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SINTASHTA AS A CULTURAL AND HISTORICAL PHENOMENON OF THE BRONZE AGE

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Abstract: The Sintashta culture is the most controversial ethno-cultural formation of the Bronze Age, formed in the Ural-Kazakhstan steppes. It appears suddenly and is located on the territory of the Southern Trans-Urals. Fortified settlements and burial grounds of this culture spread in a wide strip along the eastern slopes of the Ural Range. The specificity of fortified urban-type settlements, uncharacteristic for the steppe zone of Eurasia, allowed researchers to conclude that they were imported from other regions where they had been originally developed and canonized. In this regard, the most probable is the gradual migration of the population from the territory of Asia Minor, the architectural and planning standards of which demonstrate features of detailed similarity. The alleged migration took place through the Trans-Asian corridor connecting the Middle East and Central Asia to South Kazakhstan, from where paramilitary groups appear in the South Trans-Urals and create the Sintashta culture. Fortified settlements are accompanied by the appearance of burials with chariot attributes, presented in the form of an already established complex of objects and technologies. In archaeological sources, the chariot complex is represented by the remains of chariots, skeletons of draft horses, cheekpieces, as well as weapons of distance and close combat. In the steppes of Eurasia, the war chariot becomes the most formidable and powerful weapon of the Bronze Age.

Keywords: Sintashta, migration, chariot, Southern Trans-Urals, Middle East

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СИНТАШТА КАК КУЛЬТУРНО-ИСТОРИЧЕСКИЙ ФЕНОМЕН БРОНЗОВОГО ВЕКА

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Резюме: Синташтинская культура является одним из наиболее дискуссионных этнокультурных образований бронзового века, сформировавшимся в Урало-Казахстанских степях. Она появляется внезапно и локализуется на территории Южного Зауралья. Укрепленные поселения и могильники этой культуры распространяются широкой полосой вдоль восточных склонов Уральского хребта. Специфика укрепленных поселений городского типа, нехарактерных для степной полосы Евразии, позволила исследователям сделать выводы о том, что они импор-

тированы из других регионов, где были первоначально разработаны и канонизированы. В этом плане наиболее вероятной представляется поэтапная миграция населения с территории Малой Азии, архитектурно-планировочные стандарты которой демонстрируют черты детального сходства. Предполагаемая миграция проходила через трансасиатский коридор, соединяющий Ближний Восток и Центральную Азию, в Южный Казахстан, откуда военизированные группы проникают в Южное Зауралье и создают синташтинскую культуру. Укрепленные поселения сопровождаются появлением захоронений с колесничной атрибутикой, представленной в виде уже сложившегося комплекса предметов и технологий. В археологических источниках колесничный комплекс представлен остатками колесниц, костяками упряжных лошадей, псалями, а также оружием дистанционного и ближнего боя. В степях Евразии боевая колесница становится наиболее грозным и мощным оружием бронзового века.

Ключевые слова: Синташта, миграция, колесница, Южное Зауралье, Ближний Восток

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Introduction

The brightest and the most mysterious phenomenon of the Ural-Kazakhstan steppes during the Bronze Age is the occurrence in the end of III thousand BC Sintashta culture which the first researchers immediately associated with the early Aryan ethnic group [Gening V.F., Zdanovich, Gening V.V., 1992: 9, 376]. It appears suddenly and is located in territory of Southern Zauralye. The strengthened settlements and burial grounds of this culture extend along the east slopes of the Ural ridge. Discovery of compactly grouped fortifications, more characteristic for the settled-agricultural centers of city type and their extremely militarized inhabitants who are absolutely beyond traditional representations about development of steppe cattle breeding cultures, became the big surprise for researchers.

Statement of a Question

Significant diversity of opinions on an origin Sintashta antiquities is caused both by eccentricity of the phenomenon, and an individual approach of the experts who are engaged in this problematics. Most researchers unequivocally point to the alien character of the Sintashta culture, which is not contradicted by paleoanthropological data [Kitov, 2011: 23–24]. A powerful foreign cultural impulse is recorded according to the multicomponent composition of culture-determining characters, where the Abashev, Late Catacomb, “Lot-of-rolls”, Late Pit, Poltavka cultures as the initial ones. Participation of these cultures in formation of Sintashta type sites is marked almost by all researchers, with a difference only in preference of one or several of them [Vinogradov, 2011: 82; Gorbunov, 1992: 144; Epimahov, 2002: 72–73; Zdanovich G.B., Zdanovich D.G., 1995: 51; Kuz'mina, 2008: 191–192; 1992: 74–76; Otroshhenko, 2003: 75; Prjahnin, 2003: 41; Tkachev, 2007: 310].

