷ Some traditions of the Andronovo culture may be clearly seen in the mausoleum complexes of the northern Tagisken.

The Tagisken mausoleums are reminiscent of similar structures in central Kazakhstan, though the Cyclopean stonework of the latter is replaced by unburnt brick. The farming cultures of southern Soviet Central Asia had used this material for a long time, and the builders of the Tagisken mausoleums must be supposed to have been familiar with their southern neighbours' practices, and to have borrowed certain structural techniques from them, primarily the manufacture of unburnt brick. And so the architectural design of the

⁷ Askarov, 1977.

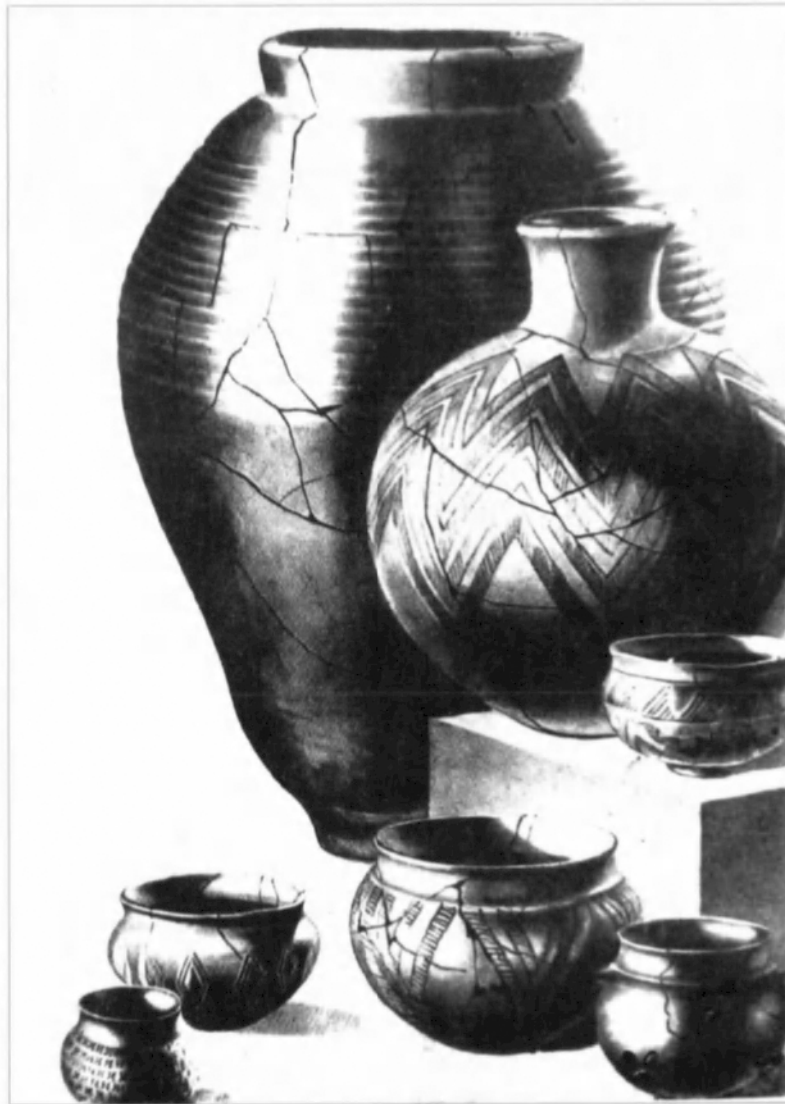


FIG. 3 Northern Tagisken: pottery from Mausoleum No. 6.

mausoleums was based on a ground-plan akin to the monuments of Dandybay-Begazy, but executed in different materials. What is more, the technique by which the square structure was topped by a round drum – using brick columns in the inner corners of the square outer walls – appears to pre-date the pendentive. The same technique is known in Begazy, though there the columns are of stone. We are therefore faced with architectural skills of a fairly high order for which there is no known analogy in the Central Asian steppe zones. The southern component appears in the rounded ceramic pitchers, though the large range of hand-made vessels found with them resemble known objects used by the steppe tribes.

