

Adaptation of taiga migrants among local forest-steppe population in the western part of Western Siberia

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ABSTRACT

Natural and climatic changes at the end of the 2nd – beginning of the 1st millennium BC, called “environmental stress”, caused a severe crisis in the economic systems of the Late Bronze societies living in the tundra-taiga and the forest-steppe zones of Western Siberia. The tundra-taiga areas were flooded and quickly swamped as a result of humidification and a drop in temperature, thus becoming unsuitable for human habitation. A mass migration of the taiga population has begun to the south along the major rivers – the Ob, Irtysh, Tobol, and Ishim. The migrants occupied the sub-taiga and northern forest-steppe regions and brought their traditions of house-building, burial rites, pottery and tool-making technologies. They also continued to practice their traditional predatory economy oriented towards activities such as hunting and fishing in the territories inhabited by local Late Bronze populations. However, the economy, based on appropriation, proved to be non-viable in the conditions of the forest-steppe zone, where the economy was oriented towards cattle-breeding, resulting in the assimilation of the northern migrants. This assimilation of alien groups among the local forest-steppe population took around 200 years (7th to 6th centuries BC). As a result, several new cultures evolved in Western Siberia by the middle of the 1st millennium BC.

KEYWORDS

Siberia, Bronze Age, Iron Age, Transition, adaptation, migration

Introduction

Archaeologists have pointed out that entirely new archaeological cultures were formed in the vast territory of Western Siberia at the beginning of the Early Iron Age (6th–5th centuries BC) (Mogil'nikov 1989; Koryakova 1988; 1991, etc.). An intense economic crisis caused by environmental “stress” have contributed to the decline of the Late Bronze Age traditions, and to the emergence of new cultural entities (Molodin 2010).

The Late Bronze Age in Western Siberia is characterized by the deterioration of environmental and climatic conditions. Paleo-environmental reconstructions demonstrate a drastic drop in temperature in the south part of Western Siberia in the last centuries BC (Levina, Orlova 1993). Some researchers believe that this was the strongest cold event in the Holocene (Zykin et al. 2000), with the climate becoming cold and humid. As a result, the established hydrological regime of the Ob River basin in the sub-tundra and tundra zones of Western Siberia was disturbed (Zakh, Tsembalyuk 2014, 90). Recurring flooding of vast areas caused a catastrophic formation of swamps in the northern territories. Areas suitable for human habitation in a sustained way were massively reduced. The increase in humidity and the decrease of temperature regime in the northern latitudes put humans in extreme survival conditions (Molodin 2010, 22). The environmental “stress” led to the “taiga” econ-

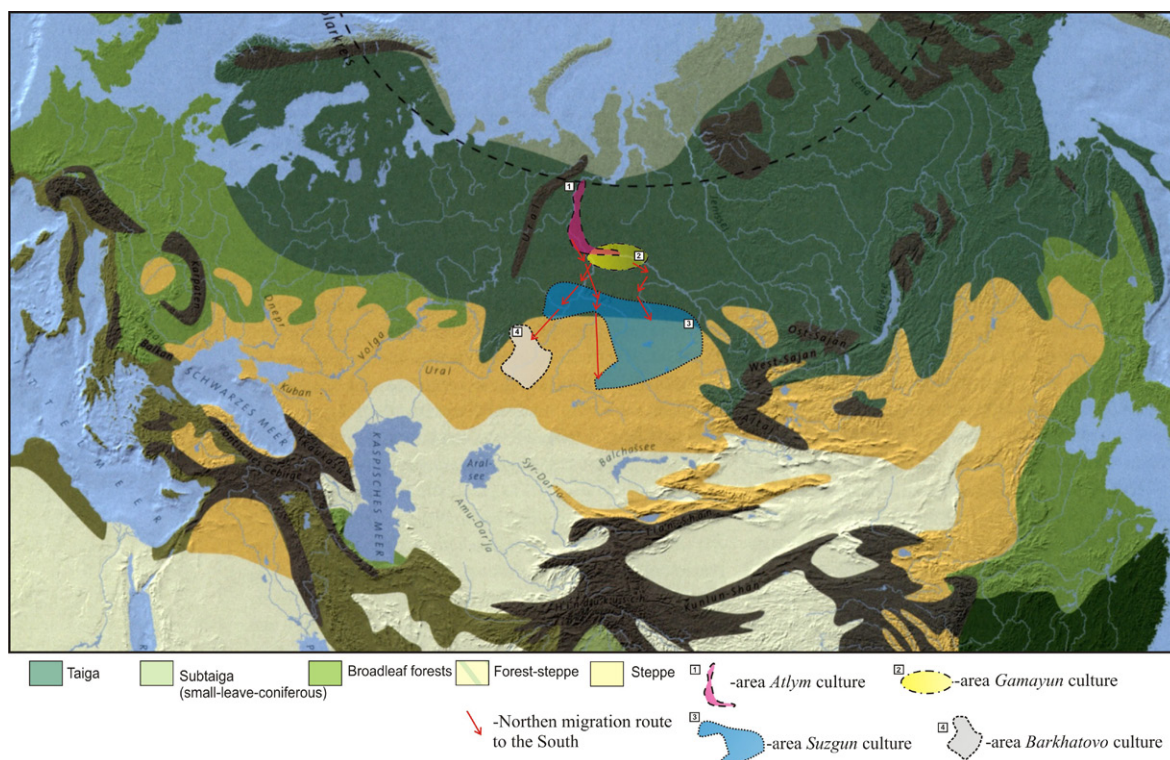


Fig. 1. Map of the migration routes of the populations of the taiga to forest-steppe

Обр. 1. Карта на миграционните маршрути на населенията от тайгата към горската стъп

omy, based on predation, i.e. hunting and fishing, to experience substantial challenges.