There is no consensus about the future of Sintashta culture. According to one hypothesis, it is assumed that at the final stage of the culture's existence, the population began to shift in a western direction; according to another, it dissolved among the local tribes, giving rise to

new cultural entities. According to the third point of view, the carriers of the Sintashta cultural traditions leave the territory of the Southern Trans-Urals to East Asia, and then to India [Vinogradov, 2011: 92–93; Zdanovich, 1995: 42].

Specificity of the strengthened settlements of city type, uncharacteristic for a steppe strip of Eurasia, has allowed researchers to draw conclusions that Sintashta architecturally-layout standards and building technics, including wide application of the clay, presented by shaft, ditches, features of the inhabited building subordinated planography of fortification constructions, have been imported from other regions with deep traditions of long settled way of life where they had been originally developed and canonized [Vinogradov, 2011: 31; 2007: 20; Grigor'ev, 2015: 110, 120, 130]. Hence, the so-called “the Country of cities” is some kind of “splinter” of a larger and developed civilization. In foreseeable territories of the west in Ural-Volga region, in the east to Ob-Irtysh interfluvium, especially in the north of the taiga zone, nothing similar is observed. The unique direction where something similar took place, the type of sites of the Bactria-Margiana archaeological complex (BMAC), is recorded only in the south. Probably, the occurrence of a series of the strengthened settlements in Southern Zauralye and Northern Kazakhstan relates to moving of a considerable part of the militarized population with cattle breeding traditions, in the north in a forest-steppe border zone from the administrative-political and craft-economic centers of that time the located to the south [Kukushkin, 2011a: 105].

It is also necessary to notice that the strengthened settlements are accompanied by occurrence of burial places with the chariot attributes presented in the form of already developed complex of objects and technologies. In historical sense the chariot complex is a chariot harnessed with horses and a set of arms of the warrior-chariot. In archaeological sources it is presented by the rests of chariots, skeletons of team horses, cheek-pieces, and also the weapon of remote and near fight [Chechushkov, 2011: 58].

In the framework of the question under discussion, of special interest is the hypothesis about Asia Minorian origin of Sintashta culture where direct analogies to Sintashta architecturally-layout standards [Merpert, 1995: 116–117] have been noted. It allowed putting forward the assumption of migration of the solid and well organized militarized group from Anatolia through Caucasus, the Volga-Ural steppes with an exit to Southern Zauralye. Prompt migration could be caused by the internal social and economic reasons and foreign policy factors [Grigor'ev, 2015: 110, 120, 438]. This hypothesis has not received wide recognition. Well-founded objections were caused by huge extent of the passed route, considerable complexities of such distant transition, necessity of numerous change of a direction, moving to the alien and severe nature-climatic environment, and a number of other serious reasons making such migration a difficult enterprise. However, the fact of sudden occurrence of Sintashta type sites in Southern Zauralye needs the logical explanation and cannot be limited to the general reasoning about “the Volga-Ural culture-genesis center” [Tkachev, 2007: 260; Bochkarev, 2010: 52], which has already been considered [Grigor'ev, 2010: 40; Prjabin, 1995: 156] or on evolutionary self-development of local Late Chalcolithic or Early Bronze Age cultures [Zdanovich G.B., Zdanovich D.G., 1995: 51; Kalieva, Logvin, 1997: 159–161], obviously not ready to such sharp transformation, even from certain western impulses.

If despite everything we can accept Anatolian antiquities for a basis of primary signs of formation of future Sintashta sites between which lines of detailed similarity are observed [Grigor'ev, 2015: 44; Krizhevskaja, 1993], it is possible to admit that prospective migration nevertheless took place, but was not expressed-rectilinear. It could pass stage by stage and on more southern latitudes through Transcaucasia, Northern Iran and the Central Asian Entre Rios. It is proved that almost similar way was chosen by the population which has created the Bactria-Margiana civilization in territory of Central Asia, having migrated from areas of northern Mesopotamia [Sarianidi, 2001: 11]. Anatolian migrants should obtain preliminary data on the territory with similar environmental conditions for which their cultural-economic type has been adapted. It excludes purposeful transition in an alien landscape-geographical zone with a severe sharply continental climate. Similar with the Asia Minorian one, nature-climatic environment is marked in Central Asia oases. However, if we consider that in this territory Bactria-Margiana archaeological complex (BMAC) sites were situated, it is necessary to consider another nearby region which is out of the zone of BMAC influence. As required region Southern Kazakhstan having favorable nature-climatic characteristics could be: the branched out hydro-network with large forests in foothills of Karatau [Bajtanaev, 2010: 33], with hot summer and soft winter, that is with conditions optimum suitable for irrigation agriculture and cattle breeding activity.

