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The Northern Hunters, Fishers and Gatherers and their Southern Neighbours in Eurasia in the Early Metal Age

Introduction and Background

As is known, the hunting, fishing and gathering (HFG) way of life is the most ancient on the Earth. Productive economies based on farming and stockbreeding do not appear before the 9th–7th mill. BC in Anatolia, Mesopotamia and the Levant. Until the 6th–5th mill. BC, the cultures of these regions of Asia Minor and the Tigris-Euphrates river system were connected with the so called Proto-Metal Age. This period is characterized by very rare and primitive metal artefacts (beads and small plates hammered from native copper) found at some of the large settlements (Çayonü-tepesi, Ashikli-höyük, Çatal-höyük among others). In fact metallurgy, i.e. smelting copper from copper containing minerals, was unknown in these regions in the Proto-Metal Age.

The metallurgical revolution associated with the broad development of the copper-bearing mineral deposits took place in the 5th mill. BC in the regions connected with the basin of the Middle and Lower Danube – in the mining regions of the Northern Balkan and the Carpathian basin. At this point in time we may speak of the origin of a real complex productive economy, entailing not only food production, but also copper metallurgy. It is to this time that we set the beginning of the Early Metal Age (EMA) and its first chronological period – the Copper Age.

Important cultural technological changes in the Eurasian cultures of the 5th mill. BC characterize another very important development, the forming of mobile stock-breeding cultures at the western flank of the great Eurasian Steppe Belt (Figure 1). By “mobile stock-breeders” we mean those nomadic and semi-nomadic cultures for which the breeding of domesticated animals was the most important basis of subsistence. In the life of these peoples, farming was either of no significance or its role was very limited. In the 5th mill. BC the first signs (though not yet very extensive) of the domestication of horses and primordial cavalry appeared among the steppe peoples of nomadic and semi-nomadic stock-breeders in the Northern Black Sea area. Cooperation with these steppe stock-breeders played a major role in the destinies of the hunter-fisher-gatherer cultures.

The Eurasian Steppe Belt Cultures and their Geoecological Territory

The Eurasian Steppe Belt (ESB) was the domain of nomadic and semi-nomadic cultures of this continent for no less than six thousand years, which is why we discuss here the detailed characteristics of this geoecological phenomenon.

On a large-scale map the ESB appears to be boundless both in its gigantic extent and spatial coverage. From the west to the east, from the Lower and even Middle Danubian basin up to Manchuria and the Yellow Sea – without any noticeable breaks – its extent exceeds 8 000 kilometres. The territories constituting the central area for the mobile stock-breeding groups would have been no less than 8 million square kilometres. However, it seems equally certain that the stock breeders also covered forest-steppe regions to the north, which were biologically much more comfortable for the animals. In addition, all these populations wandered everywhere, not only in semi-desert environments, but also in unfriendly desert regions from the Transcaspian Karakum and Kizylkum deserts up to the Gobi Desert of Central Asia. Stock-breeders from the steppe communities could be met in the southern outskirts of mountainous taiga regions (e.g. in the Sayan-Altai and others). This is why the notion of the ESB should be understood as conditional: in reality this “belt” included in its orbit essentially more extensive areas.

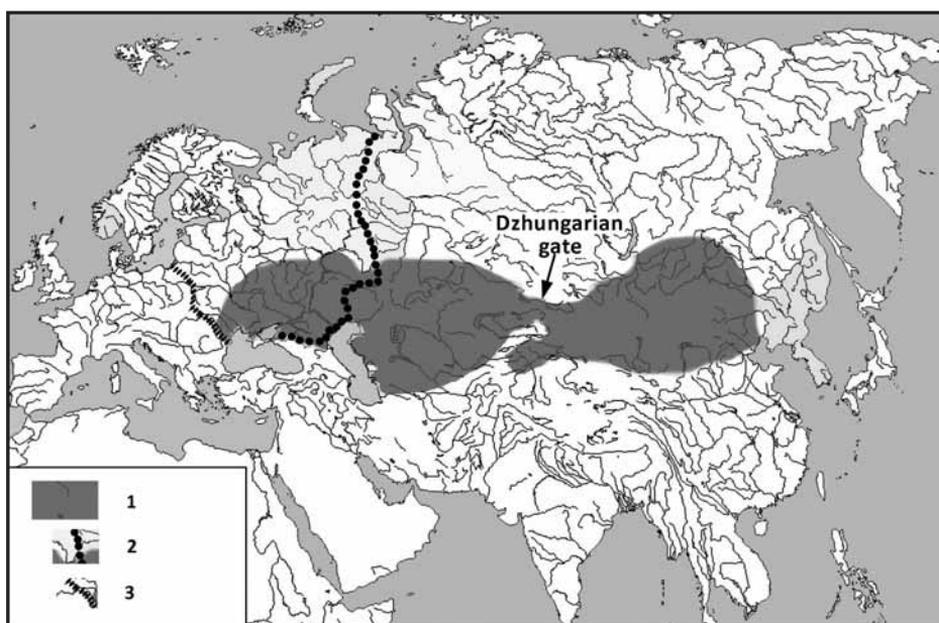


Figure 1. A sketch map of the Eurasian Steppe Belt (ESB). 1 – the area of the ESB; 2 – the “official” border between Europe and Asia; 3 – the proposed real border between Europe and Asia on the basis of geoecological indicators.

The northern edge of the ESB passing at the border of the forest-steppe and forest zones was vague and not quite distinct. This had an effect not only on the geocological details of the phenomenon, but also on the territorial ratio of the northern cultures and their southern neighbours – communities of mobile stock-breeders.

