

THE DECLINE OF THE BRONZE AGE CIVILIZATION AND MOVEMENTS OF THE TRIBES¹

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IN the second millennium B.C. there were major shifts in the development of society over a wide area of Central Asia, and the whole picture of ethnocultural development changed. In the first place – and it is to this that attention has primarily been paid by all investigators – the former centres of a highly developed sedentary culture fell into decline and became scattered. Thus in the Indus valley the immense capitals of Harappan culture, Mohenjodaro and Harappa, became deserted, and life declined in most of the other centres of habitation. At almost the same time in north-eastern Iran Tepe Hissar and Turangtepe were depopulated, and the same thing happened on the plain adjoining the Kopet Dag range in two local centres – Namazga-depe and Altyn-depe. However, this whole phenomenon is most striking when the materials are first studied. Further excavations and archaeological discoveries have shown that the real picture was much more complicated. Along with the decline and disintegration we find some traditions suggesting that there was transformation of culture rather than a break.² The decay of old centres was followed by the cultivation of new lands. For example, the abandonment of Altyn-depe and Namazga on the northern Kopet Dag plain was followed by a simultaneous organized movement of groups of communities to the east into the Murghab deltaic regions and the subsequent cultivation of fertile lands along the middle course of the Amu Darya, the region that later came to be known as Bactria. No less important changes occurred in the steppe zone of Soviet Central Asia. Here the cultures of hunters and fishermen, who practised some form of productive economy, were replaced during the second millennium B.C. by herdsmen from the

¹ See Map 11

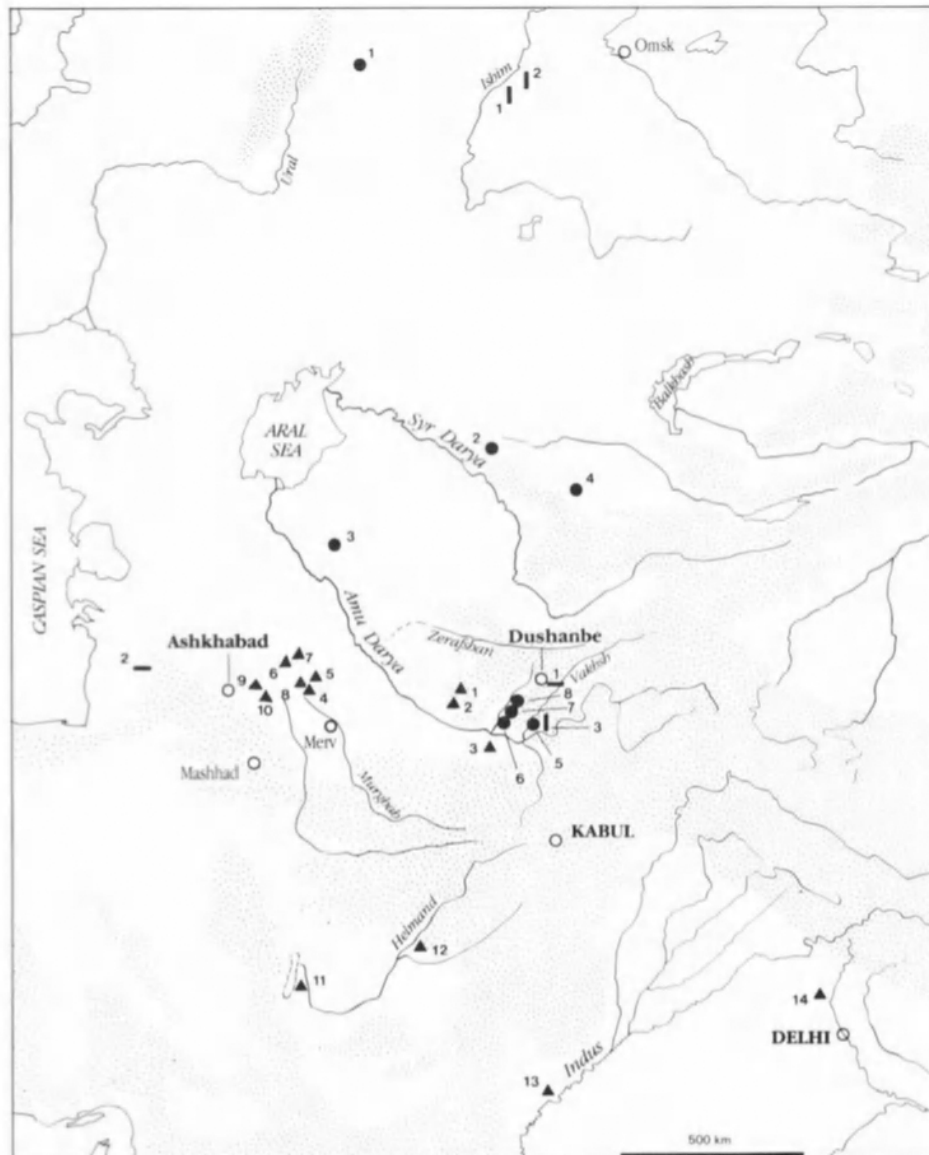
² Dani, 1981a

steppes and semi-deserts, who left behind them remains of the so-called steppe bronze. This radically altered the whole historical situation. The mobile, energetic and resourceful herdsmen, using light war-chariots drawn by horses, advanced in many different directions. In the south we have indisputable evidence of their active contacts with those who built the sedentary civilizations, in whose destinies they played a major role. Thus historical development during the second millennium B.C. was marked by a complex pattern of migratory movements, transformations and cultural interactions.

