

# The Bronze Age in the Eurasian Steppes

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## ABSTRACT

*Scholars have long been aware of the interaction and migration sweeping across the vastness of the Eurasian Steppes in the Bronze Age, but the historical significance of individual cases of interaction has not been clear. This study demonstrates the major qualitative change that took place in interactions in the Steppes immediately before the emergence of the Scytho-Siberian culture and presents a new theory of interaction to replace the monistic/pluralistic approach.*

**KEYWORDS:** Eurasian Steppes, Bronze Ages, Early Iron Age, Scytho-Siberian culture, Mongolia, Siberia, Karasuk, Tagar style, bronzeware of northern origin, east–west interaction, Silk Road, horse-riding nomadism

## Introduction

This paper analyzes the characteristics of the Eurasian Steppes, particularly the eastern part of the region, during the Bronze Age—namely from the second millennium to the beginning of the first millennium BC—to consider the significance of interaction between people in prehistoric times.

The west-to-east influences across the Eurasian Steppes in the said period, exemplified by the transmission of metallurgy and chariots have long been discussed, but some scholars have also pointed to the east-to-west influences originating in the eastern part of the Steppes. The latter correspond to the Seima-Turbino transcultural phenomenon (Chernykh and Kuz'minykh 1989), the spread of Cimmerian and Karasuk (Terenozhkin 1976; Takahama 1995; Bokovenko 1995) elements, as well as elements of Scytho-Siberian cultures (Ryaznov 1980; Takahama 1999). Potential phenomena of diffusion originating in the Eastern Steppes become extremely important when we consider the influence these currents may have exerted on other areas of Eurasia. However, the process of historical development in the Eastern Steppes is far from clear. The circumstances and processes leading to the development of this large east-to-west movement, not only in the Eurasian Steppes but throughout Eurasia, is one of the major themes of this research.

During the period addressed—the second millennium to the beginning of the first millennium BC—most regions of Eurasia were in the Bronze Age, while some regions were transitioning from the Bronze to the Iron Age. When explaining this transition,

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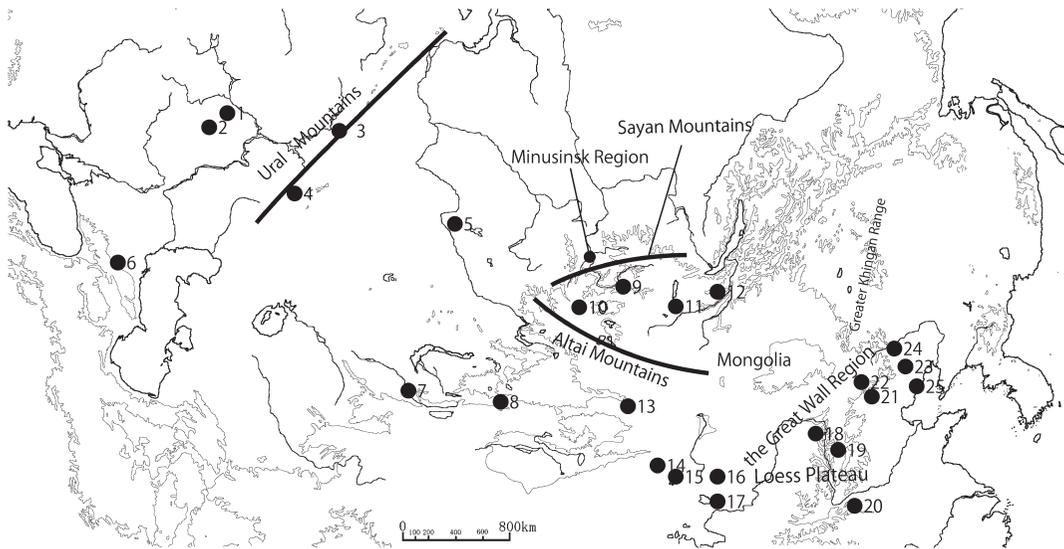


Figure 1. Important sites in and around the Eurasian Steppes mentioned in this paper  
 1: Seima, 2: Reshnoe, 3: Turbino, 4: Sintashta, 5: Rostovka, 6: Serzhen-Yurtovski, 7: Tash-Tyube, 8: Agaersheng, 9: Arzhan, 10: Ulaan-Gom, 11: Ulaan-Uushig, 12: Dzhyd, 13: Tianshanbeilu, 14: Huoshaogou, 15: Ganguya, 16: Donghuishan, 17: Shenna, 18: Zhukaigou, 19: Linzheyu, 20: Xiawangang, 21: Baifu, 22: Xibozi, 23: Nanshuangmiao, 24: the sites of Chifeng city (Dadianzi, Nanshang, Xiaoheishigou), 25: Wanggangtai

occurring within a specific time period across the whole of Eurasia, attention has turned to the Eurasian Steppes, which connects all areas of the continent by virtue of its location. Looking at research history, we find that schema explaining cultural change can be broadly divided into those that give greatest weight to more general explanations and those which emphasize specific historical characteristics. Diffusion phenomena and mass migration across large areas like those spanning Eurasia have frequently been explained in terms of the latter, and particularly in the first half of the twentieth century, have often been framed in terms of diffusion theory. From the 1960s onwards, with the rise of processual archaeology, the former option took precedence in explanatory schema, and even discussion of diffusion phenomena over large areas temporarily declined. Nowadays, however, having reviewed both these approaches, scholars are looking at various ways to combine both explanations (Kohl 2007; Frachetti 2008). In the light of these issues, the current paper focuses on the nature of, and changes in, interaction involving bronze artifacts. The connections between people, which are assumed to provide the backdrop to these interactions, changed enormously during the specific period defined as the Bronze Age. Moreover, despite distinct individual phenomena, there is an underlying potential for

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general conclusions with regard to these interactions.

### I. Previous Research and Present Research Objectives and Methodology

The primary topics addressed in earlier research can be categorized under three themes.

#### 1) The controversy around Seima-Turbino transcultural phenomenon and Early Chinese Bronzes before the mid-second millennium BC

In the second millennium BC there were, broadly speaking, two Bronze Age lineages on the Eurasian Steppes: the Bronze Age culture known as the EAMP (the Eurasian metallurgical province) and the Seima-Turbino transcultural phenomenon. The EAMP spread from the western to the eastern region of the Eurasian Steppes, whereas the Seima-Turbino phenomenon is thought to have begun in Altai and spread both east and west from there (Chernykh and Kuz'minykh 1989; Chernykh 1992) (Figure 2). Spearheads, bone shields, and other items were found in Seima-Turbino transcultural sites, and according to E. N. Chernykh and colleagues, these had martial characteristics and were thought to have been spread from Altai by small groups with metal craftsmen and fighting men (Chernykh 1992; Chernykh, Kuz'minykh, and Orlovskata 2004). Chernykh's theory lays great emphasis on the chemical composition of the bronzeware, and considers that tin bronze from the eastern steppes encroached on the area of arsenical copper in the west. On the other hand, the relationship of this chemical composition to the shapes and distribution

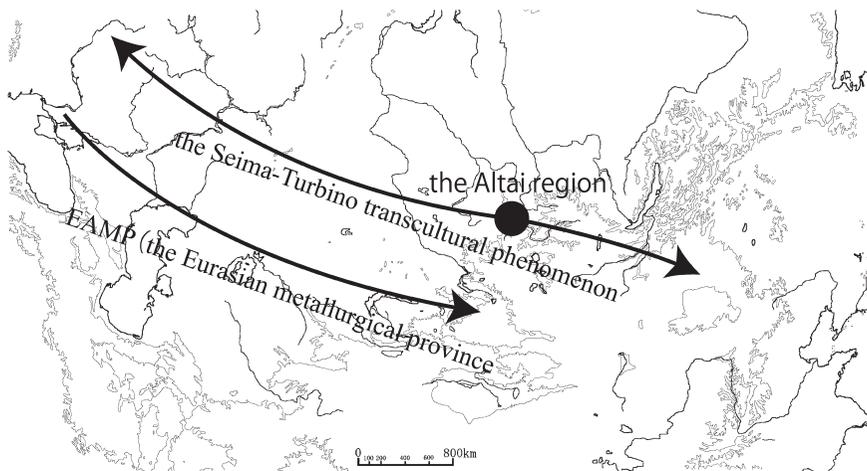


Figure 2. Bronze Age Cultures in the Eurasian Steppes in the first half of the second millennium BC, based on previous studies

of the bronzeware is not necessarily addressed. Further classification by form is considered necessary to ascertain whether or not the Seima-Turbino phenomenon originated in Altai. It is also worth pointing out that the theory of Chernykh and his colleagues does not explain how this phenomenon first developed in Altai.

The fact that there was a degree of influence from the Eurasian Steppes in Xinjiang, the Great Wall Region, and in the Central Plain in China before the mid-second millennium BC is generally acknowledged by scholars in Japan and in other countries (Masuda 1970; Takahama 2000; Mei 2003; Lin 2016); bronze artifacts of this period excavated in China are known as “Early Bronzes in China.” Although discussion continues regarding the timing and transmission route of the various elements of this bronzeware, the similarity between the artifacts in all regions mean that most studies go no further than suggesting a route, or routes, and confirming there was a relationship between the locations. In other words, although cultural elements from west have been found in Xinjiang and throughout the Great Wall Region, indicating some kind of mutual relationship, it has proved difficult to establish the specific details. One factor in this may be explained as follows. Chinese archaeology is usually based on the theory of regional types and temporal types, where a particular concept or “culture” is established within a defined regional and temporal zone (Su and Yin 1981). Although this should be determined using an entire cultural description including burial places and bronzeware, most often it depended primarily on earthenware.

A particular culture defined in this way will often have elements of other cultures intermingled with it, and these are often used to indicate relationships and interaction (Shui 2001; Han 2005). In this case, because the distribution area of bronzeware is generally larger than that of earthenware culture, bronzeware has been studied as an indicator of interaction between cultures. However, as discussion about the derivation and spread of bronzeware shapes themselves tends to be insufficient, studies do not go beyond mentioning relationships between several earthenware cultures.

