

# CHINESE ARTIFACTS AS A TIME SCALE: IN THE CASE OF XIONGNU<sup>1</sup>

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The author of this paper compares radiocarbon dating of Xiongnu sites with dates of Chinese artifacts—bronze mirrors, coins and lacquer ware with inscriptions about date of their production unearthed in these sites. Dates of Chinese artifacts make it possible to narrow the time span of the carbon dates to less than 20 years and to determine the bottom limit of the site. The author notes the contradiction between the date Xiongnu Empire from historical texts (from the 3<sup>rd</sup> century BCE to the 1<sup>st</sup> century CE) and the fact that majority of excavated Xiongnu tombs and fortresses were built between the 1<sup>st</sup> century BCE and the 1<sup>st</sup> century CE, which is also confirmed by the dates of Chinese artifacts unearthed there. Also the problems of the spread of Chinese artifacts to the Eurasian steppes are considered in this paper.

**Keywords:** Xiongnu, bronze mirrors, lacquer wares with dating inscriptions, Han coins, tombs and fortresses of Xiongnu.

## INTRODUCTION

It is fundamentally difficult to connect archaeological remains with the ethnic groups written about in historical texts. In the case of Xiongnu, the presumed connection is based on some evidence: many Han artifacts have been unearthed from large elite tombs on the Mongolian plateau. The excavation of the Xiongnu tombs started at the end of the 19<sup>th</sup> century. Although these investigations were suspended for many decades after WWII, the number of excavations has increased since the 1990s. As excavations have increased, more Chinese artifacts have been found. I would like to present the dates indicated by the Chinese artifacts themselves, from the perspective of Chinese archaeology.

## CHINESE ARTIFACTS AS A TIME SCALE

Before exploring the main subject, it is important to understand earlier discussions about the dating of Xiongnu sites. It is generally assumed that the Xiongnu period extended from the 3<sup>rd</sup> century BCE to the 1<sup>st</sup> century CE, based on the “*Historical Record (Shi ji 史記)*” and “*The History of Han (Han shu 漢書)*”. However, there is another view, namely that

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the entire material and cultural complex of Xiongnu monuments in Mongolia and Transbaikalia was built no earlier than the 1<sup>st</sup> century BCE (Miniaev, Elikhina 2009: 28). There is thus a significant gap between the date cited in the historical texts and the date of the archaeological remains. U. Brosseder (Brosseder, Yerool-Erdene 2011) has addressed this problem in detail, carrying out AMS-radiocarbon measurements to verify the date of the Xiongnu sites. The results of the <sup>14</sup>C measurements are presented in (Yang Si-un, Eregzen 2019), who likewise conclude that the Xiongnu tombs were built between the 1<sup>st</sup> century BCE and the 1<sup>st</sup> century CE.

Although radiocarbon dating is widely used in modern excavation research, Chinese artifacts are also important as key objects. In addition to historical evidence of contacts between Xiongnu and Han, these artifacts can be used as a means of cross-dating. I will therefore begin by presenting three types of Chinese objects.

### *Bronze mirrors*

Chinese mirrors have a cast decoration on the back, which is used to classify them. There is a very minute classification as the study of ancient mirrors in China and Japan, but I have adapted the Higuchi (Higuchi 1979) and Okamura (Okamura 1984; 1993) classification. The key characteristic of this classification system is its focus on the transition between time periods and popular motifs, with Han mirrors divided into seven periods (Fig. 1).

I have gathered all of the mirrors unearthed from the Xiongnu archaeological site and identified their periods, using this classification system (Otani 2014: list 1). The bar graph below (Fig. 3) shows the number of mirrors per period. Most mirrors were made during the IV<sup>th</sup> Han mirror period, after the number of mirrors began to increase during the III<sup>rd</sup> period. There are 6 mirrors in the II<sup>nd</sup> period, but three of them were unearthed from the Ivolga fortress. Two mirrors before the II<sup>nd</sup> period were also unearthed from this fortress. When A.V. Davydova researched this fortress, she dated mirrors with minute background patterns (Fig. 4: 6) to the 3<sup>rd</sup> century BCE and argued that the fortress was built between the 2<sup>nd</sup> century BCE and the 1<sup>st</sup> century BCE (Davydova 1995: 58). Her dating is correct; most mirrors from the early period (before the 1<sup>st</sup> century BCE) are concentrated in this fortress. However, this is an exceptional building within the Xiongnu archaeological site. Most mirrors from the Xiongnu site were made during the III<sup>rd</sup>, IV<sup>th</sup>, and V<sup>th</sup> periods.