In the civilization in the oasis adjacent to the Kopet Dag range, which shows the displacement of the traditional centres, there is evidence of indisputable decline in the middle of the second millennium B.C. by comparison with the preceding period. Altyn-depe and a considerable part of Namazga-depe lay in ruins, and these ancient urban centres gave way to small settlements with an area not exceeding 1–2 ha. Some of these settlements came into being on new sites (Tekkem-depe, Elken-depe), while others occupied the same site as settlements of the preceding period (the Namazga-depe ‘watch tower’, the south mound at Anau, Ulug-depe). The Altyn-depe area as a whole became completely derelict, and the development of an agricultural culture came to a temporary halt in this area. Cemeteries began to be sited outside the settlement (Yandi-kala), whereas in the preceding period burials mostly took place within the settlement. The excavations at Tekkem-depe and Namazga-depe have shown that, despite the decrease in the absolute size of the settlements, the traditions of developed unbaked-brick architecture are, on the whole, preserved: the settlements consist of solidly built houses with several rooms, separated by narrow alleyways. The forms of ceramics become coarse, female terracotta figurines come to an end or become fewer and seals are comparatively rare.

This picture of definite decay and provincialism is in striking contrast to what we find in the lower Murghab (Margiana), where some 100 remains from the second millennium B.C. have been discovered.³ These are the remains of ancient settlements spread along the banks of the former Murghab delta which is now situated in the zone of sandy strata of the Kara Kum desert. The settlements are arranged in groups, corresponding to the ancient oases, and eight such groups are at present known. The oldest, the Kelleli group, is still related to the closing stages of developed bronze and is dated to the beginning of the second millennium B.C. This period saw the arrival, from the belt flanking the mountains, of a number of communities who brought with them all the main forms of material culture, from pots to clay figurines, which the ancient craftsmen began to make directly where they settled. In the Late Bronze Age, when the belt flanking the mountains was the scene

³ Masson, 1959; Sarianidi, 1981a, 1981b; Masimov, 1981a, 1981b.



- | | | |
|------------------------------|----------------------------------|-------------------------|
| ● <i>Pastoral cemeteries</i> | ▲ <i>Towns and settled sites</i> | I <i>Pastoral sites</i> |
| 1 Syntashta | 1 Jarkutan | 1 Novonikolskoye |
| 2 Tautara | 2 Sapalii | 2 Petrovka |
| 3 Kokcha | 3 Dashly | 3 Makan-i Mar |
| 4 Tash-tepe | 4 Tahirbay 3 | |
| 5 Tigrovaya Balka | 5 Auchin | |
| 6 Aruktau | 6 Kelleli | |
| 7 Beshkent | 7 Taip | |
| 8 Tulkhar | 8 Gonur | |
| | 9 Namazga | |
| | 10 Elken-depe | |
| | 11 Shahr-i Sokhta | |
| | 12 Mundigak | |
| | 13 Jhukar | |
| | 14 Bhagwanpura | |
| | | — <i>Other sites</i> |
| | | 1 Tandyriul |
| | | 2 Sumbar |

Map 11. Late Bronze Age sites of Central Asia.

of decline and decay, in the Murghab region on the contrary there was an increase in the number of oases and a further rise in culture, with the range of cultural items expanded to include, in particular, flat stone seal-amulets with artistic representation of mythological scenes and cylindrical seals of Mesopotamian type. All in all, the nerve-centre for the development of southern Turkmenistan society shifts at this time from the belt flanking the mountains to the region of Margiana (Fig. 1).

The Late Bronze Age monuments of Margiana relate to the middle and second half of the second millennium B.C. and fall into two chronological groups – the earlier Auchin group and the later Tahirbay group. The Auchin period in the Murghab delta coincided with a marked increase in the inhabited area, which now embraced six oases, each containing settlements of different types. The oases centred round large settlements covering more than 5 ha in area and normally consisted of a roughly square fortress with round towers at the corners and an extensive adjoining mound of amorphous features. These settlements also included special artisans' quarters, where there were ovens for firing ceramics and



FIG. 1. Late Bronze Age culture of lower Murghab.

where clay pots, and also seemingly metallic goods, were manufactured. Of this kind, for instance, was the Taip I settlement with a total area of 12 ha and a square fortress. This site is notable for the richness of its culture; four cylindrical seals were discovered here, as well as impressions from two more on a clay pot. The largest settlement in the Murghab delta, possibly even a sort of local capital, was the settlement of Gonur, centre of the oasis of the same name. It covered 28 ha and here too there is a fortress measuring 135 × 125 m. Many of the ancient settlements are small, covering from 0.5 to 3 ha, and do not usually present traces of intense commercial activity. It is mainly the large centres that should be regarded as settlements of urban type, and the oasis as the initial substratum of a social unit which turns into the organism we know as the city-state. However, there is still no evidence that this level of political and social development had been attained in Late Bronze Age of Margiana. In fact, during the Auchin period the Murghab settlements themselves as well as the outlying area furnish roughly modelled pottery with simply incised ornamentation, ware that is very similar to that of the steppe bronze tribes – clear evidence of population movement. Wheel-made pots show some new forms, but the earlier traditions are mainly preserved. There are also some changes in the types of female figurines though their number is greatly decreased. Human figurines executed in schematic fashion also become widespread. They are used to build up, on the rims of cult vessels, whole scenes in which snakes and four-legged animals take part. However, the most impressive innovation without doubt is the stone seals. Flat and usually square-shaped, they have figurines on both sides with a hole for a cord. Most depict wild beasts, but there is also one seal depicting a mighty hero who is gripping two prostrate beasts. This iconographic motif clearly calls to mind the favourite hero of Mesopotamian epic, Gilgamesh. There are numerous scenes of animals fighting, especially bulls and dragons, which are depicted as horned snakes. Similar subjects are also reproduced on the cylindrical seals where we see another hero fighting with a wild beast, birds in flight, a lion and a bull standing on either side of a tree and a complex scene with human figures, camels and other animals.⁴ Above all, these images reproduce mythological subjects dear to the sedentary agricultural tribes of Margiana.