## **2) Theories about the so-called Karasuk Period, latter half of the second millennium BC**

In comparison with the previous era, a much larger quantity of bronzeware dating from the latter half of the second millennium BC has been found across the entire eastern part of the Eurasian Steppes including the Great Wall Region. A large number of bronze artifacts from this period have been discovered in southern Siberia, around the Minusinsk Basin; these are thought to be products of the Karasuk Culture, and very similar bronzeware is found across the whole of Mongolia. Most important when discussing the origin and subsequent development of bronzes in the Karasuk Period is the debate around the relationship between Mongolia and the Minusinsk Basin. The relations between these two regions, revealed by similarities in the bronzeware, also has a bearing on the origins of the Karasuk

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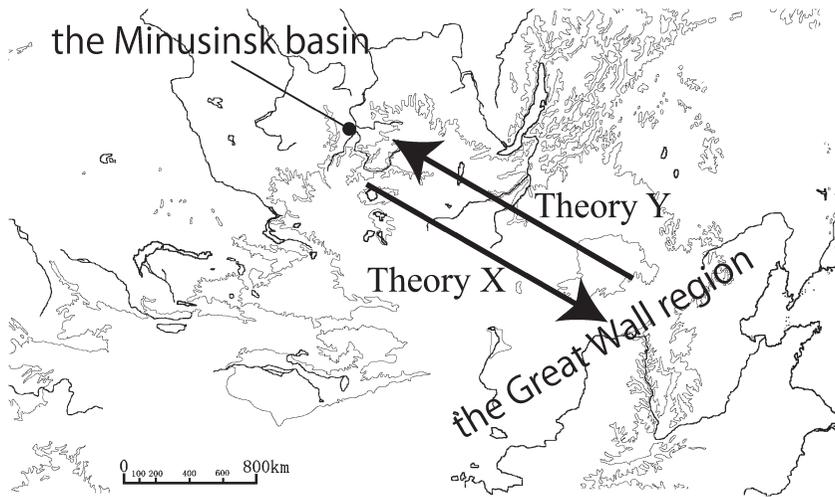


Figure 3. Theories on Karasuk-period bronzeware in the latter half of the second millennium BC

Culture, as well as an earlier debate between Karlgren (B. Karlgren 1945) and Loehr (M. Loehr 1949) about the origin of animal motifs in the Central Plain and Siberia. Two main theories have previously been propounded about the emergence of bronze artifacts in the Karasuk Period (Figure 3).

**Theory X:** Bronze artifacts of the Karasuk Period originated in southern Siberia, particularly in the Minusinsk Basin area, or alternatively originated from a culture further west (such as the Iranian Luristan bronzes) and then developed in the Minusinsk Basin and spread from there (Chlenova 1972, 1976; Maksimenkov 1975).

**Theory Y:** Karasuk-period bronze artifacts in the Minusinsk Basin emerged under the strong influence of Mongolian and Great Wall Region cultures (Novgorodova 1970; Volkov 1995; Tian and Guo 1988; Wuenyuesitu 2007).

In recent years an explanation combining the two theories was postulated (Yang, Shao, and Pan 2016), but when the research history was examined in detail it was clear that the differences between the two theories were due to the methodology used for the lineage and type classification of the bronzeware, and that the methods and basis for classification were poorly defined. What is more, although many studies have remarked on the similarities between all kinds of bronze artifacts from southern Siberia to Mongolia as far as the Great Wall Region, the artifacts as a whole have not been analyzed using consistent criteria, so even though studies could point to the presence or absence of similarity, they were unable to compare the degrees of similarity occurring in each era.

### 3) The debate around the formation of the Scytho-Siberian cultures at the beginning of the first millennium BC

It is thought that various fully-fledged horse-riding nomadic cultures (like the Scythian culture of the northern Black Sea coast, the Central Asian Saka culture, and the Tagar culture in the Minusinsk Basin) generally known as the Scytho-Siberian cultures (or early nomadic cultures) first emerged across a wide area of the Eurasian Steppes at the beginning of the first millennium BC. These similar horse-riding nomadic lifestyles and the extensive interaction they enabled, led to the formation of similar material cultures across the Eurasian Steppes. The development of nomadic horse-riding peoples had an extremely powerful impact on the history of Eurasia, not only on the future direction of the Steppes, but also on the contrasting structure of the agrarian society to the south. This is why the era of the Scytho-Siberian cultures has come to be widely acknowledged as an epoch-making fault-line in the history of the Steppes (Egami and Mizuno 1935; Fujikawa ed. 1999; Bokovenko 2011). It was also pointed out some time ago that the eastern steppes of Mongolia and southern Siberia, for example the Arzhan Tomb 1 and the Upper Xiajiadian culture, played an extremely important role in the development and spread of Scytho-Siberian cultures (Hayashi 2007).

Scytho-Siberian cultures, however, are not the first examples of similar material cultures identified across a broad area of the Eurasian Steppes. Studies have pointed out that daggers, knives, metal cauldrons, helmets and other items were widely distributed across the Steppes even in the Karasuk Period, immediately prior to the Scytho-Siberian cultures (Terenozhkin 1976; Chlenova 1981; Takahama 1995). If we make a special point of emphasizing the similarities between Scytho-Siberian cultures, then these must be compared with the immediately preceding Karasuk Period using exactly the same criteria, and any increase or changes in similarity should be highlighted (Figure 4). One factor

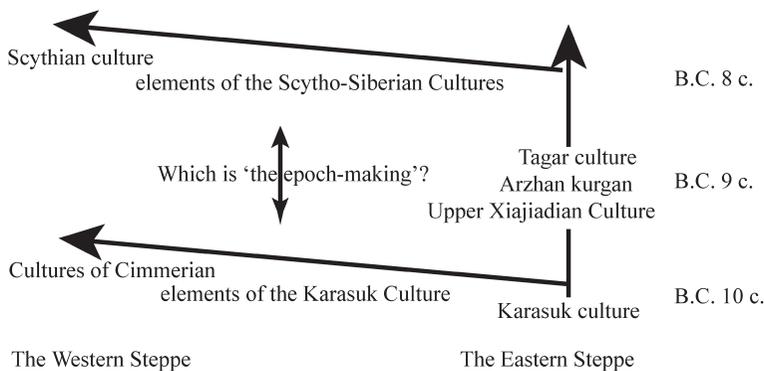


Figure 4. Problems around the temporal divisions at the beginning of the first millennium BC

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behind the absence of such analysis is the fact that because the Scytho-Siberian cultures were seen as a definitively chronological division, there has been a dearth of research spanning the entire Steppes, linking and comparing the phases before and after these cultures.

As illustrated by (1)–(3) above, research to date has pointed to various influences originating in the eastern region of the Eurasian Steppes. Nevertheless, regardless of that, most of the studies attempted to explain each individual phenomenon separately, giving a great deal of weight to explanations of the place of origin and direction of each type of influence emerging from material cultures. The principal objective of the current paper is to shed light on the context in which influences, particularly those originating from the eastern part of the Steppes, emerged at each stage of the period in question, and how these influences impacted change and development in the Bronze and Early Iron ages. The best way to achieve this is to get a picture of the various interactions occurring in the target region and the area as a whole, applying the same set of consistent criteria. Resources appropriate for this task are those bronze artifacts that display diachronic and spatial continuity.

Moreover, until now, similarities between individual objects have been used as indicators of intercultural interaction, but these provide an inadequate basis for objective classification. It is also essential to look not only at the presence or absence of commonality, but at its degree and nature. That is why the analysis in this study endeavors, as far as possible, to present clear reasoning for classification based on types as sets of attributes, and styles as sets of types. What is more, the set of types making up one style can be divided according to function, for example knives, daggers, battle axes, and the like, and also differentiated based on their social and cultural aspects, for example objects used for special ceremonial purposes, those put to daily use, and so on. The current study focuses on how the distinction between these two aspects differs for each style, and uses this as a basis to try and discern the pattern of interaction. The principal procedures undertaken in this paper are as follows:

- i: Using bronzeware as a basis to understand the essence of different cultural spheres (and their boundaries) as well as the relationships within and between them (mainly section II to V).
- ii: Clarifying the nature of the cultural spheres and boundaries defined in (i) and the background to their internal and external interaction and changes therein (mainly in section VI).
- iii: Typification of the nature (systems) of Bronze Age interactions (primarily section VII)

## II. The Seima-Turbino Transcultural Phenomenon

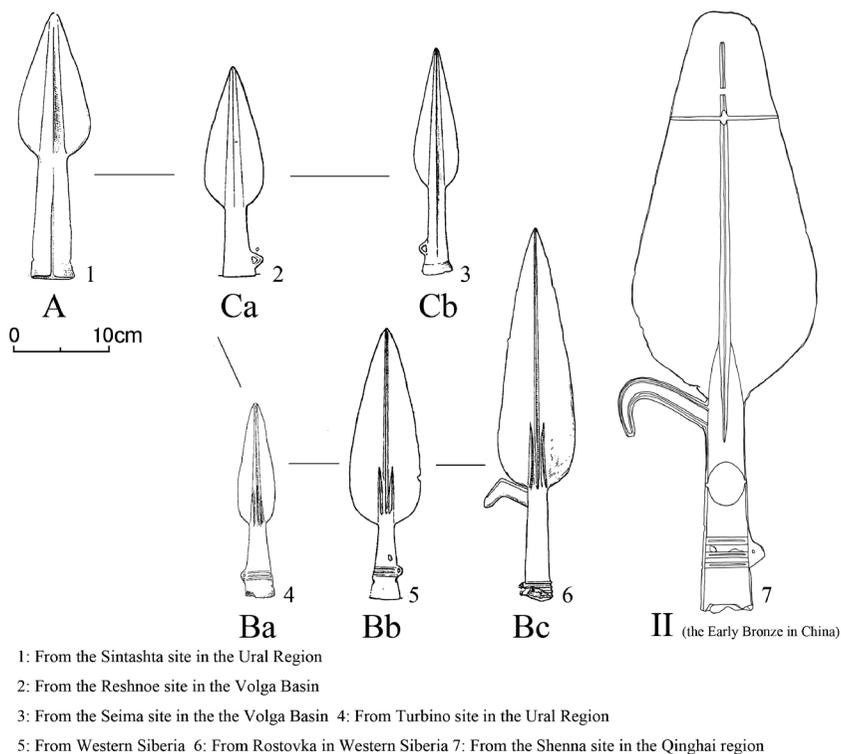
In the first half of the second millennium BC there were, broadly speaking, two Bronze Age cultural lineages on the Eurasian steppes: the EAMP, and the Seima-Turbino transcultural phenomenon. The EAMP spread from west to east in the Eurasian Steppes, while the Seima-Turbino phenomenon is thought to have originated in Altai (Chernykh and Kuz'minykh 1989). This section addresses this "Altai Origin Model" of the Seima-Turbino transcultural phenomenon by re-examining the type classification, chemical composition, and distribution of spearheads and axes with sockets. The results show that the type and chemical composition of artifacts of the Seima-Turbino transcultural phenomenon do not indicate a geographic cline centered in Altai, and reveal a slightly different distribution of types to the east and west of the Ural Mountains.

