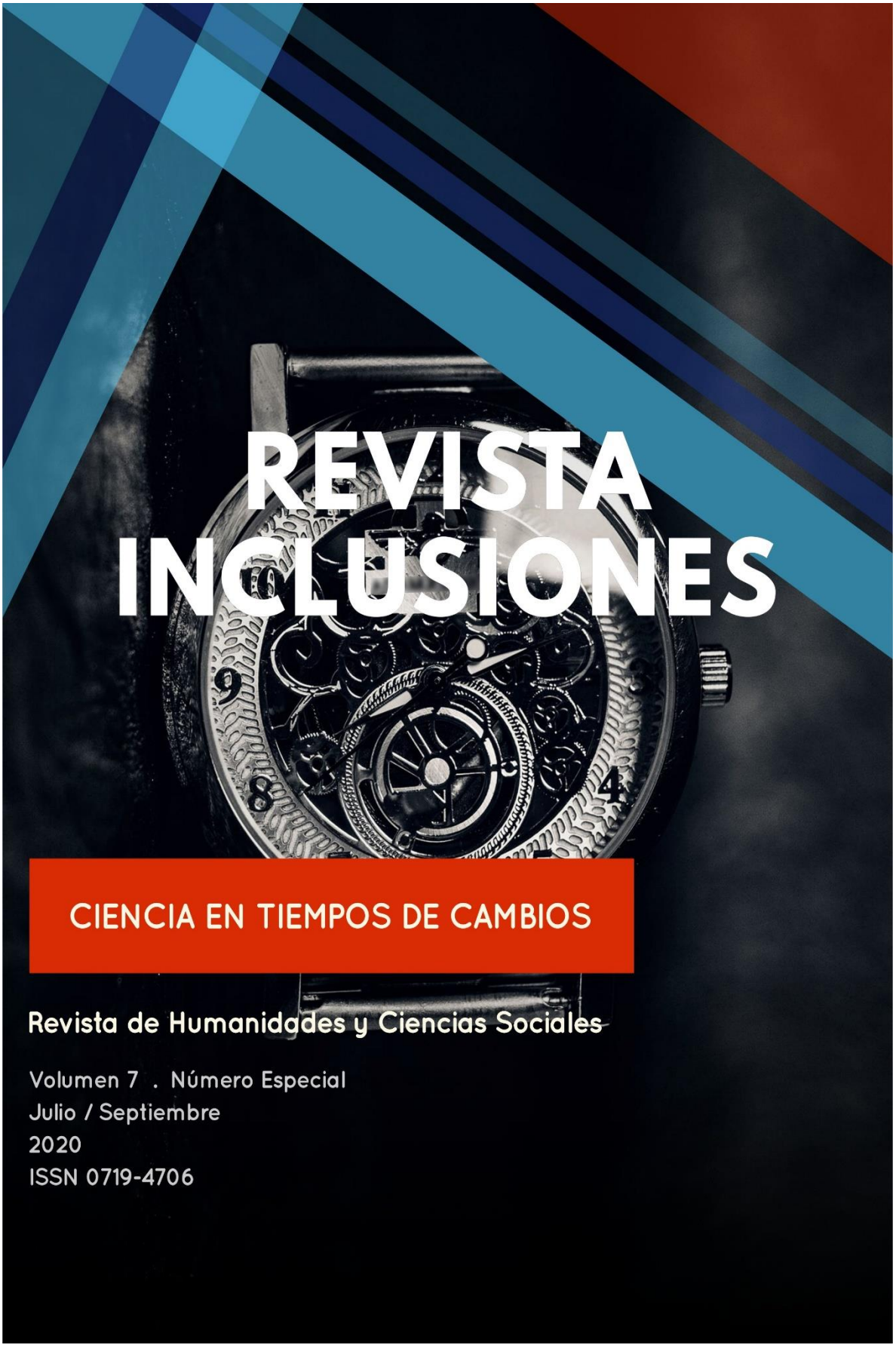

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INNOVATIONS IN THE ANCIENT COMMUNICATION NETWORK

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Abstract

The focus of the present study is on the role of innovation in the communication network of earliest Bronze Age population of Eurasia steppes, when trans-continental global World-System was created. Certain innovations of that period were distributed in the territory of continental steppes and thus formated the historical development of the local clans and the Bronze Age societies. Along with logistics (import and exchange of goods) which is material evidence of allocated archaeological cultures (AC); there was a spread of 'transcultural' innovations - new technologies, ideas, images, signs, their combinations and codes, and mythology, expressed in certain cultural, pictorial, funeral, megalithic traditions, rituals, the carriers of which were individual mobile clans of cattle breeders. These 'transcultural' innovations and traditions can be considered indicators or markers of the unique identity of a society or clan. Such 'transcultural', traditional, irrational features in the steppe AC are probably closest to the ethnic basis of ancient societies.

Keywords

Rock art monuments – Communication channels – Self-identification – Cultural genesis

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Introduction

Out of all the variety of communication types, the systems of basic and traditional internal channels that humanity has formed for millennia of its history stand out: writing, music, dance, painting and other kinds of artistic creativity, and world religions. These are also established channels of external communication – migration, exchanges, trade, gradually turned into global world transport arteries. This is the entire transport infrastructure created by human civilization and the level of its development is determining[1].

In the process of forming channels of external communication, the object of the communicative channel itself has an exceptional value; in other words – what for and on what basis this channel is created. As a rule, these innovative objects, technologies and traditions are born on the rights of the monopoly either by the society itself, or may not exist in the practical life or be produced because of insufficiently developed knowledge, skills and lack of appropriate technologies and necessary raw materials. To obtain such important goods and knowledge, ancient societies already at the dawn of their existence built very large channels of exchange, even by modern standards[2]. Therefore, the most promising object for the study of the oldest communication systems is the innovation of ancient societies and their distribution on the Eurasian continent. Possessing these advantages ensured both the process of global development of new territories and superiority over less developed societies.