From a geocological point of view, the southern border of the ESB looks quite different. Beyond the border were the spaces of gigantic domain of the Eurasian cultures that practised settled farming. A distinct line between the domains is marked by the extensively spreading and prominent ranges of the Alpine-Himalayas anticline system. Only where the Yellow River forces through the ranges of the Alpine-Himalayas system, and the ridges sharply turn to the south, does the character of the border between the ESB and the North China Plain sharply change. In essence, here the natural barriers between these two domains become there either barely noticeable or disappear.

Let us consider some basic details of the structure of the ESB. Two nearly equal territorial parts are clearly distinguished within it, with the famous Dzhungarian gate dividing the western and the eastern parts. The Dzhungarian gate served as a permanent channel for numerous groups of ESB stock-breeders moving from east to west and *vice versa*.

The ESB structure permits us to deal with the problem of the real border between Asia and Europe. For our subject the meaning of this problem increases quite significantly in connection with the question of real borders between the worlds of the settled farming peoples and steppe stock-breeders respectively. The generally accepted, “officially recognized”, border between two continents is known to date back to the views of ancient geographers of the 1st mill. BC. While there was no particular disagreement over the northern part of this intercontinental division, i.e. the Urals, the picture is rather unclear regarding the steppe. Should the line be drawn along the valley of the Ural or the Emba rivers? Does the so-called and extremely ambiguous Kuma-Manych geological depression between the Caspian and Azov seas solve the question? Or should this line be superimposed with the Greater Caucasus Mountain Range? In reality, the true border between Europe and Asia should be drawn along a line from the western flank of the ESB – i.e. from the mouth of the Danube and the Dniester valley – and around the eastern arc of the Carpathian ranges up to the Eastern Baltic. West of this lay the European subcontinent where the settled farming cultures predominated completely from the beginning of the Neolithic.

Introducing the Hunter-Fisher-Gatherers

One can speak of definite and reasonably stable borders between two worlds – the forest Hunter-Fisher-Gatherers (HFG) and the stock-breeders in the ESB – beginning from the 3rd mill. BC. From this period onwards, communities of mobile stock-breeders dominated in the steppe and forest-steppe areas between

Northern Black Sea area and the Urals. Pastoral communities left the signs of some kurgan cultures in the northern zone of the gigantic Circumpontic Metallurgical Province (CMP). As is known, the southern zone of the province covered extensive territories around the Black Sea – from the Caucasus, Syria-Palestine and Asia Minor up to the Carpatho-Balkan region. Together with this the most notable aspect of the CMP system was probably the appearance of stock-breeders in the southern part of the forest zone, in the Oka and Upper Volga basin. They are represented by numerous non-kurgan cemeteries of the so-called *Fatyanovo-Balanovo* complex. Comparatively rare settlements with ceramics of the *Fatyanovo-Balanovo* type were found only in the eastern part of this entity. The prominent metal-working forms of these stock-breeders corresponded to the productive standards of the CMP.

Settlements of the cultures connected with the HFG models were distinctly different in character and appearance in comparison with their southern neighbours and were mainly dispersed further to the North of the *Fatyanovo-Balanovo* area – from the Eastern Urals to the Fennoscandia. But in the basin of the Upper Volga and Oka there was variegated pattern of the sites of the *Fatyanovo-Balanovo* type and numerous settlements of the forest model of environmental adaptation. The latter was especially typical of the settlements of the *Volosovo* culture. To the east of the Urals the settlements of the *Surtandy* culture are known; and to the west, in the basin of Kama, the toneless settlements of the *Garino-Bor* culture were spread.

It is very important to note that the populations of the forest cultures of the HFG model knew of metallurgical technology and copper-working. But in comparison with the southern CMP standards, both the technology of the metallurgy and the morphology of the metal products were characterized by evident primitivism. Over than 650 copper artefacts have been found at the settlements of several cultures of the forest zone from Karelia to the Urals (in an area of over 1.2 million sq. km). However, only a third of these artefacts represent tools, weapons or ornaments. On the whole this artefact collection is characterized by expressionless forms and simple technology of copper-working. Other artefacts are the small copper pieces of nondescript aspect.

Two zones of metal-bearing cultures are of greatest interest in this connection: Karelia near Lake Onega and the Kama basin in the Western Urals area. In Karelia two cultures – of so-called *Rhomb-Pit (rombo-yamochnaya) Pottery* (earliest) and *Asbestos Pottery* (latest) – were localized in the area of copper deposits with the widespread local sites of native copper. Copper-bearing sandstone deposits were distributed very widely in the western Urals, and the *Garino-Bor*, *Novo-Iljinskaya* and *Yurtik* (Vyatka basin) cultures undoubtedly worked these ores. The *Volosovo* culture spread through the ore-less Volga-Oka basin; these tribes used copper imported from the western Urals.

The assertion of the principal synchronism of the CMP and “forest” metalworking production is based on quite a significant series of about 260 calibrated radiocarbon dates connected with the materials from the settlements of the forest communities. The chronological range of all these cultures at the 68%