The oldest spearhead to be regarded as Seima-Turbino is a forged item of Type A (Figure 5-1). From this developed Type B spearheads, cast with three ridges down the back, and Type C, similarly cast with a thick single spine. The shape of Type B changed over time, gradually leading to the larger and slimmer Type Ba (Figure 5-4), Type Bb (Figure 5-5) and Type Bc (Figure 5-6), found from the Volga Basin as far as the Ob' Basin. Various types of Type C (Ca Figure 5-2; Cb Figure 5-3) spearheads developed through a separate line of descent from Type B, but also became larger and slimmer.

As a result of comparing the chemical composition of the different types we find that there was a change in use from arsenical copper to tin bronze, and also an east-west difference in chemical composition on either side of the Ural Mountains exactly as Chernykh stated. On the other hand, we did not detect a geographical cline in the distribution of tin bronze westwards from Altai (the upper river basins of the Irtysh and Ob' rivers). Tin content in Types C and B gradually increased relative to Type A, and all three of these types were consistently found in the vicinity of the Urals (the Volga, Oka and Kama river basins, and eastern part of the Urals). Consequently, there is a high probability that the Seima-Turbino transcultural phenomenon originated in this region.

Rostovka (Figure 1-5) is one of the few burial sites that sheds light on the context of Seima-Turbino excavations (Matiushchenko and Sinitsyna 1988). Located on the left bank of the Om' River, a tributary of the Irtysh, the Rostovka Burial Site was excavated between 1966 and 1969. The site consists of 38 burial pits, and relics were found dispersed around each of them. A feature of this burial site is the distinct treatment accorded to each different kind of bronze artifact. Bronze artifacts with relatively complex forms requiring an inner casting mould ( $\beta$  group bronzeware), including the spearheads and axes with sockets discussed earlier, were often found a short distance from the pits. In some cases,  $\beta$  group bronzewares were arranged in unusual positions, for example thrust into the pit interior, a little removed from the deceased. The arrangement of this Group  $\beta$  bronzeware

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*Figure 5. Changes in spearheads of the Seima-Turbino type; Type II Early bronze spearheads (in China)*

1: Chernykh, Kuzminykh 1989-fig. 25-4, 2: Chernykh, Kuzminykh 1989-fig. 40-1, 3: Chernykh, Kuzminykh 1989-fig. 42-2, 4: Chernykh, Kuzminykh 1989-fig. 37-1, 5: Chernykh, Kuzminykh 1989-fig. 33-1, 6: Chernykh, Kuzminykh 1989-fig. 30-1 7: Miyamoto *et al.* 2008-fig. 13

makes a striking contrast with simple-form bronze knives and decorative items (Group  $\alpha$  bronzeware) that are found placed close to the deceased. It is also clear that the presence or absence, and number, of bronze artifacts of groups “ $\alpha$ ” and “ $\beta$ ” does not correlate significantly with the size of the burial pit.

### III. Early Bronze Ware in the Xinjiang and Great Wall Regions, and Bronze-Age Culture in the Eurasian Steppes

Study of bronze artifacts from the Early Bronze Age in Xinjiang and the Great Wall Region in the first half of the second millennium BC reveals evidence of the EAMP and Seima-Turbino transcultural influences. In order to evaluate the distribution of early Chinese bronzes in relation to the distribution of these two cultures, it was necessary to

focus on bronzeware alone, leaving aside the “cultures” of ancient Chinese archaeology. The results revealed three spatial boundaries between Xinjiang and the Great Wall Region showing influences from west to east (Figure 12). Within boundary 1 (the vicinity of the Tian Shan Mountains to north-west Xinjiang), most of these consisted of large and small bladed tools like battle axes with sockets, and sickles. Moreover, the bulk of these were bronze artifacts directly comparable with those of the EAMP, and were characterized by their discovery in burial sites or individually. The cache of finds at Agaersheng in Xinjiang (Figure 1-6) is a good example (Figure 6).

There are a striking number of decorative items east of boundary 1 and west of boundary 2 (eastern Xinjiang–eastern Gansu and Qinghai). While the number of bronze items directly comparable with the EAMP declines, the number of simple shapes and bronze artifacts distinctive to the Great Wall Region increases. Much of the bronzeware excavated in these regions was buried in graves/tombs. The Tianshanbeilu site at Hami, Xinjiang (Figure 1-13) and various Siba-culture sites in the west of Gansu (including the Huoshaogou site [Figure 1-14, Figure 7-3], Donghuishan site [Figure 1-16], and Ganguya site [Figure 1-15, Figure 7-1]) are all good examples of this.

To the east of boundary 2 (Ordos to Liaoxi) the proportion of decorative objects was even higher. Most of the bronzeware directly comparable with EAMP consisted of ornaments; virtually no bladed tools were found. For instance, the earrings with trumpet-shaped tip (Figures 7-4) were the easternmost finds of all EAMP-comparable ware.

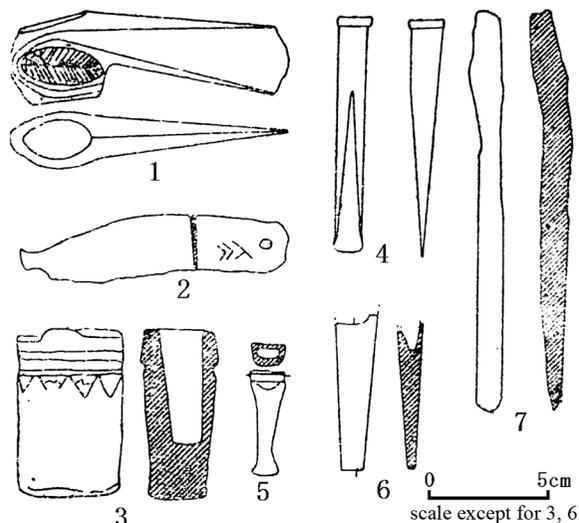
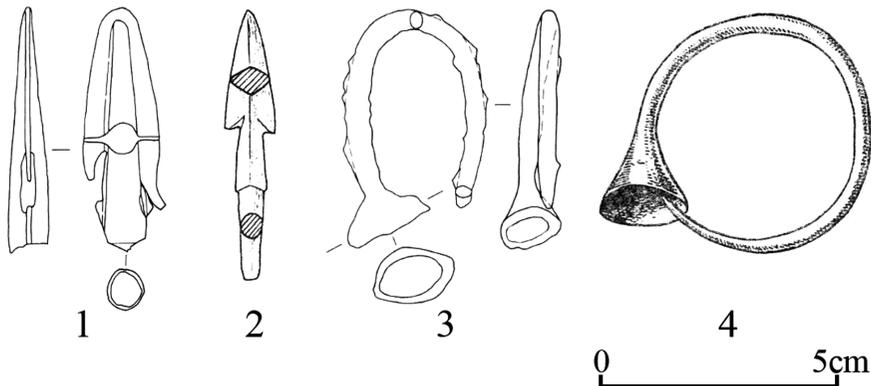


Figure 6. A cache of artifacts found at Agaersheng  
Wang 1987-fig. 1

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1: From the Ganguya site in the Great Wall Region, 2: From the Zhukaigou site in the Great Wall Region  
3: From the Huoshaogou site in the Great Wall Region, 4: From Tash-Tyube in Kyrgyzstan

Figure 7. Early (Chinese) bronze arrowheads and earring (1 to 3); an EAMP earring (4)

1: Miyamoto *et al.* 2008-fig. 2-27, 2: Nei-menggu Wenwu Kaogu Yanjiusuo 2000-fig. 191-2, 3: Miyamoto *et al.* 2008-fig. 5-51, 4: Kuzmina 1966-tab. XIV-4

Moreover, the context of these excavations was diverse, notably including bronzeware with shapes typical of the Central Plain (arrowheads with a round stem cross-section, Figure 7-2). We know of sites such as the south-central Inner Mongolian site of Zhukaigou (Figure 1-18) and Dadianzi site (Figure 1-24) which belonged to the Lower Xiajiadian culture of eastern Inner Mongolia.

The area south of boundary 3 (the Great Wall Region) is notable for the presence of items resembling Seima-Turbino Type Bc spearheads (Type II spearheads) (Figure 5-7). Type II spearheads have been excavated from Nanshuangmiao site in Liaoning (Figure 1-23), Xiawanggang site in Henan (Figure 1-20), and the Shenna remains in Qinghai (Figure 1-17). Although Type II spearheads developed from Type Bc spearheads, the two are clearly different, both in dimensions and form. The most striking change is the increased size of Type II spearheads; they are considerably bigger than Type Bc (Figure 5).

These three boundaries can apply to distinct chemical compositions, with no commonality detected across boundaries.

### IV. The Development of Bronzeware Styles in the Karasuk Period

This section considers bronze artifacts from the Karasuk Period (latter half of the second millennium BC), paying particular attention to the historically contentious relationship between southern Siberia (the Minusinsk Basin) and Mongolia. When it comes to the origin of Karasuk-period bronzeware, there are two prevalent theories: one contends that it spread

from southern Siberia to Mongolia; the other points to influence moving in the opposite direction. This section aims to resolve the contradiction between these two theories by analyzing the production techniques and stylistic features of daggers, knives, battle axes with sockets, and other items. The analysis confirms the following changes in bronzeware styles.

Firstly, two distinct independent styles of bronzeware developed in Mongolia and the Minusinsk Basin in the middle of the second millennium BC: the Mongolia Bronze Complex, and the Early Karasuk Bronze Complex (Figure 16).