When considering the large-scale events and processes of the Bronze Age of Eurasia (beginning from the 4th-3rd millennium BC) it is impossible to confine to the 'traditional' explanatory models: evolution, migration, imports, etc.[3]. One of the possible ways out may be globalization, a world trend since the 1970s[4]. The world-system in the classical sense is characterized by the presence of boundaries, structure and rules of legitimization. It focuses on self-reproduction the basis of which is a broad division of labor and cultural diversity; the dynamics of development is predominantly intra-systemic. The founder of the concept, I. Wallerstein, formulated its main provisions with reference to the last 500 years of world history, and his followers tried to expand the chronological framework quickly enough[5].

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[1] V. A. Novozhenov, A miracle of communication and the oldest wheeled transport of eurasia. E. E. Kuzmina (Ed). (Moscow: taus, 2012).

[2] F. Braudel, Les jeux de l'echange. Civilisation materielle, economie et capitalism xv – xviii siècle. Vol. 2 (Paris: librairie armand colin, 1979).

[3] I. S. Klejn, Archaeological research: methods of cabinetwork of the archaeologist. V. S. Bochkarev, with the participation of S. V. Beletsky (Eds). Book 1. (Donetsk: Ddonetsk national university, 2012); I. S. Klejn, Archaeological research: methods of cabinetwork of the archaeologist. V. S. ochkarev, with the participation of S. V. Beletsky (Eds). Book. 2. (Donetsk: Donetsk national university, 2013); V. S. Olkhovsky, "On the archaeological features of migrations in the bronze age and early iron age", Margulan's readings 1990. Moscow, (1992): 30-33; M. L. Podolsky, "Phenomenon and paradoxes of the minusinsk steppe (change of cultural dominants)". Cultural and ecological areas: interaction of traditions and culturogenesis: a collection of scientific articles, St. Petersburg, (2007): 113-128; C. Chase-Dunn, "World-system in the biosphere: urbanization, state formation and climate change since the iron age: global socioenvironmental change and sustainability since the Neolithic". In: The world system and the earth system, Chase-Dunn, C.; Hall, T. D. and Turchin, P. (Eds). (Walnut creek, 2007) y V. G. Childe, The down of european civilization (London, 1957).