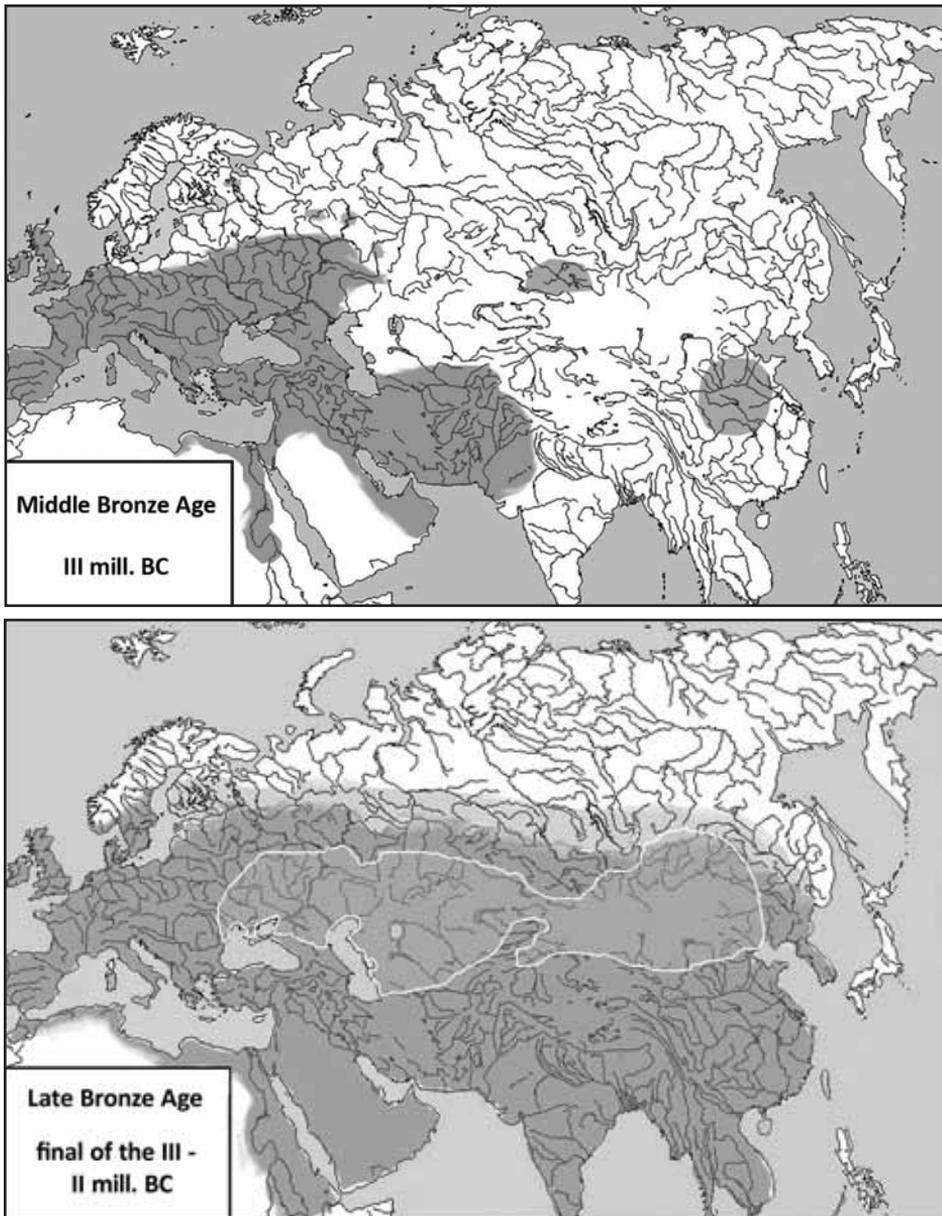


Figure 2. The areas of the metal-bearing cultures of the Middle and Late Bronze Ages. The ESB area is marked with a contour on the bottom map.

probability level presents a long interval from 4000 to 1900 BC (and sometimes up to 1500 BC!). Hence, the radiocarbon chronology suggests the independent discovery and development of mining and metallurgical production by the forest peoples in the 4th mill. BC. But at the same time it is a surprising fact that the forest peoples had no urge toward technical innovations, such as the production standards of the southern stock-breeding cultures included in the system of the Circumpontic province.

The “Core” of Metal-Bearing High Technology

Perhaps the most important and cardinal changes in the ethno-cultural scene in Eurasia began at the turn of the 3rd and 2nd mill. BC with the coming of the Late Bronze Age (according the general Eurasian relative chronology of EMA). This is when the so called “core” of metal-bearing high technology cultures emerged in Eurasia – or to be more precise – in the Old World. The forming of the “core” was conditioned by the so called “Great Spatial Leap”. During a comparatively short period of only three to four hundred years, the territory of the metal-bearing cultures of Eurasia and the northernmost part of the African continent adjoining the Mediterranean Sea spasmodically increased fourfold: from 10–11 to 40–43 million square kilometres (Figure 2). Simultaneously, the unevenness of the historical technological development of the Old World peoples becomes evident abruptly and contrastingly. From now on, the northern peoples of the HFG model appear to be more and more outdated.

But this still not fully understood “Great Spatial Leap” led to perhaps an even more mysterious phenomenon in the dynamics of historical development of Eurasia – the “Great Spatial Stagnation”. To a great extent the given period was a key one in the history of many Eurasian nations: this is when the structure of the Eurasian or the Old World was formed and its basic features remained the same in their basic aspects until the time of the Geographical Discoveries (or the Great European Colonization).

The root of this riddle perhaps lies in the fact that the “Great Spatial Stagnation” led to a situation when all crucial historical technological and social political phenomena and shifts took place only within the territorial limits of the “core”. The spatial area of the “core”, however, remained in fact permanent for the next three thousand years. Within the “core” cultures metallurgy and firearms were discovered. In these spaces a motley kaleidoscope of various civilizations, city-states and empires replaced each other. Even the most extensive overland empire of the successors of Genghis Khan did not cross the externally invisible, but constantly unshakeable borders of the “core” (Figure 3). Only the extraordinary powerful the Great European colonial expansion of the 17th–18th centuries AD could crush all its basic barriers.