In the concluding stage of development of the Late Bronze Age settlements in the Murghab delta there is some decrease in the number of oases and some changes are also observed in the material culture, where the tradition of making terracotta statuettes of human figures and animals is gradually extinguished. What we find more and more frequently in the settlements is roughly modelled ware, usually without ornamentation. Of the new ceramic forms encountered mention should be made of vessels with elongated tapering spouts.

⁴ Masimov, 1981b.

Colonization of the Murghab delta by sedentary agricultural communities was only the prelude to the further development of new areas. In the middle of the second millennium B.C. permanent settlements with a culture differing little in practice from the Murghab culture made their appearance along the middle reaches of the Amu Darya, on both the right bank, in the area of Uzbekistan and Tajikistan, and the left bank, in Afghanistan. The remains found on the right bank have been studied in detail by Soviet archaeologists and are attributed by them to the Sapalli culture (Fig. 2)⁵ In this region the permanent settlements occupy mainly the strip along the foot of the Kugitangtau and Baisuntau ranges, clustering near the streams and tributaries that flow down from them. The earliest Sapalli settlement lies to the south of this area, some miles from the channel of the Amu Darya, from where the communities gradually spread northwards along the Surkhan Darya valley. Individual groups even penetrated to the Vakhsh valley in Tajikistan, where a cemetery of the Sapalli culture has been found near Nurek. Unquestionably, the waters of the lesser streams flowing down from the mountains were used to irrigate the fields, since the rainfall in this region is insufficient for permanent cultivation without watering. There was a fairly wide range of crops – two kinds of wheat, barley, millet and grapes. Remains of what seems to be gruel have been found on a number of dishes placed in the ancient graves, and the fact that the teeth of the Sapalli culture people are but little worn down shows that leguminous and milky foods predominated in their diet, though it is true that alongside the vegetal products, they placed in the graves parts of sheep carcasses, of which either the hind legs or the shoulder with a few ribs are preserved. About one third of the Sapalli people's livestock consisted of a small strain of cattle, most of the remainder being sheep. There are also isolated bones of camels, pigs and, seemingly, asses. The pastoral/agricultural economy is organically combined with a developed commerce. The pottery is wheel-made and fired in twin-bed furnaces. Exceptionally numerous are metallic objects, including notably weapons – especially battle-axes with cross-guards and tanged spearheads – and a variety of toilet articles, ranging from mirrors to pins, bracelets and rings. The working of stone attains a considerable degree of professionalism, with wide use of steatite. It was also used to make pots, beads and seal-amulets identical to those made in the Murghab.

Typical of the settlements of this time is Sapalli itself, which has been completely excavated over several seasons. The centre of the settlement was a square fortress measuring 82 × 82 m, surrounded by a mud-brick wall with oval towers. Along each wall ran two narrow corridor-like rooms. In the centre of the fortress was an open area, a kind of square, along the four sides of which were situated the working and living complexes, consisting of a number of small buildings, each complex having a uniform type of hearth. The number of

⁵ Askarov, 1973, 1977, 1981.



FIG. 2. The Sapalli culture.

people living in this fortified settlement can be roughly estimated at 230–250. Graves here were inside the settlement, being arranged in special catacombs beneath the floors and, in some cases, beneath the walls of buildings. Adjoining the fortress is a small mound of ill-defined shape, where there were evidently other constructions of various kinds. The Sapalli community, like the other settlements of this culture, was distinguished by its high material level. This is attested by the copious inventory of objects found in the graves: sometimes they contain as many as thirty pieces of earthenware and ten objects made of bronze and copper. These funerary gifts are extremely varied in type; among those that have come

down to us there are four types of wooden vessels, basketware and leather goods, including a leather cap and footwear. One of the bodies was placed in a wooden coffin. Culturally Sapalli is in practice almost indistinguishable from settlements of the Auchin type in the Murghab, and evidently is one of the earliest on the right bank of the Amu Darya. When the sedentary farming communities spread out to the north another settlement was founded, namely Jarkutan. This also has a square fortress, but a larger one, covering about 4 ha. Outside this fortified nucleus there were the working and living complexes and an extensive necropolis, where about 900 graves have been uncovered. Jarkutan's life-span was longer than that of Sapalli and it was the largest centre in that part of Bactria along the right bank of the river. As at Sapalli there are cenotaphs among the graves, though more are found in later complexes. One of the cenotaphs at Sapalli was found to contain a bronze axe and pike, which seems to point to the fact that it was erected to commemorate a warrior who had been killed somewhere close by. It indicates that the cenotaphs on the whole contain a more plentiful inventory than the average number of articles placed in a tomb. It is possible that the increase in the number of cenotaphs points to an intensification of intertribal conflicts, in which notables and well-to-do warriors took an active part. For the later period of development of Sapalli culture archaeologists differentiate a number of stages which as a whole belong to the second half of the second millennium B.C., and correspond in point of time to the monuments of Tahirbay type in the Murghab.

