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TRANSFORMATION OF FORTIFICATIONS FROM ANCIENT HILLFORTS TO THE FIRST RUSSIAN TOWNS OF THE TRANS-URALS: THE SEARCH FOR THE ORIGIN OF URBANIZATION

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Abstract. In this article, a hypothesis of the origin and development of hillforts, proto-towns and urban structures in the Trans-Urals is proposed from the perspective of the search for the origins of urbanization. Archaeological materials of the forest-steppe zone of the Trans-Urals allow us to trace the transformation of fortifications from the origin of hillforts at the end of the 2nd millennium BC, to the appearance of the first Russian military, political, administrative, trade, craft and cultural centers of the Siberian region. The following factors influenced the origin and development of hillforts, proto-towns and towns: climatic and related to it migration factor, which created social tension in the society; social-economic, which stimulated the stratification of the society, trade, exchange, craft, and potestary, which prompted the formation of administrative and managerial centres in towns. Proto-towns and the first cities in ancient and medieval societies were the centers of the emergence and transmission of cultural innovations and determined the development of the region as a whole.

Keywords: Trans-Urals, fortification, hillfort, proto-city, urban structures, urbanization

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ТРАНСФОРМАЦИЯ ФОРТИФИКАЦИОННЫХ СООРУЖЕНИЙ ОТ ДРЕВНИХ ГОРОДИЩ ДО ПЕРВЫХ РУССКИХ ГОРОДОВ В ЗАУРАЛЬЕ: ПОИСК ИСТОКОВ УРБАНИЗАЦИИ

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Резюме. В данной работе предложена гипотеза возникновения и развития городищ, протогородов и городских структур в Зауралье в ракурсе поиска истоков урбанизации. Археологические материалы лесостепной зоны Зауралья позволяют проследить трансформацию фортификационных сооружений от зарождения укрепленных поселений в конце 2-го тысячелетия до н.э. до появления первых русских военных, политических, административных, торгово-ремесленных и культурных центров Сибирского региона. Факторы, влияющие на зарождение и развитие городищ, протогородов и городов: климатический и связанный с ним миграционный, создававшие социальную напряженность в обществе; социально-экономический, стимулировавший стратификацию общества, торговлю, обмен, ремесло, и поттестарный, подталкивавший на формирование в городах административно-управленческих центров. Протогорода и первые города в древних и средневековых обществах являлись центрами возникновения и трансляции культурных инноваций и определяли развитие региона в целом.

Ключевые слова: Зауралье, фортификации, городище, протогород, городские структуры, урбанизация

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1. Introduction: Challenges of the Trans-Ural Urban Studies

Textbooks, popular science books, encyclopedic dictionaries and scientific publications give almost the same definition of an urban-type settlement with some variations. This term, as well as the criteria for the allocation of the city itself, have been subject to change over time. Historically, it comes from the presence of defensive structures on the settlement area — a moat, a rampart, a wooden wall (Ozhegov, Shvedova, 1999, p. 140), and the etymology of the word "city" — "hail" literally means a fenced, protected place (Gutnov, 1990, p. 16–17). With the development of urbanization, cities were "overgrown" with new functions, each of which could be

prevalent in one or another historical period, and became multifunctional centers. In the XX century, this term is mainly understood as a large settlement, whose inhabitants are mainly not engaged in agricultural activities (The New Encyclopedic Dictionary, 2007, p. 281).

In the world urban studies, different approaches have been developed in understanding of the nature of a city (Linch, 1982; Veber, 2018). Detailed characterization of the urban development processes is only possible within the context of a clearly defined space and time, taking into consideration local and temporal invariants of urban structures. With the intensification of globalization, the problems of urbanization draw the attention of scholars from various fields of scientific knowledge — historians, cultural specialists, sociologists, political scientists, philosophers, economists, etc. (Soja, 1989; Sassen 2005; Gibson, Lowes, 2007). In the present-day Russia, the need to study the formation and development of urban settlements is driven by the major changes happening in the society (Glazychev, 2017). The problem of preservation of the historical and cultural appearance of cities and identification of their regional characteristics for the reconstruction of the origins of urbanization is highly topical.

Urban studies in Siberia appeared much later, and they are still less developed than those in the East, Africa, America, and even more in Europe, the latter having a two-hundred-year history. Researchers attribute the origins of the urbanization process in the Trans-Urals and Siberia to the beginning of Russian colonization, when the first Russian towns and forts appeared in the area in the end of the 16th century. The concept of the genesis and development of urbanization in the region before the arrival of the Russians has hardly been considered. Yet, this assumption contradicts the archaeological sources. The sites of the ancient period and early and late Middle Ages are not large in size, yet they bear the features characteristic for the urban settlements, indicating the presence of crafts, trade, administration, military equipment, elements of urban development, and fortifications. In this article, for the first time we make an attempt to reconstruct the mechanisms of the urbanization process in the Tans-Urals in its dynamics and typological variations in a wide chronological span — from the emergence of the hillforts in the end of 2nd millennium BC, proto-urban structures until the appearance of the first Russian military, political, administrative, commercial, craft and cultural centre of the Siberian Region. Based on the analysis of archaeological and written sources, the causes and prerequisites for the emergence of the proto-urban and urban settlements in specific historical societies of particular periods, their historical and cultural characteristics and functional purpose in different chronological periods have been defined.

The study of urban development in the Trans-Urals takes a special significance because of its geographical location (Fig. 1).

This region is located in the area of intercultural and inter-civilization contacts, where the populations of many cultures that developed in different landscape zones — forest, forest-steppe and steppe — actively interacted. The archaeological sources indicate that the main distribution areas of hillforts is the forest-steppe belt, surrounded by the Ural Mountains in the west, the vast steppes of Kazakhstan in the south, and the taiga massif in the north. Large rivers of Iset, Tobol, Ishim, Irtysh and a large number of their tributaries flow through this area, and there are many lakes. The region is favourable for engaging in various economic activities: pastoralism, hunting, fishing, gathering of wild plants. Changes in the climatic conditions in the forest-steppe and the adjacent areas in prehistory led to the movement of groups

of people from the north and south, which resulted in active process of cultural genesis. On the one hand, the innovations were penetrating into the area more often, on the other hand, social tension between the communities was not rare. These factors stimulated the appearance and development of hillforts and proto-towns which, most likely, were the centres for the origin and transmission of cultural innovations that were driving the changes in the ancient and medieval societies and shaping the development of the region as a whole.

Fig. 1. The research area is the forest-steppe zone of the Trans-Urals

Рис. 1. Район исследования — лесостепная зона Зауралья

2. Materials

2.1. Late Bronze Age (13th–9th centuries BC)

The first hillforts were founded in the forest-steppe Trans-Urals in the Late Bronze Age. Their appearance is attributed by researchers to the movement of the northern taiga migrants from the Ob River territory to the south (Kosarev, 1984).

One of the earliest hillforts in this region — Zavodoukovskoe-11 — belongs to the Pakhomovo Culture of the Andronovo cultural and historical community (Anoshko, Agapetova, 2010); it is dated to the 13th–10th centuries BC. As a result of the excavations, it was established that the small Pakhomovo settlement consisted of an unfortified posad (the residential area immediately around the citadel/fortress) and a fortress, protected by a palisade that bent around its unfortified side (Fig. 2).

The fencing timbers were often set in a ditch, usually 0.65 m wide, in a depth of 0.3–0.45 m into the bedrock. At the bottom of the ditch, postholes, arranged in chain order 0.05–0.3 and 0.85 m apart from each other, were found, some of them were connected by narrow bridges. Eventually, the wooden fence was dismantled, and a fairly deep ditch was dug 5 m apart from it, next to which an earth wall was erected on the inner side. On the bedrock surface,

the width of the ditch varied between 0.75 and 1.5 m, and the depth, measured from the same level, up to 1.05 m. Fortification structures became more massive and circular. The erection of fortifications indicates the deterioration of relations between the Pakhomovo community and their neighbours (Anoshko, Agapetova, 2010).

Archaeologically, the most representative in this respect are the following sites: the Barkhatovo Culture — Krasnogorsk and Miass hillforts, the Suzgun Culture — hillforts Abatskoye-6 and Cheganovo-3, and the Gamayun Culture — hillforts Andreevskoye-5 and 7.

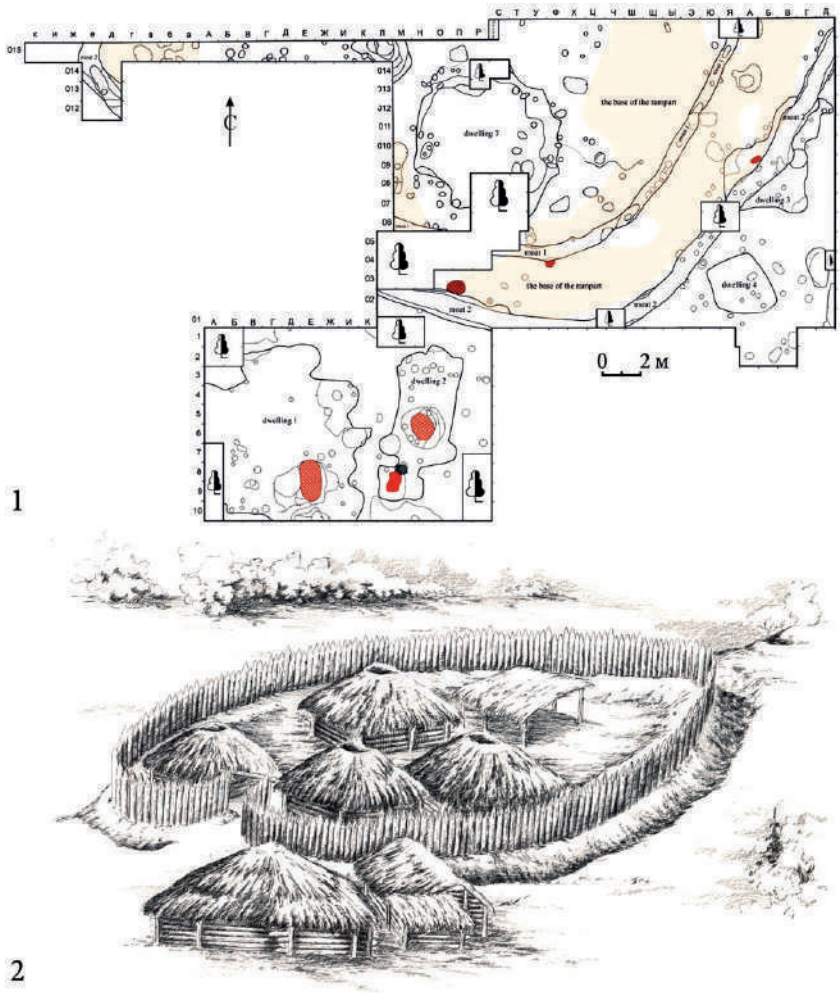

Fig. 2. Zavodoukovskoe-11 hillfort:
1 — the plan of the excavated structures of the mainland;
2 — reconstruction of the appearance of the hillfort

Рис. 2. Заводоуковское-11 городище:
1 — план раскопанных сооружений на материке;
2 — реконструкция внешнего вида

The planning pattern of the Krasnogorsk hillfort, primarily convenient for defence, was determined by the surrounding landscape (Matveev, Anoshko, 2009). The hillfort is dated to 922–816 BC. This hillfort was built on a very high subtriangular hilltop and was fortified on the front side. The buildings in the citadel were protected by a ditch with the depth of up to 1.5 m from the level of the bedrock, with the massive log wall on the inside. The width of the ditch ranged from 2.6 to 3.5 m, it narrowed to the bottom forming well-defined steps. In the centre, this defensive line had an opening, forming approximately 2.2 m wide entrance into the fortified area. During the time of the settlement use, the trench was filled, and, approximately 10 m apart from it, a new, relatively shallow ditch, was dug, which crossed the dwelling pits located beyond the line of fortifications on the posad. The examined site represented a small, but advantageously located and well-protected village, originally consisting of a kind of "fortress" that was at the very end of the hilltop, and an adjacent "posad". The layout of the settlement not only developed and became more complicated, but it also changed significantly, which was apparently related to the increase in the size of the community inhabiting it.

The Miass hillfort, as well as Krasnogorsk, is also a hilltop one. From the unprotected side of the hilltop, the citadel was fortified by a wide (2.5 m) but relatively shallow (0.7 m) arch-shaped ditch and by more than 1 m high inner earth wall. One of its slopes, facing the living area, was fortified with a log wall, from which charred logs and poles have been preserved, and the other slope — by stones (Matveev, Anoshko, 2009).

The hillfort Abatskoye-6 of the Suzgun Culture is located on a small ledge of the Ishim River terrace.

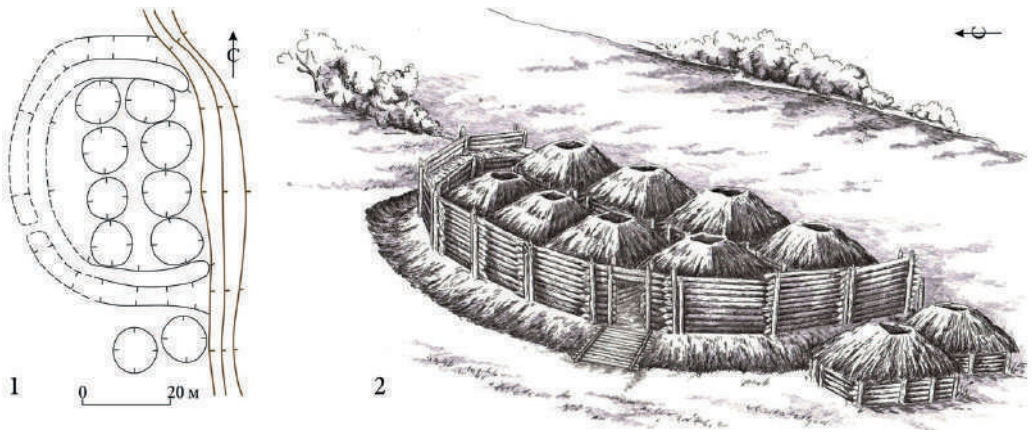

Fig. 3. Abatskoye-6 hillfort: 1 — topographic plan; 2 — reconstruction of the appearance

Рис. 3. Абатское-6 городище: 1 — топографический план; 2 — реконструкция внешнего вида

The 60×35 m residential area was surrounded by a ditch (2.7–5.0 m wide, 0.8–1.6 m deep) on the front side and an earthwork. The earthwork in ancient times represented a defensive wall located 1–3 m apart from the inner edge of the ditch. On the outside, between the wall and the inner edge of the ditch, clay was poured and fixed at an angle forming a counterforce. On the inside, dwellings were closely adjoined to the wall. It is likely that the roofs could serve as defensive

platforms when protecting the village. In general, the remains of fortifications, identified to date on the daylight surface, suggest that the height of the walls reached 3–4 m (Tkachev, 2002) (Fig. 3).

The Suzgun Culture hillfort of Cheganovo-3 is located on the residual of a high terrace, at the altitude of 2.5 m above the water level of the ancient channel of the Tobol River. Within the 25×12 m citadel, there are remains of five buildings measuring 3.5×2.5 m.

Fortification lines are comprised of three earth walls and two ditches surrounding part of the terrace as a semicircle. The sizes of the walls range from 3 to 7.5 m with the maximum height of 1.2 m, the width of the ditches is 2.5–3 m at a depth of 0.3 m. In the northern part of the settlement, six dwellings varying in size from 4×3.5 to 8.5×8 m, 0.3–0.9 m deep, are embedded into the ditch. Nine depressions ranging in size from 3.5×3 to 9.5×9.9 m, 0.4–1 m deep, adjoin the northern part of the town, partially running into the earth wall, fairly steep in this area (Zimina et al., 2005).

Gamayun hillforts Andreevskoye-5 and 7 are located 150 m south from the Lake Andreevskoye on a low (3–5 m high) narrow sand ridge. They consist of adjacent rounded platforms (north-eastern Andreevskoye-5 and south-western Andreevskoye-7), surrounded by ditches and low ramparts. The area of the sites is 1385 and 3200 m^2 respectively. The Andreevskoye-5 fortification consists of two platforms, surrounded by two closed, inscribed one into another, small ditches. The total area of the fortified part of 135 m^2. Trench 2 is located 10–12 m away from trench 1. The area of the section between them is 1020 m^2. Both ditches are neither wide (0.8–1 m) nor deep (0.4–0.6 m). Stratigraphic analysis showed that, initially, a dwelling was built on the first platform, and it was encircled by a ditch (a fortified dwelling?). Then some of the utility objects (pits, hearths) were taken outside of the ditch, and new structures were built. Later, a palisade or a log wall was set around the second platform. In the hillfort Andreevskoye-7, the citadel was surrounded by a circular rampart and a small moat. The mound of the earth wall was very poorly seen on the daylight surface (the height of the mound is 0.1–0.15 m, the width — 3.5–4 m). The rampart was fortified by a palisade and covered with soil. The presence of the palisade is reconstructed from the remains of pillars preserved in the mound, set at a distance of 2–5 m from each other. Between the pillars, there were remains of burned wooden structures, often parallel to the ditch. On the inside, at the south-western and south-eastern ends of the wall, 1.4–3×1.7–3 m wide and 0.6 m deep depressions were explored, oval and rectangular in cross section — remains of tower-shaped structures. The trench represented a small groove with rounded walls, and a bottom 1.0–1.1 m wide and 0.6–0.8 m deep from the modern surface. The defensive structures had openings on four sides, forming 3.2–4.2 m wide entrances. In the centre and at the side of the south-western and north-eastern entrances, the postholes can be traced, probably from the gate (Zimina, Zach, 2009).