After the Collapse of the Circumpontic Metallurgical Province

The canvas of the communities and domains of the three basic environmental models in Eurasia had taken shape (Figure 4) by the turn of the 3rd and 2nd mill. BC. The most important issue for the forest peoples – the boundaries of territories of full domination for their powerful nomadic and semi-nomadic ESB stock-breeders – was completely settled. This zone stretched from the Black Sea to the Yellow Sea over a distance of 8,000 kilometres. The forest peoples of the dominant Hunter-Fisher-Gatherer subsistence model were outside the “core” in

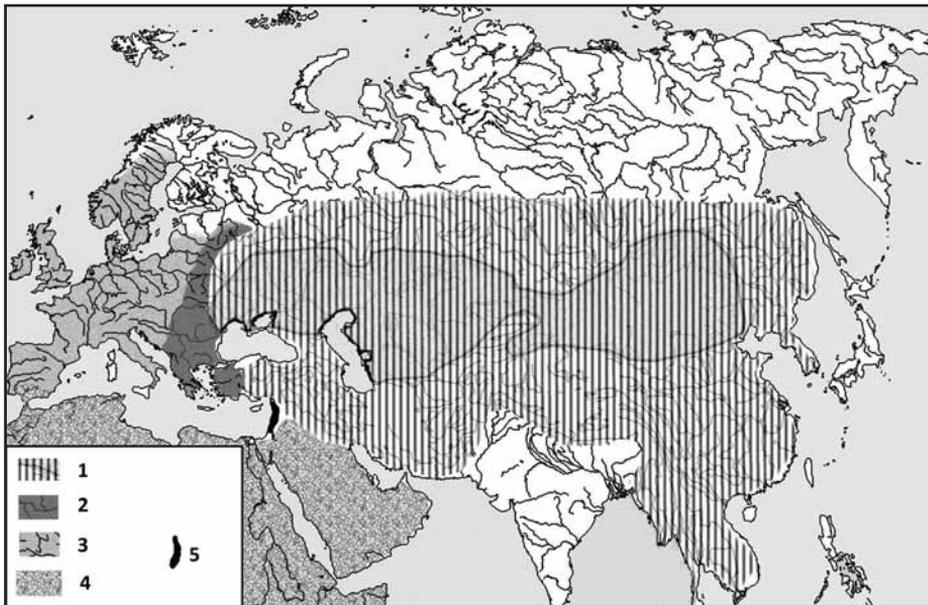


Figure 3. The Great Mongol Empire and the Eurasian world. 1 – the area of the Great Mongol Empire (the ESB area is marked with a contour); 2 – the Eastern Orthodox societies; 3 – the Western Catholic societies; 4 – Muslim societies; 5 – the Holy Land or the microscopic polygon of very long confrontation between Muslim and Catholic states.

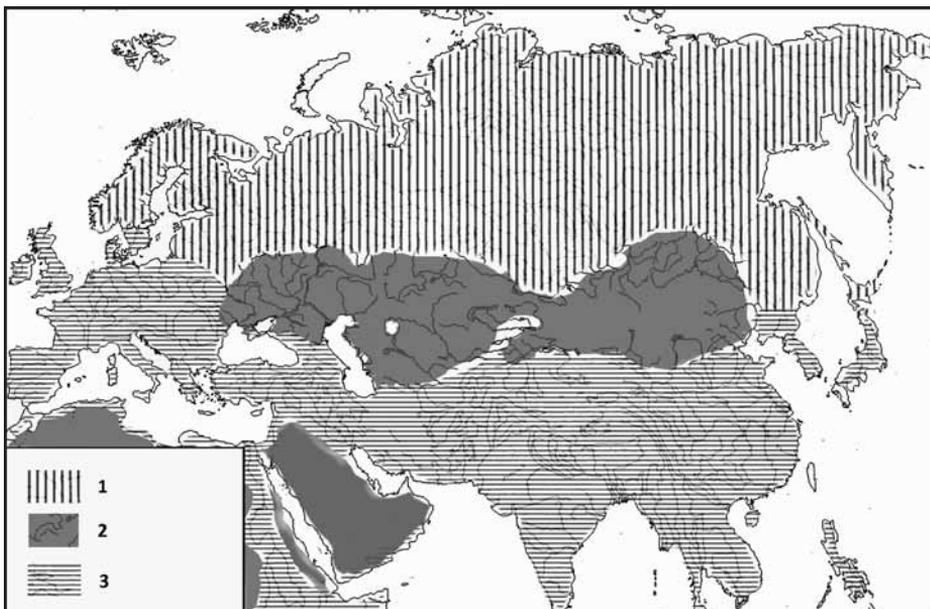


Figure 4. Three main models of the subsistence and environmental bases of society in Eurasia. Some peripheral models were not marked on this map (for instance, nomadic reindeer-breeding in the tundra and the forest-tundra regions, or the upland-specific mixed forms of farming and mobile stock-breeding in Tibet etc.) 1 – the northern hunter-fisher-gatherer communities; 2 – the nomadic and semi-nomadic stock-breeders; 3 – settled farming communities.

general. Only the cultures of the outlying southern areas sometimes happened to be included in the zones of influence of the steppe communities. The archaeological material and also written documents (though the last ones dates back to the later periods) testify to comparatively modest interrelations between the steppe communities and their northern neighbours. But the interests and intentions of the mobile stock-breeders were absolutely different at the southern borders, in the zone of the settled farming peoples. Not only a great deal of archaeological data, but also written sources confirm this fact. To my mind, however, the most striking material confirmation of this long-term cruel and changeable confrontation is surely the Great Chinese Wall – or more precisely a complex interlacing of different walls of different times and styles. It even may look like both of these two fighting worlds spent the lion's share of their social energy on this conflict. In any case, the conflict was, if not the main, at least one of the main reasons for the three thousand years' "great spatial stagnation". Besides, it is absolutely clear that great efforts were also invested in "intraspecific" conflicts between different pastoral tribal groups.