The Chust Culture

More advanced cultures are represented in the northern regions of Soviet Central Asia. One of them is that of the Chust culture. In the late second and early first millennium B.C., a distinctive sedentary farming culture, named after the first settlement to be studied, Chust,⁸ sprang up in the ancient Ferghana valley. Its characteristics included hand-made and decorated pottery, an advanced bronze metallurgy and a varied range of secondary stone artefacts. An important field for the study of the Late Bronze and Early Iron Ages in the region, it was largely confined to the northern and eastern parts of the valley. While over eighty sites are now known, only the settlements of Chimbai, Chust, Ashkal and Osh, and the ancient town of Dalverzin-tepe have been fully investigated.

Chust culture sites were located in the valleys of small streams running down from the northern Ferghana range, or near the sources and tributaries of the Kara Darya in the east of the valley. They were grouped in the lowland plains, where they are known in fifteen distinct areas, most being clan settlements or relatively large fortified towns. The larger of them – Chust with an area of 4 ha, Dakhan about 5 ha and Ashkal over 10 ha – came to acquire defensive walls, while the central towns, such as the 25 ha Dalverzin-tepe, also had citadels of some kind. These became important at a later stage of the Chust culture, at the time when iron artefacts appeared there.

In the early stage, the chief form of housing was the dugout or pit dwelling with large numbers of grain-storage pits. In the later stage, houses were built above ground-level using rectangular raw unburnt brick. The dead were buried chiefly outside the settlements in the desert or in ruined houses. At Chust and Dalverzin-tepe, several graves have been studied in which the dead lay dou-bled-up or on their sides in pits, with no consistent orientation. In the upper strata of the settlement, some were buried alone on their backs, usually without burial goods. Dismembered and disordered human bones and skulls have also been found, frequently in storage pits in the open fields, together with animal bones, and bearing the marks of fire.

The crafts were fully developed, particularly that of casting bronze, as is clear from the many finds of stone or clay moulds for casting small-handled mirrors, sickles or knives, and clay crucibles. The range of bronze Chust artefacts is quite wide, including tools, armaments, horse harnesses, ornaments, personal requisites and so on (Fig. 4). While bronze metallurgy remained widespread, this was the time when the first signs appeared that the population of Ferghana valley was familiar with iron, a fragment of an iron knife and iron ore slag having been found at Dalverzin-tepe. Stone objects such as sickle-shaped knives,

⁸ Zadneprovsky, 1962.



FIG. 4 Chust culture artefacts from Dalverzin-tepe: 1–7 – bronze; 8–9 – stone.

grain querns, picks, hoes, etc., were commonplace, and many tools were made of bone, including such varied articles as combs and shuttles for weaving, awls, three-holed bridle cheek-pieces of horn, arrowheads, etc. Pottery accounted for the bulk of the household goods. Hand-made and of various shape, it had a surface slip in colours ranging from light brown to black. Only a small proportion was decorated. The commonest vessels were round-bottomed jugs, flat-based bowls, basins, cups and pouring vessels (Fig. 5).

The defensive fortifications in the larger settlements and the finds of bridles, cheek-pieces and iron objects, chiefly in the upper strata, place the late stage of the Chust culture in the Early Iron Age.



FIG. 5 Chust culture clay vessels from Dalverzin-tepe.

Analysis of the evidence to date suggests that the Chust-type decorated pottery cultures in Soviet Central Asia originated and developed locally. In other words, former steppe tribes, influenced by the cultural attainments of their southern and eastern neighbours, gradually adopted a sedentary life-style.

The Chust culture is linked by a number of features to Bronze Age sites in Xinjiang. These features include, in particular, stone sickles and various kinds of decorated ceramics. This obviously suggests that the establishment of a settled culture in the territories of the Ferghana valley in the Bronze Age followed a common pattern with a major contribution from a component connected with Bronze Age steppe cultures. Chust-like hand-made and decorated ceramics from the Early Iron Age have in recent years been recorded in the lower

strata of Afra-siab (now Samarkand) and Yerkurgan in the Karshi oasis. The pottery and other evidence suggest that the Chust culture people were in close cultural contact with the tribes living in the Early Iron Age in the southern regions of Soviet Central Asia.

In the light of the latest discoveries, ten geographical regions characterized by the spread of late painted pottery have been identified in the territory of Soviet Central Asia, in Yaz I in Turkmenistan and Kuchuk in Uzbekistan. They were virtually contemporary and occupied all the major farming oases in Transoxania. The similarity of their economies and cultures is marked; it appears above all in their identical decorated pottery.