The close links between the remains of the Sapalli culture and the Murghab settlements are manifest not only in the types of fortified sites but also in the range of the main ceramic forms and the flat seal-amulets. As in the Murghab, terracotta figurines are extremely rare in Bactria and soon disappear entirely. As also in the Murghab there are resplendent specimens of artistic handiwork, especially again the seals. Here for example we find representations of a camel or an eagle with outstretched wings; on one seal, in the form of a serrated cross, the bordering of intertwined snakes enfolds medallions of four animals – a mountain goat, a boar, a lion and another carnivorous beast of the feline family. Highly original are the mirrors with a handle depicting a human figure with arms akimbo, especially a woman whose head is replaced by the mirror.

The similarity of the Sapalli and Murghab remains is a clear pointer to the genetic link between them and the fact that they derive from a single source. In this connection different opinions have been expressed. Some investigators suppose the centre of the new type of culture to have been somewhere in Iranian Khorasan, from whence the tribes spread out both in the direction of the Murghab delta and into the middle reaches of the Amu Darya.⁶ Other authors take the view that in both cases this was the result of the movement of

⁶ Sarianidi, 1981a, pp. 189–92.

groups of communities from the belt along the foot of the Kopet Dag mountains.⁷ And indeed the principal components of the Sapalli and Murghab cultures directly recall the civilization of Altyn-depe, and the Kelleli oasis describes the first stage in its subsequent movement towards the east. The finest specimens of the new type of artefact that made their appearance in the Late Bronze Age are the flat seal-amulets and cylindrical seals and also, as far as materials from the left bank of the Amu Darya are concerned, individual types of bronze artefacts. The actual form of seals is in the final analysis highly original, but a number of subjects as well as the stylistic features indicate intensified contacts with western Asia and especially Mesopotamia. These contacts could have come about either through closer trade relations or the movement of individual groups or tribes, who became intermingled with the inhabitants of the Murghab and middle Amu Darya and assimilated by the local cultural environment. There are also a number of analogies further to the south. In particular, mirrors with a handle in human shape come from southern Baluchistan. But hardly less important is the evidence of contacts in the opposite direction, towards the north.

In many permanent settlements in the belt adjoining the Kopet Dag range, in the Murghab delta and along the middle course of the Amu Darya we find utensils that are quite different from the high-quality pottery produced in these centres. The vessels in question are modelled and decorated with simple incised motifs. These finds are clear evidence of the mutual interaction of two cultural worlds – the sedentary civilizations of the Bronze Age and the steppe tribes of herdsmen/farmers. It was in fact in the second millennium B.C. that the Early Iron Age culture of the steppe tribes took shape, though the origins of the process extend back to the third millennium, as can be seen from the remains of the Afanasievo culture, which has been the subject of study in southern Siberia.⁸ These communities already kept all the main domestic animals – cattle, sheep and goats, as well as horses. Some of their artefacts – ornaments, awls and small knives – were made of beaten bronze, but there are also ornaments made of gold and silver. It is true that these represented only first steps in metallurgy in the steppe zone of Asia, and many large objects, including axes and pike heads, were still made of stone. The pottery was brittle as it was not fired in special ovens but on a charcoal bed, and the decoration consisted of simple incised patterns. The Afanasievo people's sites themselves are still unknown, but to judge from the size of the burial-grounds they were small, consisting of eight to eleven small families.

Unlike what happened in the southern zone of the earliest farmers and herdsmen, the spread of stock-raising in the steppe belt was closely linked to the primary foci for the

⁷ Askarov, 1977, pp. 106–8.

⁸ Gryaznov, 1969.

domestication of animals. While sheep and goats apparently came from the south, specialists in the matter do not exclude the possibility that cattle were developed in many foci, since wild oxen were widely distributed in the steppes of the Asian continent. The camel, too, was domesticated in the zone of the southern cultivators, apparently already in the fourth millennium B.C. The situation was different with the horse. Studies made by zoologists show that the domestic horse probably derives from the wild horse that inhabited eastern Europe. In that case the domestic horse spread from west to east, from the steppes along the Caspian Sea with the Afanasievo culture into Mongolia and China. In the oases along the base of the Kopet Dag and in Transoxania this purely steppe animal was still unknown in the tamed state during the third millennium B.C. and even at the beginning of the second millennium B.C.

The monuments of the Afanasievo culture were only the first forerunner of the decisive changes that occurred in the steppe and semi-desert zone. These changes are linked to three main phenomena – the spread of bronze metallurgy, the use of horses for drawing war-chariots and the universal consolidation of a type of economy combining animal husbandry and land cultivation. Above their burial-places the steppe-dwellers began to erect special tumuli and more complicated constructions, today clearly visible in open areas as barrows. Mound burials are typical of steppe pastoralists as well as the early nomads who succeeded them.

The most striking materials characterizing the initial stage of this process come from the region adjoining the Urals and western Kazakhstan, where a number of extremely interesting settlements and burial-sites dating from the seventeenth to sixteenth centuries B.C. have been discovered. Typical of these is the cemetery at Syntashta I.⁹ The excavations here have centred on mounds covering large burial-pits, lined on the inside with logs held in place by vertical posts. The tombs themselves were roofed with timber. In five such burial-places were found remains of light war-chariots with wheels having a diameter up to 1 m with ten spokes each. This was no longer a cumbersome cart with four wheels cut out of pieces of wood but a two-wheeled equipage, mobile and light. Naturally, the animals used to draw it were not slow-moving oxen or, as was the practice in the oases along the foot of the Kopet Dag, camels, but fiery horses. Skulls and indeed whole skeletons of these animals have been found in these burial-sites, whither also the chariots were brought (Fig. 3a). In one such tomb were found the skulls and lower parts of the legs of two horses (Fig. 3b) it is possible that the horses' hides were placed here too. Above the wooden canopy covering the tomb were piled up the bodies of the horses, usually in twos or fours, though in one case there were as many as seven. Of the harness, the bits made of bone have been