### *Lacquerware*

Six lacquerware artifacts found at these sites have Chinese inscriptions<sup>2</sup>. These inscriptions were carved for product control; they show us when the artifacts were made or repaired. The inscriptions are as below.

<sup>2</sup>The reading of each inscriptions depends on as below references; 1: Yeruul-Erdene & Otani (2015), 2: Eregzen & Otani (unfinished), 3: Yeruul-Erdene & Otani (2015) corrected to Polos'mak et al. (2011), 4: Polos'mak et al. (2011), 5: Machida (1974)

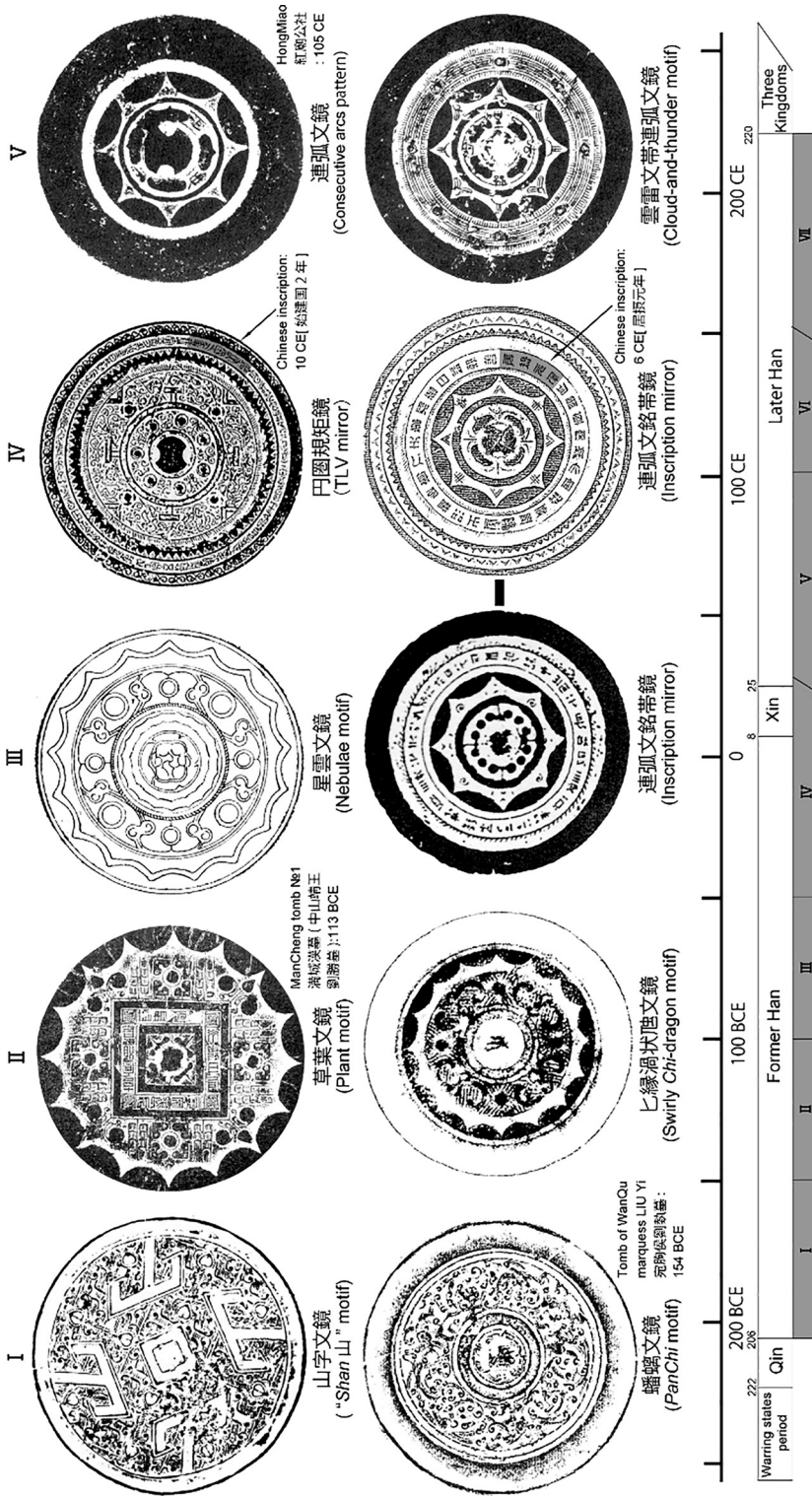


Fig. 1. The Chinese mirror time scale

- (1) Gol mod-I, tomb № 20, *Xuan-tray* 旋, 16 BCE [1<sup>st</sup> year of *Yong-shi* 永始] [紵]黄釳尺五寸旋,永始元年,[供]工二[武]造,護臣[敬]□□.....掾臣[昌]主,右丞臣□,守令臣並省
- (2) Chandman' khar uul, tomb № 7, Ear-cup, 16 BCE [1<sup>st</sup> year of *Yong-shi* 永始] 永始元年,蜀郡西工造,乘輿,髹泅畫.....容一升十六籥,[素]工[宗],髹工褒,上工哀,銅耳黄塗工□,画工卒,泅工,工.....孝,丞[?]掾譚,守令史通主 // Bottom (brush writing): 衛蒙福
- (3) Noyon uul, tomb № 20, Ear-cup, 9 BCE [4<sup>th</sup> year of *Yuan-yan* 元延] 乘輿,髹泅畫木黄耳一升十六籥椁,元延四年,考工二通繕,泅工憲,守佐臣文,齋夫臣勳,掾臣文主,右丞臣光,令臣譚省 // Bottom: Lines for dividing four (×) and two tamga-mark
- (4) Noyon uul, tomb № 20, Ear-cup [掾]臣孝主,守右丞臣忠,守令臣畫省
- (5) Noyon uul, tomb № 6, Ear-cup, 2 BCE [5<sup>th</sup> year of *Jain-ping* 建平] 建平五年九月,工王潭[繕],畫工獲,齋夫武省 // Bottom (brush writing): 上林 // bronze rim of ear part: a tamga-mark
- (6) Noyon uul, tomb № 5, Ear-cup, 2 CE [5<sup>th</sup> year of *Jain-ping* 建平] 建平五年,蜀郡西工造,乘輿,髹泅畫木黄耳椁,容一升十六籥,素工尊,髹工褒,上工寿,銅耳黄塗工宗,画工□,泅工豐,清工白,造工告造,護工卒史巡,守長克,丞駿,掾豐,守令史嚴主