[4] I. Wallerstein, The modern world-system: capitalist agriculture of the european world economy in the sixteenth century. (London, 1974)

[5] N. N. Kradin, Nomads of Eurasia (Almaty: Dyke press, 2007); I. Ye. Grinin, Social macroevolution: genesis and transformation of the world system (Moscow, 2009); Grinin, I. Ye. "The origins of

The Bronze Age is characterized by the mass formation of complex societies which include not only states but also a huge variety of large-scale demographic parameters and territorial coverage of societies with no formed state systems. For the first time the system of zoning 'states – pre-state periphery' was formed. For the arid zone, the prospect of creating statehood (in its classical sense) was apparently absent due to the peculiarities of the existing ecological niches, the natural landscape and the level of production[6]. Besides, the life support system during the 3rd-2nd millennium BC was based almost exclusively on integrated livestock breeding[7]. During this period different kinds of long-distance communication were developed, and migration flows were reconstructed[8].

Today, we do not always have the opportunity to assess the speed of distribution and direction of technological and other ancient innovations. Attempts to terminologically go beyond the concept of archaeological culture (AC) by uniting groups of cultures within the framework of cultural-historical communities/regions or areas (CHC), metallurgical provinces, AC' blocks and AC' horizons are proves to this. With reference to the ancient communities of steppe livestock breeders of Eurasia, there is a specificity: unlike the classical pattern of exchanges and migrations (when a settled, agricultural-oriented society builds a geographically fixed map of its communications with other communities), mobile socially oriented livestock breeders form a 'mobile' map of these external and constantly changing communications, which is much more difficult to fix.

In the pre-literate period, the steppe AC, with reference to mobile cattle breeders, is a rather conventional concept attributed to the professional vocabulary of archeologists, and reflects the uniqueness of the mass artifacts of material culture: ceramics and ornamentation, crafts, weapons, hunting, funeral rituals characteristic of a certain territory.

In other words, any AC allocated in the steppe regions (due to its natural limitations and the small number of other types of information sources) fixes only a small part of the artifacts and data surviving to our days in ancient graves and scarce settlements. As soon

globalization: the world-system analysis", The age of globalization, num 1 (2011); K. Kristiansen, Europe before history (Cambridge, 1998) y K. Kristiansen, Eurasian transformations: mobility, ecological change, and transmission of social institutions in the third millennium and early second millennium b.c.e. In: the world system and the earth system (Walnut creek, 2007).

[6] A. V. Epimakhov, Early complex societies of the north of central eurasia (based on the materials of the burial ground kamenny barn-5). Book. 1 (Chelyabinsk: Chelyabinsk press house, 2005); A. V. Epimakhov, "From the archeology of the monument to the archeology of society: the bronze age of the southern trans-urals", Problems of history, philology, culture, Vol: 3 (25) (2009): 92-104 y A. V. Epimakhov "Bronze age of the southern urals: economic and social evolution", Ural historical herald, num 2 (2010): 31-37.

[7] N. E. Masanov, Nomadic civilization of kazakhs: the foundations of vital activity of the nomad society. (Almaty: print-s, 2011); N. Ya. Merpert, The oldest cattlemen of the volga-urals interfluve (Moscow: nauka, 1974); V. K. Merz and I.V. Merz, "Burials of the "pit" type of the eastern and north-eastern kazakhstan (to the formulation of the problem)", Afanasyevsky bulletin, (2010): 134-144; V. S Bochkarev, Culturogenesis and ancient metal production of Eastern Europe (St. Petersburg, 2010); V. S. Bochkarev, "On some characteristic features of the bronze age of eastern Europe". Cultures of the steppe Eurasia and their interaction with ancient civilizations. Materials of the international scientific conference dedicated to the 110th anniversary of the birth of the outstanding Russian archaeologist Mikhail P. Gryaznov. St. Petersburg. Vol: 2 (2012): 13-24 y V. V Evdokimov and V.V. Varfolomevev, The bronze age of central and northern Kazakhstan (Karaganda: Kargu, 2002).

[8] Grinin, l. Ye, "The origins of globalization: the world-system analysis", The age of globalization, num 1 (2011) y A. V. Epimakhov "Bronze age of the southern urals: economic and social evolution", Ural historical herald, num 2 (2010): 31-37.

as people enter a new stage in the process of cognition, they try to reconstruct historical and social processes based on archaeological materials, or in this case the oldest communication channels, the processes of ethno-and cultural genesis, and they inevitably face these natural limitations[9].