The West Asian Metallurgical Province

The forming of two gigantic metallurgical provinces (MP) in the territory of the ESB was of utmost importance for the problematic considered here. The main archaeological cultures and communities of the first, the West Asian MP – WAsMP (or Eurasian – in my former papers) – were entirely localized in the western part of the ESB, also penetrating into the southern areas of the forest further to the west and east of the Urals. The second province, the Steppe East Asian MP (EAsMP), completely covered the eastern part of the ESB, also extending into the adjoining northern forest zones of Siberia and the Amur basin.

One of the most important events of this critical period was the disintegration of the Circumpontic metallurgical province, leading to the emergence of new formations of similar kind on its "ruins". The CMP was basically a kind of "primogenitor" of the West-Eurasian model of metallurgical production. The Late Bronze Age was marked by the origin of another model of this production – the East-Eurasian one.

After the disintegration of the CMP its northeast (Eastern European) zone served as the base for the formation of a huge West-Asian MP. This entity of related productive centres beyond Eastern Europe covered huge areas of the steppe and forest zones of Northwest Asia, and also the majority of the regions of Central Asia up to the Kara-Kum desert, the foothills of the Pamiro-Tianshan range and even touched the Xinjiang region. Its maximum territorial extent was 6–7 million sq. km. Compared with other provinces, the industrial centres of the Eurasian province probably preserved to the greatest degree the basic morphological-technological standards of the disintegrated CMP, although these standards underwent essential modifications during their development.

Within the limits of the ESB domain, connected with borders of the West-Asian MP, the Bronze Age pastoralists continued to develop their strategies of subsistence and way of life. Thus, from the transition of the 3rd and 2nd mill. BC, a permanent type of settlement began resolutely to supersede the nomadic and semi-nomadic ways of life. In spite of that, the mobile character of stockbreeding still remained, as demonstrated by specialized archaeozoological studies. At any rate, within this context archaeologists have found within this context the remains of several thousand so-called large and small settlements left by populations of the stockbreeders in these most extensive area; farming was still outside the framework of interests of the inhabitants of these settlements. The necropolises of the cultures of the ESB are no less numerous. Kurgan cemeteries, however began gradually and step by step to give way to cemeteries of non-kurgan funeral rituals.

By the end of the 2nd millennium BC the former vital core activities, habitual for the earlier forms of stockbreeding cultures prevailed again: the role of nomadic and semi-nomadic ways of life became stronger. The latter, as is known, began to dominate in the Scythian-Sarmatian world which completely replaced the Late Bronze Age communities at the beginning of the 1st millennium BC. The Scythian-Sarmatian world then renewed the tradition of necropolises with huge “royal” kurgans filled with valuable artefacts, which had been absolutely forgotten in the Late Bronze Age.

The approach of the Late Bronze Age was marked by the simultaneous discovery of the West-Asian MP and the beginning of exploitation of a huge number of copper and also tin ore mines scattered above of all throughout in the Asian part of the province (from the Ural Mountains through Kazakhstan up to the Western Altai). The wide production of tin bronzes also began. From now on the population of the cultures in the WAs MP zone completely met their own need for metal. The ties with the Caucasian centres of metallurgy, which had previously played such a significant – and occasionally even decisive – role as a source for metal during the previous periods, dominated by the Circumpontic Metallurgical Province standards, now ceased.

The activity of the West Asian Metallurgical Province (WAsMP) productive centres lasted for nearly a thousand years, and we can distinguish at least three main stages. Each of them is characterized by notable changes in the general picture of the WAsMP archaeological cultures and communities and also by a significant redirecting of relationships with the northern neighbours of the Eurasian forest zone.

The first stage was connected with the formation of the WAsMP and dates back to the end of the 3rd mill. BC and the first quarter of the 2nd mill. BC. Two encounters and rather active streams of migration streams played the most important role in the formation process of this gigantic province. The bearers of the so-called *Abashevo-Sintashta-Petrovka* archaeological community made the first and most massive expansion eastward. The Sources of this merging lay in the block of communities of earlier times of the steppe and the forest steppe

cultures of the collapsed Circumpontic system. The *Abashevo* culture settlements and necropolises occupied vast territories further to the west of the Urals. The sites of the *Sintashta* culture were densely located in the steppe and forest steppe behind the eastern area of the Urals. The sites of the *Petrovka* culture were spread out in the same area, but further to the East.

The swift movement encountering the west was connected with extraordinary manifestations of the famous *Seima-Turbino* transcultural phenomenon (Figure 5). This absolutely sudden Eurasian archaeological phenomenon was no doubt highly unusual. It is characterized by a most striking material, an excellent collection of bronze products – by the standards of the western collapsed Circumpontic metallurgy. The collections of metal artefacts include mainly weapons, and they are connected with sites that are highly atypical for these regions. Earlier various archaeologists usually regarded them as special necropolises. In most cases they were pseudo-cemeteries and no signs of human burials were found. It is reasonable to suggest that they were specific memorials with objects serving as a focus for the memory of someone, something or some important event. The roots of the makers and bearers of the *Seima-Turbino* bronze materials were certainly of eastern origin and were not connected with the steppe Circumpontic heritage. Also, their sources of metal were undoubtedly deeper in the emerging Steppe-East-Asian metallurgical province. The paradox lies in the fact that this eastern territory has not yet been studied in detail, and we know only a little about materials of this kind. The *Seima-Turbino* memorials are spread over the southern part of the taiga region of Western Siberia and Eastern Europe, mainly further to the north from the area of the cultures of the *Abashevo-Sintashta-Petrovka* community. This western community of tribes occupied the ecologically rich and gigantic forest-steppe region and most probably forced the eastern newcomers back to the “uncomfortable” taiga zone – to the domain of forest hunters and fishers. But the appearance of the warlike and swift Central Asian migrants did not lead to any appreciable change of the forest cultures or the character of their metallurgy and metalworking.