The Mongolia Bronze Complex is characterized by Dagger Types A1 and A2 (the daggers with a curved hilt; Figures 8-1, -10), Knife Type A (Figure 9-1) and Knife Type C (Figure 9-5). Knife Type A was found in greatest number; the hilt is 'I' shaped in cross section, and looking down along the spine of the knife reveals a slightly curved profile (Figure 9-1 left). In most cases the hilt terminates in a ring shape. Some items have a design on the hilt; these have been cast with a raised design on the surface of the piece. In many cases the joint of the casting mold is clearly visible on the back. These distinctive features, as well as the actual molds excavated from the sites, indicate a strong possibility that Type A knives were made by using a mold carved from a flat stone to cast two symmetrical pieces that were then joined together. Type A1 and A2 daggers and Type C knives on the other hand, have relatively complex forms like an animal head or bell at the end of the hilt. They also have patterns such as sequences of dots a few millimeters long, or narrow zig-zag lines indented into the surface. Forms like these require additional technical input, certainly an inner mold inside the outer casting mold, as rendering tiny indented patterns in a stone mold is extremely challenging. Furthermore, some Type A1 and A2 daggers and Type C knives have patterns applied on the sides of the hilt, hiding the location of the mold joint. These factors suggest that Type A1 and A2 daggers and Type C knives may not have been cast by joining two flat pieces like Type A knives, but may instead have been cast with a method similar to the lost-wax technique. However, it must be added that in this case, unlike the lost-wax technique that began in Han Dynasty China, the items are thought to have been shaped in an original model using animal fat or similar materials (Grishin 1960). These types of daggers and knives can be divided into two broad categories according to production technique: Type A knives; and Type A1 and A2 daggers and Type C knives. In addition to daggers and knives, the Mongolia Bronze Complex also included Types I, II, and IIIA battle axes with sockets, as well as axes with sockets and spearheads. The Mongolia Bronze Complex, consisting of this set of bronze artifacts, is known to have extended from the Great Wall Region to south-eastern Baikal, but does not appear as a set in Xinjiang or southern or western Siberia. The distribution of this complex corresponds precisely with an area centered in Mongolia (the Mongolian Plateau). Of the artifact types associated with the Mongolia Bronze Complex, Type I battle axes with sockets (Figure

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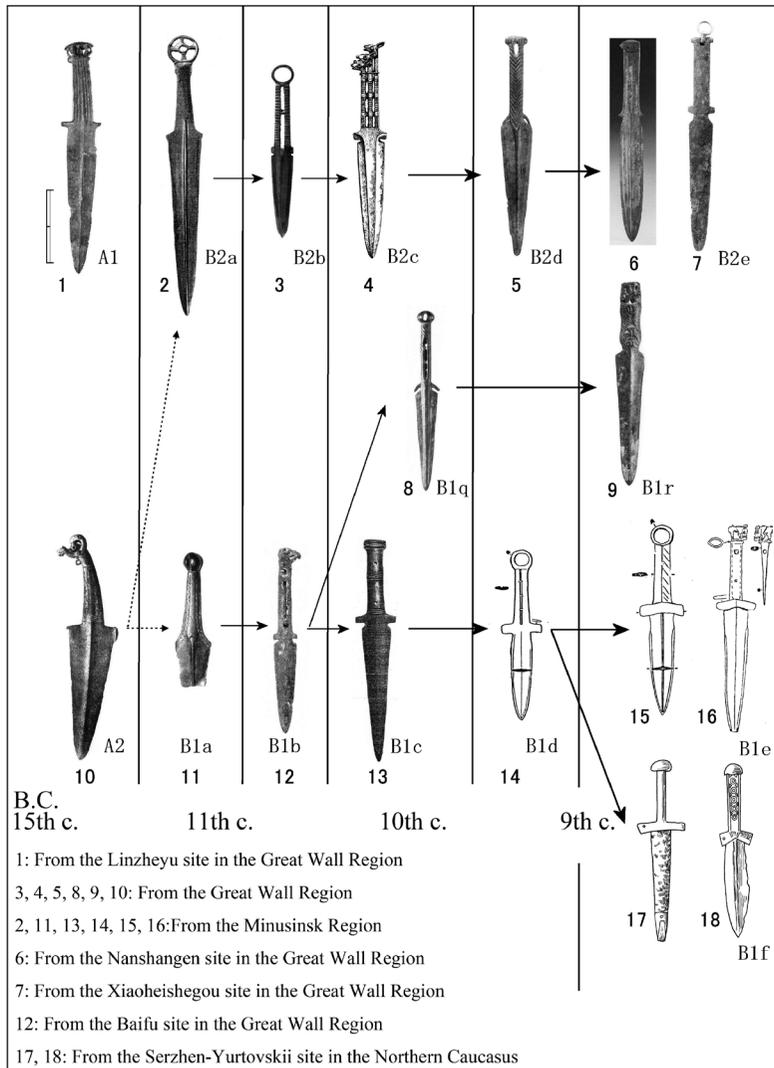
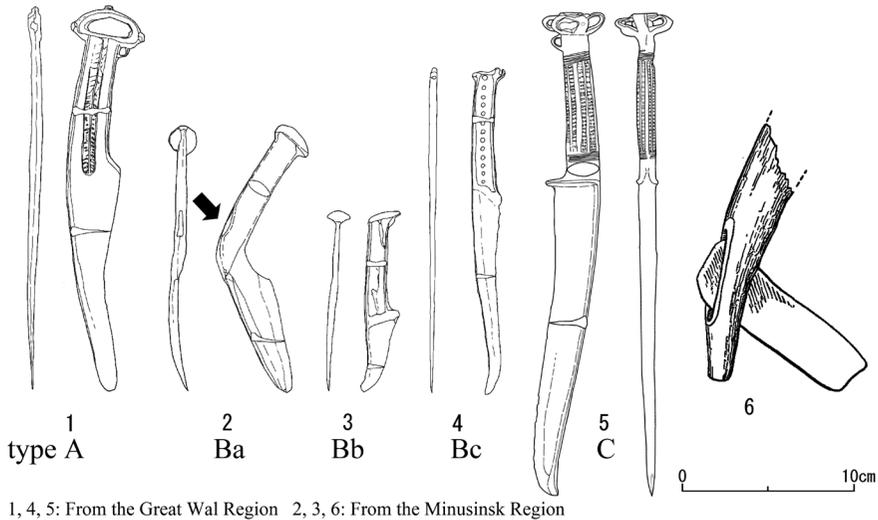


Figure 8. Changes in daggers from the latter half of the second millennium BC to the beginning of the first millennium BC

1: Takahama 2000a-no. 276, 2: Grishin1971-tab. 8-1, 3: Tokyo National Museum 1997- no. 41 (Tokyo National Museum collection), 4: Loehr1949-pl.III-10, 5: Andersson1932-pl.VII-2, 6: Zhongguo neimenggu wenwu kaogu yanjiusuo *et al.* 2007-p.162-24, 7: Zhongguo neimenggu wenwu kaogu yanjiusuo *et al.* 2007-p.156-17, 8: Tokyo National Museum 1997-no. 38 (Collection of the Museum of Far Eastern Antiquities, Stockholm), 9: Andersson1932-pl.IX-3, 10: Karlgren1945-pl.37-227, 11: Miyamoto 2008-fig. 8-1, 12: Takahama 2000a -no. 279(left), 13: Grishin 1971-tab. 7-8, 14: Chlenova 1976-tab. 2-4; Chlenova 1967-tab. 3-3, 16: Chlenova 1967-tab. 3-23, 17: Ternozhkin1976-fig. 68-7, 18: Ternozhkin 1976-fig. 68-6



1, 4, 5: From the Great Wal Region 2, 3, 6: From the Minusinsk Region

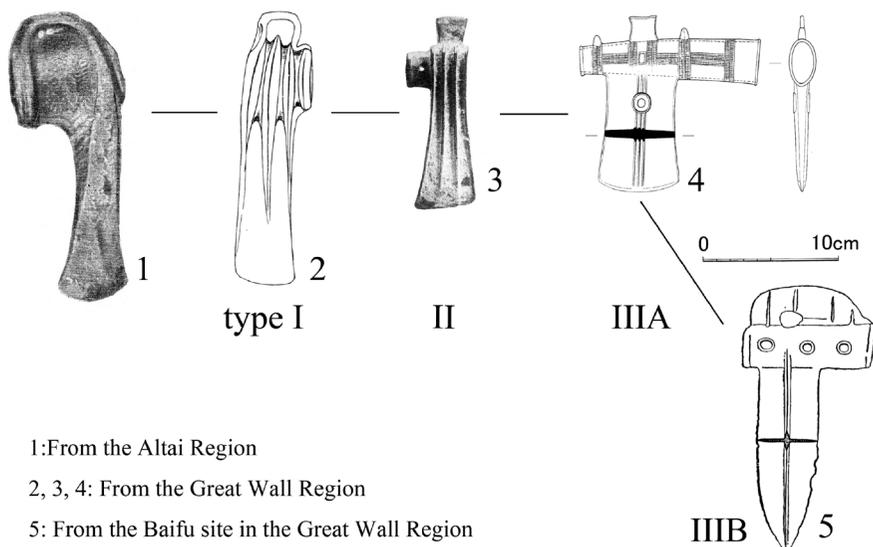
Figure 9. Various knife forms from the latter half of the second millennium BC to the beginning of the first millennium BC

1~4: Matsumoto 2012-fig. 10-1~4 (1, 4: Collection of Tokyo University, 2: Abakan City Museum Collection, 3: Minusinsk Museum Collection), 5: Matsumoto *et al.* 2019-fig. 10-4 (Middle Gobi Museum Collection), 6: Chlenova 1972-tab. 8-21

10-2) are descended from EAMP (Eurasian Metallurgical Province) battle axes with sockets (Figure 10-1), so there must have been EAMP influences in the development of Mongolia Bronze Complex wares. Nevertheless, the Mongolia Bronze Complex forms essentially developed independently in Mongolia.

The Early Karasuk Bronze Complex is characterized by Knife Type Ba (Figure 9-2). This type has a distinctive shape with blade and hilt intersecting almost at a right angle. In most cases, the hilt is flat in cross section. Looking down along the spine of the knife shows that it does not curve but is often straight (Figure 9-2, left). Some items have a design on the hilt; these were cast with the design indented into the surface of the piece. As is the case for Knife Type A, in many cases the joint of the casting mold is visible on the spine, but not so clearly visible as Type A. These features of Type Ba are shared by Types Bb and Bc, suggesting the possibility that a different casting method from that for Type A was used for Type Ba. Most likely, a model of the knife was first made and then pressed into clay or other high plasticity material to obtain a set of two molds. The use of a model made it easy to add designs carved into the surface. The molds fit together better than in the case of Type A—for which two symmetrical molds were separately carved—and that was presumably why the joint of the mold was not clearly visible. Moreover, some Type Ba knives have a slight depression on the hilt near its intersection with the blade (see arrow

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- 1: From the Altai Region  
 2, 3, 4: From the Great Wall Region  
 5: From the Baifu site in the Great Wall Region

Figure 10. Changes in battle axes with sockets from the latter half of the second millennium BC to the beginning of the first millennium BC

1: Grishin 1971-tab. 12-2, 2: Guo 1993-fig. 3-8, 3: Andersson 1932-pl.X-6, 4: Cao *et al.* 2009-p.552, 5: Beijing-shi Wenwu Guanli-chu 1976-fig. 7-4

on Figure 9-2). This depression was probably a vestige of a knife (copper-blade and bone-hilt knife) consisting of a blade inserted into a hilt made of organic material like bone (Figure 9-6). The likelihood was high that such a knife was the model for Type Ba. The distribution of Knife Type Ba is almost exclusively confined to the Minusinsk Basin, indicating that this type of knife appeared in that area based on the prior existence of copper-blade, bone-hilt knives.