Materials and Methods

External communication and possible migration of a society takes place when there is an object stimulating migration, namely: the search for new pastures or, for example, deposits for the production of metal tools or specific additives for making pottery, as well as other subjects of daily demand. Specificity of migration[10] is in the natural development of the vast new territories of the continent, primarily as pastures for domestic animals, since reproduction of livestock is the guarantee of development and prosperity of these societies. This natural and harmonious model of the territorial distribution of societies (often quite unlike migration but rather similar to the classical nomadic[11]) most fully corresponds to the archaeological data accumulated today. There are no grounds for considering this process as a military and aggressive expansion and seizure of foreign territories with all the horrors of violent assimilation and genocide[12].

The natural and geographical factor is determining in the process of migration itself in the forest-steppe, steppe and semi-desert – the main landscapes of the continent where the routes of nomadic travels lie. The presence of water and a sufficient number of feed determine the mechanism for the development of new virgin steppes – along the basins of the numerous rivers flowing on these territories.

Fine monuments, and above all, petroglyphs record the presence of the carriers of these traditions in a particular territory, and the geographical distribution of similar signs of a single visual series (code) may indicate the territorial movements of a particular society[13].

At the present stage of research, it seems quite normal that any newly generated concept of ancient migration (based even on the most detailed analysis and similarity of archaeological materials) will always be the subject of heated discussions[14] and the basis

[9] V. A. Novozhenov, A miracle of communication and the oldest wheeled transport of eurasia. E. E. Kuzmina (Ed). (Moscow: taus. 2012).

[10] l. S. Klejn, Archaeological research: methods of cabinetwork of the archaeologist. V. S. Bochkarev, with the participation of S. V. Beletsky (Eds). Book 1. (Donetsk: Ddonetsk national university, 2012) y l. S. Klejn, Archaeological research: methods of cabinetwork of the archaeologist. V. S. Bochkarev, with the participation of S. V. Beletsky (Eds). Book 2. (Donetsk: Ddonetsk national university, 2013).

[11] N. E. Masanov, Nomadic civilization of kazakhs: the foundations of vital activity of the nomad society. (Almaty: print-s, 2011)

[12] E. E. Kuzmina, The origin of the indo-iranians (Leiden, Boston, 2007) y E. E. Kuzmina, Prehistory of the great silk road: a dialogue of cultures (Europe – Asia). G. M. Bongard-Levin (Ed). (Moscow: Comkniga, 2010).

[13] V. A. Novozhenov, A miracle of communication and the oldest wheeled transport of eurasia. E. E. Kuzmina (Ed). (Moscow: taus, 2012); V. A. Novozhenov, “Petroglyphic channel of communication”, Methodology of research of cult complexes, (2012): 57 – 65; V. A. Novozhenov, “The great steppe: man in the system of ancient communications”, Epimakhov A. V. (Ed). The sacrament of the ethnic history of the ancient nomads of the steppe Eurasia, (2014): 17-267 y V.A. Novozhenov, Origin of indo-europeans – arguments and myths. In: article and discussion on the genofond.rf. Retrieved from: http: //xn--c1acc6aafa1c.xn--p1ai/? Page_id = 3668. Date of circulation: 03.10. 2015.

[14] l. S. Klejn, Archaeological research: methods of cabinetwork of the archaeologist. V. S. Bochkarev, with the participation of S. V. Beletsky (Eds). Book 1. (Donetsk: Ddonetsk national university, 2012)

for new options of reconstructing historical processes and possible historical realities. In these conditions it is advisable to use the terms ‘communication’ and ‘communication channels’ which more neutrally characterize the interrelationships of different societies and describe the totality of both their external and internal interactions and connections, including the actual migration, impulses of possible cultural (ethnic) interactions and other types of self-identification of society.

In this sense, significant communication and the reconstruction of some stages of the ethnogenesis process and elements of ancient communication and identification systems based on ‘one's own’ principle (unconditionally connected with social and cultural phenomena) can answer many questions of the ancient history of the living and dead peoples of Eurasia; it is precisely in the conditions of a limited source base and, above all, the written one[15].