- (7) Tsaram, tomb № 7, tableware or container, before 5 BCE □年,考工二賞造,齋[夫]臣康,掾臣朋主,右丞臣彳,令臣[宗],護工卒史臣尊省。

### Coins

Two different types of Chinese coins were unearthed from the archaeological site of Xiongnu. *Wu zhu* coins 五銖錢 were first cast in 118 BCE, at the time of Emperor *Wu* 武帝. *Huo quan* coins 貨泉 were first produced in 14 CE by *Wang Mang* 王莽 during the Xin dynasty; they continued to be cast until 40 CE in the Later Han period. Coins were unearthed from below the site<sup>5</sup>. (The number of coins is written in the parenthesis.)

(1) *Wu zhu* coin: Tamiryn ulaan khoshuu, tomb № 201 (10, combined like a tube); Khovd aimag (1); Chandman' khar uul, tomb № 22 (1); Bayan bulag (many); Dyrestui, tomb № 7 (2), tomb № 10 (2), tomb № 24 (2), tomb № 38 (2), tomb № 102 (1); Duryeni (2)

(2) *Huo quan* coin: Solbi uul, tomb № 1 (7)

(3) Not reported the type: Ikh nartin nööts gazar (unreported).

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corrected to Umehara (1943) (Otani (2020) consider the character Jing 經 might be corrected Shan 繕), 7: Otani (2019) corrected to Pirazzoli-t'Serstevens (2007).

<sup>5</sup>Solbi uul: (Tsebeendorj, Erdélyi 1990), Tamiryn uraan khoshuu: (Törbat et al. 2003), Khovd: (Tishkin et al. 2009), Chandman' Khar uul: (Amartuvshin et al. 2015), Bayan bulag: (Kovalev et al. 2011), Dyrestui: (Minyaev 1998), Duryeni: (Davydova, Minyaev 2003).