Discussion

These assumptions are based on the factual material, according to which, in the era of the paleo metal, all the regions convenient for managing a complex production enterprise of the ancient oriental type had been already fully mastered. The exception is the north-eastern outskirts of the traditional settled agricultural world — South Kazakhstan, where the traditional sites which were characteristic of the early stages of urbanization have not yet been discovered. It is not excluded that the trans-Asiatic corridor connecting the Near East and the Central Asia, remained opened and functioned for a long time. Not only migration flows could move along it, but also the accompanying things, ideas, technologies, innovative developments affecting, first of all, the military sphere.

Probably, the development of Southern Kazakhstan by migrants began in last centuries of the 3rd thousand BC, simultaneously with closely related population BMAC occupying territory of Central Asia and Northern Afghanistan which may be reflected in certain elements of material and spiritual culture. Judging by a long history of development of wheel transport in the regions of Western Asia [Novozhenov, 2012: 123–130, 185–192], it is assumed immigrants already owned skills of rung wheels manufacturing and, probably, limited quantity of the tamed horses. It is significant that the first mention of the horse in the Near-Asian written sources dates back to the end of the 3rd millennium BC [Kuz'mina, 2010a: 71]. Indirect acknowledgement are finds of individual skeletons of horses and their images recorded in Bactria-Margiana sites [Sarianidi, 2001: 41–42; Sataev, 2008: 139; Shhetenko, 2008: 232]. However, in the burial complexes of the BMAK, the wheeled transport itself is so far represented only by finds of heavy composite wheels, sawn along circular markings from several boards joined together [Sarianidi, 2006: 160, 177, 179]. The already well-known burial of Zardch Khalifa, accidentally discovered near the city of Penjikent in Tajikistan, may become one of the markers of Anatolian migration. In the burial at a depth of 3.5 m, a knife, a dagger,

metal and ceramic dishes were found, including those with an oblique at the bottom, typical for BMAC, a pin with a picture of a horse, as well as two bridle sets indicating a pair of harness [Bobomulloev, 1999: 309].

Each of the sets consisted of two horny disc-shaped cheekpieces with thorns, similar to the Sintashta specimens, and one-piece bronze bit, unambiguously indicating a Middle Eastern impulse.

For example, analogies to one-piece bits combined with crampon round procarved cheekpieces made of bronze are known in Ugarit, Gaza, Palestine [Potratz, 1966: 103–116, taf. 106–109, 115] in Tel-Amarna, Tel-al-Adjul [Muller-Karpe, 1980, taf. 37, 115].

Ringed single-piece bits, similar in shape, were also found at settlement 9 in Kairak-Kum [Litvinskij, Okladnikov, Ranov, 1962: Tab. 8.-1], while the study of the temple part of the Dzharkutan settlement and the burial in the old river Sazagansai revealed characteristic disc-shaped cheekpieces made of a horn with monolithic spikes and rollers around the bit holes [Huff, Shajdullaev, 1999: 25; Avanesova, 2002: 20–21]. At present, on the territory of Central Asia, seven ancient cheekpieces of this type are known, associated by their origin with the Zaravshan and Amudarya oases.

It is assumed that they are based on the Persian samples [Avanesova, 2005: 11, 12]. Their archaism is also indicated by the absence of a bar that appears later.

Apparently, metal single-piece ringed bits with studded cheekpieces adapted to control donkeys were not suitable for full-fledged control of horses that required tighter control. The static rod bit, when the reins were pulled, rested against the insensitive teeth of the animals and did not give the desired effect, especially if two horses were harnessed to the cart at once, which required significant physical efforts of the charioteer.

It seems that the rejection of the metal elements of the headband and the transition in the future to the use of horn cheekpieces and leather bits is also associated with their greater practicality and less trauma for poorly trained semi-wild horses, which was provoked by a high speed of movement, the need for sharp turns and stops. The rounded central holes on the cheekpiece shields suggest a bit rounded in cross section, tightly woven from thin rawhide leather straps, similar in manufacture to modern stone whip or worked by bending the outer ends of the belt to the middle and longitudinal sewing of the edges with tendon threads, in which the belt acquired a rounded section. To give greater strength, a leather rod could be additionally inserted into the inner part. This technology of stitching, necessary to strengthen the horse's headband belts, was later noted among the early nomads [Shul'ga, 2016: 96].

For rectangular holes, apparently, strong belts made of thick leather or narrow leather straps stitched together in several layers, forming a rectangle in cross-section, could have been used, although a similar shape could have been obtained using weaving. It is characteristic that the tradition of making a woven leather bridle survives to ethnographic modernity and was known, for example, among the Kazakhs.

Obviously, unlike rod-shaped one-piece metal bits, elastic and rather rigid leather bits, possibly with an interception or even a looped connection in the central part, when pulling the reins (braking), bent and pressed more strongly with the edges on the horse's sensitive lips, the process partially included and cheekpieces spikes, which in general contributed to better

crew control. The principle of operation of such bits later formed the basis for the transition to two-part metal bits, which act in a similar way and make it possible to do without studded cheekpieces.