The western wave of cultural influence completely defined the whole character of the second stage of the WAsMP (18/17 – 15/14 cent. BC). At this stage, the WAsMP achieved the maximum of its spatial extent. The whole huge steppe on the western part of the ESB was occupied by the mobile semi-nomadic pastoral tribes of two related gigantic communities. Settlements and cemeteries of the so-called *Srubnaya* archaeological community were spread from the Urals up to the Dnieper basin. The whole eastern area up to the Altai region was filled with similar sites of the *Andronovo* community.

There are no evident traces of the Eastern influences that were noted for the first stage in the materials of these communities. There were quite noticeable changes in the character and intensity of interrelations of the steppe people with their northern forest neighbours. The whole southern zone of the taiga belt happened to be occupied by the peculiar satellite cultures of the steppe stockbreeders. Quite often, many archaeologists especially try to underline this origi-

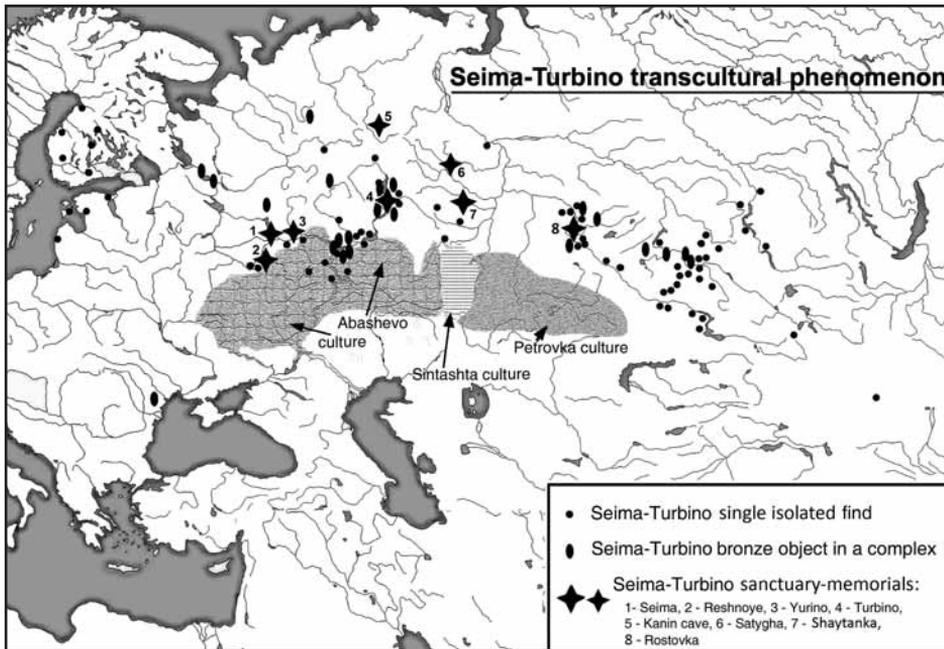


Figure 5. Two opposite major waves of migrants – the Abashevo-Sintashta community and the Seima-Turbino transcultural phenomenon (end of the 3rd and early 2nd mill. BC). Note that spearheads with typical Seima-Turbino features have been found in Northern China, not too far from even the Yellow Sea, for instance, in Shanxi Province (Mei 2009: 11, fig. 3).

nal dependency by using an additional adjective for them such as the *Sruboid* or *Andronoid* cultures. To the north of the *Srubnaya* community most often such cultures are noted as the *Pozdnyakovskaya* and the *Prikazanskaya* cultures. The forest neighbours of the *Andronovo* community were the cultures of the *Cherkaskul'*, *Suzgun*, *Elovka* and other types.

The third stage of the WAsMP (15/14–12/11 cent. BC) was marked by the process of gradual but at the same time quick disintegration of the province. Henceforth, the steppe cultures began to form into the so-called *Valikovaya pottery* archaeological complex. At this stage, the active influence of the far western European metallurgical province was felt especially strongly in ceramic and metal materials. Actually, the connections of the steppe stock-breeders with the forest people, which were so active in the previous stage, were weakened to a considerable degree. Gradually, but at same time quite noticeably, the steppe people move away from the tradition of a settled or semi-settled way of life, which predominated in the earlier stages.

Finally, we should consider as probably one of the most mysterious situations connected with the events of the final stage of the WAsMP the practically

general refusal of the steppe population to participate in mining and metal production. At the end of the functioning of the WAsMP, many hundreds of copper mines, which were developed in the previous stages in particularly energetic ways, were abandoned. The miners and metallurgists left all their copper mines and metal production workshops in vast territories from the Southern Urals and Kazakhstan up to Northern Tienshan and the Western Altai. Not only small, but also such large mines as Kargaly in the Southern Urals or Dzhezkazgan in Central Kazakhstan were deserted. This neglect of mining and metal production, which is very difficult to understand, continued over the next three thousand years until the appearance of the Russian industrialists in the 18th and the 19th centuries. This huge ore base was rediscovered with amazing ease thanks to the countless traces of the ancient excavations of the West-Asian MP period.