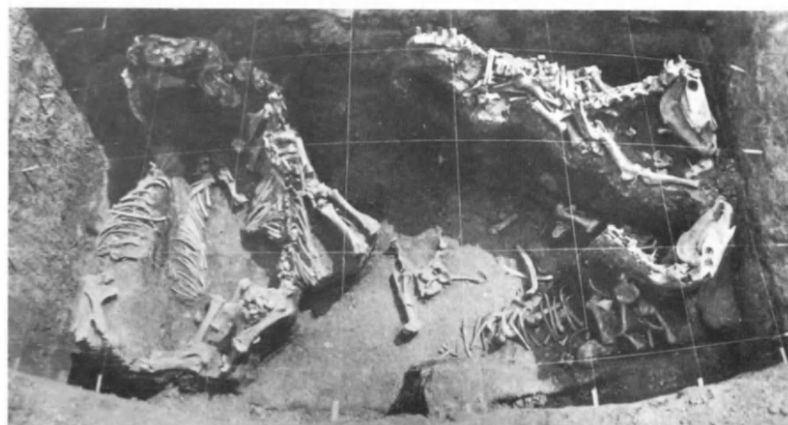
⁹ Gening, 1977; Kuz'mina and Smirnov, 1977.

preserved. Within the burial-site there were also cult buildings where the skulls of horses, oxen and sheep were laid in pits alongside vessels containing grave-gifts of various kinds. Above the tomb an earth mound was heaped up and the funeral pyre was lit, reddening the earth. Weapons have also been discovered in the graves – bronze pikes with cross-guards and drop-hafted axes as well as maces made of stone. Ornaments are also found here – copper bracelets, rings and temple bands sometimes decorated over the copper with gold leaf. In one case fragments of a silverplate breastpiece have come to light. At the same time the earthenware found in these tombs is inferior to the pottery of the southern cases; it is hand-thrown, frequently on a mould, and embellished with simple motifs of zigzags, triangles and representations of fir trees.

The settlements of this time consist of a semi-torus of several dozen frame dwellings slightly sunk into the ground; they are rectangular in plan and measure 60×95 or 70×120 m. To be noted is the special concern with defence: the sites are surrounded by twin walls and a ditch (Novonikolskoye I, Petrovka II). At most of the settlements there are also



(a)



(b)

FIG. 3. (a) Syntashta cemetery – parts of chariots; (b) Syntashta cemetery – horse burials.

traces of metallurgical production – copper slag, casting moulds and sometimes also metal castings.

Remains of the Syntashta-type (archaeologists sometimes also call it the Novopetrovo or Novokumaksk-type) reveal links with the culture of eastern Europe in very many respects. For instance several forms of ornamented vessel call to mind the pottery of the Abashev culture, and many bronze artefacts have markedly western analogies. Western influences evidently played a definite role in forming this Bronze Age steppe complex. The result is a new type of culture and society, in which the group of warrior-charioteers plays an important part. The period in which this new type came into being was one of tension, and even small settlements hastened in vain to defend themselves against the uninvited newcomers. But the new type of culture quickly spread far enough, apparently as a result of migration and also possibly of hostilities, when the local tribes defeated by an invader took over the cultural complex brought by their conquerors. In the middle of the second millennium B.C. a whole extensive area of Kazakhstan, southern Siberia and the lands along the Syr Darya as well as the lower reaches of the Amu Darya and Zerafshan, were occupied by tribes at similar levels of cultural development. By convention, the remains left by them are referred to as steppe bronze cultures. Even in the Vakhsh valley in Tajikistan a seasonal abode of these roving pastoralists has been discovered, and individual potsherds and pots are also known in northern Afghanistan.

The economy of these tribes was originally primarily a mixture of animal husbandry and land cultivation, with cattle predominating among the livestock, and the settlements were situated in depressions and river valleys, where there were favourable conditions for feeding the livestock. Even so about a third of the livestock was made up of horses. In the course of time the role of horses and sheep increased, and a breed of fine-woolled sheep became widespread, which were capable, like horses, of foraging in winter from beneath the snow. In consequence, the area of cultivated land increased, and settlements came into existence on the open steppe, where water was obtained from wells, now known from excavations at a number of sites. All the evidence indicates that transhumance developed in the semi-desert and arid steppe regions. In Central Asia steppe bronze cemeteries have been found in high mountain districts in the T'ien Shan and Pamir ranges, where the herds were evidently taken to graze during summer.

While the culture of the steppe bronze tribes is uniform in comparison with the highly developed oases of the south, it has a number of local features associated with other cultures. For example, the remains of the Andronovo type (Fig. 4), which cover a vast territory from the middle Yenisey to western Kazakhstan, form a distinct category. Their pottery is decorated in a particularly artistic manner with a design of, notably, meanders, occasionally

with swastika motifs. There are indeed links between the culture of the western Kazakhstan remains and the other major steppe bronze cultural type, namely the timber-grave culture of eastern Europe. Here graves, too, provide evidence of a different people. While the settlers on the Yenisey and in eastern and central Kazakhstan represent the so-called Andronovo variant of the proto-European race, in the lands along the Volga and western Kazakhstan we find a dolichocephalic Europoid population of the so-called eastern Mediterranean type. Local cultural and economic peculiarities are also evident in the Andronovo culture. Thus in eastern, and to some extent also, in central Kazakhstan there are remains of the Fedorovo type, similar to those of the wooded steppe zone of southern Siberia. Among the cemeteries that have been investigated on the Yenisey and the Ob rivers some of the dead have been buried but others have been cremated, and the actual remains are preserved in stone chests. No settlements have as yet been found here, and these were evidently the temporary abodes of a stock-raising population. During the Andronovo period there was in Kazakhstan active exploitation of the metallic ore deposits – copper, tin and gold. In the Dzhezkazgan region alone tens of thousands of tons of copper ore were smelted in the ancient foundries.