The hillforts were adjacent to each other, their fortifications laid parallel for 12–15 m. The north-western entrance to Andreevskoye-7 was located opposite the only found western entrance of the second line of the Andreevskoye-5 fortifications. The empty space between the entrances is filled with pits and depressions. It is likely that the entrances were connected and furnished with additional structures (Borzunov, 1992; Zimina, Zach, 2009). So far, in total 12 fortifications dating to the late Bronze Age are reliably known in the territory of the Trans-Urals (Berlina, Kostomarov, Popov, 2013).

A comparison of the material culture of settlements and hillforts of the Late Bronze Age based on the results of excavations demonstrates the uniformity of materials. The difference in the composition of the herd of domestic animals and the emerging tradition of building settlements on the high capes of the indigenous terraces by researchers is explained by climatic changes, not social ones. Thus, the appearance of fortifications in the late Bronze Age is a reaction of the forest–steppe population to the appearance of taiga tribes, possible clashes and the desire to protect themselves from sudden attacks.

2.2. Materials of the Bronze to Iron Age Transition Period (8th–6th centuries BC)

During the transition from the Bronze to the Early Iron Age, hillforts (45 are known) spread in the Trans-Urals, protected by circularly arranged fortifications (Sizov, Zimina, 2012). They were left by the population of the Itkul Culture (the eastern version), which built, judging by the small parameters of the ramparts and moats, wooden fences, with a groove at their bases (Zimina, Zach, 2009). These fortresses were mostly localized on the borderline between taiga and forest-steppe, and had a well-ordered layout. The dwellings were located in a circle inside of fortifications, with a large undeveloped area in the centre, perhaps for keeping and protection of livestock. The sites of the Itkul Culture (the eastern version), are characterized by single and double fortified platforms (Fig. 4).

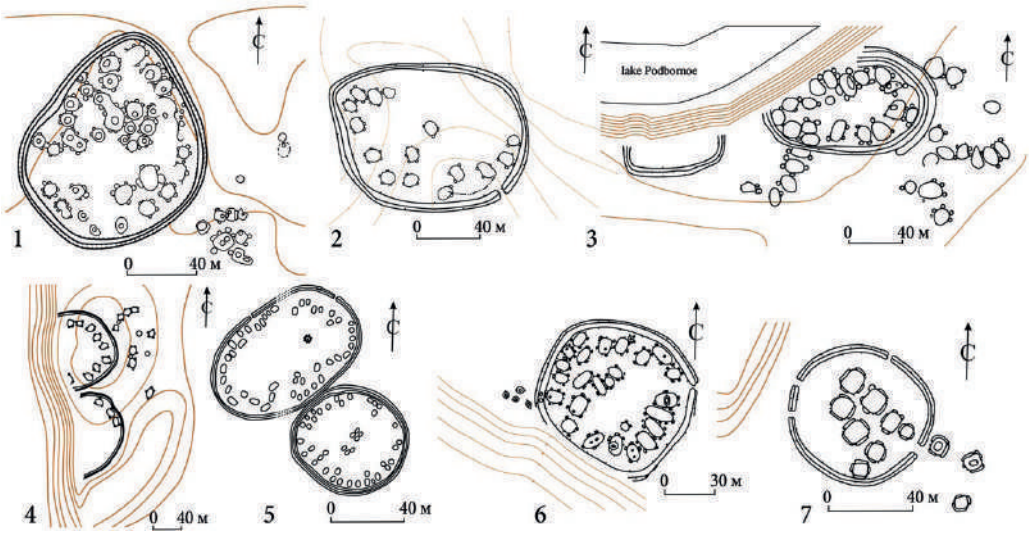

Fig. 4. The hillforts of the Itkul culture (the eastern version):
1 – Andreevskoe 11; 2 – Antonova staritsa; 3 – Bely Yar-4, 6; 4 – Mityushino-5, 6; 5 – Karagai Aul-1; 6 – Nerda-20; 7 – Yurtobor-6
(after: Zimina, Zah, 2009, Fig. 10, 11, 13, 64, 31, 66, 74 accordingly)

Рис. 4. Городища иткульской культуры (восточный вариант):
1 – Андреевское-11; 2 – Антонова старица; 3 – Белый Яр-4; 4 – Митюшино-5, 3; 5 – Карагай Аул-1; 6 – Нерда-20; 7 – Юртобор-6
(по: Зимина, Зах, 2009, рис. 10, 11, 13, 64, 31, 66, 74 соответственно)

The most representative are the hillforts of Karagai Aul-1 and 4. Karagai Aul-1 is located on the first terrace above the floodplain of the Tobol River right bank. The hillfort consists of two adjacent yards, fortified with ditches and ramparts. Both platforms have a closed, circular layout. One of them is oval (Karagai Aul-1/A) and another adjacent smaller yard is circular (Karagai Aul-1/B). A characteristic feature of the hillfort is a vast, several-hectare area of both platforms, as well as the remains of above-ground dwellings, representing raised areas, sometimes surrounded by round or oval pits. The dwellings are located only along the perimeter of the fortifications (Fig. 4.-*5*).

The hillfort of Karagai Aul-4 oval in plan, about 160×110 m in area. The site platform is surrounded by 3 m wide and 0.5 m high rampart. On the top of the earth wall, at the depth of 1 m from the surface, 5–8 cm thick blocks were placed longwise; also, postholes, probably from the palisade, were found. The groove-like moat, barely visible on the landscape, adjoined the earthwork on the outside. The depth of the moat is 0.3–0.35 m, the width — 1–1.25 m. On the platform of the hillfort, along the perimeter of the earthwork, there are 26 superficial structures. The centre of the citadel was clear of buildings (Zimina, Zach, 2009). Despite the poor research into fortifications of the Itkul Culture (the eastern version), hillforts by excavations, the uniqueness of their layout allows easily distinguishing them from the materials of other cultural formations, of both preceding and following periods.

2.3. Early Iron Age (6th century BC — 1th century AD)

In the beginning of the Early Iron Age, the forest-steppe zone of the Trans-Urals was occupied by the population of the Baitovo Culture. The sites of this period are mostly unfortified. The population was engaged in distant-pasture stock-rearing, the reconstructed craft activities include wood and stone processing, pottery making and tannery, processing of non-ferrous and ferrous metals.

The majority of the hillforts of this time had a circular layout (Baitovskoye (Fig. 5.-*1*), Bolshoi Imbiryai-3 (Fig. 5.-*2*), Staro-Lybayevskoye-1 (Fig. 5.-*3*), Yurtobor-20 (Fig. 5.-*4*), Borovushka (Fig. 5.-*5*), Slobo-Beshkilskoye (Fig. 5.-*6*), Uval settlement complex (Uval 1–4) (Fig. 5.-*7*), Staro-Lybayevskoye-2, Bochanetskoye, Borovoye, Ustyug-2, Likhachevo).

At the Bochanetskoye hillfort, the fortifications have a circular layout (Fig. 6). The citadel was located on a small natural 1.5–2 m high elevation. The excavations explored a deep narrow ditch with step-like protrusions — a "trench", 0.9–2.1 m wide, up to 75 cm deep. The small width of the "trench" and the presence of a narrow deep groove made it possible to suggest that it was holding a palisade. There was no earth wall, its role was taken by the edge of the sand dune, convenient for shooting if necessary. In the north-eastern part of the citadel, the entrance in the form of a bridge in the earthwork (about 3.3 m wide) was made. Above the "trench" and parallel to it, large deep pits were found, on top of which black and dark grey sandy clays with charcoal were traced when investigating the layer. Presumably, there were remains of wattling — supporting pillars were installed in pits, and the distance between them was filled by branches and thin poles. Thus, there were two kinds of fortifications within the site –palisade (Fig. 6.-*1*) or wattling (Fig. 6.-*2*). Unfortunately, it is not possible to trace stratigraphically which structures were built first — wattling or palisade, we can only assume that the fortifications developed from a simple wattle fence to a more reliable palisade and respectively to the increased area of the settlement.

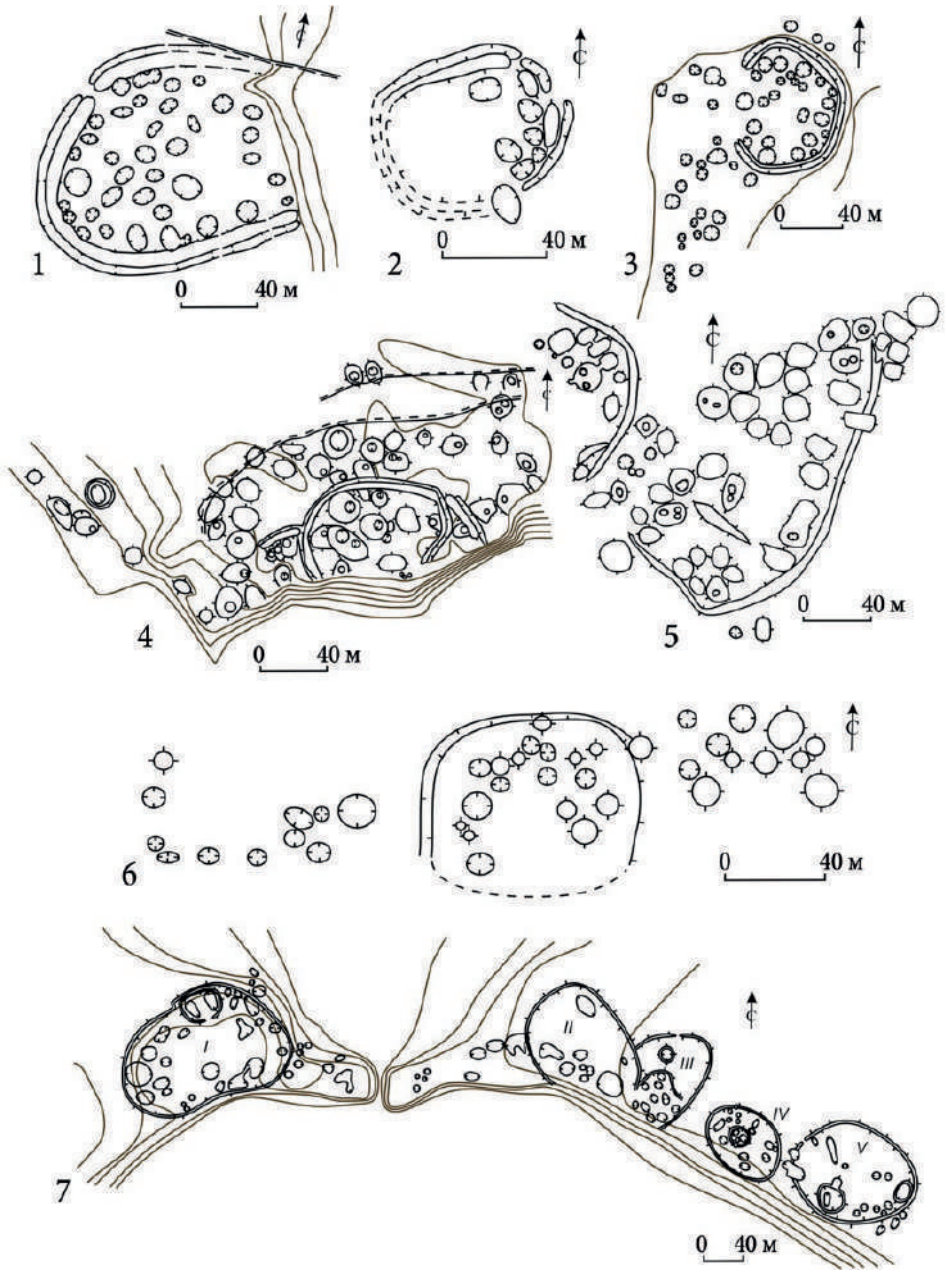

Fig. 5. Hillforts of the Baitovo culture:
1 — Baitovskoye; 2 — Bolshoi Imbiryai-3; 3 — Staro-Lybayevskoye-1; 4 –Yurtobor-20;
5 — Borovushka; 6 — Slobo-Beshkilskoye; 7 — Uval hillforts complex (Uval-1–4)

Рис. 5. Городища баитовской культуры:
1 — Баитовское; 2 — Большой Имбиряй-3; 3 — Старо-Лыбаевское-1; 4 — Юртобор-20;
5 — Старо-Лыбаевское-3; 6 — Слободо-Бешкильское; 7 — комплекс городищ Увал (Увал-1–4)

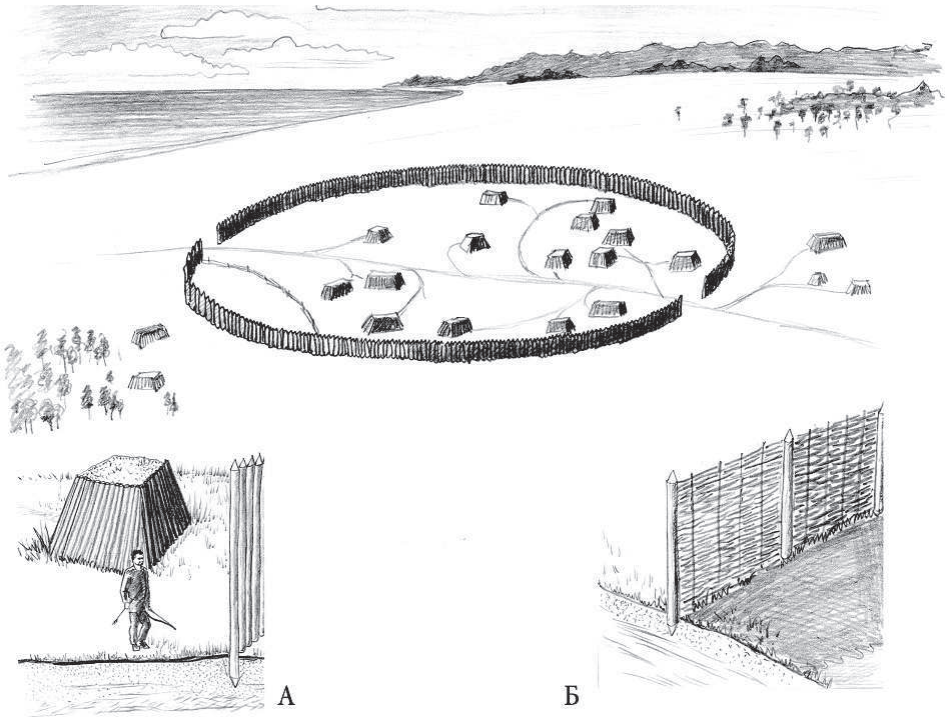

Fig. 6. Bochanetskoye hillfort, reconstruction of the appearance:
А — with a palisade wall; Б — with a wattling

Рис. 6. Бочанецкое городище, реконструкция внешнего вида: А — частокол; Б — плетень

A large residential area comprised of 63 dwelling pits was found around the citadel (Tsembalyuk, Berlina, 2016).

Apparently similar fortifications were present at the hillfort of Borovushka-2. Excavations also established the presence of a shallow (0.25 m) groove with stepping protrusions on the sides of the moat. Probably, the site was surrounded by a wattling along the perimeter (Tsembalyuk et al., 2011).

The earth wall of the hillfort Bolshoi Imbiryai-3, which functioned in the 5th–4th centuries BC, represents a bank of brown, light grey and redeposited sand 3 m wide and 80 cm high from the level of the ancient surface (Fig. 5.-*2*). Dark grey stripes with charcoal, presumably from burnt logs, were found within its structure, indicating the presence of a wooden wall (palisade?). At the basement of the earthwork, there was a cone-shaped moat 2.5 m wide and about 1.5 m deep (Tsembalyuk, 2009).

The hillfort of Likhachevo, circular in layout, has been fully explored by excavations (Fig. 7). This allowed not only to reconstruct the structure of the dwellings, but also fortifications, and to study the layout of the site. The hillfort was surrounded by a circular moat of a perfectly right circumference with an internal diameter of 43 m (Fig. 7.-*1*). The trench had quite consistent dimensions throughout its length — the width of 1.0–1.2 m at the top, and the depth

of 0.5 to 0.8 m. It surrounds the entire hillfort and represents the remains of the once-existing fortifications. The logs were placed vertically into the trench, forming a palisade-like wall. There were no additional earth fortifications (wall, moat) within the hillfort. The palisade was not very high. At a pit depth of 0.8 m, the logs longer than 2–3 m could hardly stay in, however, this height was well enough to hide from shooting during attack.