Results

The main task of communication solved by ancient societies was the problem of self-identification or supposed self-identity on the principle of ‘one's own’. In the expanses of Eurasian steppe where the formation of this identity probably took place, the process of culturogenesis was of a specific nature, since it was initially oriented towards the mobile way of life of shepherds. The mobile basis of the economy determined numerous migrations and mixing of small (25-30 people) production groups (or clans) of livestock breeders – carriers of steppe AC's.

The most important factor characterizing the ethnos – the territorial one – acquired a mobile and global character. As a result of the natural development by these clans of cattle breeders of the Eurasian steppes, the most advanced innovations of Mesopotamia – the potter's wheel, wheeled transport, the technology of bronze casting, graphic, megalithic, statuary traditions – spread very quickly in vast territories, and communication channels were formed through which these new inventions reached the most remote regions of the continent.

Along with logistics (import and exchange of goods) which is material evidence of allocated archaeological cultures (AC); there was a spread of ‘transcultural’ innovations - new technologies, ideas, images, signs, their combinations and codes, and mythology, expressed in certain cultural, pictorial, funeral, megalithic traditions, rituals, the carriers of which were individual mobile clans of cattle breeders. These ‘transcultural’ innovations and traditions can be considered indicators or markers of the unique identity of a society or clan.

Such ‘transcultural’, traditional, irrational features in the steppe AC are probably closest to the ethnic basis of ancient societies. In a narrow sense, these are artifacts that are definitely associated with the traditions, cult and ritual activities that have developed in the society, in a wide variety of funeral rituals, the iconic tradition, myth creation, some innovations, inventions, technological skills (technologies). In one way or another, these

y l. S. Klejn, Archaeological research: methods of cabinetwork of the archaeologist. V. S. Bochkarev, with the participation of S. V. Beletsky (Eds). Book 2. (Donetsk: Ddonetsk national university, 2013).

[15] V. A. Novozhenov, Origin of indo-europeans – arguments and myths. In: article and discussion on the genofond.rf. Retrieved from: http: //xn--c1acc6aafa1c.xn--p1ai/? Page_id = 3668. Date of circulation: 03.10. 2015 y V. A. Novozhenov, “Archaeological markers of identity”. Ethnic interactions in the southern urals: materials vi vseros. Sci. Conf. V.I. Bogdanovsky; A.D. Tairov and others; (eds). (2015): 40 - 45.

activities are always associated with rituals reflecting certain definite mythological (more broadly – cultural and even ideological) notions.

Quite often, such combinations and structures are manifested in completely different AC, for example, barrows or stone boxes common in vast territories, accompanying their megalithic constructions – menhirs or steles, are widespread in the Bronze Age in regions of Eurasian steppe which are quite remote from each other. Yet, with such a global similarity of the basic elements of funerary structures, the differences between the isolated steppe AC and the actual cultural identity of the burials themselves are often determined only by differences in the types of accompanying ceramics or funeral implements.

'Transcultural' innovations are often distributed in the form of mythologies, memes and related signs, ornaments and images, behind which, strange as it may seem, real knowledge can stand. Often they are formed into stable sign or pictorial and even technological traditions that also reflect the unique identity of the society. It is proved that for man in the pre-literate period of history there was only one possible form of cognition and comprehension of the surrounding reality – the mythological one.

From this peculiarity, phantasmagoria, animal naturalism, and irrationality of the oldest channels of communication, as well as the forming on their basis of pictorial and other traditions, occur. These most accurately determine the identity of the society (and the possible fantasy and irrationality of some of its traits), because they reflect the most stable, conservative, and most importantly recognizable combinations of signs, arranged in a certain order in the visual series or codes fixed by archeologists of figurative or statuary monuments.