FIG. 4 The Andronovo culture.

The southward movement of the tribes is linked with both cultural regions. Along the lower Amu Darya, in the vicinity of Khorezm, the second half of the second millennium B.C. saw the spread of the Tazabagyab culture (Kokcha cemetery), which is related both to the world of the timber-grave tribes and to the remains in western Kazakhstan. Here we know of about fifty settlements, usually small in size and consisting, as a rule, of two or three large rectangular houses of pillar design, slightly sunk into the ground. The average number of people living on such sites was about 100.¹⁰ They included metal-working craftsmen – in the house of one of such craftsman was found a stone mould for casting pikes with cross-guards. In the conditions obtaining in the former Amu Darya delta the Tazabagyab people developed irrigated agriculture leading small canals off the gradually shrinking watercourses to water the fields. A similar culture also spread around the lower reaches of the Zerafshan. Specifically, timber-grave tribes also advanced southwards. At any rate a number of timber-grave burial-sites have been found on the west of the plain adjoining the Kopet Dag range.¹¹

Kirghizia and the Ferghana valley, on the other hand, experienced the incursion of tribes of the Andronovo culture, who brought with them the northern tradition of carrying out burials in cemeteries situated apart in stone enclosures or under barrows formed by bringing in earth or a mixture of earth and stone. Of this kind is the Tautara cemetery on the northern slopes of the Karatau chain. The pottery includes forms not found in more northern regions and imitating in particular the commercial vessels produced in the settled oases of the south.

The T'ien Shan tribes are characterized by the ceremonial use of vessels containing foodstuffs and other substances in cremations. For example, one of the graves in the Tash-tepe cemetery was found to contain more than 100 bronze and silver vessels, glass beads and nearly 1, 200 antimony ear-rings. In the course of their peregrinations the tribes of steppe pastoralists came right up to the borders of the oases of Bactria and Margiana, and possibly themselves became the residents of permanent settlements. In a number of cases mixed-type cultures emerged, combining features pertaining to the sedentary land-tillers of the south and the steppe-dwellers of the north (Beshkent and Vakhsh cultures in southern Tajikistan). The culture of the settled oases in turn acquires the domestic horse, previously unknown there, and to judge from the models of vehicles, chariots with light-spoked wheels. Ethnic assimilation also possibly begins. At any event, excavations at the Murghab settlement Tahirbay-3 have brought to light, alongside the interments typical of a sedentary farming population, partial cremation, and those who were actually interred

¹⁰ Itina, 1977.

¹¹ Mandel'shtam, 1966, pp. 239–42.

include an anthropological type similar to the Andronovo type. In the designs traced on the vessels we find a motif previously unknown in the oases along the base of the Kopet Dag, namely the swastika. It is possible that the sharp increase in the number of oases on the Murghab delta in the middle of the second millennium B.C. is partly due to the fact that newcomers from the steppes had been incorporated in the local sedentary population. A similar interaction is a characteristic feature of the settled cultures of the Murghab and Transoxania in the second half of the second millennium B.C.

For north-eastern Iran, where the outstanding Hissar-Turang-tepe culture flourished during the developed bronze period, no data are yet available to show what happened to the society after these large centres were depopulated at the beginning of the second millennium B.C. However, all the evidence indicates that there was no complete break in the local tradition, which is typified by a liking for grey and black pottery. At any rate two cemeteries have been excavated in the western Kopet Dag in the Sumbar valley, relating to the late bronze period (apparently the second half of the second millennium B.C.) and the materials used in them can be regarded as developing on the basis of a culture of the Tepe-Hissar-Shah-tepe type.¹² The cemeteries are located outside the limits of the settlement and consist of catacombs, whose entry was sealed off by stones or mud-bricks once the burial had been completed. Among the numerous vessels placed in the tomb, which by their very abundance recall the customs of Sapalli, there are vases on tall stems, teapots with beaks, and other pots with great heavy beaks tapering to long spouts (Fig. 5). Both the shape and the grey colour of most of the articles are closely linked to the cultural traditions practised earlier in the south-eastern Caspian region. There are daggers and tanged spear- and arrowheads, as well as ground stone pins. There is also a great abundance of ornaments – pendants, fillets, cornets and beads of carnelian and lazurite. Particular interest attaches to a faience seal of conical form bearing a schematic image of a tree. Other settlements of that time have not yet been found in the immediate vicinity, but the high quality ware made for trade purposes and unbaked bricks are clear evidence that the traditions of a sedentary agricultural community had been preserved.

Unlike the regions of southern Turkmenistan and Transoxania, for southern Afghanistan and south-eastern Iran there is as yet no evidence that the sedentary farming communities brought new areas under cultivation during the second millennium B.C. Development continued in the traditional centres, and, as on the plain adjoining, the Kopet Dag is marked by features of decline. In Sistan at Shahr-i Sokhta the inhabited area at the beginning of the second millennium B.C. shrank from 80 to 5 ha; instead of an early urban centre we have before us an ordinary settlement, which moreover very soon fell into total decay. Similarly,

¹² Khlopin, 1973.