Climate fluctuations affected not only the groups living in the tundra-taiga zone, but also those communities that lived in the forest-steppe area. Extensive flooding of territories in the forest-steppe zone at the end of the Bronze Age (11th–9th centuries BC) is also traced in the western part of Western Siberia (the Tobol-Ishim interfluve).

This fact clearly correlates with the data relating to the geomorphologic location of the Late Bronze Age settlements in the forest-steppe zone. Hypsometric levels of the settlements were low and varied from 1 to 4 m above the water level at the beginning of the 2nd millennium BC, when according to paleo-environmental reconstructions, the climate was warm and arid (Matveeva et al. 2003, 144; Matveev, Anoshko 2009, 186-187). A large number of settlements have been found at low elevations in the river floodplains, many of which are flooded to date. A sharp decrease in the proportion of hunting in the economy of the forest-steppe populations can be considered as another archaeological evidence for the aridisation of the climate. Bones of wild animals represent no more than 10–15% of osteological remains, which consist mostly of cattle bones (within the range of 35–55.5%), with the remainder being horse. Camel bones found at the sites are also evidence of a dry climate, since the camel inhabits deserts and semi-deserts (Matveeva et al. 2003, 145).

Palynological data obtained from spore-pollen spectra from sections of peat bogs and ancient settlements of the Tobol-Ishim interfluve demonstrate increasing aridisation, significant reduction of forest areas and steppisation of the forest-steppe zone by the middle of the Bronze Age (16th–14th centuries BC). The economy of the communities of that time was based on animal husbandry and specialised in meat and milk production. It has been suggested that the cattle were grazed by shepherds in close vicinity to the settlements (Matveeva et al. 2003, 146).

By the end of the 2nd millennium BC, climatic conditions changed towards humidification and a drop in temperatures (Khotinskii 1977; Shnitnikov 1957; Orlova 1990; Ryabogina 2004, etc.). Initially, it affected the geomorphological location of archaeological settlements. The population began building villages in locations with high hypsometric levels, ranging from 18 to 40 m: on the second to the fourth terraces above the floodplain of large rivers, high ridges, etc. The share of the predatory economy, such as hunting and fishing, increased sharply. More bones of typical forest-steppe animals such as moose, wild boar, hares and foxes are more frequently found in the osteological remains (Korochkova et al. 1991, 83-84). An increase in the number of horse bones in the osteological remains from the Late Bronze Age settlements indicates a rise in the share of horses in the herds of domesticated animals. Cattle breeding became semi-nomadic.

Paleogeographic data suggest a slight cooling and humidification, which led to an increase in forest cover, especially of pine and fir-trees. It is possible that the climatic changes in the forest-steppe zone did not undergo a large-scale landscape change but the populations responded to them immediately. That reaction was manifested in migrations, a change in the percentages of economic activities, as well as a change in the type of cattle grazing (Matveeva et al. 2003, 150).

Thus, by the beginning of the 1st millennium BC, the changes in the climatic conditions and the natural environment of the tundra-taiga zone made the survival of large number of people, namely hunter-gatherers, impossible. The cattle-breeding forest-steppe zone has weakened due to the economic crisis, and, as a result, an outflow of population has started to the south to the steppe zone. A combination of the above factors led to a process, whereby the population from the northern taiga started to move to the southern sub-taiga and the forest-steppe zones (fig.1).

V. Molodin argues that “this flow, due to its intensity and direction, can be fairly compared to the well-known historical expansion of the Huns, which entailed a process called the ‘Great Migration of Peoples’” (Molodin 2010, 22).

Cultural and historical situation in the taiga (forest) zone of Western Siberia at the end of the Bronze Age (11th–9th centuries BC)

Populations of several archaeological cultures, affiliated to a series of traditions of “cross” pottery, had been living in the taiga and sub-taiga zones at the start of the migrations. The Gamayun culture occupied the basin of the Lozva and the Tavda Rivers, where there were unfortified settlements and hillforts (fig.1). Fortified individual log houses with double walls, surrounded by a ditch and sometimes with a palisade, have been studied. The area of the settlements ranges from 300 m² up to 1000 m² (fig. 2.1). The cemeteries have not been found yet, so there is no data on their funerary rites.

The Gamayun dwellings are represented by several types of houses: above-ground single-chamber log houses with a pillar-framed timber structure (fig. 2.2); light frame buildings with a shallow foundation pit in the centre and benches made of earth around the edges of the room; above-ground buildings such as huts and tents, as well as semi-dugouts. The dwellings also housed stone-working and copper-foundry workshops. Specially constructed production buildings were rare and were found only at the hillfort of Ufa 4 and at the Palkinsky left-bank settlement.

Stone tools (scrapers, arrowheads, knives, drills, pestles, axes, abrasives, net weights,