Indicative in this regard is the spread in the territory of Eurasia in the 3rd-2nd millennium BC of the Indo-European myth of the creation of man – its variants are marked practically by all the peoples of the continent[16]. Moreover, not only mythologems were distributed but also illustrative graphic communication: signs (for example, swastika), ornaments (shaded triangle, meander, etc.) and whole plots and certain sets of images (for example, chariots in combination with deer and dogs). At the same time, in petroglyphs and other fine monuments of Central Asia, Europe and the Middle East (with the exception of Egypt), there is a striking structural similarity of the chariot scenes and of the specific set of characters involved in them (as well as the funeral rites with wagons, see Figures 1 to 5). Since rocks with petroglyphs could not move in space, therefore, the carriers of this different identity themselves were moving.

This thesis is also confirmed by the spread of the megalithic tradition in the steppes of the continent and of the associated anthropomorphic sculptures of the Chemurchek, Yamnaya-Afanasyevo and Okunev type from the west to the east of the continent during the Early Bronze Age, and deer stones and Early Scythian Balbals from east to west in the Late Bronze Age and later.

[16] Yu. E. Beryozkin, "Reconstruction of the plot of human creation from steppe indo-europeans". Cultures of the steppe eurasia and their interaction with ancient civilizations. Materials of the international scientific conference dedicated to the 110th anniversary of the birth of the outstanding Russian archaeologist Mikhail P. Gryaznov. St. Petersburg. Vol: 2 (2012): 35-39.

It is obvious that the statuary and figurative artifacts, as well as any other traces of the artistic activity of the society which testify to the existence of a certain pictorial tradition and found as a result of research in archeological monuments in case of their systematic and mass study, are quite reliable indicators of a certain identity of the society.

Discussion

Any archaeological classification is built on the principle of distinguishing individual classes or types of things. The basis of typological changes in subjects are innovations in their production or in the ways of their practical application. The notion of technological traditions that not only preserve and disseminate technical inventions and innovations in space and time but also reflect the ability of the society to use them in everyday life corresponds to this classical understanding of the AC as a collection of dated and unique classifications and typologies of things [see discussion: Eisenman S., Banffy E., Dommelen P., et al, 2018 and criticism of it by L.S. Klejn on http://xn--c1acc6aafa1c.xn--p1ai/?page_id=30486].

Most often, such traditions are a set consisting of the artifact itself, of specific special tools that made it possible to produce this particular artifact and of some rules or certain prescriptions on how to produce this thing that will give the socium something useful and necessary.

Due to the special importance for the survival of the society, such technologies (and, more simply, know-hows) were sacred, canonized and transmitted as secrets (technological traditions) from generation to generation. Therefore, for instance, the sacralization of the profession of a blacksmith is characteristic of all nations of the world, without exception. The invention of the chariot in the steppe environment, a revolutionary breakthrough in the technologies of the Bronze Age, is directly associated with the movements of the Indo-European and, above all, Indo-Iranian or Aryan societies on the continent (elitist groups); these peoples kept secrets of production and proper military use of these technologies.

Such technological traditions could not be spread by borrowing ideas or simply transferring technical innovations; they also required possessing techniques and skills for their production. The personal participation of the carrier of know-how in the production process most often meant migration of the carriers themselves or their production communication with their fellow tribesmen and neighboring clans (custom manufacturing), yet in any case it determined their unique identity[17].

The processes of cultural genesis that took place during the Bronze Age in Eastern Europe are thoroughly analyzed in a number of works by Prof. V.S. Bochkarev[18]. The determining factors for the culturogenesis of steppe societies were innovations in the following spheres of economic activity: the development of livestock and its various forms,

[17] V. A. Novozhenov, “The great steppe: man in the system of ancient communications”, Epimakhov A. V. (Ed). The sacrament of the ethnic history of the ancient nomads of the steppe Eurasia, (2014): 17-267 y V. A. Novozhenov, “Archaeological markers of identity”. Ethnic interactions in the southern urals: materials vi vseros. Sci. Conf. V.I. Bogdanovsky; A.D. Tairov and others; (eds). (2015): 40 - 45.
[18] V. S. Bochkarev, Culturogenesis and ancient metal production of Eastern Europe (St. Petersburg. 2010) y V. S. Bochkarev, “On some characteristic features of the bronze age of eastern Europe”. Cultures of the steppe Eurasia and their interaction with ancient civilizations. Materials of the international scientific conference dedicated to the 110th anniversary of the birth of the outstanding Russian archaeologist Mikhail P. Gryaznov. St. Petersburg. Vol: 2 (2012): 13-24.

directly dependent on natural and climatic conditions of habitat; metal processing and the formation of metallurgical centers in which innovations were generated in bronze casting and, accordingly, the possibility to produce innovative types of weapons; and changes in the social level[19].