FIG. 5. Finds from the Sumbar cemetery.

in the Kandahar district there is a marked reduction in the size of the Mundigak settlements. The Mundigak V complex, which relates to the second millennium B.C.,¹³ is distinguished, on the one hand, by the still glowing traditions of an earlier civilization but on the other, by features of definite cultural decay. Continuity is preserved in the field of construction – on the main elevation in the Mundigak V stratum excavations have uncovered a massive structure of unbaked bricks. But by this time the greater part of the settlement lay in ruin, and in any event no new constructions were erected on the foundations. The most noticeable changes are in the earthenware, which unlike the earlier Mundigak complexes is here hand-thrown. The decoration, consisting of a limited repertoire of geometrical motifs, is in black paint on a red background. Schematic representations of animals or parts of animals are comparatively rare – for example, a border of goat's horns continuing on from the animal-style motifs used in the decorated pottery from Mundigak IV. In many respects the origin of the Mundigak V culture remains unclear. J. M. Casal has suggested that tribes

¹³ Biscione, 1981.

having the decorated pottery of the Chust culture which existed in the Ferghana valley moved outward,¹⁴ but as in Ferghana this pottery dates from a later period than in Mundi-gak. At any rate the preservation of a certain cultural continuity goes hand in hand with a departure from craft traditions – for example, hand-turned ware replaces pottery made using a potter's wheel.

There is more evidence available as to what happened to the Harappan civilization. At a late stage in its existence there were already traces of cultural distinctiveness in the different regions, and these were intensified during the period of decline and depopulation. Thus the Punjab is typified by complexes of the Cemetery-H type in Harappa itself, Sind by remains of the Jhukar culture and Gujarat by a local form of late, or 'decadent', Harappan. In all three regions high-quality decorated pottery continued to be produced, carrying on what were specifically Harappan traditions in regard to both form and ornamentation. At the same time a large number of distinctive Harappan elements disappeared, in particular the square steatite seals with inscriptions and the main types of metal instruments.¹⁵

An extremely interesting picture of the cultural transformation that took place during the second millennium B.C. has been compiled by Indian archaeologists for the Punjab and Haryana regions.¹⁶ The results of the excavations of the Bhagwanpura site in Haryana are especially striking. This settlement was founded in the late Harappan period, when the first settlers erected their habitations directly on the alluvial deposits of the Sarasvati (Ghaggar) river (Fig. 6). In the uppermost layers there is already evidence of considerable cultural changes: pottery of late Harappan type called painted grey ware, which was more typical of the Early Iron Age in northern India. It seems probable that Bhagwanpura is the earliest known complex having this type of ware. It is significant that in some of its forms it reflects Harappan specimens, showing the close connections that existed between the two traditions. The ornamental motifs used in the painted grey ware are, it is true, highly distinctive, comprising rosettes and solar circles; there is also a Maltese cross inscribed in a lozenge.

An interesting evolution is evident in the architectural style of this post-Harappan culture. These settlers initially lived in oval and semi-oval framework dwellings made of wood or bamboo and generally thatched. These relatively short-lived structures are then replaced by houses with clay-daubed walls and the development culminates in houses with many rooms and walls made of rectangular mud-bricks. Thus, to begin with, a sharp break is observable in the architectural sphere with the Harappan style of house construction and

¹⁴ Casal, 1961, Vol. I, p. 119.

¹⁵ Mughal, 1981, p. 37.

¹⁶ Joshi, 1978a, 1978b.