Settlements in Southern Soviet Central Asia and Northern Afghanistan

Late decorated pottery culture developed rather differently in the south and north of Soviet Central Asia. Immediately before this period, the region had been occupied by tribes with an advanced proto-urban culture (the late Namazga IV in southern Turkmenistan and the Sapalli culture in southern Uzbekistan) these exerted a tremendous influence on the late decorated pottery tribes, who borrowed many of their cultural and economic traditions. In the south, the economy and domestic architecture of the late decorated pottery culture were identical with those of the Sapalli and late Namazga IV cultures. The chief occupations were arable farming and stockbreeding, and domestic architecture was monumental – a marked contrast with the Chust culture. Together with hand-made and decorated vessels, an old tradition survived of wheel-thrown pottery, which was completely lacking in the Chust or similar cultures of northern Soviet Central Asia.

Historical and topographical studies of sites in the south of Soviet Central Asia have revealed that there were then two types of settlement. The sites belonging to the first type are generally large in area with remains of citadels, while the other type consists of small mounds of various sizes with no citadels and with considerable variations in ground-plan. Several settlements of the second type have recently been discovered and investigated in northern Bactria. Examples are Kuchuk-tepe, Maida-tepe, Mirshadi, the upper stratum of Buirachi I, Buirachi II, Bezymyannoje (Nameless Tepe, the lower stratum of Kizil-tepe and the lower stratum of Kizilcha VI, which were located mainly in the Sherabad, Band-Khan and Shurchi irrigated oases of northern Bactria.⁹ Excavations have shown that some of these settlements, such as Kuchuk-tepe and Maida-tepe, were farmsteads built on brick platforms several metres thick and surrounded by walls; inside was a dense pattern of

⁹ Askarov and Al'baum, 1979.

residential, religious and farm buildings. Iron artefacts were found at two sites, Kuchuk-tepe and Kizilcha VI.

Late decorated pottery culture has also been identified in southern Bactria, now the territory of Afghanistan. The studies of these cultures are based on the material of Tillya-tepe in Shiberghan oasis.¹⁰ Tillya-tepe covers an area of around 1 ha, and stands on a high platform. The lowest levels, Tillya-tepe I and Tillya-tepe II, belong to the Early Iron Age, with a mixture of wheel-thrown pots with wing-shaped lips and decorated, hand-made pottery; there were two-bladed shaft-hole arrowheads and iron artefacts from the time of the Yaz I complex. Sites with similar archaeological complexes were found in the Naimabad and Farukhabad oases of north Afghanistan. V. I. Sarianidi, who carried out this field research, considers that, regardless of current thinking as to how Soviet Central Asia's late decorated pottery culture arose, it was probably Iranian in origin. After studying the way the people of this culture moved eastwards, he suggests that there was an earlier centre in Afghanistan from which it subsequently spread throughout northern Bactria.¹¹

Sites of this period are to be found in three parts of ancient Margiana: the central district around Yaz-depe, the west around Aravalli-depe, and the eastern or Tahirbay group.¹² The last two groups are archaeologically 'sterile' and contain no remains from a later period than the Yaz-depe complexes. The largest settlement of the 'metropolitan' type in the eastern group was Tahirbay I where the remains of a small, rectangular keep were found. To the west were small eroded mounds – the remains of the settlement itself. The western group of the Murghab oasis sites were located in the lower basin of the Guni-yab, where there were some ten settlements of which the largest, and apparently the ancient capital, was Aravalli-depe, some seven hectares in area, with a citadel 10 m high occupying the centre.

The metropolitan part of Margiana was then the central district of the oasis and the large settlement of Yaz-depe, 1 ha in extent, stood on an unburnt brick platform 8 m high. Several stratigraphic excavations have been carried out over an area of 200 m² and the remains of houses dating from the Yaz III period (450–350 B.C.) and levels of the Yaz II complex (650–450 B.C.) and the Yaz I complex (900–650 B.C.) were discovered. The Yaz I stratum represented the late decorated-pottery period.

Like similar complexes in northern Bactria, the Yaz I complex is characterized by a predominance of hand-made and sometimes decorated pottery, by the appearance of the first iron artefacts and two-bladed shaft-hole arrowheads made of bronze; but also, as noted

¹⁰ Sarianidi, 1972.

¹¹ Sarianidi, 1977.