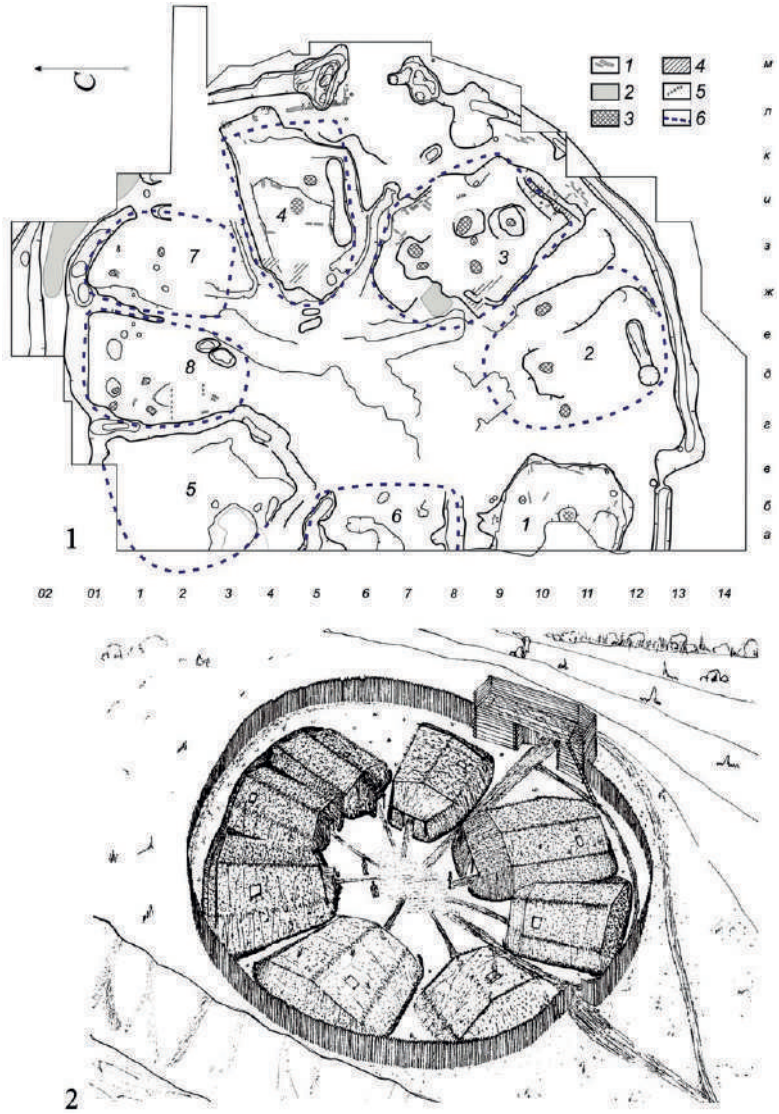

Fig. 7. Likhachevo hillfort:
1 — plan of excavated dwellings and fortifications; 2 — reconstruction of the appearance

Рис. 7. Лихачевское городище:
1 — план раскопанных жилищ и фортификаций; 2 — реконструкция внешнего вида

The excavations explored two entrances to the hillfort. The eastern entrance was fortified by watchtowers. The southern one represented a wicket-type gate. The hillfort represents a pre-designed round-shaped settlement with two entrances and eight dwellings arranged in a circle. In the centre, there was a free yard, probably for meetings, some economic activity, keeping of cattle paddock, and other needs (Tsembalyuk, Berlina, 2014) (Fig. 7.-*2*).

Fortifications partially similar to those of Likhachevo were found in the hillfort of Staro-Lybaevskoye-1; they were left by the population of the Baitovo and Sargatka Cultures. The basements of two towers erected successively have been recorded from the structure of the earthwork, measuring 2.6×2.6 m, located closely to each other, presumably of a timber structure; traces of charcoal suggest that the fortifications burned, and it was not possible to acquire more accurate information about the structure of either walls, or towers (Matveeva, 2017).

Thus, in the beginning of the Early Iron Age, changes have been identified in the material culture of the population. In the fortifications, there was sophistication from simple, light fences in the form of wattling, palisades, towards more laborious and massive, with more intensive use of soil, and the appearance of towers. At the same time, various types of fencing were recorded — from a simple enclosing of a village with a wattle or palisade to erection of a wall on the earthwork, strengthening it with a moat, creation of towers at the entrance. Around the citadels, large suburbs were formed. Materials of the beginning of the Early Iron Age suggest the development of various crafts — metalworking, up to the elaboration of own iron industry in the Baitovo population (Zinyakov, Tsembalyuk, 2019), weaving, stone processing, pottery, etc. Traces of the craft are recorded mainly in large hillforts.

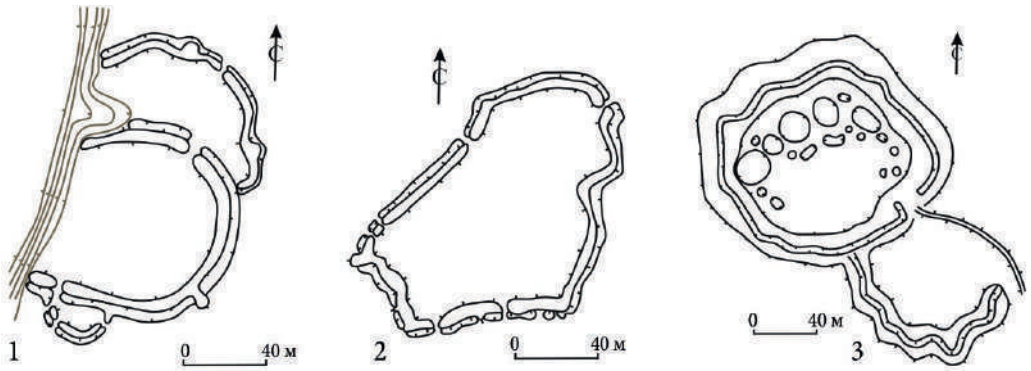

Fig. 8. Hillforts of the Gorokhovo culture:
1 — Vorobyovskoye; 2 — Iltyakovo; 3 — Gorokhovo (Chudaki)

Рис. 8. Городища гороховской культуры:
1 — Воробьевское; 2 — Ильтяково; 3 — Горохово (Чудаки)

A similar picture can be seen from the materials of the Gorokhovo Culture, whose population was inhabiting the Trans-Ural forest-steppe in the Early Iron Age. It is believed that this population, which migrated from the south, from the Kazakhstan steppes, brought in the Saka steppe traditions. Their fortifications also had predominately oval-circular layout (Iltyak-

ovo (Fig. 8.-*2*), Gorokhovo (Chudaky) (Fig. 8.-*3*), Maloye Uzshelye, Korovyakovo), however, there were hilltop ones as well (Maryino Uzshelye-4, Pavlinovo, Vorobyovskoye (Fig. 8.-*1*)).

Gorokhovo fortifications have a distinctive feature — in addition to the traditional earthwork-moat lines along the perimeter, earthwork-moat-earthwork systems are frequently found. Excavations of such fortifications revealed that between the earthworks in the moat, a narrow ditch is often found, which was holding a palisade.

The hillfort of Gorokhovo (Chudaky) consists of two adjacent rounded platforms (Fig. 8.-*3*) Excavations have explored part of the fortification wall and established the presence of a deep narrow ditch. The fortress was reinforced by a palisade. A peculiar characteristic of the fortification of this site is the presence of eight protrusions-bastions, which allowed the defenders to increase the field of fire.

The hillfort of Maryino Uzshelye-4, one of the largest in the territory of Western Siberia — its total area is about 42,000 m^2, is located on a rectangular hilltop and consists of three platforms. The first line of defence is found 60–90 m away from the point of the hilltop, it represents an earthwork-moat line that cuts through the part of the hilltop as almost a straight line. The second line of fortifications is located in 130 m from the point of the hilltop. It consists of an earthwork and two moats at its edges. Slightly shifting from the centre to the west, there is an entrance into the fortifications of the second line of defence, made in a shape of a bridge in the earthwork and moat (Fig. 9.-*1*). The third line of fortifications is located 210–230 m away from the point of the hilltop, and it consists of an earthwork and moats at its edges. The second and the third lines of fortifications as arranges not as an arch, but with protrusions into the front side, which increased the shooting area (Fig. 9.-*2*).

The Malo-Kazakhbaevskoye hillfort represents a small fortress of about 50 m in diameter. The fortifications were circular, of an earthwork-moat-earthwork system, with nine triangular and/or rectangular protrusions around the perimeter (Kozeko, Kuznetsova, 1998). It was established that the moat played an important role in the defence of the village; wooden fortifications were installed along its inner edge, reinforced by a stonework at the entrance. The entrance to the hillfort appeared in a form of two moats turning in different directions — towards the inner platform and towards the outer side, forming a corridor.

Other hillforts of the Gorokhovo Culture also have protrusions-bastions, but fewer. These have been found in the hillforts of Vorobyovskoye (Fig. 8.-*1*), Iltyakovo (Fig. 8.-*2*), Kalachik-1.

Another hillfort of the Gorokhovo Culture — Pavlinovo — is located in the Iset River region, on a hilltop (Fig. 10) (Koryakova et al., 2009).

Fortifications represent a double polygonal line of ramparts and moats comprised of 5–6 segments, inscribed in a semicircle, separating the living platform from the vast settlement side. Fortifications consist of a timber wall on the earthwork, made of log cabins, 1.6–2 m wide, possibly with a wall with a parapet upwards. There were two entrances in the hillfort — the central one was protected by a gate tower, the second entrance was set on the side, as a footbridge across the moat, and a wicket tower. This hillfort was occupied for a long time, later it was inhabited by the population of the Sargatka Culture, who transformed the Gorokhovo cultural layer. Years of research on the site made it possible to establish that in the Early Iron Age it was one of the major socio-economic centres of the forest-steppe zone of Western Siberia (Koryakova et al., 2009).

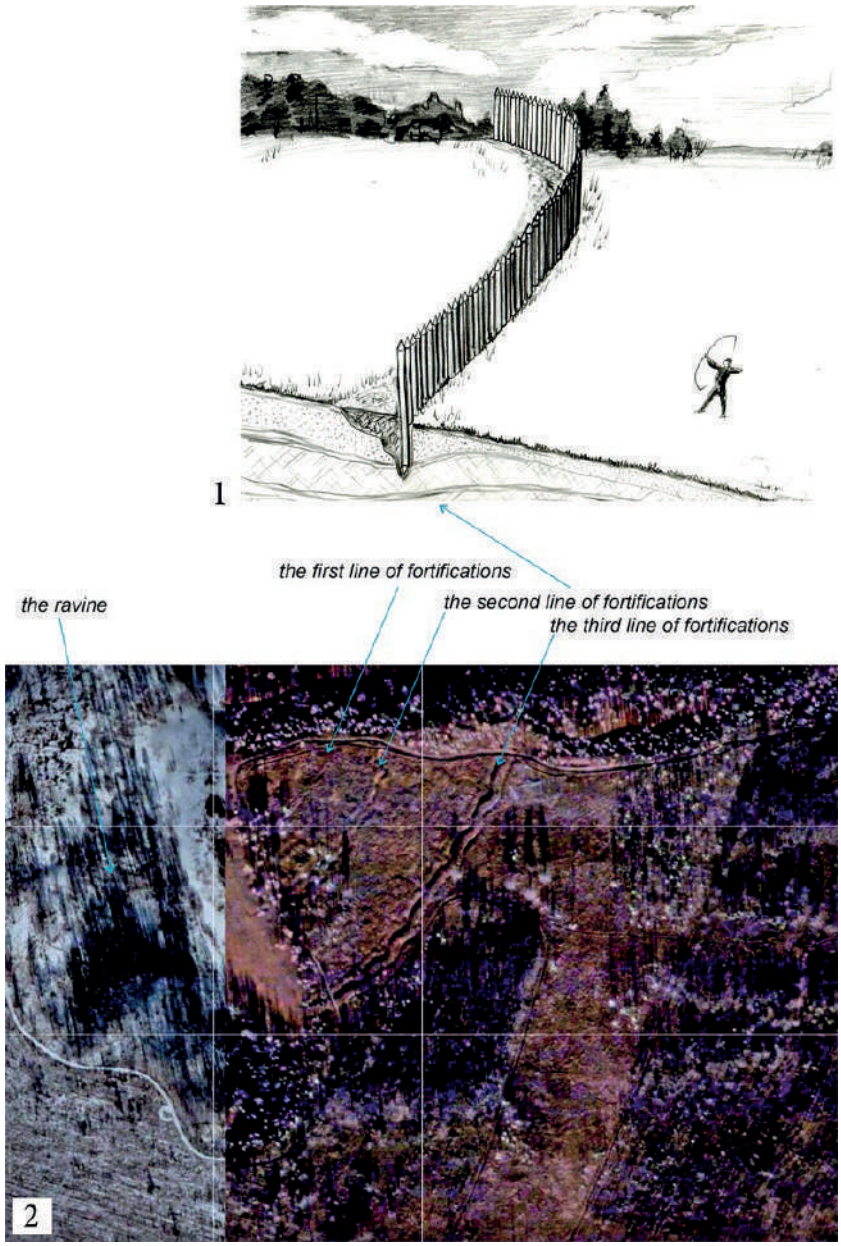

Fig. 9. The hillfort of Maryino Uzshelye-4:
1 – reconstruction of the structure of the second line of defense;
2 – satellite image of the territory of the hillfort

Рис. 9. Городище Марьино Ущелье-4:
1 – реконструкция структуры второй линии обороны;
2 – спутниковый снимок территории городища

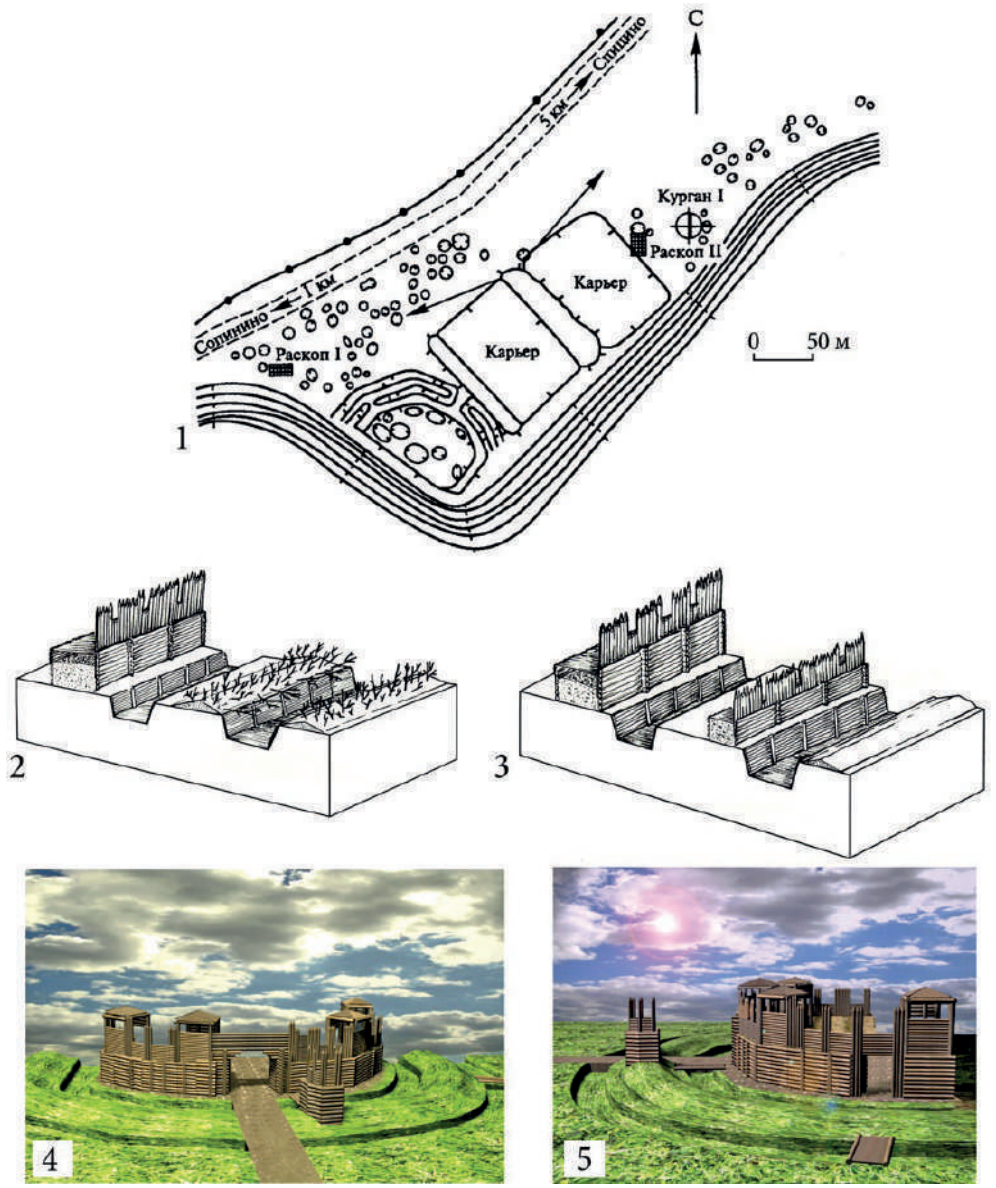

Fig. 10. Pavlinovo hillfort:
1 – plan of the hillfort; 2, 3 – variants of reconstruction of fortification lines;
4–5 – graphic reconstructions of appearance
(4 – view from the NE, 5 – view from the NW) (after: Koryakova et al., 2009)

Рис. 10. Павлиново городище:
1 – план городища; 2, 3 – варианты реконструкции фортификационных линий;
4–5 – графические реконструкции внешнего вида
(4 – вид с северо-востока, 5 – вид с северо-запада) (по: Корякова и др., 2009)