In this way the Mongolia Bronze Complex (Monglia) and the Early Karasuk Bronze Complex (Minusinsk) coexisted in the latter half of the second millennium BC, and the latter gradually incorporated the elements of the former. Knife Type Bb (Figure 9-3), like Knife Type Ba, has vaguely visible joint of the casting mold and a straight-line profile when viewed from the spine of the knife (Figure 9-3, left), indicating that a model was used in the production process. The blade transitions gradually to the hilt, and the overall shape of the knife is closer to Knife Type A. In addition, in the Minusinsk Basin, Type B1a and B2a daggers (Figure 8-11, -2), assumed to date from the same period as Type Bb knives, developed from Type A2 daggers of the Mongolia Bronze Complex, but Type A2 daggers themselves have not been excavated from the Minusinsk Basin. Based on the production technique of the Early Karasuk Bronze Complex and incorporating shapes and other features of Mongolia Bronze Complex styles, new types came into being in the Minusinsk

Basin. This group of new types is “the Late Karasuk Bronze Complex.”

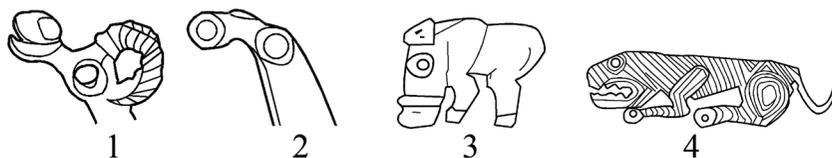
Around the eleventh century BC, in the Late Karasuk complex centered in the Minusinsk Basin, Knife Type Bc (Figure 9-3) developed from Knife Type Bb, and Dagger Types B1b and B2b (Figure 8-12, -3) developed from Dagger Types B1a and B2a. They quickly spread to Mongolia (Figure 17), the home to the Mongolia Bronze Complex. Furthermore, the types of the Late Karasuk complex blades spread as far as Western Siberia and Ukraine, and their influence was pronounced at various Cimmerian sites (Terenozhkin 1976). Even in the tenth century BC and onward Knife Type Bc (Figure 9-3) existed and Dagger Types B1c, B1q, and B2c (Figures 8-13, -8, -4) developed from Dagger Types B1b and B2b. Among these, Dagger B1c spread from the Minusinsk westward while B1q and B2c daggers were found mainly in the Great Wall Region. These regional features would become even more conspicuous in the following phase. Among battle axes with sockets, Type IIIA originating in the Mongolia Bronze Complex continued to be used in the Late Karasuk Bronze Complex, too. But a notable difference is that the new Type IIIB battle axe with socket that has a pointed blade tip (Figure 10-5) appeared in the Late Karasuk Bronze Complex.

## **V. Emergence of the Scytho-Siberian Cultures and Animal Motifs**

New light can be shed on the state of Scytho-Siberian cultures at the time of their emergence by comparison with the conditions of the immediately preceding Karasuk period. Especially, based on the incorporation of bronze complexes discussed in IV above, this section organizes the trends in daggers configuration during the formative period of Scytho-Siberian cultures. These daggers basically developed from Type B1c, B1q, and B2c daggers of the Late Karasuk Bronze Complex. Types B1e (Figure 8-15, -16) and B1f (Figure 8-17, -18) derived from Type B1c via Type B1d (Figure 8-14); Type B1r (Figure 8-9) from B1q; and Type B2e (Figure 8-6, -7) from B2c via B2d (Figure 8-5).

The latter half (c. tenth century BC) of the Late Karasuk Bronze Complex already saw the appearance of regionally characteristic types, and by sometime around the ninth century BC, regional differences were clear among the four types of daggers mentioned above: Type B1e appeared in western and southern Siberia, Type B1f in the area centering on the northern Caucasus, and Types B2e and B1r in the Great Wall Region. All dagger types from the Late Karasuk complex onwards share lineages starting with B1a and B2a. As for bronze knives, Knife Type Bc, from the Late Karasuk complex, continued to be used. In other words, the types of both daggers and knives used at the beginning stage of Scytho-Siberian cultures around the ninth century BC, came directly from the Late Karasuk complex, and there was not a significant change in the style itself. This stage, characterized by the three distinctive regions of the Eurasian Steppes, can be distinguished

## THE BRONZE AGE IN THE EURASIAN STEPPES



1, 2: Animal head motif with protruding eyes and muzzle

3: Boar motif 4: feline motif

*Figure 11. Animal motifs from the latter half of the second millennium BC to the beginning of the first millennium BC*

as the Post-Karasuk Bronze Complex. By comparison, using the same criterion of dagger types, the Post-Karasuk Bronze Complex in the Steppes at the time of the emergence of the Scytho-Siberian cultures shows a low degree of similarity to the preceding Late Karasuk complex.

The study examines Scythian animal motifs—which have drawn attention as notable elements of Scytho-Siberian cultures—along with animal motifs of preceding times. As a result, it has been confirmed that incidences of the animal head motif with protruding eyes and muzzle (Figure 11-1, -2), which was predominant in the Monglian Bronze Complex, began to decrease in the Late Karasuk Bronze Complex, and that so-called Scythian animal motifs such as the boar (Figure 11-3) and feline (Figure 11-4) became dominant in the Post-Karasuk Bronze Complex. It was also found that, compared with Scythian animal motifs, the animal head motif with protruding eyes and muzzle was a very strong norm among techniques of expression and motif arrangement on the vessel.

## VI. Consideration

### Seima-Turbino Transcultural Phenomenon

The analysis of Seima-Turbino style bronze spears in section II showed that the changes from Types Ba to Bb to Bc spears were shared in the area from the vicinity of the Urals to the Ob' Basin (Western Siberia). This cannot be explained simply by a one-time mass migration in a specific period. It shows that even if there were original sources of goods and information it was possible to update the information in the area during a certain period of time. The change from Types Ca to Cb spears (in the west of the Urals) was that of a lineage different from Ba-Bb-Bc spears (in the east of the Urals), but the nature of the change is similar between the two groups of spears. It is shown, therefore, that the Seima-Turbino transcultural phenomenon, while its east and west parts overlapped at the Ural mountains, differs in the way information was shared between the east and west (Figure 12).

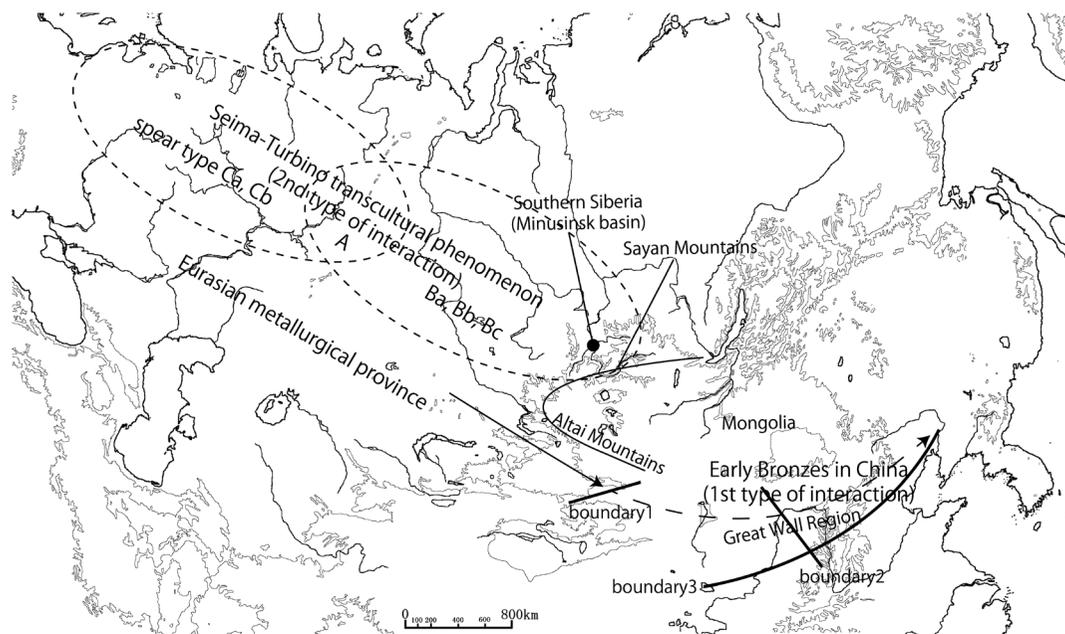


Figure 12. The Bronze Age I in the Eurasian Steppes (the first half of the second millennium BC)

Next, let us consider the nature of the Seima-Turbino phenomenon by focusing on changes in bronzeware. We now know that as spearheads grow bigger from Types Ba to Bb to Bc and from Types Ca to Cb, mainly their shafts become slimmer. That the shaft, which is supposed to support the blade, narrows as the blade becomes larger seems to conflict with the interests of functionality. Such a change cannot be practical. In addition, some spearheads of the Seima-Turbino type are made of silver, a factor that adds weight to the possibility that those types of spearheads were not for practical use. This seems incongruous with Chernykh's association of them with groups of warriors (1992). That bladed tools grew bigger and less practical is a phenomenon also found among bronzeware in Japan's Yayoi period (ninth century BC to third century AD) although there is a vast difference in time and place between them.

The analysis of the Rostovka cemetery in western Siberia, where Seima-Turbino bronze objects were unearthed, has produced two major findings:

- (1) Group-  $\alpha$  bronzes (relatively simple in shape) and Group-  $\beta$  bronzes (relatively complex in shape) correspond to differences in the circumstances surrounding their unearthing from graves.
- (2) Neither Group-  $\alpha$  nor Group-  $\beta$  bronzes are social-status related.

Group-  $\alpha$  bronzes are relatively simple implements and ornaments found near the

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deceased. They are not linked to the social status of graves. They are presumed to have been used as implements of daily life and decorative items before they were buried with the deceased. Relatively complex-shaped bronzes, Group- $\beta$  were found thrust into a burial pit or elsewhere, indicating the presence of some norms regarding burial. The attributes of the buried individual and the burial pit are more likely to be ambiguous than in the case of Group- $\alpha$ . In other words, Group- $\beta$  bronze objects were not monopolized by specific graves, but rather tended to have some common role in the cemetery as a whole. Among Group- $\beta$  bronzes are spearheads that were found thrust into the ground, a wall, or elsewhere, suggesting that behind Group- $\beta$  bronzes was a battle-oriented consciousness such as martial distinction. However, the spearheads found grew bigger and tended to gradually lose their function as weapons. Given that they were excavated along with socketed axes, which were practical tools, there is a possibility that they were more important as symbols of some kind than for actual use in battle.

The distribution of Seima-Turbino style bronze objects, given the broad commonality of type changes, non-utilitarian uses, and burial site-wide use, shows that burial practices and accompanying bronze objects were used as indicators of social unity, rather than showing migration of groups of warriors or hierarchy-based interaction of elites. Sharing of information across a broad geographical area through bronze objects appears itself to have been an important objective of the said society. Conversely, that the mediation of material things that required labor and norms was necessary suggests a weakness of social solidarity. That had something to do with why the Seima-Turbino transcultural phenomenon, which had existed for several centuries, suddenly came to an end and its bronzemaking techniques were not passed down. The termination of the technology presumably indicates that the advanced bronze technology served less practical purposes than the purposes (such as burial practices and uses for social solidarity) typical of groups in possession of the bronzes.