This may be indicated by the finds of the skulls of chariot horses, bridled with cast two-piece bits with disc-shaped slotted cheekpieces in the Lchashensky mounds of the South Caucasus, dating from the middle of the 2nd millennium BC. The materials of the site testify to a significant expansion of the area of distribution of the chariot traditions of the Ancient [Mnacakanjan, 1961: 71, Fig. 25.-4–6; Pogrebova, 2014: 420].

It was found that a belt headband with metal crampon cheekpieces and fixed single-piece ringed bits was originally tested on donkeys [Kuz'mina, 2010a: 71]. The next logical step was the use of horses as a traction force for horse-drawn transport, as they are stronger and more frisky animals. Most likely, the natural shortness of tamed horses, with parameters not much different, for example, from large Syrian donkeys, ensured the success of these domestication experiments, which were carried out for a long time with equids in the territory of Western Asia [Kuz'mina, 2010b: 8–11].

It is no coincidence that Middle Eastern sources call horses “donkeys of the mountains”, which indirectly indicates the original habitat of the ancestral species.

The compact constitution of domestic horses is confirmed by paleozoological definitions of the osteological material of Sintashta settlements and burial grounds [Gajduchenko, 2002, Tab. 4; Kosincev, 2010: 30–31, Tab. 3]. Their size is well illustrated in the rock carvings, where at a realistic scale of the depictions of chariots and horses harnessed to them, the latter look clearly short. For example, camels harnessed to a cart, as a rule, are depicted much larger than the wheeled transport itself.

It is believed that the tarpan, which is widespread in the steppe zone of Eurasia, has become a wild horse species suitable for domestication. Its external appearance is usually associated with numerous images of horses, made in the so-called Seima-Turbino style, known in rock art, on the tops of cutting-piercing weapons and ornaments. The animals have a massive head with overhanging bangs, a characteristic erect mane, a well-defined belly, and relatively short legs. However, in petroglyphic drawings, these signs are often absent in horses harnessed to chariot carts [Slobodzjan, 2002: 117, Fig. 1.-1–10]. Chariot horses generally have slightly different morphological characters, which suggests at an early stage the use of other ancestral forms in the process of domestication. Further domestication experiments, probably involving local species of wild horses in them, eventually made it possible to obtain sufficiently large herds of domesticated horses and begin the mass production of an innovative vehicle, where horses were used as a draft force in a spoke two-wheeled carriage. Moreover, individuals with the necessary characteristics were purposefully selected, which were then taught the necessary skills according to the system of special training [Kosincev, 2010: 32].

It is possible that these processes proceeded in parallel to each other. It is indicative that only on the eastern slopes of the Karatau Mountains of South Kazakhstan were recorded about fifty locations of petroglyphs with chariot themes [Kadyrbaev, Mar'jashev, 2007: 44], which in a number of cases show images of the chariot warriors themselves, shooting from a bow or harnessing horses. Probably, the initial phase of the operation of single chariots was closely related to herding and hunting functions, which created the necessary conditions for

identifying and eliminating defects, improving the quality characteristics of a new vehicle. For example, in the Central Asian urban centers, with the dominant role of agriculture in the economic sector, cattle breeding and hunting were of no small importance. This is confirmed by the osteological collections of the Sapallitepa and Dzharkutan settlements, where the bones of domestic animals accounted for 70% and 90%, and of the wild fauna, 30% and 10%, respectively. The inhabitants of the settlements bred large and small cattle, camels, donkeys, pigs, dogs. The bones of a horse were also recorded in the materials of Jarkutan. The objects of the hunt were kulan, gazelle, deer, wild boar, wolf, etc. [Avanesova, 2005: 21].

The increase in the “wheel park” was a kind of impetus for the first military experiments. The combat use of chariots, apparently, began with attacks on small Late Neolithic hunting communities widely spread across the steppe territory of Kazakhstan, with which conflict situations could periodically arise. This, for example, can be evidenced by the emergence of a whole series of fortified settlements explored on the cliffs of the Ustyurt plateau. Obviously, the construction of stone defenses reflects the real threat of total extermination faced by the local population. Teams of hunters, psychologically suppressed by the very sight of racing chariots, simply did not have the opportunity to counteract the attack of chariots in open areas, and they themselves became easy prey for the attackers. The only salvation was only the stone walls of the settlements, which were located on high and steep outliers. The materials of the studied sites record traces of fires in dwellings and the presence of numerous flint arrowheads [Samashev, Loshakova, 2011: 349–350, Fig. 1.-1–10], some of which may well be attributed to the Sintashta arsenal. Interesting are the finds of two Peter-type cheekpieces at the fortified settlement Toksanbay, the lower layers of which, according to calibrated radiocarbon dates, date back to the 22nd — 21st centuries. BC NS [Samashev, Ermolaeva, Loshakova, 2007: 88, 91]. The reasons for the appearance of cheekpieces in a settlement can be very different, but in no way connected with the local chariot tradition, since it never existed among the population with an appropriating economic and cultural type of economy. At the same time, cheekpieces were kept in the altar of the sacred room, acting as a relic or even an object of worship, symbolizing the chariot attributes of a new formidable deity.