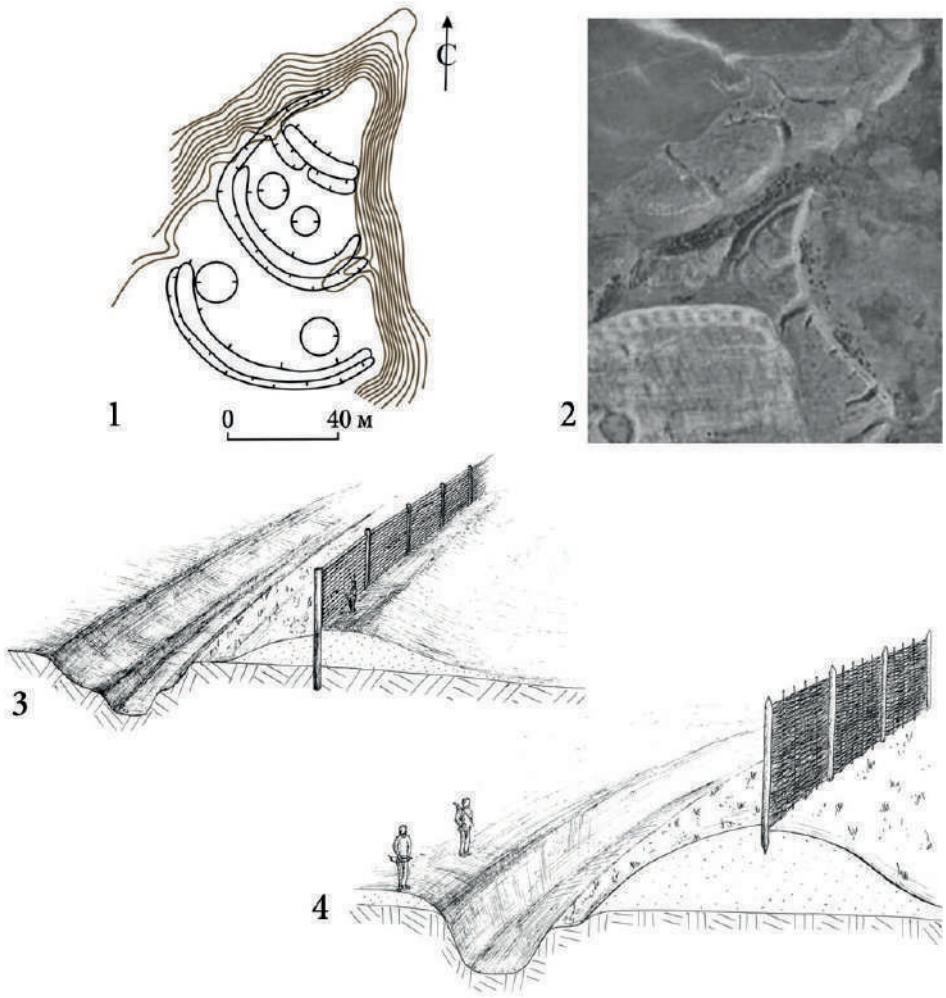

Fig. 11. Kolovskoye hillfort:
1 — plan of the hillfort; 2 — satellite image of the territory of the hillfort;
3 — graphic reconstruction of the appearance of the second line of fortifications;
4 — graphic reconstruction of the appearance of the third line of fortifications

Рис. 11. Коловское городище:
1 — план городища; 2 — спутниковый снимок территории городища;
3 — графическая реконструкция внешнего вида второй линии укреплений;
4 — графическая реконструкция внешнего вида третьей линии укреплений

Sargatka Culture was spread in the Western Siberian forest-steppe in the 5th c. BC — 2nd c. AD. This large cultural pre-state formation left more than 65 fortresses and 300 unfortified settlements, as well as a large number of mounds, the excavation of which allowed reconstructing the social stratification of the Sargatka community. The majority of the Sargatka settlements have been found in clusters — micro-districts (Korykova, 1988). The main micro-dis-

tricts are located on the banks of major rivers — Tobol, Ishim, Irtysh, and their tributaries — Iset, Ik, Tura, Tara, Om, on the distance of 30–40 km from each other. Some micro-districts are located on the shores of open lake systems (Matveeva, 1997; 2000).

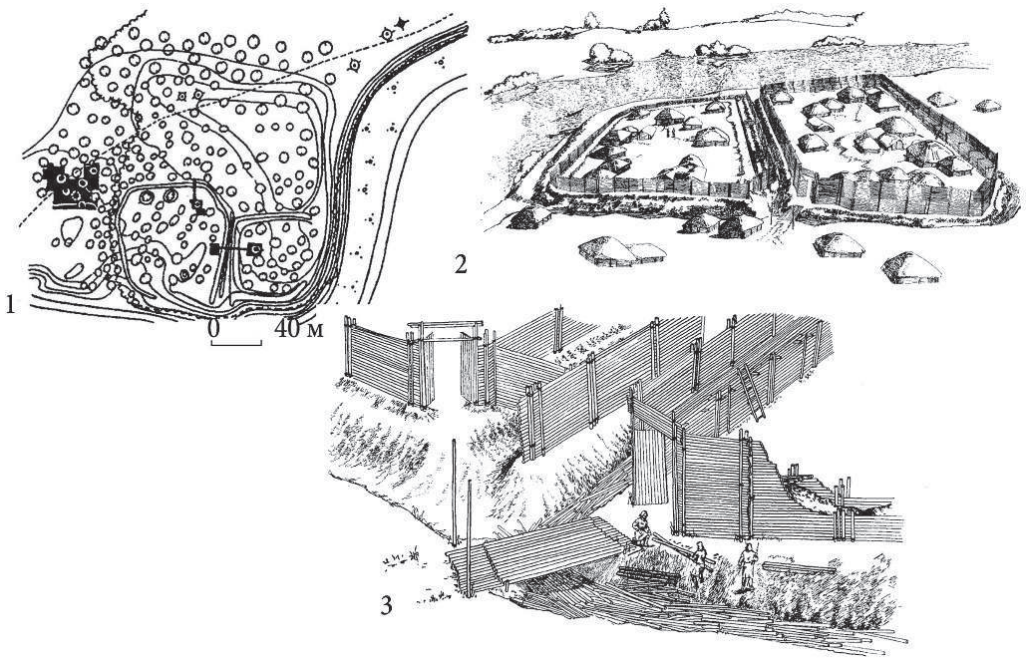

Fig. 12. Rafailovo hillfort:
1 — plan of the hillfort; 2 — reconstruction of the appearance;
3 — reconstruction of the site at the entrance

Рис. 12. Рафайловское городище:
1 — план городища; 2 — реконструкция внешнего вида;
3 — реконструкция площадки у въезда

The Sargatka Culture hillforts are divided into hilltop and coastal ones. Depending on the location, the sites had different shapes: triangular, when fortifications cross the hilltop in a straight line (Prygovskoye, Bogdanovskoye, Rozanovskoye, Gornobitinskoye-2, Karganovskoye, Krasnoyarskoye, Fadeevskoye), or semicircular (Barkhatovo, Ak-Tau, Bezymyannoye-2, Uval-4), sometimes bending around the edges of the hilltop in order to increase the area of defence and protection in vulnerable places (Kolovskoye) (Fig. 11), and trapezoid, when the fortification line was set on the edge of the hilltop and on its front side (Gornobitiinskoye-1, Sakoulovskoye, Kartashevo-3).

However, the structure of hilltop hillforts is not limited to the fortifications set across the hilltop — there are even more complex designs, for example, the hillforts of trapezoid form — Gornaya Bitiya, Kartashevo-3 — where the fortifications are situated on both the frontal side and the side of the hilltop edge. The site of Dikaya Yama on the Tobol River has an un-

usual form. It is small, with a settlement area, yet has an extremely complex structure of fortifications: part of the hilltop is intersected by semicircular line of an earthwork and a moat (like an ordinary hilltop one), and part of the hilltop is divided into two parts by a driveway road, on both sides of which there are two more platforms of trapezoid shape, surrounded by fortifications from the side of the village and the driveway. This is the only known hillfort with such a layout in the entire Siberia and the Far East.

The coastal Sargatka Culture hillforts are located on the edge of terraces, buttes, and have rounded (Staro-Lybayevskoye-3, Inberen-IV, Bezymyannoye-II, Dvukhozernoye-3, Dvukhozernoye-14, Ilyinskoye, Kamyshnoye, Lugovoye-2, Sazyk-4, Uval-IV) and rectangular (Rafailovo, Timino, Kushayly, Lugovoye-1) shape of fortifications. The hillforts of this type are located at lower hypsometric levels. The sites of Pavlinovo, Rafailovo (Fig. 12), Batakovo-19 have a more complex structure.

If we analyse the hillforts by the area, we could talk about the presence of small sites — up to 520 m^2 (Bezymyannoye-II, Ilyinskoye), hillforts with a total area of 1200–2000 m^2 (Gornobitiinskoye, Ak-Tau, Inberen-IV, Malaya Zyryanka, Fadeevskoye, Dvukhozernoye), and those of 3300–4400 m^2 in total area (Gornobiitinskoye-II, Syryanovskoye, Krasnoyarskoye, Kushayly, Lugovoye). Among them, there are both hilltop and coastal ones. In the group of hillforts with an area of 1200–2000 m^2, prevailing are the single platform hilltop ones, among those of 3300–4400 m^2 — complex hilltop ones with two or three fortification lines and coastal ones.

Relatively large in area hillforts — from 5100 to 16500 m^2 (Dikaya Yama, Zakaulovskoye, Karganovskoye, Krasnozerskoye, Sazyk-4, Kamyshnoye, Kolovskoye, Timino) — are mostly coastal. The hillfort of Batakovo-19 — its fortified area is 40,000 m^2 — is also attributed to the coastal type. Perhaps, the large size of hillforts is related to their location on terraces, buttes, as the actual fortified platforms were small (4000–8000 m^2), while the settlement areas near them could reach 40000 m^2. In this case, we can already talk about large villages — towns with extensive posad — examples of such settlements are Pavlinovo, Rafailovskoye, Batakovo-XIX, Kolovskoye, Barkhatovo, Lugovoye; they concentrated the economic life of the district. The emergence and development of such hillforts was possible in the most resourceful areas, mostly by a river, on an edge of the floodplain, near transit routes — in this case rivers. Thus, among both the hilltop and the coastal hillforts of the Sargatka Culture, there were simple and complex ones in structure.

The difference in the form of defensive lines is apparently determined by the location of the platform — on the hilltop ones, these were curved, cutting through the hilltop on the most economical line, fortifications of coastal platforms were set either in the shape of a circle-oval, or as sub-rectangular platforms, which allowed to increase the living area on the one hand, and the shooting area from corner points on another. The increase of the living space happened through the construction of new defensive lines outside the old ones on the hilltop hillforts, or by adding a separate platforms. Preservation of fortification forms, which appeared in the Bronze Age — in the Gamayun, Itkul, Irmen, Barkhatovo Cultures, there were hilltop and coastal fortifications, including those with platforms situated nearby (Matveev, Sidorov, 1985; Borzunov, 1992; Zimina, 2004; Anoshko, 2006) — could be associated both with the versatility of their location and arrangement, and with the fact that many defensive lines were built on the place of old ones.

The growth of the area of fortifications and the strengthening of the fortification lines indicate the changing role of the hillforts.

It is on hillforts with complex fortifications that large-area dwellings are fixed, built using the «zaplot» technique, consisting of several rooms connected by corridors. These dwellings were inscribed into the layout of the settlements in an orderly manner, forming radial or linear structures. In ordinary settlements, the area of dwellings was several times smaller, frame-pillar equipment (half-timbered?) prevailed, buildings are located randomly on the territory of the settlement. During the excavations of the fortresses, traces of metalworking crafts were recorded — flakes, slag, splashes, traces of bone-cutting production, as well as objects indicating the presence of trade ties — imported beads, fragments of ceramics from Central Asia, camel bones. The large mounds studied in the area of settlements contained burials of people of high social status, along with ordinary mounds, which confirms the social stratification of the population, the presence of the ruling elite. In the graves of the top of society, imported items from China and the Black Sea region (bronze cauldrons, mirrors, gold products, beads, vessels, weapons) were found. The difference in social status is also demonstrated by the different content of weapons in burials (arrowheads, daggers, swords, armor), the number of animals buried with humans, etc. The orderly layout of the dwellings, the composition of the finds on the hillforts demonstrate that at this time the fortresses become not just a fortified village, but a small commercial and craft center of the district.

Medieval Period

At the turn of the eras, the process of urbanization in the Tans-Urals was affected by the great migration. Trade connections were interrupted, and the majority of the population moved to the west with the conquerors. During the Early and High Medieval Periods, the number of hillforts, as well as settlements in general, decreased, but the parameters of the fortifications of hillforts, distinct in their large area and capacity of defensive structures, increased. At this time, the forest-steppe was populated by the communities of the Bakal, Yudino, Ust-Ishim and Potchevash Cultures, there is an evidence of the presence of bearers of the Karymskoye, Sarovka and Kushnarenkovo traditions, but the remains of their material culture are usually found as an admixture in the pottery complex in settlements, and individual burials in multi-cultural cemeteries.

A new impulse to the development of fortifications in the forest-steppe zone was given by the infiltration of the Turk population from the 7th c. AD (Rafikova, 2011). For the Yudino population, who lived mainly in the forest zone, characteristic was the construction of small hillforts. On the contrary, for the Bakal population, which occupied the buffer zone between the forest and the steppe, the process of formation and distinguishing of large centres-polises from the total number of hillforts can be observed (Bolshoye Bakalskoye, Ust-Tersyukskoye, Krasnogorskoe). For the arrangement of hillforts, the population of the forest-steppe and forest Trans-Urals more often chose naturally fortified locations of the area — hilltops; terraces were used less frequently.

At present, 31 fortifications of the Bakal Culture are known, representing two groups: those located on the hilltop and on the terrace. The former were fortified by open defensive lines, the latter — by circular ones. Fortifications have been studied in the hillforts of Krasnogorskoye, Ust-Utyakskoye-1, Kolovskoye, Ust-Tersyukskoye-1, Bolshoye Bkalskoye, Krasnoyarskoye, Lastochkino Gnezdo, Kalachik, Borki, Staro-Lybaevskoye-1 (Fig. 13).

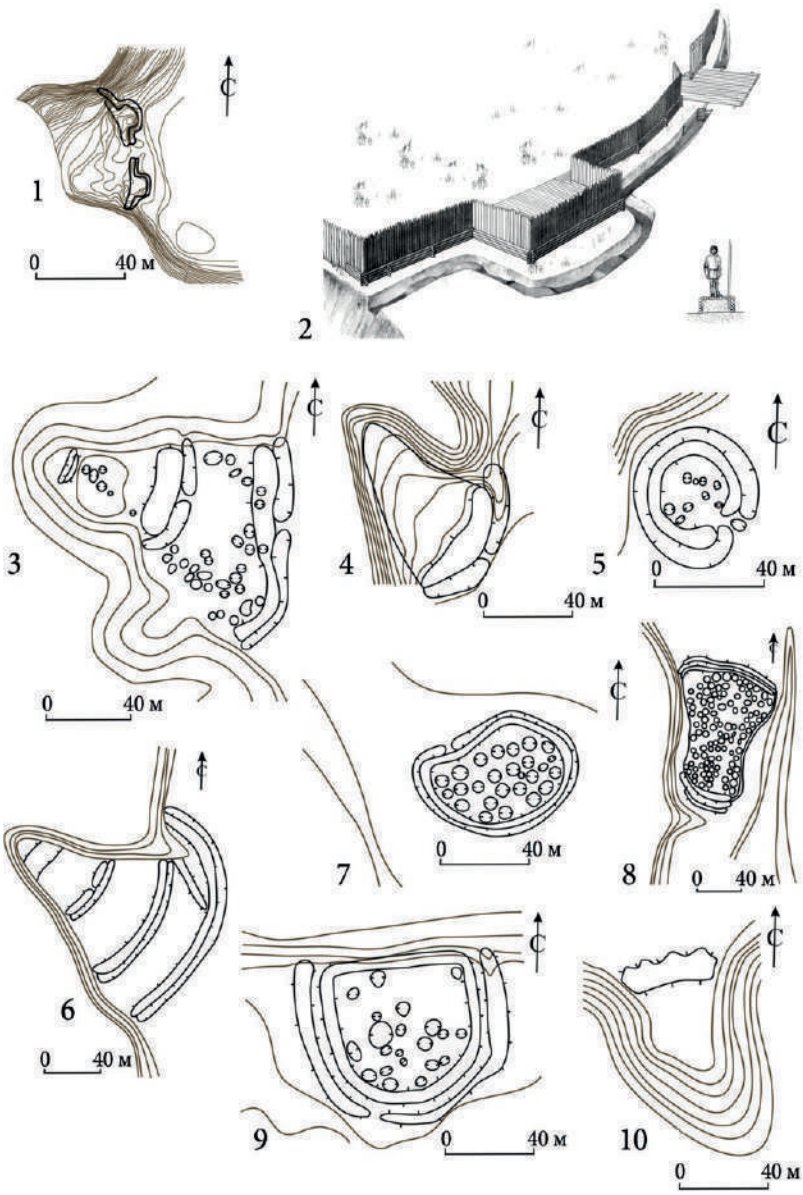

Fig. 13. Hillforts of the Bakal culture:
1 — Lastochkino Gnezdo; 2 — reconstruction of fortifications of the hillfort Lastochkino Gnezdo;
3 — Ust-Tersyukskoye-1; 4 — Krasnogorskoe; 5 — Barinovskoe-3; 6 — Uporovskoe;
7 — Duvanskoye 30; 8 — Skorodumskoye; 9 — Staro-Lybaevskoe-1; 10 — Ust-Utyakskoye-1

Рис. 13. Городища бакальской культуры:
1 — Ласточкино Гнездо; 2 — реконструкция фортификаций городища Ласточкино Гнездо;
3 — Усть-Терсюкское-1; 4 — Красногорское; 5 — Бариновское; 6 — Упоровское;
7 — Дуванское 30; 8 — Скородумское; 9 — Старо-Лыбаевское-1; 10 — Усть-Утякское-1

On the Bolshoye Balskoye hillfort, on the rampart of the first platform, the existence of walls made of horizontal logs has been established; it was supported by vertical columns, the space between them was filled with poles and soil. The rampart of the second platform was fortified by a palisade (Potemkina, Matveeva, 1997). On the Maloye Bakalskoye hillfort, the rampart represented a log wall covered with clay, and a mud tower, reinforced by a wide (9 m) and a deep (3 m) moat.