### Early Chinese bronzes

The early Chinese bronzes found in eastern Xinjiang and the Great Wall Region (the east of boundary 1), from the period coinciding with the Seima-Turbino phenomenon and EAMP, adopted elements of the latter two cultures in a selective way. In Xinjiang and the Great Wall Region, bronze complexes common across the three boundaries were not found; the bronzes there were peripheral to the Seima-Turbino phenomenon and EAMP. This situation was highly likely an extension of the interactions of the said regions in the Neolithic era (Miyamoto 2000). In the southern Great Wall Region (south of boundary 3) a considerable influence of the Seima-Turbino phenomenon is detected, indicating the possibility that interaction similar to that found within the Seima-Turbino phenomenon already existed through the medium of goods. A possible main factor behind that was the influence of

China's Central Plain, where society had reached a more developed, complex stage. In this way, regions with early stage bronzes selectively adopted part of the main lineages of bronze culture.

Above we have examined the situation of the Eurasian Steppes in the first half of the second millennium BC. (Figure 12). Next we will consider the circumstances and background of the steppes from the latter half of the second millennium BC to the beginning of the first millennium BC.

### **Mongolia Bronze Complex**

The distinctive Mongolia Bronze Complex arose in Mongolia in the latter half of the second millennium BC while under the fluence of EAMP (Figure 16). Two production techniques are assumed to have been used for the Mongolia Bronze Complex: one using a pair of stone molds (Knife Type A) and the other using the 'lost-wax' technique (Dagger Types A1 and A2, Knife Type C). The difference between the two techniques is reflected in the complexity or not of the shape and design of the product. Type A knives created by the former technique are "crude" products and Types A1 and A2 daggers and Type C knives produced by the latter technique were "fine-caliber" products. Meanwhile, there is not much difference between daggers and knives in terms of the production techniques as well as considering the curved hilts of Dagger Types A1 and A2, which are a double-edged version of Knife Type C. In other words, Mongolia-type daggers and knives show a stronger difference in the degree of crudeness or fineness due to technical differences than in terms of function. Types A1 and A2 daggers and Type C knives were frequently sharpened, an indication that they were put to practical use. Type A knives, many of which are found sharpened so often that the blade has become much smaller in size, may be assumed to have been more or less daily-use implements. Some of Types I, II, and IIIA battle axes with sockets were created using the two production techniques. Socketed battle axes are fewer in number than daggers, some have fine designs similar to Type A2 daggers, but some are relatively simple in form. Their degree of fineness may be somewhat lower compared with Type A1 and A2 daggers and Type C knives. In functional terms, the socketed battle axe, with a hilt attached to the socket, was presumably used for striking. Figure 13 schematizes the structure of the Mongolia Bronze Complex.

The Mongolia Bronze Complex has items of same types widely distributed, as with the case of the Late Karasuk Bronze Complex (to be discussed below), and is characterized by finely finished products sharing a high commonality. The hilts of Dagger Type A and Knife Type C are often tipped with an animal-head motif with protruding eyes and muzzle, making them fine-caliber products of the Mongolia Bronze Complex, but such animals were imaginary, not real. The fact that such unrealistic elements were commonly incorporated into mainly fine-caliber products is thought to indicate that depiction of

## THE BRONZE AGE IN THE EURASIAN STEPPES

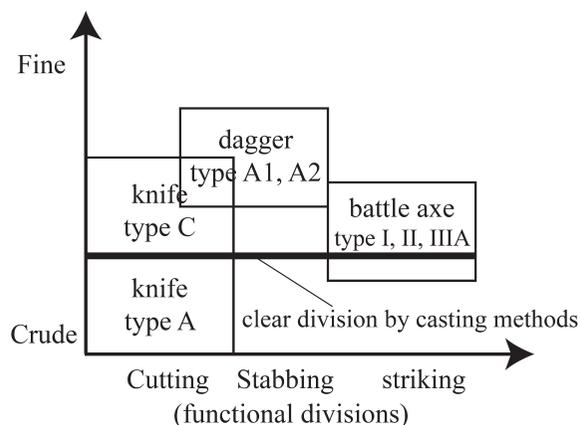


Figure 13. *The Structure of the Mongolia Bronze Complex*

animal heads was made not at the whim of individual artisan but under strict and widely shared rules. It can be understood that these fine-caliber bronze objects were made for the purpose of displaying to members of bronze possession groups that there was commonality across a wide area and a social bonds behind that commonality. Production of such fine objects representing social bonds is labor-consuming and requires special techniques such as ‘lost-wax’ casting, suggesting that the society placed greater value on bronzes that represented social bonds than on bronze weapons and bladed tools for practical use. To put it the other way around, the fact that a physical indicator requiring such complexity and labor was needed could be thought to suggest that the social bonds upon which the Mongol Bronze Complex was based were weak.

This nature of bronzes is comparable to *khereksurs* (stone cairn graves; Figure 15) found in Mongolia in the said period. *Khereksurs* often have a number of small stone mounds (‘satellites’) with animal sacrifices (Figure 15 right). The distribution of *khereksurs* covers the entire area from the western to central parts of the Mongolia Bronze Complex area. The *khereksurs* may be considered to have been of a communal nature, used as an indicator of unity or confirmation of membership in the social group, rather than as an indicator of power (Honeychurch *et al.* 2009; Houle 2009). This coincides very much with the way fine products of the Mongolia Bronze Complex were treated.

That such bronze products and *khereksurs* are not found before the mid-second millennium BC, indicates that social bonds covering a wide area and mediated through physical indicators was formed in various parts of Mongolia in the latter half of the second millennium BC and onward. A. D. Cybiktarov (2003) argues that pastoral economies gradually formed due to a shift to a more arid climate that took place prior to the mid-second millennium BC, and that people’s lives became more stable because of a short-

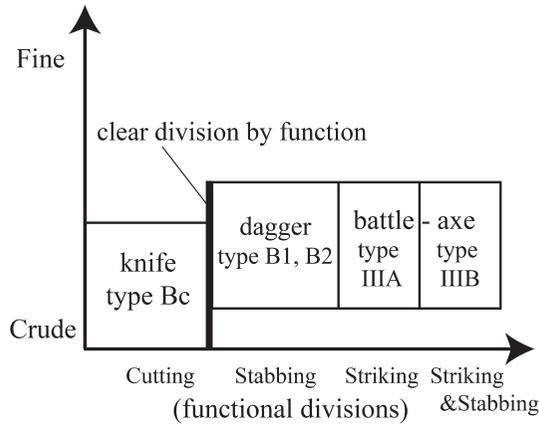


Figure 14. The Structure of the Late Karasuk Bronze Complex

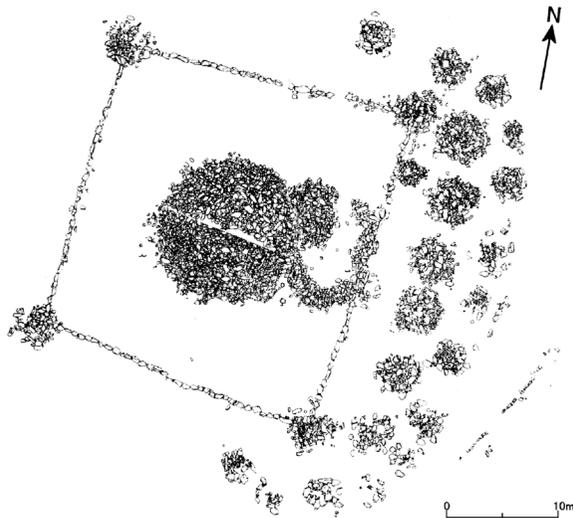


Figure 15. Ulaan-Uushig I, Khereksur No. 1  
Takahama et al. 2006-pl.3-2

period wet climate in the mid-second millennium BC, and that from that stage onward cultural conditions underwent a dramatic change in Mongolia. As the climate changed, livestock farming emerged as the principal means of subsistence widely in Mongolia for the first time. The stabilization of pastoral farming presumably allowed increased productivity and storage of excess, leading to established ranges and cycles of seasonal migration. Stabilized migration cycles and expansion of pastoral land most likely contributed to a broad social unity across generations and geographical spaces. Under these

## *THE BRONZE AGE IN THE EURASIAN STEPPES*

conditions, bronze objects, fine ones included, began to be produced as emblems of social unity. However, the social unity achieved must have been fragile and material-oriented and always in danger of disruption or collapse. In that regard, the situation of the Mongolia Bronze Complex closely resembled that of the Seima-Turbino transcultural phenomenon.

### **Early Karasuk Bronze Complex**

Knife Type Ba is the only type distinctive to the Early Karasuk Bronze Complex, which arose in the Minusinsk Basin in the same period as the Mongolia Bronze Complex. With few decorative elements, Type Ba knives are oriented to practical use. In that sense it is comparable to Knife Type A of the Mongolia complex. Much remains unknown about the Early Karasuk complex and the background of how it came into being requires future research. In the first half of the second millennium BC, immediately prior to the Early Karasuk complex, the distinctive Okunev culture is known to have existed in the Minusinsk Basin, mainly in its southern part. The Okunev culture is known for stone pillars carved with characteristic designs. If such stone pillars functioned as indicators of affiliation to a group, it is likely that the southern Minusinsk Basin saw the rise and development of its own social unity earlier than that in Mongolia. Or, concerning the development of livestock farming in the Minusinsk Basin, some researchers point to the peculiarity of geographical conditions in the basin. With sufficient rainfall in summer and little snow in winter, the Minusinsk Basin is blessed with abundant grass throughout the year, making the area more suitable for pastoral farming than semi-desert steppe areas such as Kazakhstan. Under these conditions, population density increased in this limited area, leading to conflicts of interest and war (Zyabilin 1977). These circumstances may have provided the background to the earlier appearance in the Minusinsk Basin than elsewhere of the Late Karasuk Bronze Complex, which consisted of bronze items not as group indicators but for practical use.