Finally, the number of war chariots reaches the required number to become the most advanced weapon of its time, which made it possible to move from the practice of episodic predatory raids to the conduct of much larger and more promising military enterprises. This is how a truly war chariot was created, which in the steppes of Eurasia became the most formidable and powerful weapon of the Bronze Age. The emerging monopoly on the priority possession of the fastest and most maneuverable wheeled vehicles, incredibly increasing combat power and significantly expanding military horizons, led to the militarization of society and an aggressive foreign policy, which resulted in long northern campaigns, recorded in the form of the Sintashta phenomenon. Obviously, they were carried out under a clear centralized leadership, as may be indicated by the burial of one of the high-status leaders, for whom the Great Sintashta burial mound was built, many times exceeding all other known Sintashta burials in terms of volume of work [Abaev, 1972: 342–374].

Sintashtians appear in Southern Zauralye on the easy two-wheeled carts having rung wheels, the developed complete set belt bridle with crampon cheek-pieces and horses as draught animals — differently on already invented fighting chariots with a characteristic set

of various arms. However, they brought with them not only versatile military experience, but also professional skills in the field of architectural and construction works characteristic of the population of ancient urban centers. Most likely, the penetration of the Sintashta people into the Southern Trans-Urals cannot be called migration in the full sense of the word.

First, the distribution vector of Sintashta fortified settlements is clearly expressed, directed in a rather wide strip from south to north, along the eastern slopes of the Ural Mountains, indirectly indicating the opposite southern sources of this impulse.

Secondly, such a localization of monumental “military bases” or “forts” with regular standardized residential buildings of a virtual barracks type, as well as the militarized appearance of their inhabitants, strongly resemble the well-known tactics of conquering and gradual colonization of new territories. It is curious that this direction corresponds to one of the famous medieval routes of the Great Silk Road, which began in China, went through East Turkestan, Semirechye, South Kazakhstan and further along the Syr Darya in the Aral Sea region with access to the South Urals [Bajpakov, Vojakin, Usmanova, 2012: 40].

However, it is assumed that the earliest routes of the future Silk Road, connecting the south and north, were laid as early as the beginning of the 2nd millennium BC. [Kuz'mina, 2010a: 69].

The presence of connections with the southern territories is also confirmed by the few bones of camels noted in the osteological collections of fortified settlements (Arkaim, Alandskoe). Apparently, their findings are associated with the episodic death or slaughter of caravan individuals [Gajduchenko, 2010: 107].

Later, from these “military bases” campaigns were made to the east, in the Tobol region and, to a large extent, to the west, in the Middle Volga region.

The configuration of the Sintashta fortified settlements indicates repeated military expeditions stretching over time.

Sometimes they block each other, specifying in chronological sequence of their construction [Zdanovich G. B., Zdanovich D. G., 1995: 50].

Apparently, chronological differences reflect the dynamics of military engineering concepts associated with changes in architectural and planning decisions during the construction of fortifications that took place in the metropolis itself.

It is indicative that the distribution of fortified Sintashta settlements is increasing from earlier to relatively later in a ratio of 7–9–12 [Zdanovich, Batanina, 2007]. The short-term exploitation of fortified settlement camps is indicated by a thin and poor cultural layer with few osteological and ceramic collections, as well as small necropolises located near settlements, incomparable with the estimated number of inhabitants of residential buildings [Vinogradov, 2011: 88; Epimahov, 2005: 167] which according to various estimates for individual settlements could reach from 1000–1800 to 3500–4000 people [Grigor'ev, 2015: 132, 133]. Leaving the fortified settlements, their inhabitants preliminarily destroyed and set fire to residential and household buildings, which is documented by traces of fires in the absence of signs of military clashes [Maljutina, 1999: 119].]. For example, according to A. V. Epimakhova, at least 1000 people lived in the fortified settlement of Olgino (Kamenny Ambar). It is assumed that the village functioned for 50–60 years and with a natural decline in the population, the sample at the disposal of the researchers would be at least 1000 deaths [Zdanovich G. B., Zdanovich D. G., 1995: 167], that is, about 20 people died a year, including children. However, in the study of

3 kurgans of the “suburban” burial ground Kamenny Ambar 5, about 100 burials were revealed, although with a complete study of the sites, which consisted of 6 kurgans, the number of buried people may increase to 200 individuals [Zdanovich G. B., Zdanovich D. G., 1995: 149].