Archaeological documentation permitting a reconstruction of the essence of interrelations between the nomadic stock-breeders of this province and their northern forest neighbours also seems to be very limited. Solving the problem is complicated by the fact that it is possible to perceive the character of the culture of the forest hunters and fishers – at least of the southern half of Eastern Siberia – only by analysing the materials from the non-kurgan cemeteries (for instance *Fofonovo*, *Kitoj*, *Glazkovo* and many others in the surroundings of the vast Lake Baikal area). As a rule, the materials from the considerably rare settlements of this forest area are not as significant as the sepulchral materials. Most probably, as also in the case of *Seima-Turbino* and *Karasuk* cultures, a mobile (nomadic?) way of life prevailed for the local people. It is noteworthy that an essential place among the implements of the *Seima-Turbino* transcultural phenomenon complexes is occupied by flint arrowheads and other stone items; apparent and numerous parallels to them are found in the Neolithic and Post-Neolithic cultures of the forest belt in the southern zone of the Eastern Siberia. Hence, it is quite possible that a number of groups of forest hunters were involved in the processes of the quick movement of the *Seima-Turbino* groups to the west as far as the Baltic region (see, for instance, Lang 2007).

The Seima-Turbino Phenomenon and the East-Asian MP

The Steppe East Asian MP emerged to a sufficient extent synchronously with the Eurasian one. However, in comparison with the latter, its major features and details have been studied in an incomparably poorer manner. The following discussion mainly touches on the northwest East Asian MP zone located chiefly within the limits of the Sayan-Altai mountain area and also the surrounding areas from the wooded north up to Mongolia, down to the stony spaces of the Gobi Desert.

The early phase of its origin was interfaced with the exclusively striking transcultural Seima-Turbino phenomenon. Its other stage was characterized by the apparent continuation of the *Seima-Turbino* traditions of metallurgy and metal processing. The most important materials characteristic of this stage are

mainly present in the funerary inventory of the widely known *Karasuk* cultures. The numerous metal finds are predominantly connected with graves, although often destroyed by tillage in modern times.

There are sufficiently striking and obvious points of interrelation between the early *Seima-Turbino*, and later *Karasuk* –types of metallurgy. However in attempts to reconstruct the dynamics of development of metallurgy in the Sayan-Altai region we come across rather disappointing gaps in the materials studied and available to us. We have shown that the *Seima-Turbino* wave of aggressive populations was quite definitely aimed in a western direction. We defined that its chronological range, according to the revealed contacts of these populations with the *Abashevo-Sintashta* community, is within the limits of five centuries, from the 22nd to the 18/17th centuries BC. Although not having such a representative series of radiocarbon dates, the *Karasuk* complexes should also be set within the limits of approximately five hundreds years – from the last third of the 2nd to the first third of the 1st millennium BC. The gap of three or even four hundred years between the respective chronological ranges of the *Seima-Turbino* and the *Karasuk* cultures is at present difficult to explain. We should probably await the appearance of new materials and the more detailed study of existing ones.

Even more indicative was the quick distribution of the *Karasuk* forms mainly eastward, in the diametrically opposite direction from *Seima-Turbino* directed to the West. At present a significant number of imitations of *Karasuk* metal forms are known in territory of Ancient China. In particular, these imitations are well presented even in the “royal” complexes of the Anyang cemetery dated on the basis of written documents mainly of the 13th–11th centuries BC or according the period of the late Shang dynasty.

It was probably precisely at this time that the most active opposition of the most ancient Chinese civilizations and the steppe world began. In fact the *Karasuk* antiquities were unconditionally left by nomadic herdsmen. Settlements of this culture are practically unknown to us.

The European Metallurgical Province

The cultures of the European subcontinent drastically differed from their eastern neighbours. Here, the settled agricultural model of life had always prevailed already from the Neolithic Age. In the background of the vast, no less than eight thousand-kilometre border between the nomadic stock-breeders and forest hunters/fishers, the area of contact and interrelations of cultures between two contrasting models in Europe seems quite insignificant. The main line of such contacts is evidently found in the southern part of the Scandinavian Peninsula. And again, even compared with Scandinavia and, moreover with the eastern regions, these contacts emerged to an essentially lower degree in the eastern Baltic region – in Prussia, Lithuania, Latvia and Estonia.

The character of these interrelations presented itself much more definitely starting from the 2nd mill. BC after the formation of the European metallurgical province (EuMP). It differed from the neighbouring, West-Asian system in practically all its most important technological aspects, in the organization of metallurgical production, as well as in the morphology of the bronze implements. The production centres of the province covered approximately 3.5–3.7 million square kilometres. Approximate calculations permit us to claim that we have currently data on about 100,000–150,000 metal items. One can see in this extensive system a specific “province of metal hoards”, something that is absolutely uncharacteristic of other, similar West-Asian MP systems. All in all, around 1,200–1,300 hoards of bronze (as well as gold) items have been found here; the largest of them, *Uioara de Sus* in Transylvania, for example, contained up to six thousand items of bronze¹.

In the EuMP it is possible to note several zones of accumulation of centres (or focuses) of mining and metal production, as well as metalworking, the products displaying definite distinctive features. The central group spread throughout a territory extending from the basin of the Rhone and the Alps to the Western Carpathian Mountains (Hansen 1994; and other numerous works). The most western i.e. Atlantic group adjoined the extreme western regions of the subcontinent from Normandy to the Iberian peninsula (Coffyn, Gomez, Mohen 1981; and other numerous sources). Quite noticeable collections of hoards are also known from the islands, for example, in Ireland (Eogan 1983). However, the most numerous group of metal hoards and the one that is most diverse in character was concentrated in the Carpatho-Transylvanien area (Mozsolics 1967; 1973; Petrescu-Dîmbovița 1977; Hoards 1995; and other numerous sources). Finally, the peripheral groups: southeastern – in the Lower Danubian and Northern Balkan regions (Chernykh, 1978), and also an extreme eastern one. The metal of the last-mentioned group is already scattered beyond the European subcontinent – into the Black Sea Region steppes and the forest-steppes (Chernykh 1976).