¹² Masson, 1959.

above, by the development of large settlements centred around keeps built on massive platforms. Additionally, the Yaz-depe excavations failed to locate the early phases corresponding to the transition from the Late Bronze Age, such as late Namazga VI. Such phases would appear to have been found at Kuchuk-tepe, Ulug-tepe, Maida-tepe and Buirachi I. Analysis of the evidence of the transitional period fully corresponds with the proposition that the late decorated pottery culture of southern Soviet Central Asia and northern Afghanistan grew out of two components – the local population with its proto-urban tradition and former steppe tribes coming from northern Soviet Central Asia.

A group of hand-made decorated-pottery sites of the Yaz I type has been investigated in the foothill zone of southern Turkmenistan, the homeland of the earliest Soviet Central Asian farmers. At the start of the first millennium B.C., this region may be termed northern Parthia.¹³ Yaz I type strata have been found in Parthia at Elken-depe, Ulug-depe and the northern mound at Anau. Furthermore, at all these settlements the Yaz I complexes overlie Namazga VI type Late Bronze Age strata. Here, too, small settlements sprang up at new places. Unlike the Bronze Age centres, the large settlements in the foothill zone had keeps, and their inhabited areas were larger. A case in point is Elken-depe, where the Early Iron Age inhabited area was as much as 12 ha,¹⁴ in places where the Yaz I strata, which are 2–2.5 m thick, lie on the subsoil. The settlement was ringed with ramparts, while the citadel stood on a 6 m platform. The possibility cannot be excluded that Elken-depe was then the capital of northern Parthia.

The Dahistan Culture

In contrast with the late decorated-pottery culture is the advanced sedentary farming culture of the Soviet Central Asian Early Iron Age – the grey-pottery culture of the region once known as Dahistan. It differed in several respects from that of the Chust community, since its agriculture was the most advanced of its day and it had developed what were then Soviet Central Asia's largest settlements, with powerful defensive fortifications and citadels.

The Dahistan culture was largely confined to the Misrian plain; its characteristic small settlements and extensive burial grounds have also been found in the Sumbar valley and in the western foothill range near Kyzyl-Arvat, Bami and Beurme.¹⁵ Two types of settlement have been found on the Misrian plain: hamlets of some 5, 000 m² and large settlements with strong citadels the ruins of which spread over several dozen hectares. The biggest – Izatkuli – is around 50 ha in area and has a pentagonal central keep around which lie the

¹³ Masson, 1966.

¹⁴ Marushenko, 1959 pp. 54–109.

¹⁵ Masson, 1955 pp. 385–458; Khlopin, 1983.

remains of houses in the form of degraded hillocks. The remains of potter's wheels have been found at several points on the outskirts. A broadly similar ground-plan is presented by another site, Madau-depe, where the degraded mound of the central keep is as much as 13 m high. Part of a house with several rooms has been excavated, and a 6.5 m cultural deposit has been stratigraphically studied.

It has been established that at the time when the Dahistan culture flourished, the southern Misrian plain was irrigated by a system of canals as much as 50 to 60 km long, leading from the Atrek river.¹⁶ The remains of such canals have been discovered near Izatkuli and Madau-depe, where fields were irrigated by a network of ditches.

Pieces of iron slag were found in the settlements, as were bronze, leaf-shaped and twin-bladed, conical or three-bladed and hafted arrowheads, and others that were twin-bladed with a shaft-socket. In Madau-depe there was even a bronze sword with a square grip and a slight rib along the blade. All these bronze artefacts lay together with flint flakes used as blades for composite sickles.

The distinctive flavour of ancient Dahistan appears clearly in its pottery. All the tableware and fine vessels, but not the cooking pots, were wheel-thrown; the bulk was of high-quality grey clay, often covered with a black slip, the commonest type being a cup with three feet. A variety of pots – cups and beakers – had spouts, and there were bowls on saucers with long, curving spouts. Others again had open handles attached by luting, instances being goblets and cups with one handle, or ceramic strainers and rectangular bowls with hanging handles decorated with point ornament. Of particular quality is a censer with a spherical body on a tall, hollow foot. The specific set of pottery, together with a range of other, chiefly metal artefacts, the advanced irrigation system and other factors place the Dahistan culture at the end of the second and the first quarter of the first millennium B.C.¹⁷ The sites of Dahistan culture constitute, through their archaeological materials, a distinctive cultural complex that differs sharply from that of the foothill zone and the Murghab delta in southern Turkmenistan. The individuality of this culture is due to its origin in, and kinship ties with, the neighbouring Caspian regions of Iran, and is rooted in that country's Shah-tepe and Turang-tepe archaeological culture.