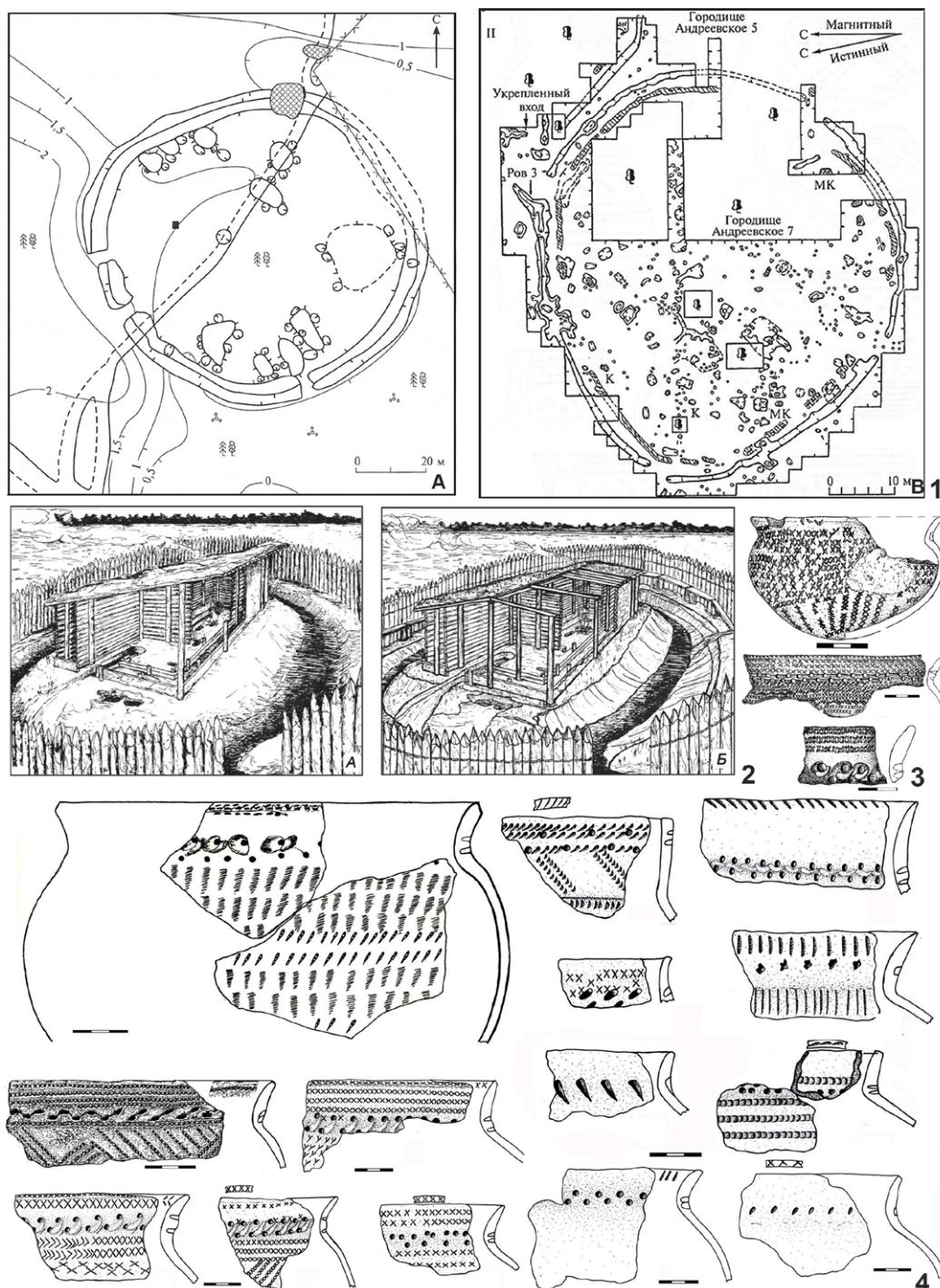


Fig. 2. Artefacts from the settlements of the Gamayn culture: 1 – plan of the hillfort Andreevskoe 9 (A), plan of the hillforts Andreevskoe 5, 7 (B) (after Zimina, Zah 2009, Fig. 4, 9); 2 – reconstruction of the fortified dwelling Tumansky (A – option 1, B – option 2) (after Borzunov 2018, Fig. 4); 3 – ceramics from the hillfort Ust-Utyak 1 (after Kaidalov, Sechko 2007, Fig. 4); 4 – ceramics from the settlements in Trans-Ural region (after Zimina, Zah 2009, Fig. 81)

Обр. 2. Артефакти от селищата на Гамаюнската култура: 1 – план на укрепеното селище Андреевское 9 (А), план на укрепените селища Андреевское 5, 7 (Б) (по Zimina, Zah 2009, фиг. 4, 9); 2 – реконструкция на укрепеното жилище Тумански (А – вариант 1, Б – вариант 2) (по Borzunov 2018, фиг. 4); 3 – керамика от укрепеното селище Уст-Утяк 1 (по Kaidalov, Sechko 2007, фиг. 4); 4 – керамика от селищата в Транс-Уралския район (по Zimina, Zah 2009, фиг. 81)

etc.) prevail in the tool set. The Gamayun population also produced bone tools (arrow-heads and darts, harpoons, piercers, etc.), clay tools (spindle whorls, net weights, buttons, moulds, and stamps for decorating dishes). Copper was used only to make adornments (metal plaques, buttons, and pendants).

The pottery of the Gamayun culture includes small and medium-sized round-bottomed pots with sharply flared necks. The vessels are decorated with impressions of an X-shaped cross, wavy patterns and notches. Bands of depressions, including those made in staggered order at the base of the necks of the vessels, are an obligatory element (fig. 2.3-4). Apparently, the same pots were used for cooking and as dinner ware. Some vessels were used to melt copper before casting. A special feature of the Gamayun pottery is that talc powder or mica was added to the clay at the initial stages of preparation. This characteristic, combined with the original decoration of dishes with double depressions, makes it easy to distinguish them from other material at multi-layered settlements.

The economy of the Gamayun groups is characterized by predatory activities oriented towards the hunting of moose and roe deer for their meat (Borzunov 1992).

The Atlym culture occupied the taiga territories of the Lower and Middle Ob River basin and of the Lower Irtysh River basin (fig. 1). The culture was formed in the 12th–10th centuries BC in the deep taiga areas of the Lower Ob River basin, where more than 50 settlements have been found. There are unfortified settlements and, sporadically, hillforts.

Rectangular above-ground dwellings with a pillar-framed timber structure and walls reinforced with earth were the main type of houses. The soil for the walls was gathered near the dwelling, which is evidenced by pits outside and along the perimeter of the buildings. The pits also performed a drainage function, preventing water from flooding the dwelling during the autumn-spring period. In terms of size, four groups of buildings are distinguished: 20-32 m², 45-65 m², 100-180 m², and 270 m² (fig. 3.1) (Chemiakin 2008, 54).