In the Ust-Tersyuk hillfort, a part of the entrance area, as well as fortifications on the floodplain side, on the arrow of the cape, have been investigated. The hillfort consists of two platforms, fortified by a rampart-moat line; at the edges of the hilltop there was an escarp. The excavations established that the entrance part of the settlement was lined with poles, and the rampart was made of about 30 cm thick turf bricks. The gate was built of boards. The interior of the rampart structure is supposedly represented by taras. On the floodplain side, on the arrow of the cape, the excavations established the presence of a palisade installed into the base of the escarp.

In the Kolovskoye hillfort, the remains of a wooden structure in the form of parallel rows of charred poles, up to 1.2 m long, were revealed within the structure of the rampart. The detected vertical wooden pillars indicate the presence of a wall made in the log cells technique. The discovered perpendicular logs were set at distance of 4–4.5 m from each other, these fastened the walls into the log cells and prevented their disintegration. As such, the wall represented tarases: two parallel walls, connected by cross-bars, with the space in between filled with garbage, branches, a layer from the living area. A similar structure was presumably used in the design of the Krasnogorskoye hillfort rampart, where the studies have been carried out on a small area, but the remains of poles, parallel and perpendicular to the line of rampart, have been identified.

The hillfort of Ust-Utyak-1 on the Tobol River in the Middle Ages was originally protected by a rampart and a palisade on its top, and a wide (1.7 m) and shallow (0.5 m) moat. Later, the mound of the rampart was topped up, and, on its top, wooden structures in the form of cells or a taras, up to 3 m high, were installed. A bastion-shaped protrusion has also been identified.

The authors of the excavations also anticipate the existence of a wooden fence in the Staro-Lybaevskoye-1 hillfort, the rampart of which was made of turf bricks and filled with soil from the moat, located on the outside of the rampart.

In the Lastochkino Gnezdo-1 hillfort, the excavations explored the entrance, tower-bastion, and ramparts and ditches of the fortress (Fig. 13.-*1, 2*). The hillfort is located on a hilltop; originally a small platform was fenced off by a rampart and a moat, which had a bridge — the entrance into the hillfort. After a short period of time, the fortifications were restructured. New fortifications enclosed the hillfort in a semicircle, the entrance was set in the centre, the bastions were arranged at an equal distance from the entrance, the moat repeated the outlines of the rampart and the bastions, in some places it was reinforced by wood. The excavations established that a log wall — taras — was installed on the rampart, with a palisade at its base. The bastions appeared as 4.5×6.0 m protrusions with their long side adjoining the rampart (Fig. 13.-*2*). The frame structure made of poles and thin logs was covered with clay. The settlement burned down, and during the excavations clay crumbs and fragments of daub with traces of smoothing, imprints of bark and branches, were found. Between the bastion and the moat, about 1.0–1.5 m wide berm was left. Inside of the bastion of the hillfort, a secret passage was arranged — for its construction, the earlier moat was deepened, lined with small poles,

and overlaid by thin logs, the exit was made into the ditch, 5–6 m away from which it was possible to enter the ravine and go down to the river, or to suddenly attack the enemy from the corner of the bastion.

The entrance to the hillfort appeared as a bridge over the moat and a gap in the rampart line. Its width was 2.5–2.6 m (Fig. 13.-*2*). A depression at the place of the passage and the absence of traces of construction suggests there was no any tower at the entrance, but rather an ordinary gate. The traces of wood and postholes from pillars-posts were found in the moat near the entrance point; probably, the sides of the moat were reinforced with wood, there may have been a wooden flooring at the place of the entrance passage.

In general, the population of the Bakal Culture built voluminous, impressive fortification structures. Their design became uniform: reinforcing of the body of the rampart with taras, cells; erection of additional fences, palisades and wattles on top, the presence of moat at the base of the rampart; strengthening of the ditch with vertically installed poles. In the Bakal Culture hillforts, log walls, covered with clay, and pise-walled towers (Maloye Bakalskoye, Lastochkino Gnezdo), under one of which an underground passage was found, as well as tower-like protrusions (Loginovskoye, Ust-Utyak-1) and strengthening the sides of the moat with wood (Gening, Evdokimov, 1969; Rafikova et al., 2013; Rafikova, Berlina, 2014) were documented.

The majority of the hillforts of the Yudino Culture have been found along the middle flow of the Tura and Tavda Rivers, on the northern boundary of the forest-steppe. Fortifications have been examined at the Konyashino-2, Cherepaniha-2, Krivolukskoye, Svyatoy Bor-5, Yudino and Krasnogorskoye hillforts (Fig. 14).

In the Yudino Culture hillforts, the ramparts are mostly earthfill, fortified by a palisade or a fence (wattle?) on the top. Excavations have established that the Krivolukskoye and Svyatoy Bor-5 hillforts were fortified by light fences installed on the top of the rampart. In Krivolukskoye, a structure that could play the role of an observation tower was found.

In the Yudino hillfort, the existence of a wooden structure or a log cabin on the rampart has been established, as well as the presence of palisade within the moat and outside of it (Viktorova, 1968).

The hillfort of Konyashino-2 is a hilltop one; its fortifications cut off the living area in a semicircle, with their ends running into ravines (Fig. 14.-*1*). The moat is ca. 3.8 m wide and 1.2–1.4 m deep; the rampart is 6 m wide and up to 1 m high. The authors of the excavations suggest that there was a wooden wall above the rampart, as, within its structure, the fragments of burnt wood, lying across the line of the rampart, have been found.

During the excavations of the Cherepanikha-2 hillfort, soil scientists have found that the body of the rampart was made of turf bricks cut in the area nearby.

As such, on the Yudino hillfort, wooden structures or log cabins within in the body of the rampart, palisades in the ditch and outside of it (Judinskoye, Svyatkoy Bor-V, Krivolukskoye, Krasnogorskoye) have been examined; within one of them, an observation tower has been found (Viktorova, 1968; Matveeva, 1997; Matveeva, Rafikova, 2005). Archaeological materials show that in the medieval times the socioeconomic status of particular fortified hillforts improved significantly, as they not only fulfilled a defensive function, but also acquired administrative, political and religious significance.

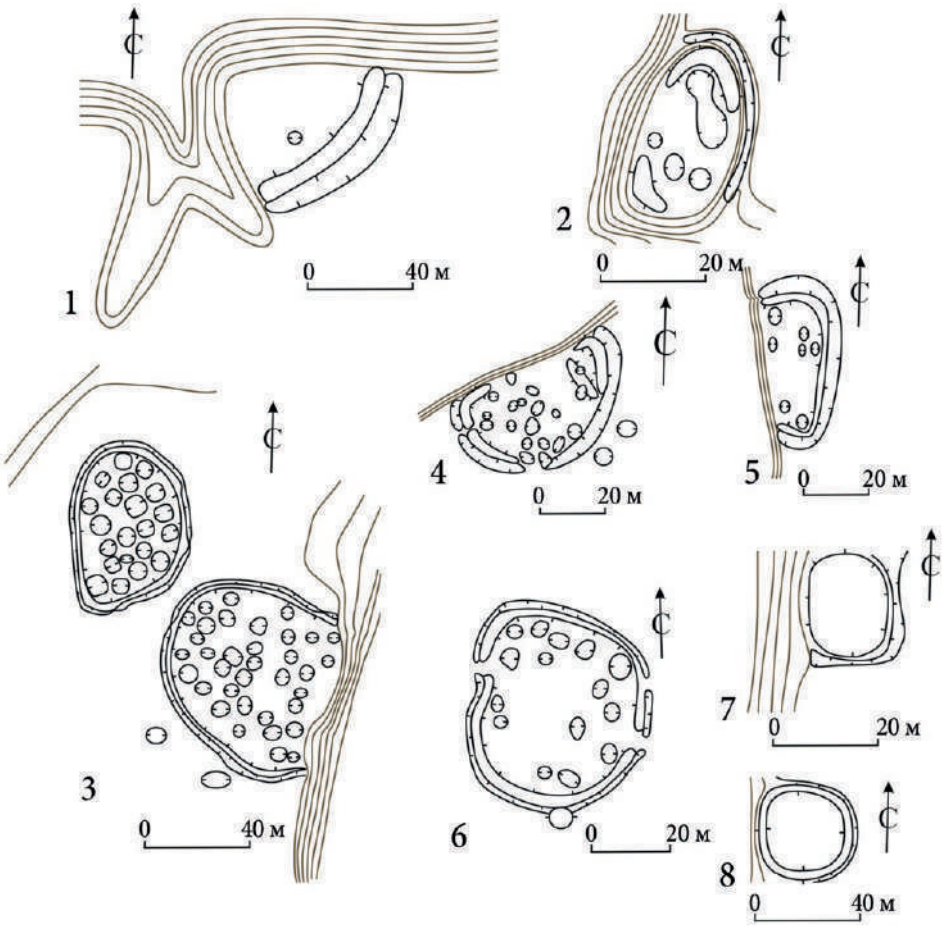

Fig. 14. Hillforts of the Yudin culture:
1 — Konyashino; 2 — Likinskoe; 3 — Revda-II, III; 4 — Barsuchye; 5 — Andronovskoe;
6 — Duvanskoe; 7 — Zaozernoye 2; 8 — Zaozernoye-1

Рис. 14. Городища юдинской культуры:
1 — Коняшино; 2 — Ликинское; 3 — Ревда-II, III; 4 — Барсучье; 5 — Андроновское;
6 — Дуванское; 7 — Заозерное 2; 8 — Заозерное-1

In the Irtysh River region, in the hillforts of the Potchevash Culture, the ramparts are earthen, made of the spoil from the moat (Sopka-1, Speranovka); traces of wooden structures have been found (Murlinka-1, Loginovskoye). The ramparts complemented wide and deep trenches. Remains of wooden taras-type structures have also been found in the hillforts of the Ust-Ishim Culture (Kipo-Kularovskoye-III, Bezymyannoye-1, Bolshaya Pristan, Novoyagodnoye-II).

For comparison, further north, in the subtaiga and taiga zone, towns were more often arranged not on hilltops, as in the forest-steppe, but on terrace edges, hills or ridges. While in the forest-steppe areas, along with single-platform hillforts, there were double — or three-

platform ones (for the Ust-Ishim Culture the presence of five platforms has been recorded), in the further north territories, most of the hillforts are single-platform and smaller in area than those in the forest-steppe. The reinforcements by filling the rear sides of the buildings have been recorded, and the arrangement of the moat outside of the rampart. The strengthening of protective structures in this area later occurred later, and in the Late Middle Ages the fortifications lost their importance in this territory.

2.4. The Period of Russian Colonization of Siberia

A powerful impetus for the transformation of the Trans-Ural region and the entire Siberia was given by the subordination of the Siberian Khanate by the Muscovite State and the advance of Russian explorers to the east from the end of the 16th c., which led to the formation of new cities and forts (Vilkov, 1981). The reconstructions of this period, created by historians, demonstrate the importance of urban structures in the process of Russian colonization (Rezun, 1995). In the Tom River region, the excavations have explored the Tomsk fort — "Voskresentkaya Gora," Sosnovsky, Sayansky forts; in the Tura-Pyshma interfluve — the Tyumen city, in the Ob-Irtysh region — Tara, Kazymsky and Umrevinsky forts; in the north of Western Siberia — Pelymsky, Lozvinsky, Berezovsky and Obdorsky; in the Arctic — the Mangazei fortress; in Cis-Baikal and Amur River basin — Albazinsky, Ilimsky and Nerchinsky. Urban settlements, which originated in the Siberian vast during its colonization, not only served as military and administrative fortresses, but also as strongholds of craft, fishing and agricultural activities, and most importantly — of the dissemination of the values of Russian culture (Chernay, 2009).

Gradually, the forts lost their original military significance and many of them, which had a good geographical location and economic growth opportunities, grew into cities, county centers, for example, Tara, Tyumen, Berezov and others.

Years of archaeological research in Tobolsk not only opened new horizons for the study of the first Russian capital of Siberia, but also demonstrated the good preservation of its cultural layer, rich in remains of structures from various periods and diverse artefacts (Belyaev, 1986; Sladkova, 1998; Adamov, Balynov, Danilov, 2008; Matveev, Anoshko, 2011; Anoshko, Ignatov, 2014).

At the early stage of Russian colonization, the military and defensive functions of Tobolsk were the most important.

By the archaeological research, it was possible to reconstruct the size, structure and appearance of the posad fortifications (Matveev, Anoshko, Klimenko, 2012). These include the remains of palisades, represented by several ditches with wood decay from pillars, which were part of the fort at various periods of its functioning. The planigraphy and stratigraphy data indicate various periods of construction and occasional repair of the examined fencing structures, which confirms the information from written sources, indicating the restructuring, transfer from one place to another, and the destruction of the fortifications in fires. The most powerful line of fortifications is represented by a ditch, in which, judging by the fragments of logs in its filling and their prints at the bottom of the pit, pillars were installed, forming a solid wall of the palisade type. The logs were connected by a groove cut on the inside of each pale, which allowed to tightly conjoin the posts of the palisade, making it firm. The remains of the wooden tower basement, the superstructure of which has not been preserved, were also found in the studied section of the fortification line. According to the historical data,

the fortifications built around the Tobolsk posad in 1688 were not only the most massive in the history of the city, but also the most recent; thus, we tend to attribute to this very time the latest fortification line with a boardwalk and a turret, found during the excavations (Fig. 15).

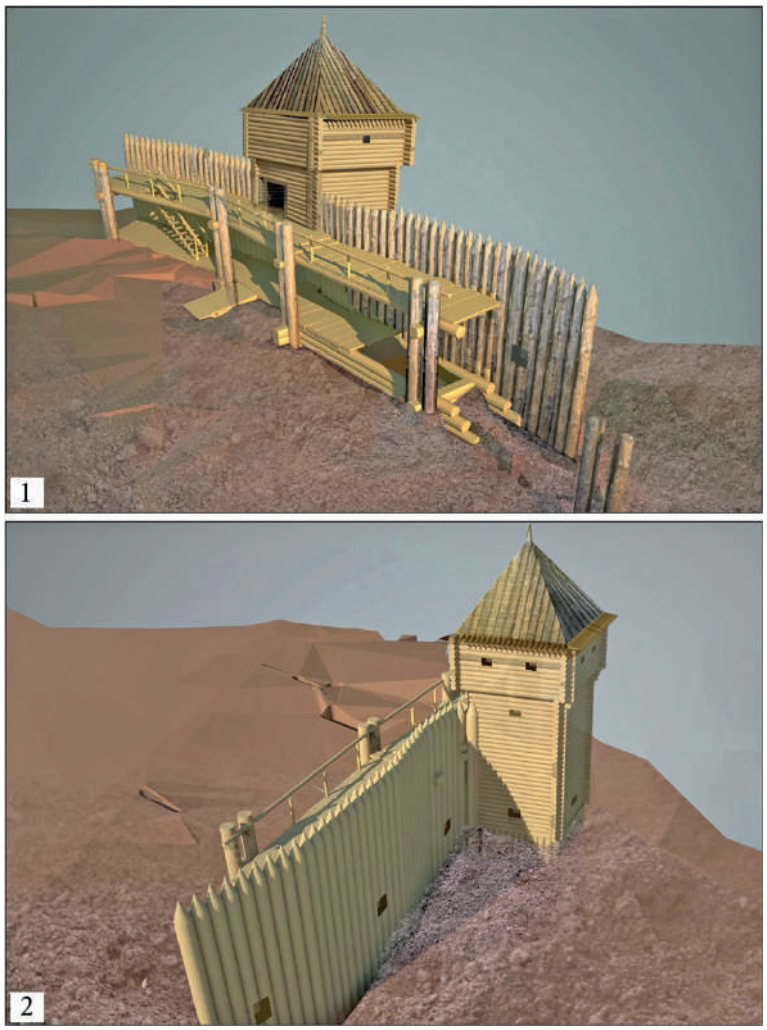

Fig. 15. Tobolsk. A three-dimensional computer model of the late fortifications

Рис. 15. Тобольск. Трехмерная компьютерная модель поздних укреплений

Written sources show the role of Tobolsk up to the second quarter of the 19th c. as an administrative, political, spiritual and cultural centre of the Siberian region, the residence of the Russian state executive and judiciary representatives, the Siberian diocese (Kochedamov, 1963; Kopylov, 1974; Kopylov, Pribulsky, 1975). According to the cartographic and visual materials, the key points of urban composition were at the early stage wooden, and later stone buildings of the citadel, merchant quarter, administrative buildings, temples and monasteries,

which at that time were essential elements of urban development, regardless of later reconstructions (Kochedamov, 1963; The drawing book…, 2003; Rakova, 2005; Chorographic drawing book…, 2011).