Integrated studies by archaeologists, geomorphologists and soil specialists have established that agriculture based on canal-fed artificial irrigation arose in Soviet Central Asia in the Chalcolithic period. This early form used small channels leading from mountain streams or river deltas, and is known as Geoksiur farming, from the name of the first

¹⁶ Kes' et al., 1980.

¹⁷ Masson, 1955 pp. 388–458.

simple irrigation system.¹⁸ The Geoksiur basin system of irrigation, which allowed fields to be flooded several times, became common particularly during the Bronze Age in the Murghab oasis and ancient Bactria,¹⁹ the lower reaches of the Zerafshan²⁰ and ancient Khorezm.²¹

In B. V. Andrianov's view the small lateral channels, no more than a few dozen or at most a few hundred metres long, which were used in the lower Amu Darya irrigation system in the mid-second millennium B.C., were replaced in the early first millennium B.C. by longer main canals.

The former sinking or silting basin channels, or disused river-beds, gradually came, through subsequent dredging, to be flow-fed main canals. This advance took place in the Amirabad period. From that time, completely man-made main canals, 3 km or more in length, have been identified and studied near the Amirabad settlements of Kavat II, Yakka-Parsan II, Bazar X and others. Thus a new link appeared in the system for supplying water from the river to the fields.²² All this defined the standard of the Early Iron Age irrigation system, providing the foundation for the construction of the very large canals of Antiquity.

In 1951–53 and 1969, V. M. Masson studied the archaeological sites and ancient irrigation network of Dahistan where he recorded the remains of major man-made canals 50–60 km long, leading from the Atrek river. Subsequent thorough investigations by geomorphologists, soil scientists and archaeologists, during which a large number of trenches were dug in the irrigation dykes and canals of the Dahistan period, demonstrated²³ that the main Shah-duz canal branched off into complex irrigation systems and into the large Akhura and Izatkuli canals. The waterways in those systems may be subdivided by dimension and structure into primary and secondary channels and a dense network of ditches which were developed from the corresponding old channels.

The main canals of ancient Dahistan – those of Akhura and Izatkuli – were artificial constructions dating from the late second or early first millennia B.C., and in their central parts they had large tail-runs. The canals were 5–8 m wide and 2.3–2.7 m deep; the primary irrigation channels were 1.5–3 m wide and 1.2–1.65 m deep; the secondary channels were 0.8–1.3 m wide and 0.8–1 m deep, while the ditches were 0.5–0.7 m wide and 0.4–0.5 m deep.

¹⁸ Lisitsyna, 1978.

¹⁹ *Ibid.*, pp. 212–14.

²⁰ Gulyamov, 1966; Gulyamov and Mukhamedzhanov, 1975 pp. 133–52.

²¹ Andrianov, 1969.

²² *Ibid.*; Itina, 1977a.

²³ Kes' et al. 1980.

A broadly similar picture emerges in respect to irrigation systems in the Murghab oasis, in ancient Bactria, the lower reaches of the Zerafshan and the Amu Darya delta. The Late Bronze and Early Iron Age canals generally followed the edges of the main channels of the local deltas; they were built along commanding features of the terrain, usually the tops of the channel banks or dykes, and could thus supply large areas of farmland on the gentler slopes of these features. That is why both the irrigation channels and the canals were flow-fed. This was the initial phase in the development of irrigation systems, when special devices began to be built to control the heads of the main canals.

To build large canals of dozens of kilometres long was beyond the capability of isolated clans or tribal communities. The economic change triggered off in the late second and early first millennia B.C. by the gradual expansion of irrigated farming led, in the final analysis, to a turning point in the social and political affairs of the local peoples, resulting in the establishment of military democracies controlled by aristocracies or tribal chiefs (chiefdoms). The capitals would appear to have been Izatkuli and Madau-depe in northern Parthia, Yaz-depe in Margiana, Altyn-depe I and Altyn-Dilyar in Bactria and Dalverzintep in the Ferghana. With their powerful citadels standing on high platforms, these early townships, at first exclusively agrarian in vocation, gradually became craft centres. The administrative and political authority they exercised appears to have been that of a military democracy, and the area they governed was no greater than an oasis, thus they were not capable of public works such as the irrigation schemes of later Antiquity. The construction and upkeep of large canals called for a colossal outlay of labour, several times exceeding that involved in the smaller-scale irrigation systems of the times.²⁴ Discussing the problems of pre-Achaemenian Khorezm, S. P. Tolstov considered that this ancient realm was a tribal confederation of chiefdoms that gradually evolved into a state.²⁵ M. M. D'yakonov, matching archaeological findings with literary tradition, accepts that there was a centralized state in ancient Bactria and ascribes it to the second quarter of the first millennium B.C.²⁶ The recent expansion of archaeological investigations has furnished additional proofs of D'yakonov's thesis of the existence of an early organized state in Soviet Central Asia.