### **Late Karasuk Bronze Complex**

In the Minusinsk Basin at the end of the second millennium BC, a new bronze complex emerged that was based on the production techniques of the Early Karasuk Bronze Complex and incorporated elements of the Mongolia Bronze Complex. This new complex is the Late Karasuk Bronze Complex. The production techniques used for Knife Types Bb and Bc of this complex are the same as those of the Early Karasuk complex. Knife Type Bb and Dagger Type B1a share several common features and they were likely made using the same technique. Designs and hilt ends attached to Types B1 and B2 daggers are mostly simple, as in the case of Type B (Ba, Bb, Bc) knives, and there is no clear distinction between fine and crude products in the new complex. Unlike Types A1 and A2 daggers of the Mongolia complex, which have a curved hilt and a rounded tip of the blade, Types B1 and B2 daggers of the Late Karasuk complex have a straight hilt and the blade tip is more

likely to be pointed. While Mongolia complex daggers somewhat resemble knives in terms of function, Late Karasuk daggers have the specialized function of stabbing, indicating an increased functional distinction between daggers and knives. As for socketed battle axes, Type IIIA from the Mongolia complex continued to be used, but no fine items from the Late Karasuk complex have been found. Type IIIB axes, which developed from Type IIIA, have a pointed blade tip, indicating that they have the function of stabbing in addition to IIIA's function of striking. The disappearance of fine items and the functional differentiation in the case of socketed battle axes can be considered as going hand in hand with the changes of daggers and knives. Similar to Figure 13, this can be schematized in Figure 14. As the figure shows, the Late Karasuk Bronze Complex is the result of the Early Karasuk complex incorporating elements of the Mongolia complex to expand the functions of bronze objects as tools and weapons. Dagger Types A1 and A2, which appeared in the Mongolia complex, are the oldest bronze daggers with blade and hilt made from a single casting in East Asia. Daggers in Mongolia initially appeared as part of fine items rather than practical tools and weapons, and it was not until the Late Karasuk complex in the Minusinsk Basin that they came to have the specialized function of stabbing. In other words, the daggers gradually assumed the function of weapons in the course of interaction with other cultures.

Not long after its appearance in the Minusinsk Basin (*circa* eleventh century BC), the Late Karasuk complex began to penetrate Mongolia, driving out the Mongolia Bronze Complex (Figure 17). While the Early Karasuk complex incorporated elements of the Mongolia complex on the basis of its own production techniques, and hence the birth of

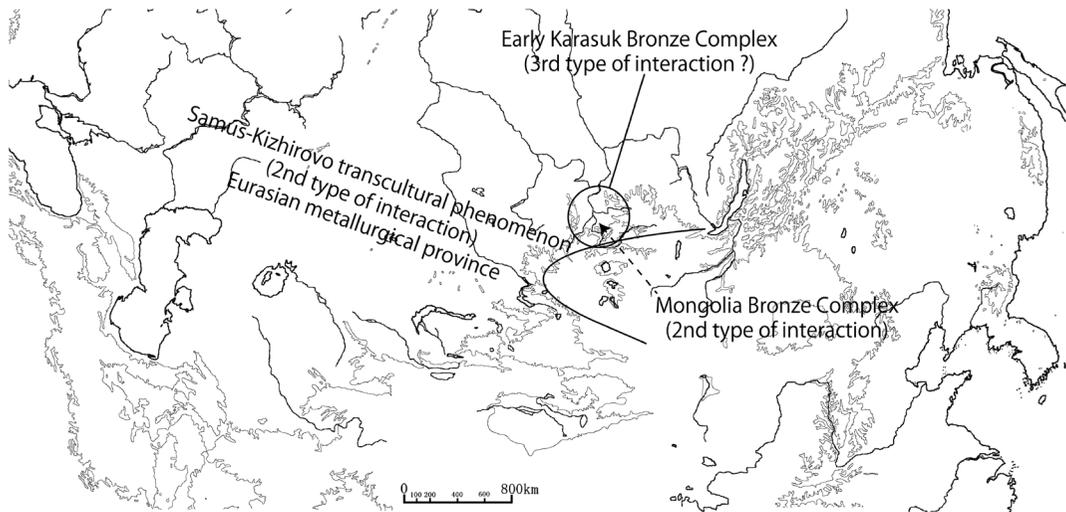


Figure 16. Bronze Age II in the Eurasian Steppes (latter half of the second millennium BC)

## THE BRONZE AGE IN THE EURASIAN STEPPES

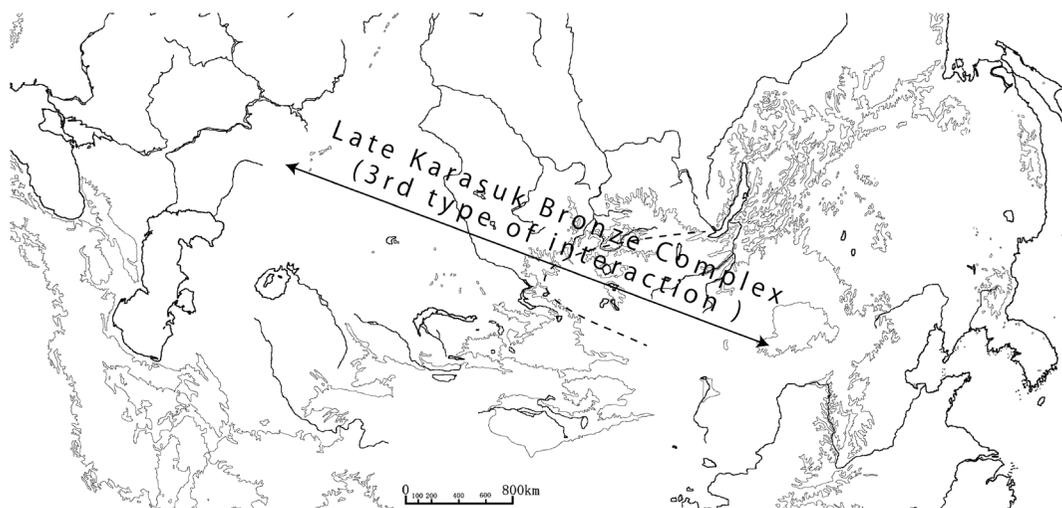


Figure 17. The Bronze Age III in the Eurasian Steppes (approx. eleventh to tenth centuries BC)

the Late Karasuk complex, in the case of the Late Karasuk complex, however, the complex itself, including bronze types and production methods, penetrated Mongolia. The effects of the Late Karasuk complex on Mongolia, therefore, were far greater than those of the Mongolia complex on the Early Karasuk complex. It is further notable that, in contrast to the Mongolia complex, the Late Karasuk complex that entered Mongolia lacks fine bronzes and is characterized by practicality and considerable functional differentiation based on it. This suggests that, by the time of the beginning of the Late Karasuk complex, the social bonds symbolized by the medium of physical indicator (fine bronzes) at least tended to be on the decline in Mongolia. That is to say, social conditions toward the end of the Mongolia Bronze Complex were likely similar to those in the Minusinsk Basin, where the Late Karasuk complex arose.

According to Cybiktarov (2003), in the latter half of the second millennium BC and onward, as the climate became more arid in Mongolia mass migrations occurred in search of grassland suitable for pastoral farming, which led to a clash of the cultures of the eastern and the western parts of Mongolia from the eleventh century BC to the ninth century BC. A. M. Khazanov (1994) points out the arid climate in the latter half of the second millennium BC and the resultant rise of horse-riding nomadic culture. Another study indicates a possibility that mounted nomadism appeared in Mongolia earliest in the Eurasian steppes (Koryakova and Epimakhov 2007). With the start of horse-riding nomadic lifestyles, herders' range of activity increased, and this has been considered responsible for the similarities in material culture over a wide area and for the formation of large groups. Prior to wide-area migrations and integration of groups, however, it can

be assumed that there were small group migrations and that the living spheres gradually widened, leading to increased contact among these groups. The increase in contacts among them did not necessarily lead to integration. There is the possibility that conflict among them over grasslands, water, and metal resources grew frequent. When contact among groups prompted by the advent of equestrian nomadism expanded to the point that conflicts could no longer be handled through the social bonds signaled by the material indicators of the Mongolia Bronze Complex, new social strategies such as organization of large groups by a leader were likely adopted in Mongolia. With these as the backdrop, the Mongolia complex centering on fine bronzes declined and the Late Karasuk complex characterized by highly practical and functional weapons and tools became pervasive. Elements of the Late Karasuk Bronze Complex spread from southern Siberia to Mongolia and across the Urals as far as Ukraine. It is possible that the above-mentioned social changes occurred not only in Mongolia but widely over the entire Eurasian steppes in the said period. The Late Karasuk complex was not involved in interactions in a specific region but was acceptable in any region that underwent social change. That was why the Late Karasuk complex and its elements spread so widely.

### **Post-Karasuk Bronze Complex**

Following its diffusion, the Late Karasuk Bronze Complex gradually assumed regional characteristics, and around the ninth century BC there were three regions where distinctive characteristics of the Post-Karasuk Bronze Complex rose: western and southern Siberia; the area centering on the northern Caucasus, and the Great Wall Region (Mongolia). The placement of types in the Post-Karasuk complex is almost the same as in the case of the Late Karasuk complex.

The Post-Karasuk complex has been considered to coincide with the beginning of Scytho-Siberian cultures. The advent of equestrian nomadism at the beginning of the first millennium BC and resultant homogeneous cultural zone have been noted from early on in research history. A comparison throughout the entire steppes using the same criterion of bronze daggers, however, shows that the regional differences in the Post-Karasuk complex were more pronounced than in the Late Karasuk complex. Since the highly practical and functional bronzes of the Late Karasuk complex spread due to social changes in various parts of the area, it is only natural that the local characteristics of each part of the area gradually became distinctive in the Post-Karasuk Bronze Complex, which is directly linked to the Late Karasuk complex.

It has been made clear that so-called Scythian animal motifs in the Post-Karasuk complex, such as the boar motif (Figure 11-3) and the feline motif (Figure 11-4), show a relaxation of norms about production techniques as compared with the Mongolia complex's animal head motif with protruding eyes and muzzle (Figure 11-1, 2). The Mongolia

## THE BRONZE AGE IN THE EURASIAN STEPPES

complex is where various groups of people were loosely united through the medium of fine bronzes created using special techniques. The strong norm featuring the “animal head motif with protruding eyes and muzzle” can be understood to indicate that such animal motifs functioned as an indicator of group unity. On the other hand, the Scythian animal motifs, the norms about which were relaxed, emerged after the Late Karasuk complex and came to be frequently observed. The Late Karasuk and Post-Karasuk complexes did not show the loose unity of specific groups as did the Mongolia complex, but they widely permeated social groups that had attained a certain social complexity. That permeation, it can be said, went hand in hand with the relaxation of norms about animal motifs. Scythian animal motifs are ones that were acceptable even outside some specific social groups.