In the central part of the Tobolsk upper posad, a massive log wall with a hidden tunnel has been explored; it was interpreted by us, from early Remezov drawings, as a prison yard, dated to the period from 1687 to about 1714, although it possibly kept functioning until 1757, when the city once again burned to the ground (The Atlas of Siberia…, 1958, p. 161, 164; Matveev, Anoshko, Alieva, 2012; Anoshko, Ignatov, 2014).

It is the city of Tobolsk which vividly demonstrates how, within a single polis, the integration of Russian settlers and multi-ethnic groups of the indigenous Siberian population was happening, intercultural contacts, mostly peaceful, processes of acculturation and adaptation, transmission of everyday lifestyle patterns were carried out, new spiritual, cultural and life-sustaining traditions were born, spreading further to Siberian regions. Researchers noted that the indigenous population, directly or indirectly through the capital city, was exposed to the cultural and spiritual influence from the European part of Russia (Kopylov, 1974; Sofronov, 1999). Archaeological data confirm this point; finds from the cultural layer are mainly of Russian origin, among them there are items related to Christian symbolism — baptismal crosses, finger-rings, buttons, seals, pendants, etc. (Fig. 16).

Fig. 16. Tobolsk. Panagia: 1 — the front side of the panagia; 2 — the inner side of the panagia

Рис. 16. Тобольск. Панагия: 1 — лицевая сторона панагии; 2 — внутренняя сторона панагии

From the iconic buildings in Tobolsk, preserved are stone churches of late origin (while the earliest ones have only been documented by the archaeological research), the basements of the stone enclosure wall of the Sofia Court and of the late 17th c. western Holy Gate, the remains of two baptismal fonts (Balynov, Danilov, 2013), part of the altar apse wall of the stone St. Nicholas Church, built in the 1840s (Kochedamov, 1963; Danilov, 2013).

The process of Russian colonization of the Trans-Urals and Siberia dramatically increased the demand of people for various goods, which subsequently led to the intensification of external trade relations and the formation of local production focused on domestic sales on the city market (Vilkov, 1967; Rezun, Besedina, 1992). Tobolsk, founded on the junction of tran-

sit trade routes, appeared as a link between the Siberian region and Central Russia, Europe and Asia (Vilkov, 1990). If we analyse the data from historical sources, the Tobolsk market was developing towards extension of the range of both imported and locally produced goods essential for dynamic exchange.

In the first quarter of the 17th c., household items virtually were not produced or brought in from European Russia and Central Asia to the Russian capital of Siberia (Vilkov, 1978). With the appearance of small-scale production, especially of leather, soap, wood and metal, tailoring, many imported goods became ousted by local ones, also sold in other Siberian towns and villages, which led to the strengthening and expansion of trade ties of Tobolsk. In the late 17th and early 18th c., small enterprises emerged in distilling, glass-faience and cloth production, as well as large tannery factories focused on domestic and external markets (Vilkov, 1967). In the late 18th and 19th c. there were also rendering, glue-boiling and candle-making establishments; the stationery industry was developing further (Kopylov, 1974; Bocharova, 1978).

As it is known from the historical sources, in the 19th c. Tobolsk lost its influence not only as an administrative and political, but also as the main commercial centre of Siberia, which was connected with the transfer of the Siberian terrestrial highway from Yekaterinburg towards Tyumen, via Yalutorovsk and Ishim (Kopylov, Pribulsky, 1975). In general, the historical interpretation of the structures discovered in the square of the capital city during excavations (production facilities, posad residential buildings, estates, trade rows, urban fortifications, bridges, basements of churches, parish cemeteries, prison yard, etc.) makes it possible to link the obtained materials with the events that took place in this territory, and allows a fresh perspective on many historical reconstructions created both for the Trans-Urals and Siberia in general. Since the moment of its foundation, Tobolsk became a multifunctional city, a military, administrative, political, trade, craft, spiritual and cultural centre of the Siberian region. After losing its capital administrative functions and the main trade transit routes, it turned into a provincial town of the pre-revolutionary Russia.

3. Methods

The development of any historical model requires a representative source base. Archaeological materials, characterizing various settlements, fortifications, dwellings, industrial and other complexes, material and spiritual culture, and economic activity of the ancient and medieval population of the Trans-Urals, appear as a reliable ground for to find the origins of the urbanization of this region. Written sources of the Late Medieval Period and modern time, together with data from archaeology and ethnography, allow acquiring information about urban settlements of the autochthonous population, finding characteristic features of the formation of the first Russian Siberian cities, identifying patterns and trends of their development, their place and significance in the history during the period of Russian development of Siberia. The complex analysis of archaeological, written, cartographic and other materials contributes to the study of different aspects of urbanization in specific territorial and chronological circumstances and historical scale. This type of research uses cultural, structural, systemic, phenomenological, synergistic, areal and other approaches (Ilyushina, 2011), as well as a variety of methodological techniques: traditional historical, typological, experimental trasological methods, search for analogies, statistical methods of data processing, palinological, palaeozoological, palaeobotanic, chemical analysis, cartographic methods, absolute and relative dating

and others (Anoshko, 2012). The application of these methods allows considering urban structures from the following perspectives: territorial and settlement (geo-landscape, ecological, demographic), production and economic, architectural, cultural-historical, sociological, etc.

The search for the origins of urbanization processes reveals the main stages, spatial patterns and density of the population of the Trans-Urals in one or another period, the life-sustaining system of the prehistoric and medieval population, characteristics of their social life, including family, organization of their inhabitants, administrative and political status of proto-towns and towns in specific periods. Interpretation of their functional purpose implies addressing whether they were centres of military, political, administrative, economic, commercial or cultural activities.

Discussion

In our opinion, the gathered rich archaeological material, in our opinion, testifies that the origins of the urbanisation processes should be associated with the formation of hillforts in the Trans-Urals back in the Bronze Age. It is likely hillforts, proto-towns and towns in ancient and medieval societies were the centres of the emergence and transmission of cultural innovation and determined the development of the region as a whole. Of course, they were not large in size, as the population density in this area was traditionally low, however, other signs of urban settlement were recorded, namely: the presence of craft, trade, power, military equipment (and hence warfare as specialization), elements of urban development, the presence of fortifications. The climatic changes that took place in ancient times prompted the movement of the population, which penetrated into the forest-steppe from north and south, and, as a result, there was an active process of new cultural formation in the territory. On the one hand, innovations were frequently introduced to the region, on another, the social tension between the communities was not rare. The construction of fortifications in the end of the Bronze Age indicates that population of different parts of Western Siberia felt an increasing military threat. The reason for the appearance of hillforts during this period most researchers associate with environmental changes in the end of the 2nd — beginning of the 1st mil. BC, referred to as "the ecological stress". V.I. Molodin believes that "by its power and orientation this flow can be quite comparable to the Hun expansion, well-known in history, which triggered the process called "the Great Migration" (Molodin, 2010).

The adaptation of northern migrants occurred in the Late Bronze Age two ways — as a peaceful integration of the local and newly came population, and as a result of military clashes (Molodin, 2010). In the territory of the forest-steppe Trans-Urals, the adaptation was most likely following the second scenario. Taiga migrants stepped into military conflicts with the local population in the forest-steppe zone. Archaeologically, this is documented by the appearance of fortifications as early as in the 11th c. BC, in the Pakhomovo population, and in the 10th c. BC in the Suzgun and Barkhatovo populations. The fortifications of the hillforts were primitive. They consisted of a ditch and a fence erected in naturally protected places — rather high hilltops of river rock terraces (Cheganovo-3, Ust-Utyak-1, Zavodoukovskoye-11, Miasskoye, Krasnogorskoye, etc.) (Zimina et al., 2005; Matveeva, Berlina, Rafikova, 2008; Kaidalov, Sechko, 2009; Matveev, Anoshko, 2009; Anoshko, Agapetova, 2010). The small sizes of ditches and ramparts indicate the remote probability of the existence of formidable barriers. Yet, the use of high steep shores and additional reinforcement of ramparts by a log wall

increased the protection of the Late Bronze Age hillforts from attacks. Hillforts primarily had a residential function, and then — a defensive one.

Different economic patterns of the local population (producing economy) and the migrants (appropriating economy) in the Bronze to Iron Age transition period allowed the taiga population to acquire their ecological niche in the forest-steppe and later peacefully coexist with the indigenous groups. Settling of relations between the newcomers and the local population lead to the stabilization of the socio-political situation in the region, the construction of hillforts stopped. Settlements were further reinforced with simplest palisades or wattles.

This "neighbourly" coexistence resulted in mixing of the local and foreign populations during the Bronze to Iron Age transitional period in the Tobol-Ishim region. Archaeologically, this is well reflected in the pottery of the Ust-Utyak-1 hillfort, where along with the Barkhatovo and Gamayun vessels, mixed pottery with syncretic Barkhatovo-Gamayun features was found (Kaidalov, Sechko, 2004; 2006). This interaction led to the formation of the hybrid Itkul Culture (eastern variant). The hillforts, dated to the 8th–6th c. BC, represent circular twin hillforts, such as Karagai-aul-1, where the coexistence of two traditions within one hillfort has been observed. One of them was the result of the synthesis of the migrant Gamayun and Barkhatovo populations, and the other one originates from the local Barkhatovo Culture. Fortifications of the hillforts have been reconstructed as wooden fences, with a ditch-groove at the base (Zimina, Zah, 2009).

The population, which existed in the 7th c. BC to the 3rd–4th c. BC, went through significant cultural transformation, influenced by both internal (development of economy, crafts, social structure) and external factors — migration of people from north (at the early stage) and south (Saka), climatic and possibly economic changes. In this context, new types of dwellings emerged, as well as defensive lines protecting key hillforts. During this period, the first hillforts of the Baitovo Culture (Borovushka) emerged, which at the early stage of its existence were enclosed by fences-palisades installed in a shallow ditch. The ground from the ditch was used for the mound of the rampart (Tsembalyuk, 2017). According to the archaeological data, the hillforts became craft centres at this time. In the beginning of the Early Iron Age, at the late stage of the existence of the Baitovo Culture, the capacity of the defensive lines increased dramatically, gate towers appeared (Likhachevo, Bolshoi Imbiryai-3, Staro-Lybaevskoye-1) (Tsembalyuk, 2009; Tsembalyuk, Berlina, 2014). This was related, firstly, to the development of the economy and the change in the nature of pastoralism from the distant-pasture to the semi-nomadic, which, in turn, caused social stratification, and, secondly, to the infiltration of the steppe groups into the forest-steppe and the formation of the Sargatka cultural community, which caused social tensions within the population.

During the Early Iron Age, the Trans-Ural forest-steppe was synchronously populated by communities of the Baitovo, Gorokhovo and Sargatka Cultures, which resulted in the increased population density and a multi-fold increase in the number of settlements and hillforts, as compared to the Bronze Age. For the Late Bronze Age, we recorded 12 hillforts, for the Early Iron Age — more than 70, and for the Medieval Period — 35 (Berlina, Kostomarov, Popov, 2013). Many Early Iron Age hillforts were left by a mixed population, which indicates the presence of contacts and assimilation in the ancient society. Not all contacts were peaceful, the evolution and the variety of solutions in the fortification structures is visible. The leading factors for the lo-

calization of the hillforts were the safety and suitability of the landscape for the erection of fortifications, as well as the ecological capacity of the territory, the presence of natural resources. The main function of the hillforts was to preserve life and the property. Some fortifications gradually transformed into political and economic centres. The number of hillforts located in convenient and ecologically capacious places gradually increased, particularly through the emergence of posads outside of the fortifications. Hillforts were acquiring new functions.

In the 3rd c. BC — 1st c. AD, the key role in the Tans-Urals was played by the population of the Gorokhovo and Sargatka Cultures, which had trade links with the Cis-Urals, the Saka steppe world, China and the Western Asia (Matveeva, 2000). This period saw a peculiar "flourishing" of structures and variations of fortifications. They had round-oval, trapezoidal, sub-triangular form, protrusions-towers, two or three platforms, echeloned defence. Among the fortification elements of the sites, scarping of the slopes, construction of walls in the form of wattle, palisades, walls in mortise and tenon technique, and construction of cells filled with earth have been recorded. Defensive walls were located both on the rampart, and in the "moat" — a groove along the perimeter of the hillfort. The Early Iron Age population used various combinations of defensive lines: a rampart with a log wall on top of it and a moat at the base, rampart with a palisade installed in a groove along the perimeter of the hillfort, rampart with a wall on the inner side of the ditch. In some cases, the researchers observe the reinforcement of the sides of the ditch by wood, and in the defensive lines — complex entrances and protrusions, interpreted as prototypes of bastions (towers), or the construction of towers at the entrance (Salnikov, 1947; Habdulina, 1993; Kozeko, Kuznetsova, 1998; Berlina, 2010; 2014; Matveeva, Alieva, 2016).

This diversity of fortification elements and the variability of their combination reflects the search for optimal architectural solutions to improve the defensive capacity. The analysis of the sites showed the existence of elite military upper class in the society, strata of ordinary soldiers and lay residents. Luxury goods, military articles and imported items have been found in the Early Iron Age burial grounds and settlements (Koryakova, 1988; Matveeva, 2000). These factors imply not only the existence of social stratification within the community, but also presence of crafts, warfare, trade, which also appear as features of urban organisation. These are not characteristic to all hillforts. In the forest-steppe zone, six hillforts are known that have elements of large socio-political centres (Batakovo, Kolovskoye, Maryino Uzshelye, Pavlinovo, Rafailovskoye, Chudaki). In their citadels, there is an evidence for the existence of crafts, planned development, international trade/exchange, the presence of elite dwellings, and beyond the defensive lines — unfortified posads. Therefore, in the Early Iron Age, there was a process of differentiating of particular proto-towns from the general number of hillforts, which were becoming the socio-economic and administrative centres of districts.

During the Middle Ages, in the forest-steppe, large hillforts with a citadel, usually better fortified, were also standing out among small hillforts. This phenomenon reflects the social stratification of the population and the variation of socio-economic functions of the medieval hillforts. The turning point in the historical urbanization process was the Late Medieval Period. According to few written sources, mostly Siberian chronicles, in the 14th c., in the Trans-Urals — the middle reaches of the Tobol River, and Tura and Tavda Rivers interfluve — a Tatar state-political union was formed — the Tyumen Khanate, which became part of the Ulus of Jochi (Golden Horde) and became engaged in the world political and economic system,

which led to the activation of the process of Turkification of the population and the transformation of the historically formed urbanization structure (Maslyugenko, 2008; Parunin, 2013). The residence of Khan at that time was in Chimge-Toura, which was an outpost of Islamic culture in Siberia. From the drawings of S.U. Remezov and the later 18th c. maps, this Tatar city, protected by earthen rampart and a wide moat on the side of the high cliff of the Tyumenka River, fulfilled not only the military-defensive function, which provided the protection of the riches of the Khan and the nobility, but was also the large centre of caravan trade. In the end of the 15th c., the capital of the new Siberian Khanate, which subordinated the Tyumen one, was moved to Kashlyk (Siberia, Isker), located on the edge of the steep bank of the Irtysh River, further strengthened by deep ravines of the Sibirka River and a powerful fortification, represented by a ditch in the bottom of the ravine and a double line of wooden walls with flanking П-shaped protrusions (Zykov, Kosintsev, Trepalov, 2017). Archaeological studies have established several stages of the development of the town (Zykov, 2012). Apart from Isker — the main administrative and military centre of the Siberian Khanate — other military strongholds in the Western Siberian region included Yavlu-Tura (Tobol River), Kuchum-gora (Ishim River), Kyzyl-Tura (Ust-Ishim), Ton-Tura (Om River).

Conclusion

As such, the origin of the first fortifications and their transformation are traced on the archaeological materials of the forest-steppe and subtaiga zones of the Trans-Urals. The first hillforts appeared in the Late Bronze Age, and in the Early Iron Age their number increased. The same period saw a great variety of forms and designs of fortifications; there was a search for optimal solutions, large socio-economic centres were emerging. It is in this process, in our opinion, that the origins and prerequisites of urbanization should be sought. In the course of historical development, the "urban settlement" acquired a variety of forms, successively replacing or complementing each other — from hillforts to the military, political and administrative centre of the Siberian region. The following factors influenced the origin and development of proto-towns and towns: climatic and related to it migration factor, which created social tension in the society; social-economic, which stimulated the stratification of the society, trade, exchange, craft, and potestary, which prompted the formation of administrative and managerial centres in towns. There is no doubt that communication routes, raw resources and connected with them production centres were also important. Unfortunately, the construction of a model of the Trans-Ural urbanization is hindered by the insufficient knowledge and a lack of accurate dating for a number of hillforts of ancient periods, which makes it difficult to determine their functional purpose and socio-economic status. Nevertheless, we believe that the perspective we have proposed for consideration of archaeological materials sets new challenges in their interpretation.