The pottery assemblage consists of two groups. The first group is represented by weakly profiled flat-bottomed vessels and – more rarely – vessels with flat bottom and straight sides. The entire surface and the lower part is covered with ornaments. The composition consists of repetitive alternation of cross stamp, circular depressions and comb stamp, with a clear division by zones. Two basic ornamental elements are the round depression and the variations of a cross stamp.

The second group is made-up of flat-bottomed profiled pots with a puffed-up body and a small base. They are characterized by an embowed, outwardly bent neck and by a sharp transition to the shoulders. The ornaments include motifs of complex, interlaced figures. For example, along with compositions of simple and complex zigzags, triangles and rhomboids made using the technique of X-shaped crosses, zones of herringbone compositions of comb stamp, and intricate meander patterns are widely used (fig. 3.2).

Almost all of the excavated materials consist exclusively of ceramics (fig. 3.3). The lithics are represented by retouched tools made on flakes and comprise scrapers and arrowheads. Tools related to fishing and metal processing make up the largest part of the inventory. There are weights and anchors of two types: pierced ones and tied round ones, both poorly manufactured and very numerous. Among them there are also many heavy net weights for fishing in large rivers. An original find at every Atlym settlement is a stone whetstone. They are of a regular shape, with occasional grooves at the end and served as oilstones for tools, including those made of metal. Such items were found only in the Gamayun material, not in the settlements of other cultures.

The Atlym economy is a typical culture of taiga hunters and fishermen, with a sig-

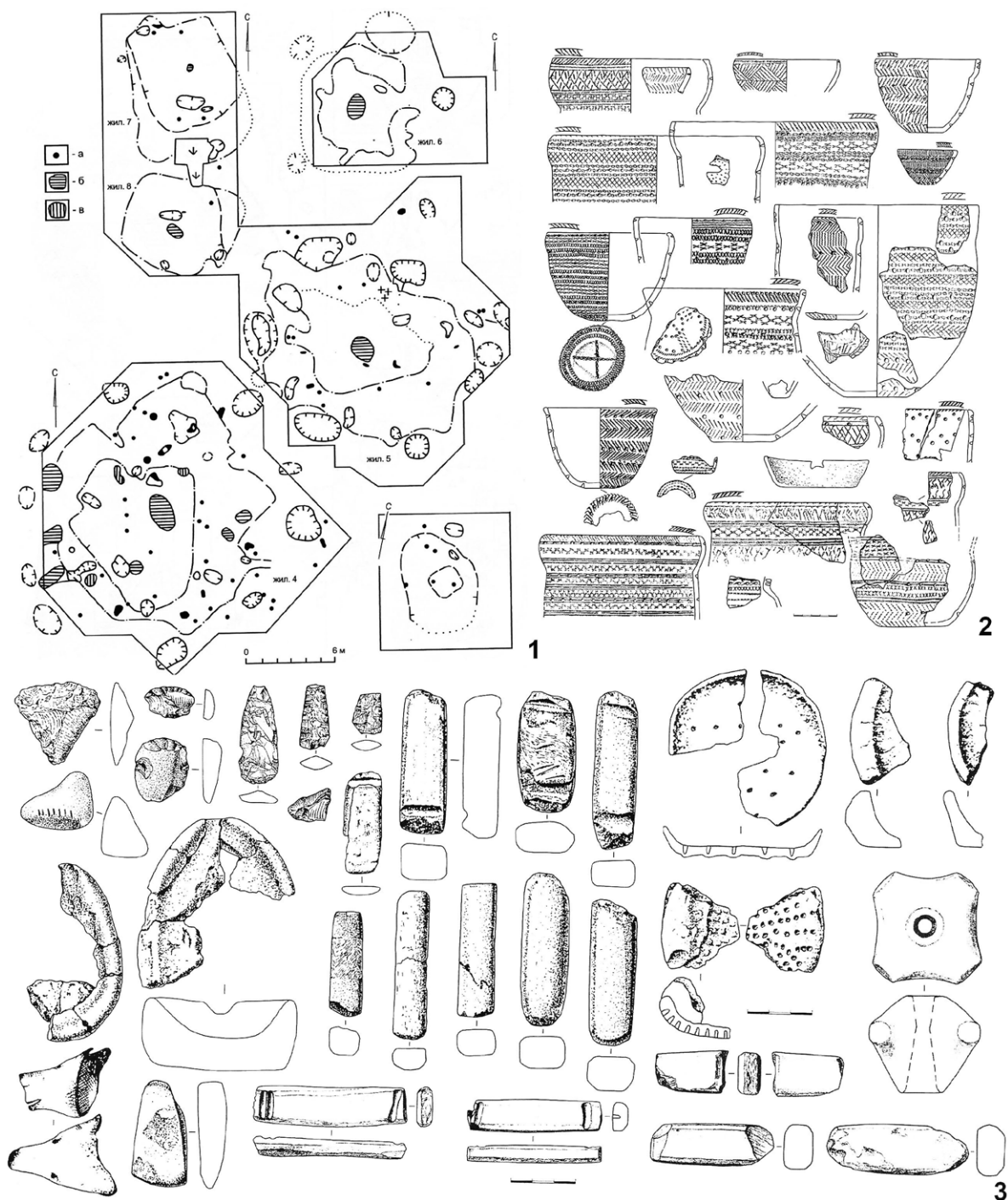


Fig. 3. Artefacts from the settlements of the Atlym culture: 1 – plans of dwellings from the settlements Barsova Gora 1/40a; 2/4; 2 – pottery from the settlements Barsova Gora 1/40b, 1/8b & 1/10a; 3 – things from the settlements Barsova Gora 1/40b, 4/4, 1/1, 1/10a, 4/10, 3 – pit 107 and the hillfort Syroy Agan (after Chernyakin 2008, Fig. 39, 41, 44)

Обр. 3. Артефакти от селищата на Атлхймската култура: 1 – планове на жилища от селищата Барсова гора 1/40а; 2/4; 2 – керамика от селищата Барсова гора 1/40б, 1/8б и 1/10а; 3 – предмети от селищата Барсова гора 1/40б, 4/4, 1/1, 1/10а, 4/10, 3 – яма 107 и укрепеното селище Съйрой Аган (по Chernyakin 2008, фиг. 39, 41, 44)

nificant dominance of fishing. Their funerary complexes and rituals are unknown (Kosarev 1987; Rudkovsky 2013).