As a result of his studies of several archaeological sites in the Murghab oasis, V. M. Masson²⁷ noted the presence of two important factors in the life of the early states established in Margiana – the construction of large irrigation systems and the development of citadels. He also concluded that there was in Bactria a major political unit that extended its influences to Margiana and, possibly, to Aria and Sogdiana. The existence of a

²⁴ Gulyamov and Mukhamedzhanov, 1975.

²⁵ Tolstov, 1948 p. 135.

²⁶ D'yakonov, 1954.

²⁷ Masson, 1959 p. 135.

pre-Achaemenian Bactrian empire has been archaeologically proved through studies of the northern Afghanistan settlements of Altyn-Dilyar-depe, with its lofty citadel ringed with ramparts and bastions, Altyn-depe I with its keep, and Altyn-depe X with its summer and winter palaces.²⁸ With their tall citadels raised on platforms and their defensive walls, such heavily fortified settlements as Altyn-Dilyar in the Farukhabad oasis or Altyn-depe in that of Dashly, contrast sharply with the hand-made decorated pottery. This means that the culture originated at the latest in the mid-eighth century B.C. Consequently, in the case of Bactria and possibly of Margiana, it would not be correct to ascribe Achaemenian-type pottery to the period from the sixth to fourth centuries B.C. Thus the pottery complex erroneously described as Achaemenian must now be called ancient Bactrian, following M. M. D'yakonov's suggestions,²⁹ on the basis of the Kobadian I archaeological assemblage. Ancient Bactria-type sites yielding sixth-to-fourth-century-B.C. pottery are now known in the Karshi oasis, in the Yerkurgan IA strata, and in ancient Samarkand in the settlements of Lalazar and Kurgan-shah, which share the early urban material culture of pre-Achaemenian Soviet Central Asia.

At the turn of the second and first millennia B.C., the populations of Soviet Central Asia held a number of religious concepts and beliefs, the commonest in the Early Iron Age being the cult of fire, which incorporated the symbol of divine justice. In archaeological terms, that cult manifested itself in the shape of temple buildings that contained the remains of small altars.

This was the period when the beliefs reflected in the writings of the Avesta were becoming widespread in the settled oases. The image of the goddess Aredvi Sura Anahita, which can be traced back directly to the fertility deities of the early agricultural period, is represented here. The powerful god Mithra, who is usually depicted as a magnificent armed warrior driving a chariot, enjoyed great popularity. This image was completely in keeping with a period of armed conflicts that left clear traces in the archaeological material in the form of formidable fortifications and armaments. However, other aspects or beliefs are poorly represented in the archaeological evidence. Furthermore, there is an almost complete absence of clay figurines depicting people and animals that could be connected with certain requirements of orthodox Zoroastrianism.

²⁸ Sarianidi, 1977.

²⁹ D'yakonov, 1954.

Conclusion

This first third of the first millennium B.C. – the Early Iron Age – was associated in southern Soviet Central Asia with considerable economic progress. New oases based on irrigated cultivation appeared in a number of areas, including Khorezm and the Caspian Sea region. At the centres of these oases on massive platforms citadels were built which were, judging by all the evidence, rulers' residences. But specific paths of cultural and historical development were quite complex. In Khorezm, in the lower reaches of the Amu Darya, a settled culture was formed on the basis of Bronze Age traditions in the steppes. The origins of the Chust culture were also multiple. Cultural transformation in the main oases of Parthia, Margiana and Bactria occurred within a clear-cut continuation of local traditions in an area of economics and, to a certain extent, culture. The construction of monumental mausoleums for the local aristocracy in the southern Aral Sea region at Tagisken is particularly instructive as regards cultural links; the principal construction techniques and standards here are clearly southern in origin. While the settled oases of the south display an overall cultural unity, there are glimpses of original local features that anticipate the cultural features of such ancient people as the Parthians, the Khorezmians and the Bactrians.