In terms of social complexity, too, differences have been stressed between the Post-Karasuk complex phase and the preceding phase. In Tuva, Central Asia, during the Post-Karasuk complex phase there appeared the Arzhan-1 Scythian monument with its massive burial mound and numerous grave items (Figure 18). Studies suggest the formation of a new union [federation] of groups surrounding the Arzhan burial mound (Cybiktarov 2003) or the formation of a tribal union [federation] across a wide area (Savinov 2002). The Upper Xiajiadian culture in the eastern Great Wall Region of the said period saw the appearance of elaborate burials with a large number of Chinese ritual vessels, as found in the Xiaoheishioguo site in Inner Mongolia and the Nanshangen site (Figure 1-24). These phenomena did not suddenly appear for the first time at the phase of the Post-Karasuk Bronze Complex, however. Examples of elaborate burials such as found in the Upper Xiajiadian culture had already existed at the Baifu site in Beijing and other sites from the Late Karasuk complex. The Arzhan-1 monument in Tuva, while showing the further development of social hierarchies, has many accompanying small stone mounds similar to ‘satellites’ in the *khereksur* (Figure 18 right). One can assume that a mass sacrifice of horses was performed outside the burial (central) mound. Even if there was a group of socially high-status people including its leader, their status could not be guaranteed without the ritual sacrifice of livestock. A stable class system, in which the social status of specific individuals or groups was passed down from one generation to the next had yet to be achieved. Social stratification and the practical use of bronzes, which began in the Late Karasuk Bronze Complex, gradually diffused and further developed in various parts of the area in the Post-Karasuk Bronze Complex. In other words, the Scytho-Siberian cultures did not make their appearance all of a sudden but can be understood to be the consequence of gradual changes over 200 to 300 years after the major transformation of social conditions that had been going on since the second millennium BC.

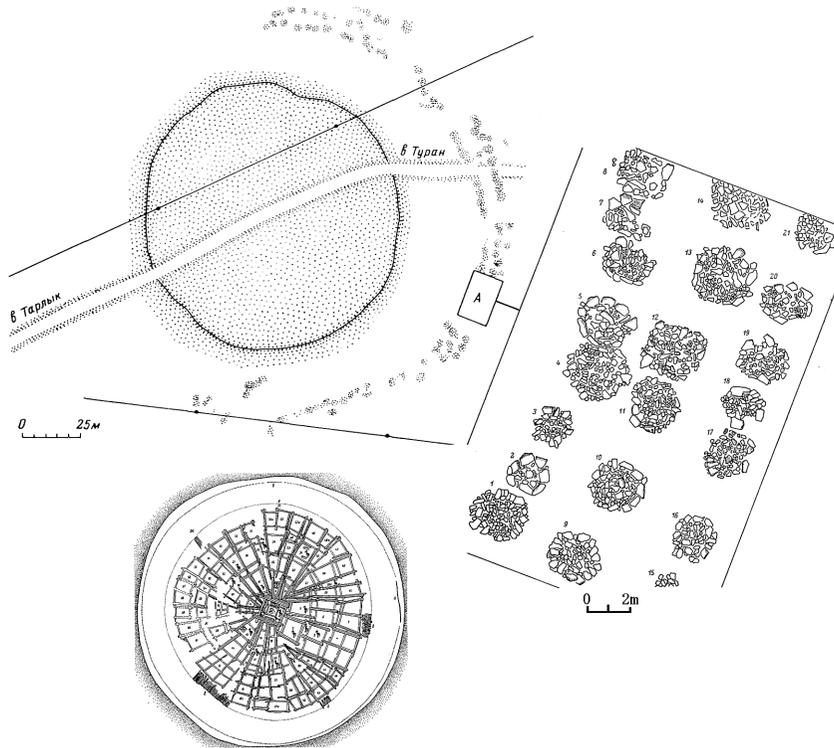


Figure 18. Arzhan I burial complex in Tuva (Upper: massive burial mound, Lower: wooden burial chamber, Right: stone mounds  
Gryaznov 1980-fig. 1 and 3

## VII. The Bronze Age in the Eurasian Steppes

The Figure 1 map, with contour lines representing 1,000-meter elevations shows the vast plains stretching eastward from the Urals to the Altai Mountains, which create a major topographical change. The Altai Mountains follow the national borders of the four present-day countries of Russia, Kazakhstan, China, and Mongolia. From the northern flank of the Altai Mountains the Sayan Mountains extend eastward as far as Lake Baikal. The area surrounded on the northern and southern sides by the Altai and Sayan mountains is Mongolia, which consists of highlands and mountains in contrast to the flatlands outside those mountains which make up Siberia. The highlands stretch to the Greater Khingan Range in the east and to the Huangtu (Loess) Plateau in the south. This means that the topography and natural environment on the western and eastern sides of the Altai and Sayan mountains are immensely different, and the differences set the basic conditions for development of the

## THE BRONZE AGE IN THE EURASIAN STEPPES

Bronze Age in the Eurasian Steppes. From the discussion in the foregoing sections we can divide the Bronze Age into four stages as follows:

### **Bronze Age I** (Figure 12)

*First half of the second millennium BC.* The EAMP and Seima-Turbino transcultural phenomenon spread to the west of the Altai and Sayan mountains. By contrast, the early (Chinese) bronzes, which were influenced by both cultures, spread in the Xinjiang and the Great Wall Region in the area southeast of the mountains. The EAMP and Seima-Turbino phenomenon were partially transmitted to the area from eastern Xinjing and eastward, and so this area, especially, lacked its own unique bronze complex. We may describe these relationships prior to the formation of a unique bronze complex “first-type interaction.”

The Seima-Turbino phenomenon was roughly divided east and west by the Urals, and the east and west areas had non-practical bronze artifacts in common for a certain period of time. This state in which a wide area was loosely united through distinctive fine-caliber artifacts and graves is called “second-type interaction.” Group unity of this type was fragile as it depended on material goods.

There were major regional differences between the areas separated by the Altai and Sayan mountains during this period—Mongolia (eastern Xinjiang, the Great Wall Region) representing first-type interaction, and Siberia and northern Xinjiang and westward representing second-type interaction. The inter-regional relationship straddling the mountains played an important part throughout the Bronze Age.

### **Bronze Age II** (Figure 16)

*Middle of the second millennium BC to the twelfth century BC.* In this period, the Early Karasuk Bronze Complex emerged in the Minusinsk Basin and the Mongolia Bronze Complex developed in Mongolia. In the area to the west of these areas, the EAMP lingered from the previous period. In the Mongolia complex second-type interaction through the medium of fine-caliber artifacts began. The epicenter of this type of interaction was the over-1,000-meters-above-sea-level area of the Mongolian Plateau on the eastern side of the Altai and Sayan mountains. It is difficult to reconstruct the state of interaction regarding the Early Karasuk complex in the Minusinsk Basin, which lies outside these mountains, but there is a possibility that a third type of interaction, to be explained below, appeared in the Basin earlier than anywhere else.

### **Bronze Age III** (Figure 17)

*The eleventh to tenth century BC.* This is the stage in which the Late Karasuk Bronze Complex arose and expanded. At the end of the second millennium BC the Late Karasuk complex emerged in the Minusinsk Basin as the result of the Early Karasuk complex in

the Basin incorporating elements of the Mongolia Bronze Complex to meet increased utilization of bronze for practical purposes. The interaction facilitating the wider use of practical bronze artifacts is called third-type. This third-type interaction spread in the Eurasian Steppes, Mongolia included, as the Late Karasuk complex. We may speculate that the emergence of horse-rider nomadism is the background to the shift from second to third-type interaction. During Bronze Age III, the natural topography of the Altai and Sayan mountains ceased to impose barriers and the culture of the whole of the Eurasian Steppes became more uniform.

### **Bronze Age IV**

*Circa ninth century BC and the Post-Karasuk Bronze Complex stage.* The Post-Karasuk complex can be understood as the regionalization of the Late Karasuk complex, which expanded and assumed distinct regional characteristics in various places. While third-type interaction remained, each part of the [Eurasian steppes] has its own characteristics and the emergence of leadership became apparent as indicated by the appearance of elaborate burial sites.

Looked at in terms of the social position of bronzes, the first, second, and third types of interaction between the two areas separated by the Altai and Sayan mountain ranges discussed above can be summed up as follows:

#### **First-type interaction**

During this phase of interaction, simple bronze items replaced stones for use as tools and ornaments. Their role in society was necessarily low due to technical and resource limitations. This applies to the cultures with early bronzes in the area from eastern Xinjiang to the Great Wall Region in Bronze Age I.

#### **Second-type interaction**

During this phase of interaction, fine-caliber bronzes appeared. There were also many practical bronze artifacts such as weapons, tools, and ornaments. Bronzeware played a fairly large role in society, but advanced and refined bronze production techniques were employed only for making non-practical, fine-caliber bronze artifacts. The use of these techniques and of fine-caliber bronzes themselves were constrained by social conventions, and there were presumably strict norms and rules regarding them. Distinct fine-caliber bronze artifacts, together with burial practices, were utilized as confirming indicators of loose social ties. This applies to both the Bronze Age I Seima-Turbino transcultural phenomenon and the Bronze Age II Mongolia Bronze Complex.

### Third-type interaction

During this phase of interaction during Bronze Age III and onward (Late Karasuk and Post-Karasuk complexes), fine-caliber bronzes used as indicators of ties were no longer conspicuous. While the loose social ties in second-type interaction broke down, new social strategies for visibly manifesting leadership were adopted. Bronze was functionally differentiated to become tools, weapons, and other practical implements. In other words, the techniques that had been constrained by social convention in the stage of the second-type interaction were now liberated and bronze was freely utilized for practical purposes. Given the foregoing, the Bronze Age in the Eurasian Steppes can be defined as a long process during which bronze was released from technical and social constraints and developed as tools and weapons throughout the region on both sides of the mountains.

The conclusions reached in the present book, *Yūrashia sōgen chitai no Seidōki jidai* (The Bronze Age in the Eurasian Steppes), may be summed up as follows. The Bronze Age in the period from the second millennium BC to the beginning of the first millennium BC unfolds in two main areas separated by the Altai and Sayan mountains and in the interaction between them that can be observed throughout the period. Such interaction was part of the historical structure of the Eurasian Steppes region. Bronze Age culture developed through the mutual interaction between the two regions straddling the mountains and there were differences in types of interaction, means of subsistence, and degree of social complexity.

The predominant view has been that, as opposed to west-to-east influences across the Eurasian Steppes, distinct bronze cultures in the form of the Seima-Turbino transcultural phenomenon, the diffusion of “Karasuk artifacts,” and the Scytho-Siberian cultures, suddenly appeared in the eastern part of the Eurasian Steppes and spread westward. This work argues, however, that the east-to-west influences across the Steppes did not suddenly appear. In a more complicated process—with the Altai and Sayan mountain ranges in between—a distinct historical structure emerged to the east of them under influences from the west, and east-to-west movement occurred in stages. In addition, interaction of various kinds including migration could not possibly be accidental. The book reveals the way (types) of interaction changed in stages in the context of the whole regional structure. The conclusion reached is that interaction, as in the case of society and means of subsistence, became gradually complex in the long process of the Bronze Age. Further research is needed to understand human history anew with cultural interaction at its base.

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