According to the researcher, Kamenny Ambar 5 is an elite necropolis in which only the burials of persons with a high social status or those close to this privileged layer were carried out, while the rest of the predominant part of the population was buried by some other archaeologically unrecognizable means [Zdanovich G. B., Zdanovich D. G., 1995: 167–168]. It is hardly possible to agree with the proposed selective selection, since such groups are not distinguished at the burial ground by age or gender characteristics. Consequently, even according to the most optimistic forecasts, the settlement existed within 10 years, which was directly reflected in the quantitative composition of those buried in the necropolis, which, in fact, became a kind of chronometer that determines the life of this settlement. Obviously, this pattern also applies to other Sintashta sites. Paleoanthropological data indicate a pronounced heterogeneity of the Sintashta society and clearly distinguish the numerically dominant male population from the female population [Kitov, 2011: 23, 24; Hohlov, 2010: 146].]. According to paleoanthropological definitions, the male series of skulls belong to the steppe Caucasian type, while the female ones, in turn, have local autochthonous uraloid characteristics.

Such contrasting craniological differences indicate the mechanical mixing and origin of male populations and the female part of the population not only from an alien ethnocultural environment, but also from different natural landscape zones [Kitov, 2011: 19, 23–24; Hohlov, 2010: 114].

The newcomers initially consisted of male groups, not burdened by the rest of society, so the mixing of a heterogeneous population could hardly happen peacefully and deliberately. This could happen only due to the physical and social superiority of the male anthropological component [Hohlov, 2010: 129].

Taking into account the control of the Sintashta people over the vast territory of the Middle Volga region, the Urals and the Tobol region, carried out with the aim of compulsory withdrawal of livestock [Drevnjaja istorija..., 2000: 280] and, apparently, other products, it is assumed that the female part of the Sintashta enclave was formed in a similar way. A significant variety of ceramic collections, on which the system of culture-defining features in the Bronze Age is based, captures a number of cultures participating in the formation of Sintashta-type monuments and, first of all, Abashevskaya [Tkachev, Havanskij, 2006: 122]. However, given that, as a rule, only women participated in ceramic production [Loman, 2003: 150], then this fact is a marker exclusively of certain cultures or ethnic groups to which women who made dishes belonged. Thus, the formed female conglomerate, concretizing the direction of Sintashta contacts, accordingly reflected on the variety of ceramic collections, where the appearance of culture depended to a greater extent on the prevalence of the female population of a particular ethnocultural group, which brought its traditional features into the appearance of Sintashta (Potapov) ceramic ware. If we take the Abashev culture as a basis, the population of which is characterized by uraloid anthropological characteristics [Hohlov, 2010: 114], then, accordingly, the “Abashevo veil” or “Abashoid” of Sintashta ceramics gets its logical explanation. In this case, the identity of the male population remains outside the scope of cultural attribution, and the “native” ceramic complex could radically differ from the Sintashta one, both in form and in the

complete absence of ornamentation. It is possible that a small series of so-called proto-Fedor's dishes with a smooth profile and a base, which was recorded in elite burials, including in the Bolshoi Sintashta burial mound, may be close to it [Grigor'ev, 2015: 90]. A similar situation, apparently, is observed when trying to correlate the Seima-Turbino phenomenon with any specific cultural formation of the Bronze Age. Most likely, the nature of these phenomena has common roots, but so far lies beyond our knowledge. It seems that the Sintashta fortified settlements are evidence of quite real military expeditions organized with the aim of creating controlled territories for the development of the mineral and biological resources of the region, the subordination of the local population, necessary from the point of view of the socio-economic and military-political needs of society. After completing the assigned tasks, part of the paramilitary group returned, and another part of the "military settlers", entering into close contacts with the autochthonous population and spreading over the adjacent territory, later became the nucleus of new cultural formations. These processes are recorded due to the emergence of elite, often necropolis-forming structures of the post-Sintashta time in the form of early cut and early Alakul burial monuments, demonstrating elements of the chariot complex, the traditions of which survive to the classical Alakul, which is recorded, for example, in the Maitan burial ground [Tkachev, 2014: 658].

Attention is drawn to the apparent "wastefulness" of the funeral rite, unknown neither before, nor after, nor outside the monuments of the Sintashta circle. The burial rite was accompanied by "magnificent" ceremonies, which involved placing "rich" implements and chariot paraphernalia in the burial chamber, as well as numerous sacrifices of domestic animals, which in material form optimally reflects the worldview of the Sintashta population about the afterlife. Obviously, when the deceased was sent off to the "last journey", the verbal part of the funeral rite contained traditional wishes, suggesting the possession of a victorious weapon, a fast chariot with frisky horses, "numerous cattle of different types" began to actually duplicate in kind, transferring in a number of cases a significant part of oral wishes from the virtual sphere to the material plane. Apparently, this is how the bright and distinctive tradition of Sintashta military burials, previously unknown in other regions of steppe Eurasia, developed. This could only be possible as a result of the presence of an excess of livestock and, probably, metal obtained through the forcible seizure from the controlled communities. Under other circumstances, in the burial practice of the population of the same metropolis, such hecatombs could simply be absent, like the general militaristic background of most burials, and ritual actions were limited to verbal formulations and the real possibilities of society itself. In the post-Sintashta period, due to the stabilization of the situation in the steppe, the hypertrophied forms of this tradition "die off" rather quickly and are never reanimated in the Bronze Age.