REFERENCES

Adamov A.A., Balynov Ig.V., Danilov P.G. The City of Tobolsk: An Archaeological Essay. Tobolsk : B.i., 2008. 114 p. *(In Russ.)*

Anoshko O.M. Barkhatovo Culture of the Late Bronze Age Trans-Urals: abstract dic. … candidate of Historical Sciences. Tyumen, 2006. 28 p. *(In Russ.)*

Anoshko O.M. Theoretical, Methodological Foundations of the Study of the Process of Urbanization of Siberia. In: AB ORIGINE: Archaeological and Ethnographic Collection of Tyumen State University. Tyumen : Izdatel'stvo Tyumenskogo gosudarstvennogo universiteta, 2012. Pp. 4–12. *(In Russ.)*

Anoshko O.M., Agapetova T.A. New Data on the Pakhom Culture in Tobolo-Isetye. In: Andronovsky World. Tyumen: Izdatel'stvo Tyumenskogo gosudarstvennogo universiteta, 2010. Pp. 118–137. *(In Russ.)*

Anoshko O.M., Ignatov S.V. Numismatic and Sphragistic Materials of the Tobolsk Bazaar Excavation. *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 2014;4:80–89. *(In Russ.)* http://www.ipdn.ru/_private/a27/77-86.pdf

Balynov Ig.V., Danilov P.G. Archaeologists Discover the Secrets of St. Sophia Cathedral. *Naslediye Tyumenskoj oblasti = The Legacy of the Tyumen Region*. 2013;1(3):50–54. *(In Russ.)*

Belyaev L.A. Report on the Archaeological Research of the Earthworks of Tobolsk in the Summer of 1986. In: Archive of IA RAS. R-1. No. 111504. (*In Russ.)*

Berlina S.V. Residential and Defensive Architecture of the Population of the West Siberian Forest-steppe in the Early Iron Age (based on the materials of the Sargat culture): abstract dic. … candidate of Historical Sciences. Tyumen, 2010. 18 p. *(In Russ.)*

Berlina S.V. The Hillfort of the Gorokhovo Culture Maryino Ushchelye-IV. In: Questions of the History of Siberia. Collection of Scientific Articles. Omsk : Izd-vo OmGPU, 2014. Issue 9. Pp. 96–101. *(In Russ.)*

Berlina S.V., Kostomarov V.M., Popov N.A. Hillforts of the Tobolo-Ishim Forest in the Bronze Age — the Middle Ages (experience of classification and analysis in the GIS environment). *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology and Ethnography.* 2013;3(22):79–86. *(In Russ.)*

Borzunov V.A. Trans-Urals at the Turn of the Bronze and Iron Ages. Yekaterinburg : Izd-vo Ural. un-ta, 1992. 187 p. *(In Russ.)*

Bocharova G.A. Manufacturing Industry of Western Siberia in the Second Half of the 19th Century. Novosibirsk : Nauka, 1978. 255 p. *(In Russ.)*

Veber M. City. Moscow : Strelka Press, 2018. 252 p. *(In Russ.)*

Viktorova V.D. The Sites of the Forest Trans-Urals in the 10th –13rd centuries AD. In: Scientific notes of Perm University. Issue 191. Perm : Izd-vo Perm. un-ta, 1968. Pp. 240–256. *(In Russ.)*

Vilkov O.N. Craft and Trade of Western Siberia in the 17th Century. Moscow : Nauka, 1967. 324 p. *(In Russ.)*

Vilkov O.N. Tobolsk Customs Books of the 17th Century. In: Cities of Siberia: The Era of Feudalism and Capitalism. Novosibirsk : Nauka, 1978. Pp. 5–46 *(In Russ.)*

Vilkov O.N. The Siberian City of the Late 17th — First Quarter of the 18th Century in Modern Russian Soviet Historiography. In: Siberia in the past, present and future. Issue 1: Siberia in the era of feudalism and capitalism. Novosibirsk : Nauka, 1981. Pp. 39–42. *(In Russ.)*

Vilkov O.N. Essays on the Socio-Economic Development of Siberia At the End of the 16th — Beginning of the 18th Century. Novosibirsk : Nauka, 1990. 368 p. *(In Russ.)*

Gening V.F., Evdokimov V.V. Loginovskoye hillfort (6th –7th centuries BC). In: Questions of the Archaeology of the Urals. Issue 8. Sverdlovsk : Izd-vo Ural. un-ta, 1969. Pp. 102–117. *(In Russ.)*

Glazychev V.L. Urbanistika. Moscow : Evropa, 2008. 220 p. *(In Russ.)*

Gutnov A.E. The World of Architecture: (The face of the city). Moscow : Molodaya gvardiya, 1990. 350 p. *(In Russ.)*

Danilov P.G. Archaeological Research at the Site of St. Nicholas Church of the Tobolsk Kremlin. In: Tobolsk Scientific — 2013. Tobolsk : Tobol'skaya tipografiya — filial OAO "Tyumenskij izdatel'skij dom", 2013. Pp. 259–260. *(In Russ.)*

Zimina O.Yu. The Study of the Sites of the Transition Period from Bronze to Iron in the Lower Tobol area in 2001–2003. *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 2004;5:201–203. *(In Russ.)*

Zimina O.Yu., Zakh V.A. The Lower Tobol at the Turn of the Bronze and Iron Ages. Novosibirsk : Nauka, 2009. 232 p. *(In Russ.)*

Zimina O.Yu., Zakh V.A., Skochina S.N., Kolmogorov P.A., Galkin V.T., Anoshko O.M. Hillfort Cheganovo-3 n the Lower Tobol Area. *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 2005;6:58–72. *(In Russ.)*

Zinyakov N.M., Tsembalyuk S.I. Metallographic Study of Iron Products of the Hillfort Maray-1. *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 2019;1(44):15–24. *(In Russ.)* https://doi.org/10.20874/2071-0437-2019-44-1-015-024

Zykov A.P. Archaeological Research of the Hillfort Isker. *Uralskij istoricheskij vestnik = Ural Historical Journal.* 2012;3(36):145–153. *(In Russ.)*

Zykov A.P., Kosintsev P.A., Trepalov V.V. The City of Siberia is the Hillfort of Isker (historical and archaeological research). Moscow : Nauka, 2017. 559 p. *(In Russ.)*

Ilyshina V.V. The Evolution of the Culture of the Forest-steppe Part of Western Siberia in the Second Quarter of the 2nd — the Middle of the 1st Millennium BC: abstract dic. … candidate of Historical Sciences. Chelyabinsk, 2011. 26 p. *(In Russ.)*

Kaidalov A.I., Sechko E.A. The Complex of the Late Bronze Age and the Transition to the Early Iron Age of the Ust-Utyak 1 hillfort (based on research materials 2002–2003). In: Ethnic Interactions in the Southern Urals. Chelyabinsk : Rifej, 2004. Pp. 73–76. *(In Russ.)*

Kaidalov A.I., Sechko E.A. Materials of the Transition Period from Bronze to Iron of the Ust-Ust 1 Hillfort: (based on the results of research in 2002–2006). *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 2006;7:76–84. *(In Russ.)*

Kaidalov A.I., Sechko E.A. On the Issue of the Defense Capabilities of the Ust-Utyak-1 Hillfort. In: Man and the North: Anthropology, Archaeology, Ecology. Vol. 1. Tyumen : Izd-vo Instituta problem osvoeniya Severa SO RAN, 2009. Pp. 69–73. (*In Russ.*)

Kozeko O.E., Kuznetsova A.E. Malo-Kazakbaevsky Hillfort of the Gorokhovo Culture. In: Settlements: Wednesday. Culture. The Society. St. Petersburg : Izd-vo Sankt-Peterburgskogo gos. un-ta, 1998. Pp. 117–119. *(In Russ.)*

Kopylov A.N. Essays on the Cultural Life of Siberia of the 17th — early 19th Century. Novosibirsk : Nauka, 1974. 251 p. *(In Russ.)*

Kopylov D.I., Pribulsky Yu.P. Tobolsk. Sverdlovsk : Sredne-Ural'skoe knizhnoe izd-vo, 1975. 224 p. *(In Russ.)*

Koryakova L.N. The Early Iron Age of the Trans-Urals and Western Siberia (Sargat culture). Sverdlovsk : Izd-vo Ural'skogo un-ta, 1988. 239 p. *(In Russ.)*

Koryakova L.N., Deyer M.I., Kovrigin A.A., Sharapova S.V., Berseneva N.A., Panteleeva S.E., Razhev D.I., Courtauld P., Hanks B., Efimova E.G, Kazdym A.A., Mikryukova O.V., Sakharova A.O. Environment, Culture and Society Forest-Steppe Trans-Urals in the 2nd Half of the 1st millennium BC (based on the materials of the Pavlinovsky archaeological complex). Yekaterinburg; Surgut : Magellan, 2009. 298 p. *(In Russ.)*

Kosarev M.F. Western Siberia in Ancient Times. Moscow : Nauka, 1984. 245 p. *(In Russ.)*

Kochedamov V.I. Tobolsk (how the city grew and was built). Tyumen : Tjumen', 1963. 156 p. *(In Russ.)*

Linch K. The Image of the City. Moscow : Strojizdat, 1982. 328 p. *(In Russ.)*

Maslyuzhenko D.N. Ethnopolitical History of the Forest-steppe Tobol River in the Middle Ages. Kurgan : Izd-vo Kurgan. gos. un-ta, 2008. 168 p. *(In Russ.)*

Matveev A.V., Anoshko O.M. The Trans-Ural after the Andronovo: Barhatovo culture. Tyumen : Tyumenskij dom pechati, 2009. 414 p. *(In Russ.)*

Matveev A.V., Anoshko O.M. Archaeological Discoveries in Tobolsk. *Naslediye Tyumenskoj oblasti = The Legacy of the Tyumen Region*. 2011;1: 49–55. *(In Russ.)*

Matveev A.V., Anoshko O.M., Alieva T.A. Tobolskaya Panagiya. *Arheologiya, etnografiya i antropologiya Evrazii = Archaeology, Ethnography and Anthropology of Eurasia.* 2012;2(50):104–113. *(In Russ.)*

Matveev A.V., Anoshko O.M., Klimenko A.I. The Remains of the Ancient Tobolsk Fortifications on Cape Chukman. In: AB ORIGINE: Archaeological and Ethnographic Collection. Issue 4. Tyumen : Izd-vo Tyum. un-ta, 2012. Pp. 76–91. *(In Russ.)*

Matveev A.V., Sidorov E.A. Irmen Settlements of the Novosibirsk Region. In: Western Siberia in Antiquity and the Middle Ages. Tyumen : Izd-vo Tyum. un-ta, 1985. Pp. 29–89. *(In Russ.)*

Matveeva N.P. New Medieval Settlements from the Northern Forest-Steppe of the Tobol River. In: Actual Problems of the Ancient and Medieval History of SiberiaTomsk : Izd-vo Tom. un-ta, 1997. Pp. 245–262. *(In Russ.)*

Matveeva N.P. Socio-economic Structures of the Population of Western Siberia in the Early Iron Age (forest-steppe and subtaiga zones). Novosibirsk : Nauka, 2000. 295 p. *(In Russ.)*

Matveeva N.P. Fortifications of the Staro-Lybaevskoye-1 Hillfort in the Forest-steppe Trans-Urals. *Vestnik Permskogo universiteta. Istoriya = Journal of the Perm University. History.* 2017;1(36):53–62. *(In Russ.)*

Matveeva N.P., Alieva T.A. Towers in the Fortification Construction of the Early Iron Age (Sargat culture). *Vestnik Tomskogo gosudarstvennogo universiteta. Istoriya. = Journal of Tomsk State University. History*. 2016;4(42):140–143. *(In Russ.)*

Matveeva N.P., Berlina S.V., Rafikova T.N. Kolovskoye hillfort (Antiquities of the Ingala Valley: an Archaeological and Paleoecological Study; Issue 2): Novosibirsk : Nauka, 2008. 238 p. *(In Russ.)*

Matveeva N.P., Rafikova T.N. New Data on the Yudin Culture (Based on the materials of the Krivoluksky settlement). *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 2005;6:105–116. *(In Russ.)*

Molodin V.I. Environmental "Stress" at the Turn of the 2nd Millennium BC and the Ego's Influence on Ethnocultural and Socio-Economic Processes among the Peoples of Western Siberia. In: Culture as a System in a Historical Context: the Experience of West Siberian Archaeological and Ethnographic Meetings. Tomsk : Agraf-Press, 2010. Pp. 22–24. *(In Russ.)*

The New Encyclopedic Dictionary. Moscow : RIPOL Classic, 2007. 1456 p. *(In Russ.)*

Ozhegov S.I., Shvedova N.Yu. Explanatory Dictionary of the Russian Language. 4th edition. Moscow : Azbukovnik, 1999. 944 p. *(In Russ.)*

Parunin A.V. Russian Chronicles as a Source on the History of the Tyumen Khanate. In: Medieval Turkic-Tatar States. Issue 5: Issues of source study and historiography of the history of medieval Turkic-Tatar states. Kazan: Institut istorii im. Sh. Mardzhani AN RT, 2013. Pp. 57–64 *(In Russ.)*

Potemkina T.M., Matveeva N.P. The Great Bakal Hillfort. *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 1997;1:39–50. *(In Russ.)* http://www.ipdn.ru/_private/a1/1-pot.pdf

Rakova V.B. The Architectural Image of the Siberian City in the Graphics of the 17th — early 19th Century: abstract dic. … candidate of Art criticism. Moscow, 2005. 22 p. *(In Russ.)*

Rafikova T.N. Bakal Culture of the Forest-Steppe and Subtaiga Tobolo-Ishim Region: abstract dic. … candidate of Historical Sciences. Tyumen, 2011. 19 p. *(In Russ.)*

Rafikova T.N., Berlina S.V. Fortifications of the Lastochkino Gnezdo-1 Hillfort of the Middle Ages: on the Problem of Cultural Contacts. *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 2014;4(27):69–76. *(In Russ.)*

Rafikova T.N., Berlina S.V., Kaidalov A.I., Sechko E.A. Fortifications of the Early and Developed Middle Ages of the Forest-Steppe and Subtaiga Trans-Urals. *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 2013;4(23):42–51. *(In Russ.)*

Rezun D.Ya. Materials on the History of Khakassia of the 17th — 18th Centuries. Abakan : Izd-vo Hakasskogo gos. un-ta, 1995. 232 p. *(In Russ.)*

Rezun D.Ya., Besedina O.N. City Fairs of Siberia in the 18th — the 1st Half of the 19th Century. Novosibirsk : Nauka, 1992. 154 p. *(In Russ.)*

Salnikov K.V. The Hillfort Chudaky in the Chelyabinsk Region according to the Excavations of 1937. *Sovetskaya Arheologiya = Soviet Archaeology.* 1947;9:21–238. *(In Russ.)*

Chorographic Drawing Book of Siberia by S.U. Remezov. In 2 vols. Vol. 1: Facsimile edition of the manuscript Houghton Library of the Harvard College Library Harvard University. Tobolsk : [B.I.], 2011. 48 p. (*In Russ.*)

Sizov O.S., Zimina O.Yu. Features of the Life Support System and Spatial Location of Settlements of the Itkul Culture in the Tobol Region (the 8th–6th Centuries BC). *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 2012;4(19):150–159. *(In Russ).*

Sladkova L.N. Report on Archaeological Excavations in the Mountainous Historical Part of Tobolsk, the Tyumen Region, on Octyabrskaya Street. Produced in the Summer of 1998. In: Scientific Archive of the Tobolsk State Historical and Architectural Museum-Reserve.

Sofronov V.Yu. Tobolsk — the Cultural Center of Western Siberia in the 18th Century AD: abstract dic. … candidate of Historical Sciences. Omsk, 1999. 33 p. *(In Russ.)*

Tkachev A.A. The Study of the Hillfort of Abatskoye-VI on Ishim. *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 2002;4:222–227. *(In Russ.)*

Habdulina M.K. The Ak-Tau Hillfort as an Architectural Complex. In: Knowledge and Skills of the Ural Population in Antiquity and the Middle Ages. Yekaterinburg : UIF Nauka, 1993. Pp. 112–143. *(In Russ.)*

Tsembalyuk S.I. Characteristics of Settlements and Dwellings of the Baitovo Culture. *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 2009;10:57–64. *(In Russ.)*.