The forest-steppe zone of the western part of Western Siberia in the Late Bronze Age (11th–9th centuries BC)

The forest-steppe zone was inhabited by populations of the Suzgun and Barkhatovo archaeological cultures at the end of the Bronze Age. The Suzgun groups lived in the north of the forest-steppe zone and in the sub-taiga zone of the Tobol-Irtysh interfluvium (fig. 1). The settlements were mostly unfortified. Hillforts appeared at the late stage of development of the culture. The area of the settlements varies from 2000 m² to 8000 m². According to the excavation results at the settlements of Abatskoe 6 (fig. 4.1), Suzgun 2, Chudskaya Gora (fig. 4.2), Luchkino 1, Khutor-Bor 1, the Suzgun population had places of worship associated with elevated sites (promontories and isolated hills above the surrounding flat terrain) (Polevodov 2003, 8-9).

Rectangular semi-dugouts with a pillar-framed timber structure with an area of 15–40 m² represent the Suzgun dwellings. A narrow corridor served as an exit from the dwelling, which was constructed facing a river. A dwelling with two exits was excavated at the early settlement of Abatskoe 6 (fig. 4.1) (Tkachev 2017, 9). “Long houses”, or “elongated semi-dugouts”, were found at the settlements of Chudskaya Gora, Kuchum Gora and Alekseevka 21. A distinguishing feature is the length of the buildings which is more than twice its width, resulting in a pronounced elongated shape (Polevodov 2003, 9). Such “long houses” have been investigated in cult places, where they might have performed the function of a “communal” house during rituals.

The Suzgun economy was complex and diversified, being based on an equal proportion of production and predation. The principal activity was stock-breeding, which was oriented towards cattle. Over time, an increase in horse is observed and a decrease in the number of small cattle. It has been suggested that hunting and fishing played an important role (Kosarev 1984, 115-118; Potemkina et al. 1995, 104-106; Polevodov 2003, 15-16). An equal share of production and predation in the economy allowed the Suzgun population to quickly adapt to the natural climatic and socio-political changes in the region.

The Suzgun pottery includes flat-bottomed pots. Round-bottomed vessels are very rare. The ornament includes depressions, disordered impressions of plain and comb stamps and meanders. A distinctive feature of the Suzgun pots is that they are decorated with imprints in the form of “brackets” (fig. 4.3).

The Suzgun population was well acquainted with metalworking. Other household productions were pottery and leather manufacturing, bone-carving and weaving. Bronze double-edged and single-edged knives, arrowheads, chisels, awls, sewing plaques (with a loop and a pin), clay moulds (for casting pendants, plaques, and flat-headed axes with a crest) and fragments of smelting pots, bone arrowheads, pins, end blocks for bows, harpoon heads, psalia, stone fragments of moulds, oilstones, weights, tools of archaic designs (scrapers, piercers, arrowheads) and other materials have been found at the settlements of the Suzgun culture (fig. 4.4) (Polevodov 2003, 15; Zimina et al. 2012, 74).

Burial complexes are represented by burial tumuli with rounded or oval mounds. A small ditch encloses the mounds. Individual and collective (dozens of deceased) burials were found. The Suzgun population practiced full and partial cremation, cremating bod-



Fig. 4. Artefacts from the settlements of the Suzgun culture: 1 – reconstruction of the Abatskoe 6 hillfort (Museum of Archaeology and Ethnography of Tyumen State University, reconstruction by A. A. Tkacheva); 2 – plan of the hillfort Chudskaya Gora and a bronze idol (after Potemkina et al. 1995, Fig. 12, 14); 3 – ceramic vessels from the hillfort Chudskaya Gora (after Potemkina et al. 1995, Fig. 15, 19-22); 4 – ceramics and implements from the Abatskoe 6 hillfort (after Tkachev et al. 2017, Fig. 2, 3)

Обр. 4. Артефакти от селищата на Сузгунската култура: 1 – реконструкция на укрепеното селище Абатско 6 (Музей на археологията и етнографията на Тюменския държавен университет, реконструкция на А. А. Ткачев); 2 – план на укрепеното селище Чудская гора и идол от бронз (по Potemkina et al. 1995, фиг. 12, 14); 3 – керамични съдове от укрепеното селище Чудская гора (по Potemkina et al. 1995, фиг. 15, 19-22); 4 – керамика и приспособления от укрепеното селище Абатско 6 (по Tkachev et al. 2017, фиг. 2, 3)

ies as part of their funerary rites. Most of the deceased were buried with head to the north, rarely to the south-east and south-west. Most of the graves are at or above ground level. The use of wooden sepulchral constructions such as frames or log cabins have been excavated. A variety of rites is a characteristic feature of the Suzgun funerary ritual (Polevodov 2003, 10).

Representatives of the Barkhatovo culture occupied the forest-steppe zone of the Tobol-Ishim interfluvium, territories located to the south of the area where Suzgun cultural material has been found (fig. 1). Syncretic pottery complexes found during excavations of the early settlement of Kuchum Gora and the settlement of Chupin suggest close interaction between the Suzgun and Barkhatovo populations in the region of the Ishim River basin (Anoshko 2007, 115).