The absence of direct written sources of this period creates a simplified view of events of a military, political, social, economic nature that took place in the territory of Kazakhstan in the Bronze Age. These illusions are based on the specifics of "silent" archaeological material and significant difficulties in the reconstruction of regional historical processes of the Bronze Age.

Now the considerable periods of ancient history of Kazakhstan remain poorly understood, in particular, the Bronze Age of Southern Kazakhstan. This region is more presented by destroyed medieval settlements in the form of hundreds of large earthen hills of a various configuration.

Their parameters can be estimated in hundreds meters, and the height to exceed 20-meter mark [Svod pamjatnikov..., 1994]. It is not excluded that under thick medieval cultural layers more ancient layers disappear with which riddles of Sintashta and Sejma-Turbino cultural phenomena are connected.

Serious argument for localization of the craft-economic centers in territory of Southern Kazakhstan and, probably areas of the Central Kazakhstan corresponding to present desert Betpakdala adjoining from the north, are finds of unique metal vessels in early Andronov burial grounds of Ashchisu and Nurataldy I, located in the Central Kazakhstan region [Kukushkin, 20116: 106; Kukushkin it all., 2016].

Each of metal vessels had a well expressed neck, characteristic early Alakul ledge-edge and separately made ring pallet that more corresponds to Fedorovo processing methods of manufacturing of ceramics with capacitor beginning [Loman, 1995: 97]. Thus, mixture of cultural traditions for early Alakul development stages that assumes the uniform center of formation of sources of these cultures, connected with functioning of the large craft-economic centers is observed.

It is supposed that vessels are created by the skilled craftsmen possessing manufacturing techniques of thin-walled metal ware. Absence on products of connecting seams or rivets, testifies to ware moulding on wax model [Degtyareva et al., 2019]. High quality of vessels, absence of traces of a spoilage in production, technical crafting details and standardization of forms, definitely specify that there were usual, serial products. Additional argument for this statement is the conditions of their detection. If on a burial ground of Ashchisu the vessel has been fixed in the large central burial blocked by a earth mound, Nurataldy 1 it is found in a small extension to the basic fencing which had modest parameters.

Obviously, standard metal utensils of characteristic Andronovo shapes penetrated far beyond the limits of handicraft and economic centers and are noted both in the elite and ordinary burials of the early Andronov time. It is possible that traditional Andronov metal jewelry was mass-produced in urban centers, which then went to the steppe in exchange for livestock products, otherwise it is difficult to explain the detailed standardization of women's clothing sets, at least in the area of distribution of Alakul cultural sites. In this regard, interesting results were obtained in the study of the chemical composition of Alakul paste (faience) beads, on the basis of which a reasoned assumption was made about their import from Ancient Egypt, where local craft workshops produced faience beads in large quantities. It is noted that the manufacture of earthenware is a complex chemical technology, surpassing the level of complexity of the technological processes associated with melting copper and obtaining bronze [Lihter, Usmanova, 2017: 42–43].

It is extremely indicative of the finding in 2017 of a large solid-molded bronze vessel at the Sintashta Karatomar burial in northern Kazakhstan, proving that the production of metal utensils already took place during this period [Logvin, Shevnina, 2018: 125, Fig. 19]. The use of unique technologies in its manufacture may indicate a high level of development of the metalworking industry concentrated, as a rule, in the ancient urban centers of the time.

Metal vessels are well known in the materials of the Bactrian-Margian archaeological complex in Central Asia. High technologies associated with the manufacture of solid-molded thin-walled metal dishes, judging by the Margian finds, were concentrated exclusively in large

sedentary agricultural centers of urban type. For example, gold, silver and copper-bronze vessels duplicating traditional ceramic standards were found in significant quantities only in rich “royal” burials located near the palace and temple complex of Gonur-Depe in Eastern Turkmenistan [Sarianidi, 2006: 171–177].

Currently, the existence of the Sintashta culture is determined within 200–250 years or by the end of 3rd — the first quarter of the 2nd millennium BC [Vinogradov, 2011: 78; Epimahov, 2004: 206]. At the end of this period, the accents of military priorities under the influence of the “militaristic syndrome”, stimulated by successful northern campaigns, obviously, are shifting. The direction of military expansion is changing, involving richer and more prosperous countries. These processes are probably associated with a significant irrevocable outflow of the population from the southern regions of Kazakhstan and, possibly, Central Asia. With the departure of the Sintashta population, the “rich” military burials disappear. Part of this tradition is preserved in the early Alakul sites, but soon it also disappears.