Tsembalyuk S.I. The Baitovo Culture of the Beginning of the Early Iron Age in the Forest-Steppe and Subtaiga Tobol Region: abstract dic. … candidate of Historical Sciences. Tyumen, 2017. 20 p. *(In Russ.)*

Tsembalyuk S.I., Berlina S.V. The Complex of the Early Iron Age Hillfort of Likhachevskoye in Priishimye. *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 2014;3(26):55–65. *(In Russ.)*

Tsembalyuk S.I., Berlina S.V. Bochanetskoye Hillfort is a Site of the Baitovo Culture in the Middle Tobol Region. In: Archaeology of the Middle Tobol and Adjacent Territories. Kurgan : Izd-vo Kurganskogo gos. un-ta, 2016. Pp. 39–49. *(In Russ.)*

Tsembalyuk S.I., Ilyshina V.V., Ryabogina N.E., Ivanov S.N. A Comprehensive Study of the Baitovo Hillfort Borovushka-2 (forest-steppe Tobol). *Vestnik arheologii, antropologii i etnografii = Journal of Archaeology, Anthropology and Ethnography.* 2011;2(15):98–107. *(In Russ.)*

Chernaya M.P. Siberian City of the Late 16th — Early 18th Century in Historical and Archaeological Reflection (historiographical aspect). *Vestnik Tomskogo universiteta = Journal of Tomsk University.* 2009;3(7):95–112. *(In Russ.)*

The Drawing Book of Siberia, Compiled by the Tobolsk Son of the Boyar Semyon Remizov in 1701: in 2 volumes. Moscow : [B.I.], 2003. 50 p. *(In Russ.)*

Gibson T.A., Lowes M.D. Urban Communication: Production, Text, Context. Lanham; Boulder; New York; Toronto; Plymouth; UK : ROWMAN & LITTLEFIELD PUBLISHERS, INC, 2007. 241 p.

Sassen S. Cites as Strategic Sites. In: The Future of Urban Sociology. Vol. 39(2): Sociology. London; Thousand Oaks; New Delhi : SAGE Publications, 2005. Pp. 352–357.

Soja E.W. Postmodern Geographies: the Reassertion of Space in Critical Social Theory. London; New York : Verso, 1989. 266 p.

The Atlas of Siberia by Semyon U. Remezov. Facsimile Edition with an Introduction by Leo Bagrov. S.-Gravenhage : Mouton & Co, 1958. 17 p.

СПИСОК ИСТОЧНИКОВ

Адамов А.А., Балюнов И.В., Данилов П.Г. Город Тобольск: археологический очерк. Тобольск : Б.и., 2008. 114 с.

Аношко О.М. Бархатовская культура позднего бронзового века Зауралья: автореф. дис. ... канд. ист. наук. Тюмень, 2006. 28 с.

Аношко О. М. Теоретико-методологические основы изучения процесса урбанизации Сибири // AB ORIGINE: Археолого-этнографический сборник Тюменского государственного университета. Тюмень : Изд-во ТюмГУ, 2012. С. 4–12.

Аношко О. М., Агапетова Т. А. Новые данные о пахомовской культуре Тоболо-Исетья // Андроновский мир. Тюмень : Изд-во ТюмГУ, 2010. С. 118–137.

Аношко О. М., Игнатов С.В. Нумизматические и сфрагистические материалы базарного раскопа в Тобольске // Вестник археологии, антропологии и этнографии. 2014. №4. С. 80–89. http://www.ipdn.ru/_private/a27/77-86.pdf

Балюнов И.В., Данилов П.Г. Археологи открывают тайны Софийского собора // Наследие Тюменской области. 2013. №1(3). С. 50–54.

Беляев Л. А. Отчет об археологических исследованиях земляных сооружений Тобольска летом 1986 г. // Архив ИА РАН. Р-1. №111504.

Берлина С.В. Жилая и оборонительная архитектура населения Западно-Сибирской лесостепи раннего железного века (по материалам саргатской культуры): автореф. дис. … канд. ист. наук. Тюмень, 2010. 18 с.

Берлина С.В. Городище гороховской культуры Марьино Ущелье-IV // Вопросы истории Сибири. Омск : Изд-во ОмГПУ, 2014. Вып. 9. С. 96–101.

Берлина С.В., Костомаров В. М., Попов Н.А. Городища лесного Тоболо-Ишимья в эпоху бронзы — средневековье (опыт классификации и анализа ГИС) // Вестник археологии, антропологии и этнографии. 2013. №3(22). С. 79–86.

Борзунов В.А. Зауралье на рубеже бронзового и железного веков. Екатеринбург : Изд-во Урал. ун-та, 1992. 187 с.

Бочарова Г.А. Обрабатывающая промышленность Западной Сибири во второй половине XIX в. Новосибирск : Наука, 1978. 255 с.

Вебер М. Город. М. : Strelka Press, 2018. 252 р.

Викторова В.Д. Памятники лесного Зауралья в X–XIII вв. н.э. // Ученые записки Пермского университета. №191. Пермь : Изд-во Перм. ун-та, 1968. С. 240–256.

Вилков О.Н. Ремесло и торговля Западной Сибири в XVII в. М. : Наука, 1967. 324 с.

Вилков О.Н. Тобольские таможенные книги XVII века // Города Сибири: эпоха феодализма и капитализма. Новосибирск : Наука, 1978. С. 5–46.

Вилков О.Н. Сибирский город конца XVII — первой четверти XVIII века в современной русской советской историографии // Сибирь в прошлом, настоящем и будущем. Вып. 1: Сибирь в эпоху феодализма и капитализма. Новосибирск : Наука, 1981. С. 39–42.

Вилков О.Н. Очерки социально-экономического развития Сибири конца XVI — нач. XVIII в. Новосибирск : Наука, 1990. 368 с.

Генинг В.Ф., Евдокимов В. В. Логиновское городище (VI–VII вв. до н.э.) // Вопросы археологии Урала. Вып. 8. Свердловск : Изд-во Урал. ун-та, 1969. С. 102–117.

Глазычев В.Л. Урбанистика. М. : Европа, 2008. 220 с.

Гутнов А.Э. Мир архитектуры: (Лицо города). М. : Молодая гвардия, 1990. 350 с.

Данилов П.Г. Археологические исследования на месте Никольской церкви Тобольского кремля // Тобольск научный — 2013. Тобольск : Тобольская типография — филиал ОАО «Тюменский издательский дом», 2013. С. 259–260.

Зимина О.Ю. Исследование памятников переходного времени от бронзы к железу в Нижнем Притоболье в 2001–2003 гг. // Вестник археологии, антропологии и этнографии. 2004. №5. С. 201–203.

Зимина О.Ю., Зах В.А. Нижнее Притоболье на рубеже бронзового и железного веков. Новосибирск : Наука, 2009. 232 с.

Зимина О.Ю., Зах В.А., Скочина С.Н., Колмогоров П.А., Галкин В.Т., Аношко О.М. Городище Чеганово-3 в Нижнем Притоболье // Вестник археологии, антропологии и этнографии. 2005. №6. С. 58–72.

Зиняков Н.М., Цембалюк С.И. Металлографическое исследование железных изделий городища Марай-1 // Вестник археологии, антропологии и этнографии. 2019. №1(44). С. 15–24. https://doi.org/10.20874/2071-0437-2019-44-1-015-024

Зыков А.П. Археологические исследования городища Искер // Уральский исторический вестник. 2012. №3(36). С. 145–153.

Зыков А.П., Косинцев П.А., Трепавлов В.В. Город Сибир — городище Искер (историко-археологическое исследование). М. : Наука, 2017. 559 с.

Илюшина В.В. Эволюция культуры лесостепной части Западной Сибири второй четверти II — середины I тыс. до н.э.: автореф. дис. … канд. культурологии. Челябинск, 2011. 26 с.

Кайдалов А.И., Сечко Е.А. Комплекс эпохи поздней бронзы и перехода к раннему железному веку городища Усть-Утяк-1 (по материалам исследований 2002–2003 гг.) // Этнические взаимодействия на Южном Урале. Челябинск : Рифей, 2004. С. 73–76.

Кайдалов А.И., Сечко Е.А. Материалы переходного периода от бронзы к железу городища Усть-Усть1: (по результатам исследований 2002–2006 гг.) // Вестник археологии, антропологии и этнографии. 2006. №7. С. 76–84.

Кайдалов А.И., Сечко Е.А. К вопросу об оборонительных возможностях городища Усть-Утяк-1 // Человек и Север: антропология, археология, экология. Том 1. Тюмень : Изд-во Института проблем освоения Севера СО РАН, 2009. С. 69–73.

Козеко О.Е., Кузнецова А.Э. Мало-Казакбаевское городище гороховской культуры // Поселения: среда, культура, социум. СПб. : Изд-во Санкт-Петербургского гос. ун-та, 1998. С. 117–119.

Копылов А.Н. Очерки культурной жизни Сибири XVII — начала XIX века. Новосибирск : Наука, 1974. 251 с.

Копылов Д.И., Прибыльский Ю.П. Тобольск. Свердловск : Средне-Уральское книжное изд-во, 1975. 224 с.

Корякова Л.Н. Ранний железный век Зауралья и Западной Сибири (Саргатская культура). Свердловск : Изд-во Уральского ун-та, 1988. 239 с.

Корякова Л.Н., Дейер М.И., Ковригин А.А., Шарапова С.В., Берсенева Н.А., Пантелеева С.Е., Ражев Д.И., Курто П., Хэнкс Б., Ефимова Е.Г., Каздым А.А., Микрюкова О.В., Сахарова А.О. Среда, культура и общество лесостепного Зауралья во второй половине I тыс. до н.э. (по материалам Павлиновского археологического комплекса). Екатеринбург; Сургут : Магеллан, 2009. 298 с.

Косарев М.Ф. Западная Сибирь в древности. М. : Наука, 1984. 245 с.

Кочедамов В.И. Тобольск (как рос и строился город). Тюмень : Тюмень, 1963. 156 с.

Линч К. Образ города. М. : Стройиздат, 1982. 328 с.

Маслюженко Д.Н. Этнополитическая история лесостепного Притоболья в средние века. Курган : Изд-во Курган. гос. ун-та, 2008. 168 с.

Матвеев А. В., Аношко О. М. Зауралье после андроновцев: Бархатовсая культура. Тюмень : Тюменский дом печати, 2009. 414 с.

Матвеев А. В., Аношко О. М. Археологические открытия в Тобольске // Наследие Тюменской области. 2011. №1. С. 49–55.

Матвеев А. В., Аношко О. М., Алиева Т. А. Тобольская панагия // Археология, этнография и антропология Евразии. 2012. №2(50). С. 104–113.

Матвеев А. В., Аношко О. М., Клименко А.И. Остатки старинных тобольских укреплений на мысу Чукман // AB ORIGINE: археолого-этнографический сборник ТюмГУ. Вып. 4. Тюмень : Изд-во ТюмГУ, 2012. С. 76–91.

Матвеев А. В., Сидоров Е.А. Ирменские поселения Новосибирской области // Западная Сибирь в древности и средневековье. Тюмень : Изд-во ТюмГУ, 1985. С. 29–89.

Матвеева Н.П. Новые средневековые памятники из северной лесостепи Притоболья // Актуальные проблемы древней и средневековой истории Сибири. Томск : ТГУ, 1997. С. 245–262.

Матвеева Н.П. Социально-экономические структуры населения Западной Сибири в раннем железном веке (лесостепная и подтаежная зоны). Новосибирск : Наука, 2000. 295 с.

Матвеева Н.П. Фортификационные сооружения городища Старо-Лыбаевское-1 в Лесостепном Зауралье // Вестник Пермского университета. История. 2017. №1(36). С. 53–62.

Матвеева Н.П., Алиева Т. А. Башни в фортификационном строительстве раннего железного века (саргатская культура) // Вестник Томского государственного университета. История. 2016. №4 (42). С. 140–143.

Матвеева Н.П., Берлина С.В., Рафикова Т. Н. Коловское городище (Древности Ингальской долины: археолого-палеоэкологическое исследование; Вып. 2). Новосибирск : Наука, 2008. 238 с.

Матвеева Н.П., Рафикова Т. Н. Новые данные о юдинской культуре (по материалам Криволукского городища) // Вестник археологии, антропологии и этнографии. 2005. №6. С. 105–116.

Молодин В. И. Экологический «стресс» на рубеже II–I тыс. до н.э. и его влияние на этнокультурные и социально-экономические процессы у народов Западной Сибири // Культура как система в историческом контексте: опыт западносибирских археолого-этнографических совещаний. Томск : Аграф-Пресс, 2010. С. 22–24.

Новый энциклопедический словарь. М. : РИПОЛ классик, 2007. 1456 с.

Ожегов С.И., Шведова Н.Ю. Толковый словарь русского языка. 4-е изд. М. : Азбуковник, 1999. 944 с.

Парунин А. В. Русские летописи как источник по истории Тюменского ханства // Средневековые тюрко-татарские государства. Вып. 5: Вопросы источниковедения и историография истории средневековых тюрко-татарских государств. Казань : Институт истории им. Ш. Марджани АН РТ, 2013. С. 57–64.

Потемкина Т.М., Матвеева Н.П. Большое Бакальское городище // Вестник археологии, антропологии и этнографии. 1997. №1. С. 39–50.

Ракова В.Б. Архитектурный образ сибирского города в графике XVII — начала XIX века: автореф. дис. … канд. искусствоведения. М., 2005. 22 с.

Рафикова Т. Н. Бакальская культура лесостепного и подтаежного Тоболо-Ишимья: автореф. дис. … канд. ист. наук. Тюмень, 2011. 19 с.

Рафикова Т. Н., Берлина С.В. Фортификации городища Ласточкино гнездо-1 эпохи средневековья: к проблеме культурных контактов // Вестник археологии, антропологии и этнографии. 2014. №4(27). С. 69–76.

Рафикова Т. Н., Берлина С.В., Кайдалов А.И., Сечко Е.А. Фортификации раннего и развитого средневековья лесостепного и подтаежного Зауралья // Вестник археологии, антропологии и этнографии. 2013. №4(23). С. 42–51.

Резун Д.Я. Материалы по истории Хакасии XVII–XVIII вв. Абакан : Изд-во Хакасского гос. ун-та, 1995. 232 с.

Резун Д.Я., Беседина О.Н. Городские ярмарки Сибири XVIII — первой половины XIX в. Новосибирск : Наука, 1992. 154 с.

Сальников К.В. Городище Чудаки в Челябинской области по раскопкам 1937 г. // Советская Археология. 1947. №9. С. 221–238.

Сборник хореографических рисунков Сибири С.У. Ремезова: в 2-х томах. Том 1: Факсимильное издание рукописи Houghton Library из библиотеки Гарвардского колледжа Гарвардского университета. Тобольск : [Б.И.], 2011. 48 с.

Сизов О. С., Зимина О.Ю. Особенности системы жизнеобеспечения и пространственного размещения поселений иткульской культуры в Притоболье (VIII–VI вв. до н.э.) // Вестник археологии, антропологии и этнографии. 2012. №4(19). С. 150–159.

Сладкова Л.Н. Отчет об археологических раскопках в нагорной исторической части г. Тобольска Тюменской области по ул. Октябрьская, произведенных летом 1998 года // Научный архив ТГИАМЗ.

Софронов В.Ю. Тобольск — культурный центр Западной Сибири в XVIII в.: автореф. дис. … канд. ист. наук. Омск, 1999. 33 с.

Ткачев А.А. Исследование городища Абатское-VI на Ишиме // Вестник археологии, антропологии и этнографии. 2002. №4. С. 222–227.

Хабдулина М.К. Городище Ак-Тау как архитектурный комплекс // Знания и навыки уральского населения в древности и средневековье. Екатеринбург: УИФ Наука, 1993. С. 112–143.

Цембалюк С.И. Характеристика поселений и жилищ баитовской культуры // Вестник археологии, антропологии и этнографии. 2009. №10. С. 57–64.

Цембалюк С.И. Баитовская культура начала раннего железного века в лесостепном и подтаежном Притоболье: автореф. дис. … канд. ист. наук. Тюмень, 2017. 20 с.

Цембалюк С.И., Берлина С.В. Комплекс раннего железного века городища Лихачевское в Приишимье // Вестник археологии, антропологии и этнографии. 2014. №3(26). С. 55–65.

Цембалюк С.И., Берлина С.В. Бочанецкое городище — памятник баитовской культуры в Среднем Притоболье // Археология Среднего Тобола и прилегающих территорий. Курган : Изд-во Курганского гос. ун-та, 2016. С. 39–49.

Цембалюк С.И., Илюшина В.В., Рябогина Н.Е., Иванов С.Н. Комплексное исследование баитовского городища Боровушка-2 (лесостепное Притоболье) // Вестник археологии, антропологии и этнографии. 2011. №2(15). С. 98–107.

Черная М.П. Сибирский город конца XVI — начала XVIII в. в историко-археологическом отражении (историографический аспект) // Вестник Томского университета. 2009. №3(7). С. 95–112.

Чертежная книга Сибири, составленная тобольским сыном боярским Семеном Ремизовым в 1701 году: в 2-х томах. М. : [Б.И.], 2003. 50 с.

Gibson T.A., Lowes M.D. Urban Communication: Production, Text, Context. Lanham; Boulder; New York; Toronto; Plymouth; UK : ROWMAN & LITTLEFIELD PUBLISHERS, INC, 2007. 241 p.

Sassen S. Cites as Strategic Sites. In: The Future of Urban Sociology. Vol. 39(2): Sociology. London; Thousand Oaks; New Delhi : SAGE Publications, 2005. Pp. 352–357.

Soja E.W. Postmodern Geographies: the Reassertion of Space in Critical Social Theory. London; New York : Verso, 1989. 266 p.

The Atlas of Siberia by Semyon U. Remezov. Facsimile Edition with an Introduction by Leo Bagrov. S.-Gravenhage : Mouton & Co, 1958. 17 p.

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