## DISCUSSION: THE DATE OF THE XIONGNU SITE AND XIONGNU

The section above presents three types of Chinese artifacts, which can be dated. As coins cover a large span of time, I have not chosen them for comparison, although I have compared them with the  $^{14}\text{C}$  dates (Fig. 2). Sixteen tombs provided both types of data: Chinese artifacts and  $^{14}\text{C}$  dates. For investigators, both approaches have advantages and disadvantages. We can obtain information more universally using  $^{14}\text{C}$  measurement because it is relatively easy to obtain samples from any excavation. However, these dates are based on probability theory, and cannot be used to narrow the timespan to less than 20 years. By contrast, some Chinese artifacts specify the year they were made, which not be when the archaeological site was built. Instead, such artifacts establish the bottom limit for such sites. We must recognize the different meanings of both types of date and consider the Xiongnu sites date from multiple perspectives.

Looking at Fig. 2, we can consider how these two types of dates interrelate. Most of the Xiongnu tombs are dated between the 1<sup>st</sup> century BCE and the 1<sup>st</sup> century CE. Then, how can we understand this situation against the historical records?

As above, the Xiongnu period is generally dated between the end of the 3<sup>rd</sup> century BCE and the 1<sup>st</sup> century CE, based on the “*Historical Record*” and “*The History of Han*”. According to these written sources, the existence of Xiongnu was confirmed at the same time that *Qin Shi-huang* 始皇帝 unified the “world 天下”. During the early Former Han period, Xiongnu was more powerful than Han; power balance was reversed during the reign of Emperor *Wu* 武帝 (141–87 BCE) (Fig. 3). This clearly reveals the gap between the historical record and the archaeological materials of Xiongnu. To explain the problem more concretely, most Xiongnu tombs are dated between the 1<sup>st</sup> century BCE and the 1<sup>st</sup> century CE. According to U. Broseder, the beginning phases of material culture attributed to the Xiongnu Empire are not adequately understood (Broseder, Yerool-Erdene 2011: 53). The T-shape tombs, which are known as “royal” or “elite” tombs of Xiongnu, were built around the BCE/CE transition. These T-shape tombs appeared and increased in size at a different time from “the strongest period of Xiongnu” written in the historical record. The same gap appears in relation to Chinese artifacts. When I count the number of mirrors, it is clear that the peak occurred during the IV<sup>th</sup> period (Fig. 3). Lacquerware artifacts were dated at the end of the 1<sup>st</sup> century BCE (Fig. 2). According to S.S. Miniaev and J. Elikhina, this situation reveals a contradiction between the traditional view, based on written sources, and the archaeological materials (Miniaev, Elikhina 2009: 28).

Ultimately, this problem must be resolved by continuing the new excavations. Once we have more archaeological materials dated between