At the same time, in the east, in China, the appearance of horses, chariot fighting tactics and the art of making thin-walled metal vessels are recorded, based on a sophisticated casting technology using a wax model previously unknown there [Chechushkov, 2011: 63; Beh et al., 1997]. In the southeast, the fighting teams of charioteers conquer North-West India. In the hymns of the Rig Veda, the brilliant victories of the Indo-Aryans are declared, destroying the fortresses of the aboriginal population and capturing rich booty [Elizarenkova, 1989: 427]. Vague memories of a distant homeland are preserved only in the “Northern cycle” of Aryan mythology, where, for example, metamorphoses occurring in water during the cold season are vividly described [Bongard-Levin, Granatovskij, 1983: 7–8, 141]. In the south-west, in the states of Front and Asia Minor, whole dynasties of the ruling elite are formed, whose representatives bear Aryan names. Marriage treaties are concluded between royal houses, where the supreme deities of the Aryan pantheon act as guarantors of the terms of the agreement. In Mitanni, Kikkuli’s famous treatise on the training of chariot horses is compiled, saturated with Aryan horse-breeding terminology, which is then repeated in Hittite and Assyrian sources [Bongard-Levin, Granatovskij, 1983: 430; Kuz’mina, 1994: 5, 189]. The chariots of war are becoming the striking force of many states and peoples, but their appearance is marked much later than the Sintashta counterparts.

It is assumed that all these events document the disintegration of the Indo-Iranian linguistic community, which many researchers in general attribute to the first half of the 2nd millennium BC [Abaev, 1972: 32–36; Gindin, 1992: 55; Granatovskij, 2007: 410; Zdanovich, 1995: 42; Kovtun, 2013: 35–41; Lelekov, 1990: 123; Steblin-Kamenskij, 2009: 18; Helimskij, 2000; Anthony, 2007: 408; Lamberg-Karlovsky, 2002: 72]. In fact, there is a division of community into two large ethnocultural array — the ancient Iranians, who remained in the original habitat, and the actual Aryans, who are actively settling in the new territories. The war becomes the main ideology of society, and the symbol of victories is the thunder-god Indra, in whom the arias carried away the faith.

Conclusions

If our assumptions are true, the Andronov genesis model looks as follows. In territory Southern and, probably, Central Kazakhstan, during the Bronze Age, the powerful settled-agricultural culture which has reached of enough high level of development which it is possible to name prior to-Andronov was generated. Its formation resulted from migratory motions

of considerable weights of the Indo-Iranian population probably provoked by social and economic processes or military-political events, which took place early in the territory of the Near East. The carriers of these cultural traditions became pioneers in the use of mounted horse chariots in the military sphere and contributed to the wide spread of the chariot complex throughout the ancient world.

The part of the population participating in northern campaigns, left the Sintashta type sites which were the base of the Alakul culture, therefore Sintashta is as a matter of fact proto-Andronov or is proto-Alakul formation. Of course, it also influenced the formation of the Srubnaya culture, where, however, the closely related Potapov culture of the Middle Volga region played a leading role. The cattle breeding collectives which had separated from the prospective settled-agricultural centers generated Fedorovo culture. In particular, it confirms the Fedorovo settlement Pavlovka (Shagalaly II) layers in Northern Kazakhstan, containing wheel ceramics, characteristic for ancient agriculturist pottery traditions and imitations its forms [Maljutina, 1991: 155–157; Sakenov, 2014: 562–563; Habdulina et al., 2017: 173–174].

The common roots of these ethnocultural formations later formed the basis for the formation of the Andronovo cultural and historical unity, as evidenced by the absence of visible antagonistic contradictions in the interaction of cultures with each other. This can be indicated by joint burial grounds consisting of Alakul and Fedorov burials, as well as a significant number of syncretic monuments. Subsequently, the Alakul culture is absorbed by the Fedorov culture, which later participates in the formation of the monuments of the final bronze. Research on the purposeful identification and fixation of objects correlated with the early civilization stages of the development of the Bronze Age society on the territory of Kazakhstan are still at the initial stage of development. The known difficulties are undoubtedly connected with the traditions of centuries-old settled life in local settlements with a high concentration of the population, which led to the formation of large multi-layered settlements, some of which existed until the late Middle Ages. The search for isolated sites of the Bronze Age requires the involvement of additional technical means and, first of all, aerospace survey data. It is also pertinent to draw attention to the fact that 18 out of 21 Sintashta settlements were discovered only as a result of decryption of aerial photography data carried out in the 50–60s. of the 20th century [Zdanovich, Batanina, 2007: 24].

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