Barkhatovo groups inhabited narrow areas along the river valleys. The topography of the Barkhatovo settlements confirms the hypothesis about a sudden climate change. The early Barkhatovo settlements of Novo-Shadrino 2 and 7, Shchetkovo 2, Yazevo 1 and others (Shchetkovo stage of the culture, 11th century BC) are located on sites at low hypsometric levels, which suggests warm and dry climatic conditions in the forest-steppe zone at that time. The final Krasnogorsk stage (10th–9th centuries BC) of the Barkhatovo culture is characterised by the construction of settlements (hillforts of Krasnogorsk, Kolovsk, Ust-Utyak 1, Miass, the settlement of Palatki 2) on elevated sites (Anoshko 2007, 119–120). Looking at the palynological data, this might be related to a sudden climatic change that was manifested in a significantly increased level of hydration (Matveeva et al. 2003, 149).

Two types of sites of the Barkhatovo culture are found: hillforts and settlements. The Barkhatovo population built semi-dugouts with a pillar-framed timber superstructure. They were one-room dwellings of rectangular shape, with an area from 25 m² to 210 m². The exit of their dwellings was in the form of a narrow long corridor, a wind-porch, or a ramp (fig. 5.1) (Matveev, Anoshko 2009).

The pottery is represented by flat-bottomed pots. There are both small bowls and big vessels in the assemblages. Barkhatovo wares were decorated with inclined and horizontal lines, nets, vertical and horizontal zigzags, pearls, drop-shaped impressions and round impressions. Geometric patterns depicting complex compositions are found especially on dishes. There are shaded triangles, rhomboids and bands, triangles with notches, bands with vertical and horizontal zigzags, as well as flags. An interzonal pattern achieved by one or two parallel lines vertically dividing the entire ornamental field is regarded as a characteristic feature of the Barkhatovo pottery (fig. 5.2–3) (Anoshko 2007, 118–119).

The material culture includes tools made of clay (weights, polishers, gaming items such as chips, nozzles, spindles, crucibles, ladles, anthropomorphic (fig. 5.4) and anthropo-zoomorphic figures), bone (piercers, arrowheads, flat and curved awls, beaters), stone (arrowheads, pestles, mortar stones, oilstones, abrasives, adzes and single-edged knives) and bronze (arrowheads, knives, adornments). Clay and stone items are the most numerous among the finds of the Barkhatovo settlements (fig. 5.5) (Anoshko 2006, 15).

The economy of the Barkhatovo communities was complex and included cattle breeding, hunting, fishing and basic farming (Matveeva et al. 2003, 150). Large cattle dominated over small cattle in the herds of domesticated animals of the Barkhatovo communities. According to the archaeozoological studies of domesticated animals, the Barkhatovo population developed meat-and-dairy cattle breeding. It has been suggested that the cattle were grazed by shepherds at a short distance from the village (Anoshko 2006, 16). Burial complexes and rites are unknown.