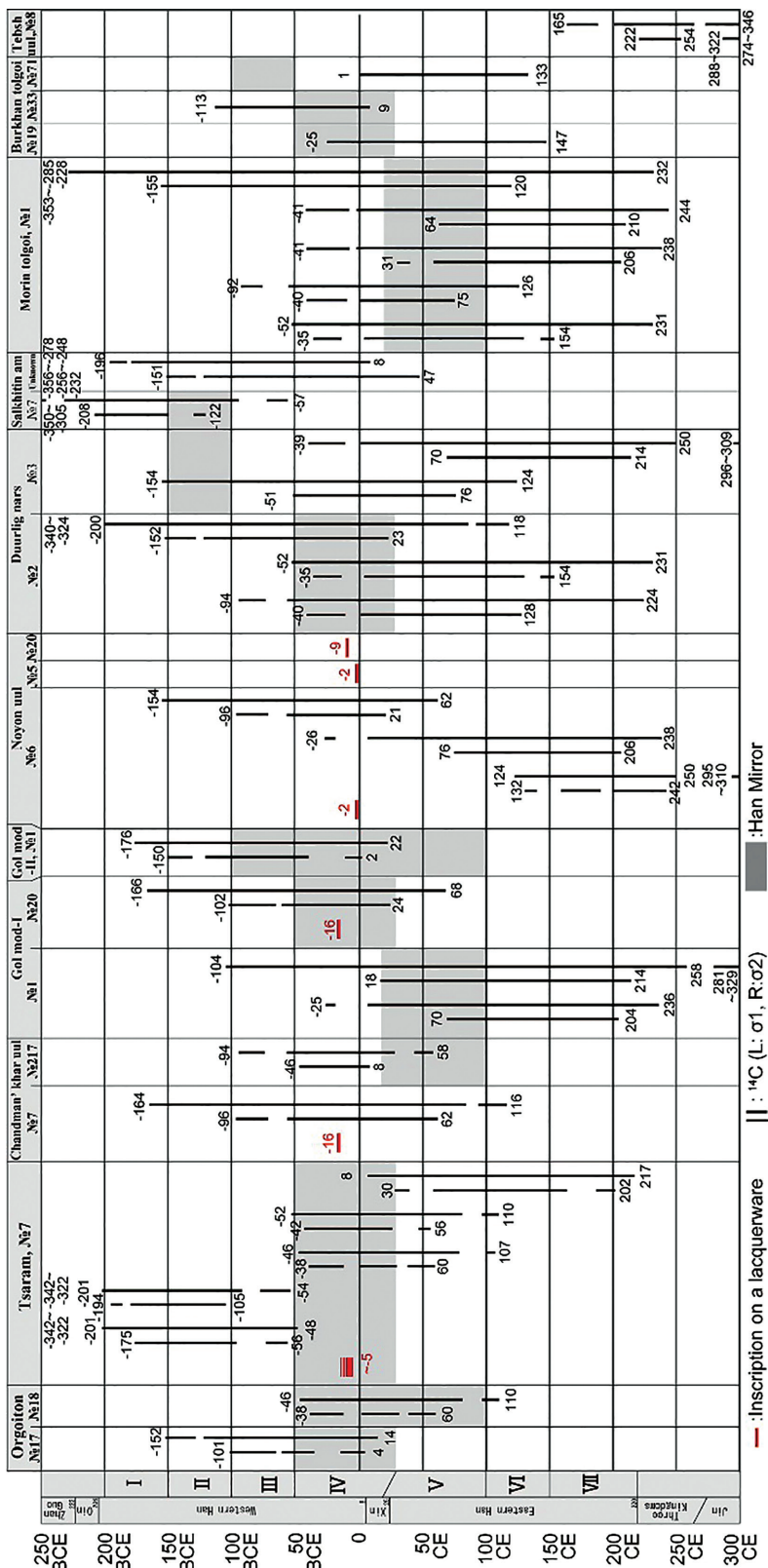


Fig. 2. Dates of Chinese artifacts and <sup>14</sup>C dating

the end of the 3<sup>rd</sup> and 2<sup>nd</sup> centuries BCE, we can discuss the chronological problem of Xiongnu in more detail. We must simultaneously study the transition from slab grave culture in the 7<sup>th</sup> – 3<sup>rd</sup> centuries BCE to the material culture of Xiongnu, and discuss the stratification of the Xiongnu tombs.

### THE SPREAD OF CHINESE ARTIFACTS TO THE EURASIAN STEPPES

My aim in this paper is to examine Xiongnu dates from the perspective of Chinese artifacts. As I mentioned above, I already presented all data in the case of Xiongnu. In addition, it may be useful to survey the spread of Chinese artifacts across the Eurasian steppes and compare the findings with those from Xiongnu.

As previously discussed, most mirrors from the Xiongnu sites were produced during the III<sup>rd</sup> and V<sup>th</sup> Han mirror periods. Only those found in the Ivolga fortress are old, dating from before the III<sup>rd</sup> Han mirror period. Older mirrors from until the II<sup>nd</sup> Han mirrors period have also been found on the Eurasian steppes. Although most were found in the Sayan-Altai region and Enisei Valley, and the other two older mirrors were found in Hami in the Xinjiang autonomous region and in the Chelyabinsk oblast in Russia (Fig. 4). The key point is that a concentrative distribution exists in the Sayan-Altai region.

In recent years, some Chinese lacquerware artifacts have been unearthed from sites in the Sayan-Altai region (Novikova et al. 2013; Sutyagina 2016). We can confirm that the same situation exists for lacquerware, as well as Chinese mirrors (Fig. 5). The patterns drawn on these lacquerware artifacts are old, predating Han style. Lacquered objects from *Mawangdui* 馬王堆 are considered a good material complex from the early Former Han period. The date of Tomb N<sup>o</sup> 1 is 168 BCE. The style of lacquerware from the Sayan-Altai region is older than that of *Mawangdui*. The design resembles patterns from *Shuihudi* 睡虎地, the burial complex of a powerful local Qin-era clan.