Recent archaeobotanical studies show "an extremely weak development of agriculture in the Bronze Age throughout the steppe and forest-steppe from the Trans-Ural to the Dnieper Basin" and, on the contrary, "there are a lot of materials that talk about the widest distribution of cattle breeding". This allows stating that Eastern European archeology of the Bronze Age is mainly the archeology of livestock crops[20]. As the author rightly believes, "several types of animal husbandry existed (home, stall, distant, nomadic, etc.)"; he further supports the ethnographic concept of cultural and economic types (CET), applied to the steppe AC, in its adapted form. The mobile nature of the economy determined the mobility and numerous relocations of AC carriers, which led to their mixing and to the blurring of the distinct boundaries between them. The result was a cultural continuity which E.N. Chernykh called 'steppe syndrome'[21]. Archaeologically, this is expressed in the fact that sometimes neighboring cultures are so similar in typological terms that it remains unclear where one ends and another begins. ACs belonging to one community are particularly difficult to distinguish"[22].

Metal production of livestock breeders in Eastern Europe in some periods of the Bronze Age proved to be one of the most advanced in the entire Northern Eurasia. A diverse assortment of products from arsenic and antimony bronzes (ear axes, adzes, chisels, knives, jewelry, etc.) spread first in the Caucasus, and then in the steppes already in the 4th millennium BC. Naturally, the leading role then belonged to the Caucasian center[23]. Consequently, the armament system developed significantly – it had a number of peculiar features compared to the similar systems of agricultural Bronze Age of Europe, in which the melee weapon intended for foot-soldiers resolutely prevailed. A completely different armament system developed in the south of Eastern Europe and in the Kazakhstan steppes. The main role belonged not to swordsmen and spearmen but to archers and horses. The archers acted as part of mobile connection since they could conduct remote combat in high-speed mode. Their main tactical methods were a sudden attack and an equally rapid retreat in case of failure. In its final form, this system took shape at the beginning of the Iron Age[24].

[19] V. S. Bochkarev, "On some characteristic features of the bronze age of eastern Europe". Cultures of the steppe Eurasia and their interaction with ancient civilizations. Materials of the international scientific conference dedicated to the 110th anniversary of the birth of the outstanding Russian archaeologist Mikhail P. Gryaznov. St. Petersburg. Vol: 2 (2012): 13-24; E. E. Kuzmina, Where did the indo-arians come from? The material culture of the tribes of the andronovo community and the origin of the indo-iranians (Moscow: Rssian institute of cultural studies, ras and mk rf, 1994); E. E. Kuzmina, The origin of the indo-iranians (Leiden, Boston, 2007) y E. E. Kuzmina, Prehistory of the great silk road: a dialogue of cultures (Europe – Asia). G. M. Bongard-Levin (Ed). (Moscow: Comkniga. 2010)

[20] V. S. Bochkarev, "On some characteristic features of the bronze age of eastern Europe". Cultures of the steppe Eurasia and their interaction with ancient civilizations. Materials of the international scientific conference dedicated to the 110th anniversary of the birth of the outstanding Russian archaeologist Mikhail P. Gryaznov. St. Petersburg. Vol: 2 (2012): 13-24

[21] E. N. Chernykh, Steppe belt of eurasia: phenomenon of nomadic cultures (Moscow: handwritten monuments of ancient rus', 2009)

[22] V. S. Bochkarev, "On some characteristic features of the bronze age…

[23] V. S. Bochkarev, "On some characteristic features of the bronze age…

[24] V.S. Bochkarev, "On some characteristic features of the bronze age…

Prof. Bochkarev notes the high level of development of steppe societies of the Bronze Age and characterizes them as follows: "They were complex social organisms well-structured both vertically and horizontally. Judging by a whole series of data, their population differentiated in age, social and professional relations. In these societies tribal nobility was singled out, which, as a rule, was heavily militarized. At that time, there was a certain system of territorial management.