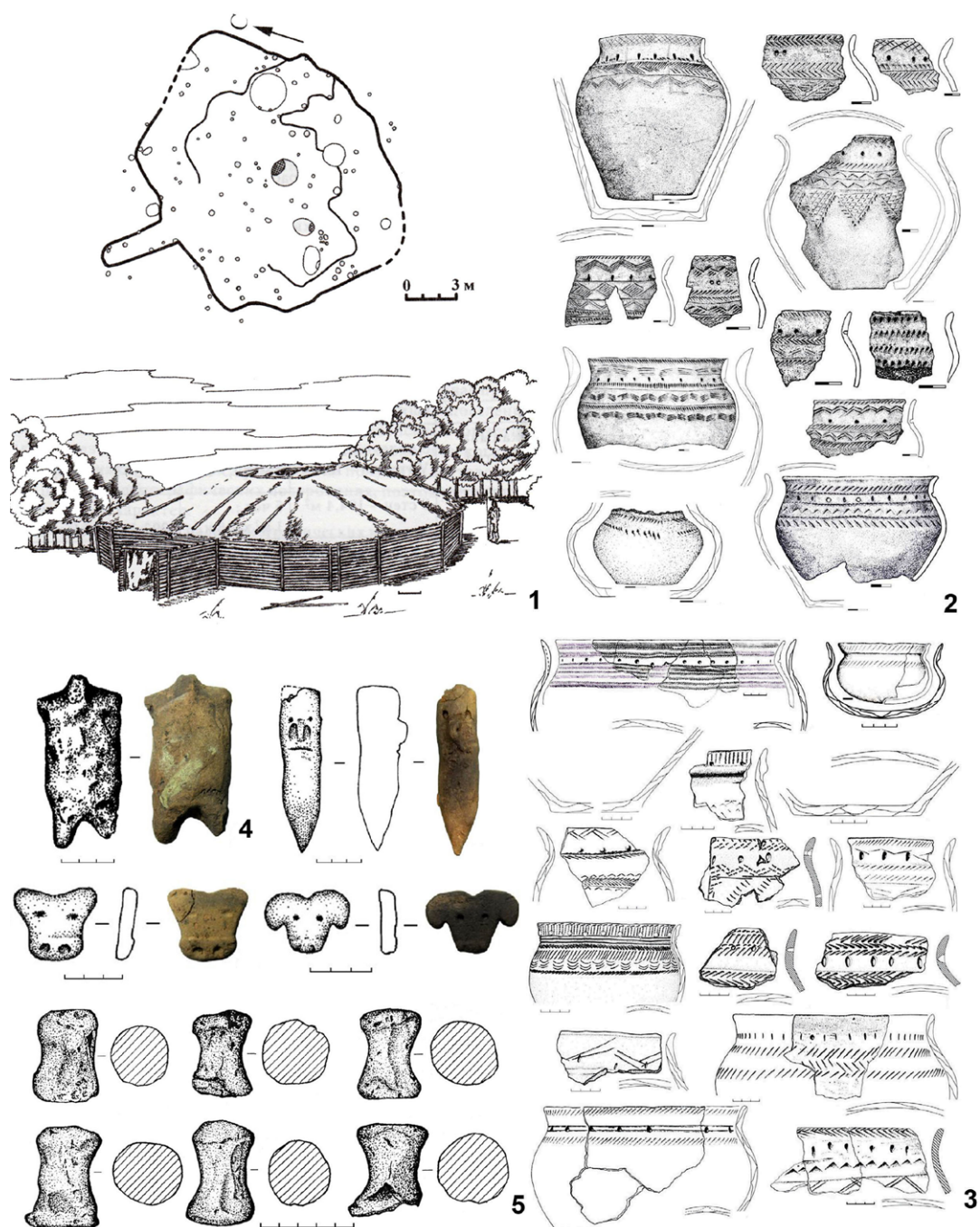


Fig. 5. Artefacts from the settlements of the Barhatovo culture: 1 – plan and reconstruction of the semi-dugout № 8 from the settlement of Shchetkovo 2 (after Matveev, Anoshko 2009, Fig. 107); 2 – pottery from the settlement Mostovoe 1 (after Zimina, Ilyshina 2013, Fig. 2); 3 – pottery from the settlement Chechkino 4 (after Zimina, Ilyshina 2013, Fig. 3); 4 – anthropomorphic figurine from the settlement of Shchetkovo 2 (after Matveev, Anoshko 2009, Fig. 39-17); 5 – zoomorphic figures in the form of cow and sheep heads and clay reels from the Kolovskoe hillfort (after Matveeva et al. 2008, Fig. 37, 49.6-8.)

Обр. 5. Артефакти от селищата на Бархатовската култура: 1 – план и реконструкция на полуземлянка № 8 от селището Шчетково 2 (по Matveev, Anoshko 2009, фиг. 107); 2 – керамика от селището Мостовое 1 (по Zimina, Ilyshina 2013, фиг. 2); 3 – керамика от селището Чечкино 4 (по Zimina, Ilyshina 2013, фиг. 3); 4 – антропоморфна фигурка от селището Шчетково 2 (по Matveev, Anoshko 2009, фиг. 39-17); 5 – зооморфни фигурки във вид на глави на крави и овце, и глинени макари от Коловското укрепено селище (по Matveeva et al. 2008, фиг. 37, 49.6-8)

Discussion

The initial instances of infiltration of the taiga population into the forest-steppe zone occurred at the end of the 2nd millennium BC, when the climate was dry and warm. This fact is confirmed by rare findings of Gamayun pottery among the materials of the Shchetkovo stage of the Barkhatovo culture at the settlements of Shchetkovo 2, Novo Shadrino 7, Pospelovo 1 and at Krasnogorsk hillfort (Matveev, Anoshko 2009, 302-303). There are no separate settlements attributed to cultures with “cross” pottery and there is not much pottery with cross-stamped ornamentation and specific taiga inventories among the materials of the Late Bronze Age forest-steppe settlements. These do not allow to argue that a large-scale migration began at the end of the 2nd millennium BC, rather they are indicative of the first tenuous contacts between the taiga and forest-steppe populations. Probably, the first contacts were aimed at establishing trade/exchange relations or marriage ties. Early cattle breeder communities supplied meat and dairy products to the north in exchange for furs.

It has been suggested by some archaeologists that the most powerful “northern wave” occurred at the beginning of the first millennium BC (9th–8th centuries BC) and that this caused an imbalance in the forest-steppe and steppe societies (Molodin 2010, 23). The northern taiga population migrated to the south along the major rivers flowing in a north-south direction: the Ob, Irtysh, Ishim and Tobol (Zakh 2010, 340; Molodin 2010, 22; Zakh and Tsembalyuk 2014, 90). The most intense migration flows passed along the valleys of the Irtysh and Ishim Rivers. It was the shortest way to the south. The material from the early settlement of Marai 1 suggests that the northern populations penetrated to the south as far as the steppe zone (Tsembalyuk 2015). The similarity of the economic structure of the Suzgun culture population, which inhabited the sub-taiga and northern part of the forest-steppe zone, contributed to a rapid progress of migration.

Representatives of the Gamayun and Atlym cultures with “cross” ceramics migrated to the western part of Western Siberia, i.e. to the Tobol-Ishim interfluvium. They began to interact with the local Suzgun and Barkhatovo populations in the forest-steppe zone. Despite the previously established ties, taiga migrants met resistance there. This is confirmed by the archaeological data, namely by the appearance of fortifications among the sites of Suzgun and Barkhatovo populations in the 9th – beginning of the 8th centuries BC. In total, 12 early settlements have been discovered dating to the end of the Bronze Age in the area of the Tobol-Ishim interfluvium. The fortifications of the settlements were primitive. They consisted of a ditch and a fence built on naturally protected sites: hilltops or escarpments (the hillforts of Chudskaya Gora, Cheganovo 3, Ust-Utyak 1, Zavodoukovskoe 11, *etc.*) (Potemkina et al. 1995; Zimina et al. 2005; Kaydalov, Sechko 2009). The small size of the ditches and ramparts suggests a weak prospect of confrontations. However, the use of high steep banks and the additional reinforcement of the rampart with a log wall, increased the protection of the Barkhatovo and Suzgun fortifications from attacks. It should be noted that such sites primarily served as residential settlements, and secondarily as defensive positions. Different economic structures of the indigenous population, based on production, and that of the migrants, based on predation, allowed the taiga population to occupy their ecological niches in the forest-steppe zone and to coexist peacefully with the indigenous population. Settled relations between the migrants and the local population led to the stabilisation of the political situation in the region, and the construction of hillforts was suspended.