It seems clear that this concentrative distribution reflects contact with Qin or the early phase of Han. This concentrative distribution contrasts with the situation in Mongolia and Transbaikalia. Even if there is an exception as Ivolga fortress, it is not the Mongolian plateau but the Sayan-Altai region, which had a close connection with China (Qin/Han) at that time. Although it is important to discuss the essential meaning of “exchange” shown as the spread of Chinese artifacts, I cannot do that here<sup>4</sup>. However, this spread reflects contacts with China. Since the 1<sup>st</sup> century BCE, (i.e., since the III<sup>rd</sup> Han mirror period), the number of Chinese mirrors increased. This may reflect the advance of the Han into the west. Qin and Han could

<sup>4</sup>U. Brosseder (Brosseder 2015) has examined this topic, presenting many interpretations, including economical exchange, gifting, and migration.

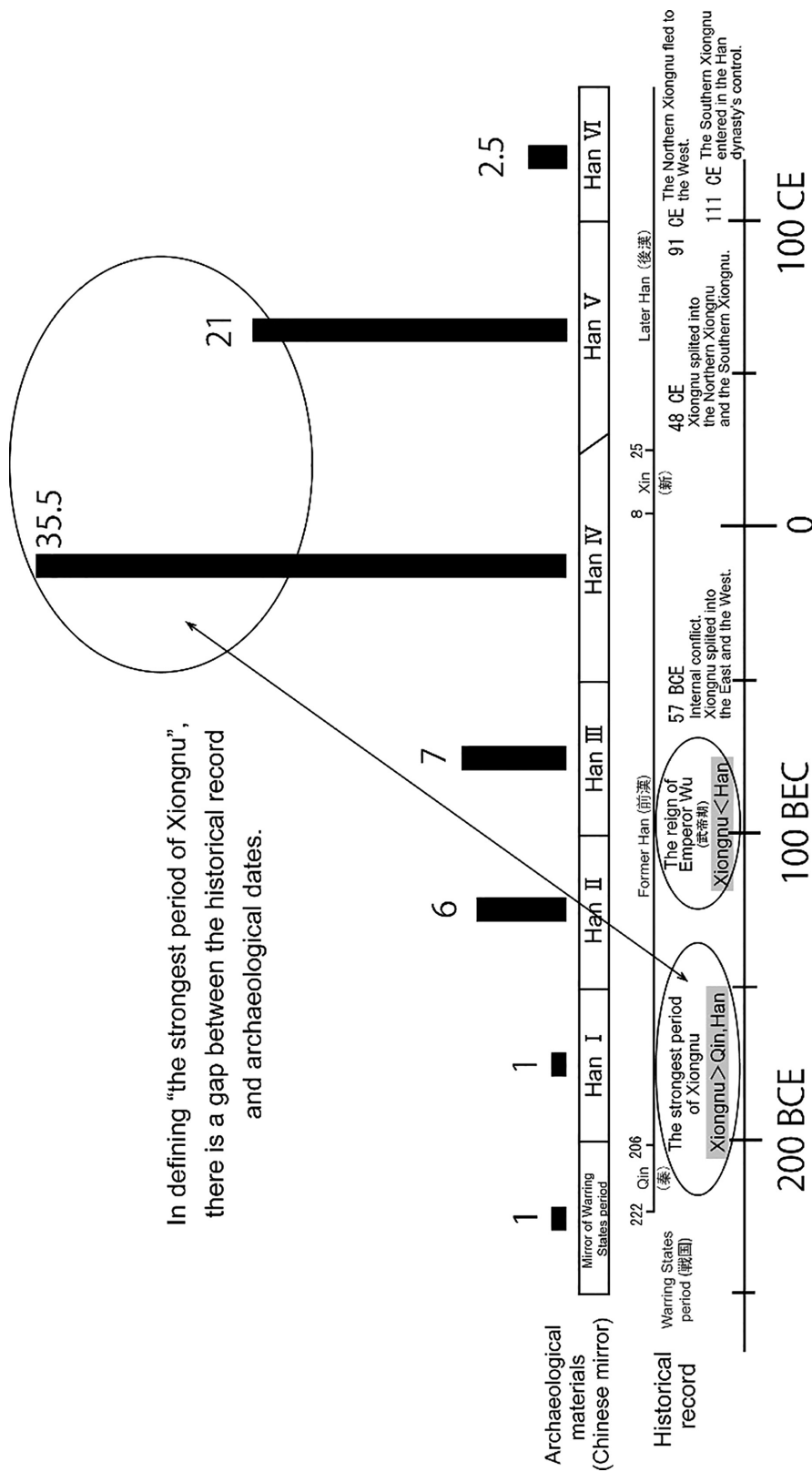


Fig. 3. Each period of mirrors excavated from the Xiongnu tombs





Fig. 4. Distribution of Chinese mirrors (until period VII of the Han mirror)