The process of craft specialization that had begun in the previous era continued; the most intensive was metal production and weapons business. These societies had well-established ties with neighboring and remote territories. The need to import and export metal combined them into large associations.

However, despite all these achievements, none of them ever went beyond primitive. Throughout the Bronze Age, most of those societies remained the so-called tribal (segmented). Only cartwheel cultures (Sintashta, Potapovka, Petrovka, Pokrovka and Alakul) advanced somewhat further – researchers believe these societies developed chiefdoms"[25].

Wheeled vehicles and the pragmatic idea of using mobile homes are a crucial innovation and a practical necessity for the development of these mobile livestock societies. The mobile nature of animal husbandry and the need to manufacture vehicles inevitably required the development of skills in the production of the most modern bronze implements which not only provided the production process itself but also guaranteed the necessary defense (or attack).

Megalithic and pictorial traditions[26] were of key importance in the system – the internal communication of these production teams became decisive in their self-identification. This is the most volatile and complex innovation and its formation probably had several initial options and took shape in a stable tradition (or in several artistic traditions).

The role of communication systems in the formation and development of humankind cannot be overestimated, even if one rejects the extremes of the diffusionist approach. The starting point for further conclusions is the recognition of the high mobility of man and society throughout most of its history, which was aphorized in the formulation of Homo mobilis[27].

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[25] V. S. Bochkarev, “On some characteristic features of the bronze age of eastern Europe”. Cultures of the steppe Eurasia and their interaction with ancient civilizations. Materials of the international scientific conference dedicated to the 110th anniversary of the birth of the outstanding Russian archaeologist Mikhail P. Gryaznov. St. Petersburg. Vol: 2 (2012): 13-24

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In general, the Bronze Age is without any reservations one of the most striking turning points in the history of Northern Eurasia and of mankind as a whole. This time is characterized by a system of interconnected innovations - technological, economic, social and ideological. The mineral wealth of the Ural-Kazakhstan and Altai regions naturally identified them as main centers for ore extraction and copper smelting, incorporating the Eurasian-wide cultural ties and migrations from China to the Balkans into the widest network of cultural ties and migrations. An essential condition for the emergence and maintenance of such communication was the development of land transport facilities[28]. In fact, during the Bronze Age, the World System was gradually formed; this process now acquired a planetary scale. For the time being, only the core of this global Eurasian-African system is emerging[29].

Conclusions

The figurative, statuary and megalithic traditions of the Early Bronze (as well as the later societies of the Asian part of the Eurasian steppes) and the development of these and other traditions in space and time refer to visual communications[30]. These traditions are an important means of internal and external activity of local societies, which are fixed here by archaeological methods in the form of allocated AC and CHC. They became a reliable indicator of the self-identification of these societies, and their study and analysis make it possible to clarify many controversial issues of ethnocultural history[31].

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[31] V.A. Novozhenov, "The great steppe: man in the system of ancient communications". Epimakhov A. V. (Ed). The sacrament of the ethnic history of the ancient nomads of the steppe Eurasia, (2014): 17-267; V. A. Novozhenov, Origin of indo-europeans – arguments and myths. In: article and discussion on the genofond.rf. Retrieved from: http: //xn--c1acc6aafa1c.xn--p1ai/? Page_id = 3668. Date of circulation: 03.10. 2015 y V. A. Novozhenov, "Archaeological markers of identity". Ethnic interactions in the southern urals: materials vi vseros. Sci. Conf. V.I. Bogdanovsky; A.D. Tairov and others; (eds). (2015): 40 - 45.

It is quite obvious that many inventions radically changed the daily life of ancient communities and sometimes determined the historical content of entire epochs. They became the basis of communication channels for these societies and helped create the oldest masterpieces of world architecture and art, helped form the ethnic identification of the society and regulate the social and moral attitudes of the ancient communities. Especially important was the communication in the steppe mobile societies, where the way of life did not allow the conduct of centuries-old records or chronicles, where the main channel for transmitting information was verbal or sign-shaped and maybe even musical, and where there were no state or other institutions of bureaucratic influence on society.

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