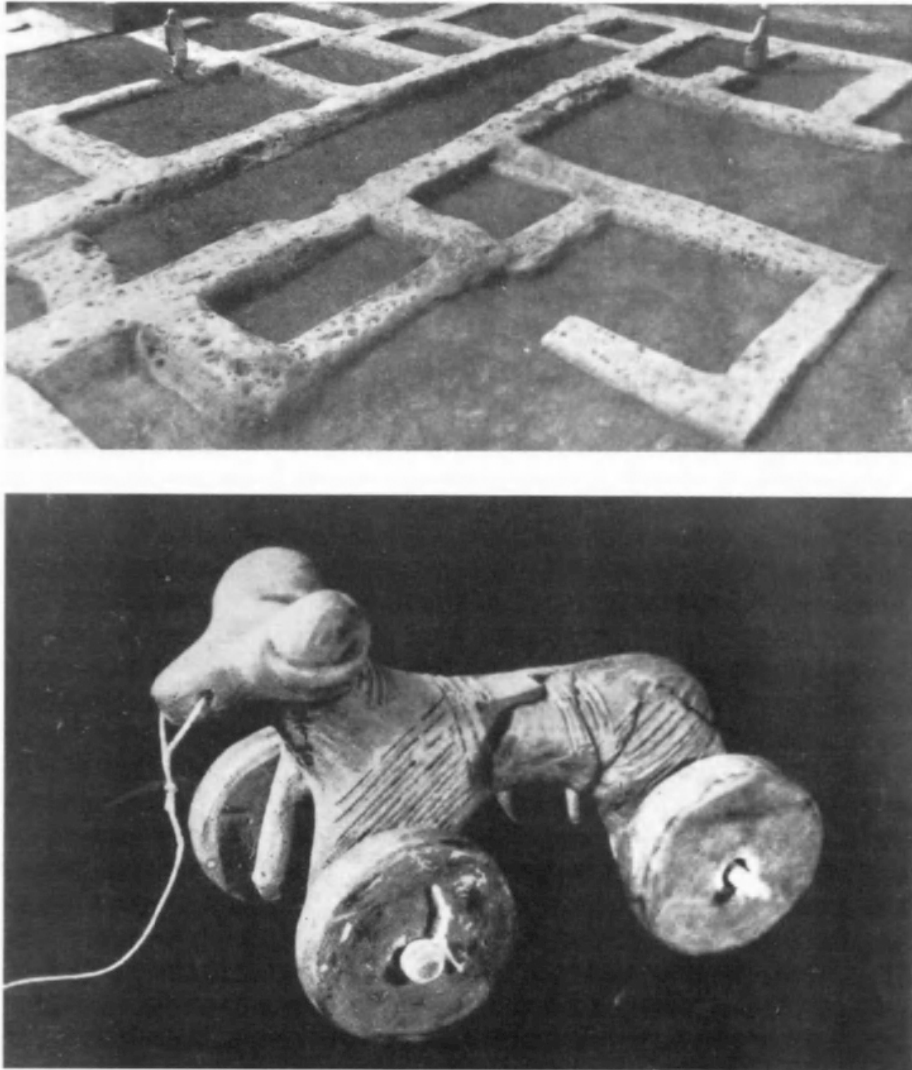


FIG. 6. Bhagwanpura: site and terracotta animal figurine.

only gradually did the population revert to the former architectural traditions, interrupted but not forgotten. The same picture can be seen at other sites, for example at Dadhar and Nagar. There is thus every reason to conclude that new inhabitants arrived in northern India who were evidently unacquainted with clay-daub architecture and had possibly followed a nomadic style of life. Cultural assimilation gradually took place and the newcomers adopted building techniques previously developed by the Harappan civilization.

Comparison of Harappan and non-Harappan features can be traced in a whole series of material artefacts. There are, for example, a considerable number of terracotta figurines of animals – dogs, birds, sheep, including figures mounted on chariots. However, unlike the Harappan culture, the figures themselves are decorated with engraved lines, and among the animals depicted, pride of place goes to the sheep. Ornaments are of many different kinds –

terracotta beads, pins for elaborate coiffure made of copper, shells and faience. The copper artefacts are few in number, but some of them, such as a pin with a double-spiral head, are manifestly in line with the casting traditions of the sedentary agricultural centres of Iran and the plain bordering the Kopet Dag range. The inhabitants of Bhagwanpura and other settlements of this type were engaged in farming, as is evidenced from the finds of stone pestles and grindstones, and also raised cattle, sheep and goats. Of particular interest is the find of the skeleton of a horse and it is possible that it was already used for draught purposes. At any rate we are confronted with clear evidence of the formation in northern India of a new type of culture organically combining traditions of the local Bronze Age civilization with new features clearly connected with the incursion of some new population. Subsequent development of these new elements gives birth to the Early Iron Age painted grey ware culture, which may well coincide with the culture of the first Aryan princedoms.

All the evidence suggests that the causes of the events that occurred in Central Asia during the second millennium B.C. were numerous, and it would hardly be justified to reduce them to a single common factor, as was done previously. For example, Mortimer Wheeler painted a striking picture of the collapse of the Harappan civilization as the result of the Aryan invasion,¹⁷ while more than one investigator has reverted to views linking the decline of the cities of the Indus valley to climatic changes,¹⁸ and more recently the reasons for decline, in regard to Shahr-i Sokhta, for example, have been attributed to changes in types of demographic movement and socio-economic processes.¹⁹ It is probable that what we have here is a whole complex pattern of interrelated factors which ended up by undermining the already none too stable systems constituting the Bronze Age civilization in Central Asia. Thus the movement of the steppe bronze tribes far southwards right up to the middle reaches of the Amu Darya is indisputable, yet there are no traces whatever of a violent incursion by warlike steppe-dwellers into the ancient cities. The tribal movements that have been identified by investigators were not a simultaneous act but a lengthy process involving the gradual migration of tribal groups who mingled with the local population as they went along. In the course of their long journeyings they left scattered behind them the burial-places of deceased tribesmen, which are now assiduously studied by archaeologists.

Some climatic changes in the direction of greater aridity for Transoxania are evident at the end of the third and the first half of the second millennium B.C.; up to this period there was in the inner regions of the Kyzyl Kum more plentiful ground cover of bushes and shrubs, with groundwater condensation.²⁰ At Altyn-depe during the same period there is a

¹⁷ Wheeler, 1959.

¹⁸ Raikes, 1964; Dales, 1966.

¹⁹ Basaglia, 1977, p. 111.

²⁰ Vinogradov, 1981 pp. 28–9.

decrease in the proportion of cattle and a sharp increase in the number of sheep, which are less dependent on abundant pasture. In the area of the main centres of Harappan civilization the period 1800– 1500 B.C. saw some increase in aridity, which expert opinion is inclined to link, it must be said, with the impact exerted by society itself on the environment.

In the northern Kopet Dag plain it is possible that the decline of the local Bronze Age towns was due in part to the exhaustion and salinification of lands that had been continuously parcelled out for irrigated cultivation for nearly four millennia.

Be that as it may, the second millennium B.C. brought a change in the historic geographical pattern and new centres of highly developed settled culture came into being in Margiana and Bactria. But almost everywhere the new cultural traits observable in the area of Bronze Age civilization in the second millennium B.C. were the result not only of internal processes but also of the manifest arrival of new inhabitants linked for the most part with the world of the steppe pastoralists. This results in a cultural synthesis, traits typical of the highly developed Bronze Age civilizations being combined with elements traceable to more archaic cultures. This can be clearly seen in India, as illustrated in a complex of the Bhagwanpura type. It was by such complex mechanisms of interaction and assimilation that the new ethnic societies came into being, linked for the most part with the Indo-Iranian linguistic community.