Subsequently, the settlements were surrounded by simple wooden or wattle fences,

which were of an enclosing rather than defensive character, since they served to preserve the cultural traditions of the community (Zimina 2005; Tsembalyuk 2009).

Such “neighbourly” life resulted in a process of unification between the local population and the migrants in the Tobol-Ishim interfluvium during the transition from the Bronze Age to the Iron Age (8th–7th centuries BC). This is clearly reflected by the archaeological data, namely in the ceramics from the site of Ust-Utyak 1, where a combination of dishes with syncretic Barkhatovo-Gamayun features were found along with the Barkhatovo and Gamayun vessels (Kaydalov, Sechko 2004, 73; 2007, 78-80). That interaction led to the formation of a hybrid Itkul culture, whose settlements, dating from the 8th–7th centuries BC, were in the form of circular double hillforts, such as that of Karagai-aul 1, where two traditions existed within the same settlement; one of these was a result of the synthesis of the newly-arrived Gamayun and Barkhatovo populations, whilst another dates back to the local Barkhatovo culture (Zimina and Zakh 2009, 157-166).

As a result of the merging of the local population and the newcomers, new two-component archaeological cultures evolved – the Itkul and the Krasnoozersk cultures which included the traditions brought in by the taiga migrants. This fact is clearly exemplified by the material remains from the settlements portraying combined local and external traditions, which are primarily reflected in the morphology and the ornamentation of dishes. As for habitations, semi-dugouts were replaced almost everywhere by above-ground dwellings, which were typical for the northern taiga populations; the northern migrants also brought their traditional economic life-ways, with a focus on hunting and fishing, which, in the context of climate change, became dominant for a short period of time.

These changes can be easily traced by comparing palaeozoological material from the settlements of the Suzgun culture, which preceded the Krasnoozersk culture and the material of the Krasnoozersk culture itself. The principal economic activity of the Suzgun culture was cattle-breeding, namely cattle ranching. Bones of domesticated cattle, sheep and goats, and to a lesser extent horses, dominate in Suzgun settlements. In Early Krasnoozersk settlements, the bones of wild fauna dominate, surpassing the remains of domestic animals by more than 2 times (74% *vs.* 20%) (Tsembalyuk 2015, 50-51).

In our opinion, the reason why the traditions brought in by the migrants dominated, was a crisis of the local Late Bronze Age pastoral economies related to landscape and climatic changes. As a consequence, the local forest-steppe population moved south to the areas more suitable for cattle-breeding. Their numbers significantly decreased, as evidenced by a reduction in the number of settlements in comparison with the previous period.

Conclusions

The adaptation of the newcomers in the western part of Western Siberia occurred in two ways. The first was a peaceful integration between the local population and the migrants, the second was a result of aggressive confrontations (Molodin 2010, 23). Thus, there was a gradual assimilation of the immigrant population within the local bearers of the Late Bronze Age cultural traditions over a period of two centuries. This process is evidenced by the formation of successive and short-term development of symbiotic, hybrid cultures – the Krasnoozersk culture (Trufanov 1983, 63-76) and the Itkul culture (Zimina, Zach 2009), which existed during the transition from the Bronze Age to the Iron Age.

The northern traditions gradually faded away: cross and wavy stamps in the ornamentation of dishes disappeared, ornamental zones became poorer and reduced, above-

ground constructions were again replaced by semi-dugouts. By the Early Iron Age (6th–5th centuries BC), the economy became complex. However, unlike the Late Bronze Age economies, cattle-breeding was no longer a basis for the entire economy during the Early Iron Age. By then, the economic sphere depended not only on the natural and climatic environment, but also on the socio-political component.

Thus, the life-sustaining model brought in by the migrants, based on a predatory economy, turned out not to be viable in the environmental conditions of the “cattle-breeding” forest-steppe zone. By the beginning of the Early Iron Age, the newcomers and all their traditions had been completely assimilated, as a result of which new archaeological cultures were created, such as the Bogochanovo, Baitovo, and Sargat cultures.

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Адаптация на мигранти от тайгата сред лесостепното население в западната част на Западен Сибир

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(резюме)

През късната бронзова епоха екологичните и климатични условия в Западен Сибир се влошават – температурите се понижават, а влажността се увеличава. Впоследствие северните части на тайгата стават мочурливи и неподходящи за човешко обитаване. Ловците и рибарите, носители на археологически култури Гамаюн и Атлѝм са принудени да мигрират на юг по големите реки: Об, Иртиш, Ишим и Тобол. Традициите, донесени от мигрантите от тайгата в горско-степната зона на западната част на Западен Сибир, са възприети от местното население на културите Сузгун и Бархатово по време на прехода от бронзовата към желязната епоха. В резултат на притока на мигранти от север политическата ситуация в региона се дестабилизира и се появяват първите прости укрепителни съоръжения. За кратък период от време, двете археологически култури/явления са в процес на съжителство. Този факт е

ясно засвидетелстван в материалните останки на селищата, в които са комбинирани местни и чуждестранни традиции. На първо място това е отразено в морфологията и орнаментирането на керамичните съдове. По отношение на жилищната архитектура – полуземлянките са заменени почти навсякъде от наземни постройки, които са типични за населението на северната тайга. Мигрантите от север донасят и своето традиционно стопанство, основано на лова и риболова, което в контекста на изменението на климата става доминиращо за кратък период от време поради локалната кризата в икономика през късната бронзова епоха.

В лесостепната зона, благоприятстващата скотовъдството, привнесената присвояваща икономика се оказва трудно приспособима и ново заселилите се общности, заедно с техните традиции, са подложени на асимилиране. Процесът на асимилацията на северните групи от/сред местното лесостепно население продължава около 200 години (VII и VI в. пр. Хр.). В резултат на това, в средата на първото хилядолетие пр. Хр. (в началото на желязната епоха), в Западен Сибир се появяват и развиват редица нови култури.