For the topic of the present article, however the most interesting ones are probably the bronze hoards and the individual bronze finds, concentrated in numerous amounts in the south of Scandinavia (Oldeberg 1976), as well as the bronze hoards found in the south of Finland and in the East Baltic region (Meinander 1954), but already in essentially smaller amounts. These bronze materials give a possibility to see a “dividing line” between the two main models of cultures – the southern and the northern. At the same time the mostly assumed, and to a large degree conditional, dividing line does not have sufficient accuracy and definiteness.

Hence, I would like to direct the reader’s attention to one important circumstance: the archaeological materials of Fennoscandia, situated to the north of this conditional line, which most probably demonstrate weak acceptance (and prob-

1. In the immense West-Asian MP we have established the existence of only 50 hoards that contain some four hundred copper and bronze artefacts.

ably even actual rejection) of the cultural and technological innovations coming to them from the south. Actually, we notice a syndrome of self-sufficiency. Essentially, a similar syndrome is also ascribed to the areas more to the east, where the southern neighbours of the forest hunters, fishers and gatherers were the communities of mobile stock-breeders.

Interrelations Between European Farmers and Steppe Stock-Breeders

This article finally considers the problem of interrelations between settled European settled farmers and their neighbours – the steppe shepherds. Starting from the 5th mill. BC, i.e. from the time of the metallurgical revolution and beginning of the Early Metal Age it is not difficult to note specifically sequentially changing pendulous oscillatory “movements”. Apparently, the last of these quite definitely reflected a situation with the predomination of cultures pertaining to the above models in their areas of confluence, i.e., in the east of the European subcontinent and in the extreme West of the Eurasian steppe belt.

In the early stage, in the 5th–4th mill. BC, western influences prevailed. The cultures of the settled farmers advanced along the forest-steppe to the Dnieper and the steppe peoples depended on the advanced technology of metalworking of the west. At the same time, however, the pastoral communities completely preserved the main features and character of their own cultures.

In the 3rd mill. BC, distinct traces of the steppe kurgan cultures appeared far in the West – in Pannonia in the vast Danubian basin. The general appearance of the settled agricultural cultures of the Carpatho-Balkan area underwent considerable changes.

In the 2nd mill. BC, together with formation of the European MP the border between the “western” and the “eastern” cultures moved back to the basin of the Dnieper. It is quite evident that a sharp activation of the bloc of European settled agricultural cultures took place.

The 1st mill. BC, the steppe nomadic and other mobile stock-breeders of the Scythian-Savromatian bloc definitely dominated again. The impressive and rich funerary structures of their chiefs are known not only from all over the vast western half of the ESB, but also all over the lower and mid-Danubian basin.

In lapidary narration, this “pendular” character of complex processes of interrelation between the communities of the two main models of cultures with a productive economy at the western side of the ESB happening over several thousand years looks namely like this. At the same time it is impossible not to notice that in cases of domination, for example, of the Western model over the Eastern – the pastoral model, the basic appearance of the steppe communities changed to only a minor degree, i.e. again the signs of the syndrome of cultural self-sufficiency manifest themselves. It appears that the pastoral communities

preferred in any case to preserve the main and traditional values of the steppe stock-breeders. This is to a large extent probably explained by the fact that the geoecological basis of the mobile stock-breeding cultures remained practically unchanged. I think that with this observation as background, the persistence of the northern hunters, fishers and gatherers in following the fundamental basics of their original culture over many millennia becomes more understandable. It was only the coming of the modern age and the period of the Great European Colonization that managed practically completely to destroy this picture.

Summary

In this article the author seeks to present a broad picture of the cultural development of three different models of ways of life with regard to the interrelations of the northern forest hunters, fishers and gatherers with their southern neighbours, who were prevalently stock-breeders. It is natural that the limited scope of the article most require an overview, which is especially accentuated by the enumeration of the main parts of this work. It was possible to define the main parts of this research only in an “outline” form. The reader can notice that only latter part of the text is provided with references to published sources. Such references are absent from the preceding parts. The reason for such an approach is quite simple: each of the points of the huge material that we managed to touch upon here would have demanded innumerable literary references. The main approach offered by the author himself was breached only in the case of the quite spectacular, but for our topic relatively peripheral, material of the cultures of the European MP system.

Acknowledgements

The author prefers to present at very end of the article references to works, where the main statements of this article are expounded in far greater detail. Thus, the general constructions features of the structure of the Eurasian world in the Early Metal Age have been accumulated in the books of the author and his collaborators (Chernykh 1976; 1978; 2008; 2008a; 2009. Chernykh & Kuz'minykh 1989; Chernykh & Avilova & Kuz'minykh & Orlovskaya 2002; Chernykh & Avilova & Orlovskaya 2002; Chernykh & Kuz'minykh & Orlovskaya 2004). An extremely large role in these general pictures is no doubt played by new absolute chronology, based on the systematic processing of numerous series of calibrated radiocarbon data. These data have been also published in one of the books and in a number of extensive articles (Chernykh 2008; 2008a; Chernykh & Avilova & Orlovskaya 2000; Chernykh & Kuz'minykh & Orlovskaya 2004a; Chernykh & Orlovskaya 2004). With regard to any questions, the author suggests referring to these works.

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