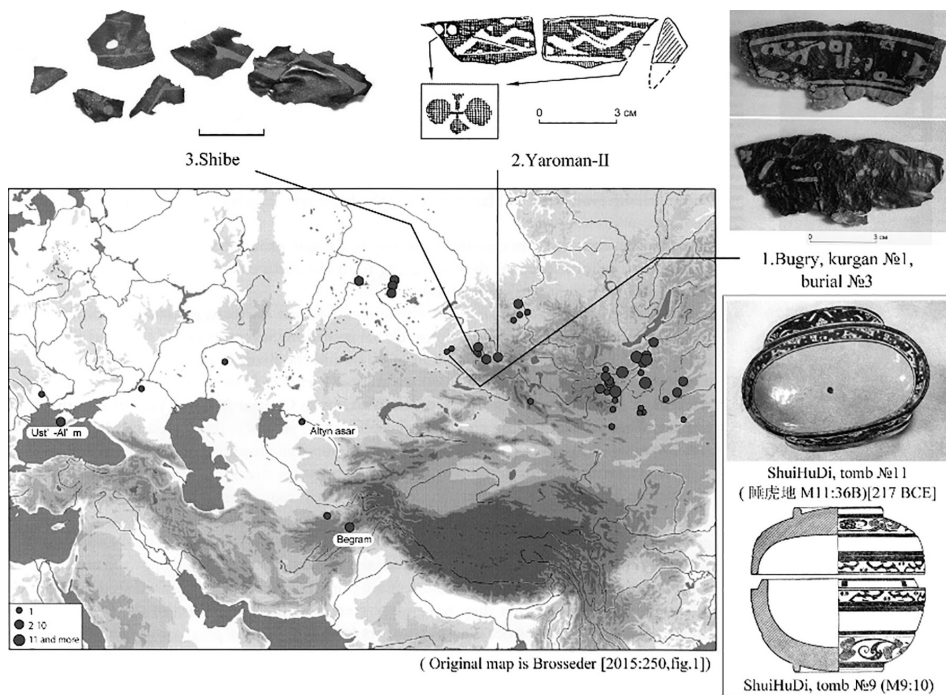


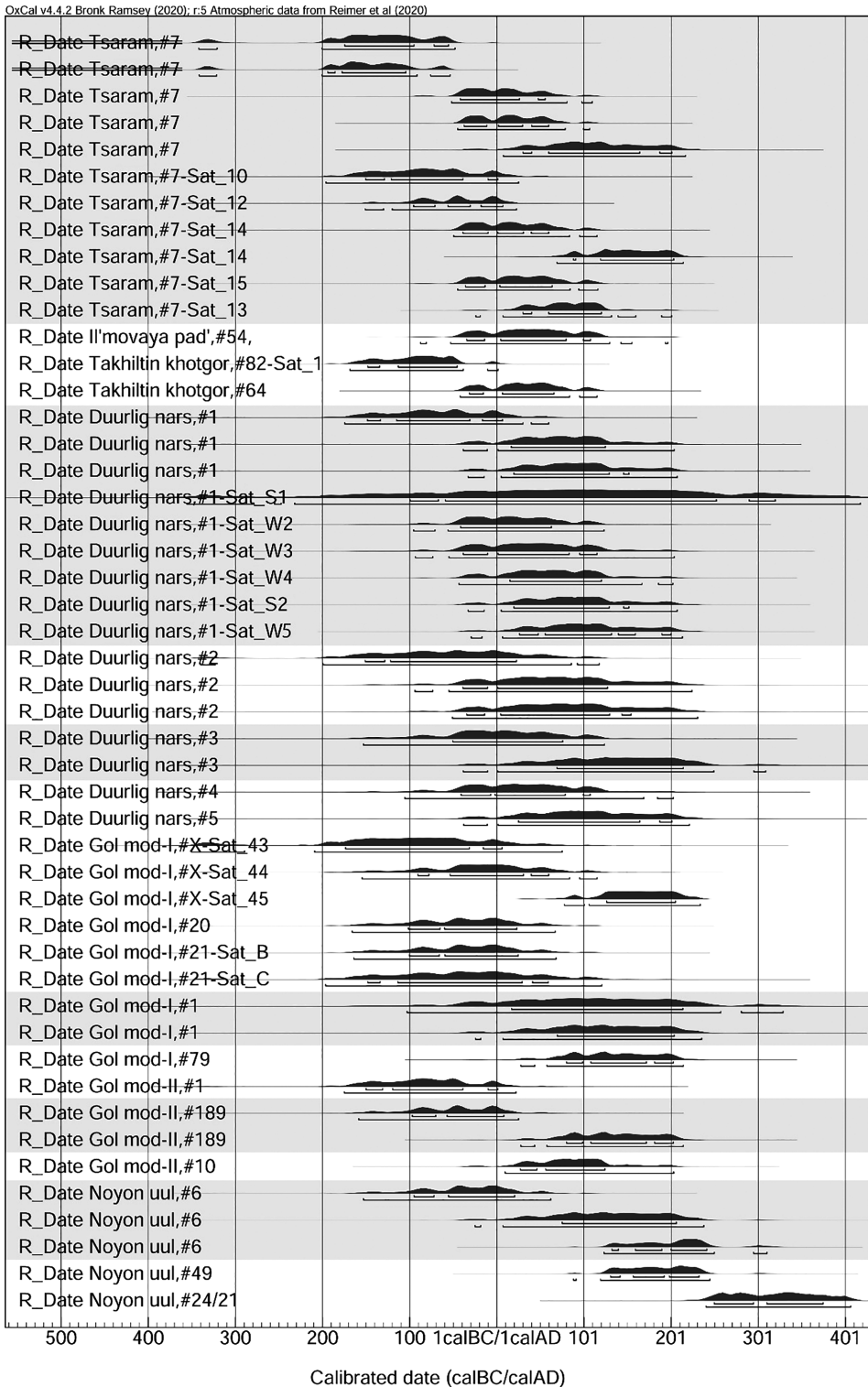
Fig. 5. Distribution of lacquered objects in Eurasia

not move west over the Yellow river for a long time, King *Hunye* 浑邪王 of Xiongnu was defeated in 121 BCE and control of the *Hexi* corridor 河西回廊 passed from Xiongnu to Han. After this event, Han territory expanded rapidly, reaching *Yumenguan* 玉门关 in 108 or 107 BCE (Fig. 4). Because the Han constructed a stable system for administering the *Hexi* corridor, Chinese goods began to spread west along the main Silk Road. As mentioned above, we can use Chinese artifacts not only as markers of historical contact, but also as a time scale, revealing when such contacts occurred.

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The <sup>14</sup>C date of the T-shape tombs and their satellite tombs



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## КИТАЙСКИЕ ИЗДЕЛИЯ КАК ШКАЛА ВРЕМЕНИ ПРИМЕНИТЕЛЬНО К ХУННУ

Отани Икуэ

Автор статьи сравнивает радиоуглеродные датировки памятников хунну с датировками китайских изделий — найденными на этих памятниках бронзовых зеркалах, монетах и лаковой посудой с надписями о дате её изготовления. Датировки китайских изделий позволяют сузить широкий диапазон радиоуглеродных дат до периодов менее чем в 20 лет и определить нижнюю временную границу памятника. Автор обращает внимание на противоречие между временем существования империи хунну по историческим текстам (с III в. до н.э. до I в. н.э.) и тем фактом, что большинство раскопанных могил и городищ хунну были сооружены между I в. до н.э. и I в. н.э., что также подтверждается датировками найденных там китайских изделий. Кроме того, рассматриваются вопросы распространения китайских изделий в евразийских степях.

**Ключевые слова:** хунну, бронзовые зеркала, лаковые сосуды с датирующими надписями, ханьские монеты, могилы и городища хунну.

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