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A Glimpse into Burial Practices of Medieval  
(10th to 13th c. ad) Elites in the Horqin Region,  
Northeast China

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### Résumé

Cette étude a pour but de présenter deux tombes à chambre en brique des périodes Liao et Jin (Xe-XIIIe s.) fouillées récemment dans la région du Ke'erqin (à Dongmengyi dans le district de Shuangliao et à Hamaqin dans le district de Changling), dans l'ouest de la province du Jilin, dans le nord-est de la Chine. La description de ces découvertes, réalisée de la manière la plus détaillée possible, met en relief les éléments architecturaux, ceux du mobilier funéraire, et les restes humains. Dans un deuxième temps, les auteurs proposent de mettre en perspective ces découvertes en les comparant aux sépultures publiées pour cette région. 246 tombes du Ke'erqin et des alentours ont été intégrées à une base de données et permettent de mener des analyses quantitatives sur les coutumes funéraires. Ces informations, visualisées au sein d'un Système d'information géographique (SIG), sont analysées pour connaître les configurations spatiales de la distribution des divers types de tombes, de leurs formes, et même des objets les plus proches de ceux découverts à Dongmengyi et Hamaqin.

**Mots-clés :** Chine du Nord-Est ; coutumes funéraires ; période Liao-Jin ; tombes à chambre en brique ; archéologie funéraire.

### Abstract

This article first presents two brick chamber tombs from the Liao and Jin period (10th to 13th c. AD) recently excavated in the Horqin region (at Dongmengyi in Shuangliao District and at Hamaqin in Changling District), in the western part of Jilin Province, Northeast China. The architectural elements, burial offerings, and human remains are described, and are then compared to published burials from the region. 246 tombs from the Horqin Basin and the surrounding areas have been integrated into a database to allow for quantitative analysis of burial practices. Finally, these data are visualized using geographic information system (GIS)

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software, to shed light on the spatial distribution of burial types, burial shapes, and mortuary objects similar to those in the Dongmengyi and Hamaqin tombs, allowing us to place them in cultural and spatial context. The use of such regional analysis of mortuary traditions for understanding cultural hybridization and social hierarchy in the Liao-Jin period is also considered.

**Keywords:** Northeast China; burial practices; Liao-Jin period; brick chamber; tombs; mortuary archaeology.

## Introduction

“自古及今，未有不死之人，又無不發之墓也”“From antiquity until today there have been no people who did not die, and there have been no tombs that were not opened.” *Jin Shu*, vol. 5, j. 51, p. 1417, *Zhonghua shuju*, 1997.

Huangfu Mi 皇甫謐 (215–282 ad) explained as early as the 3rd century that the robbing of tombs was common and widespread in China, and this is still the case today (Kuhn 1994: 18; de Pee 2012: 229–230). In the past, tomb robbing often occurred during times of political turmoil, either because the looters were committing the crime as a political act, or simply because they were taking advantage of the turmoil: for instance, many tombs of the Liao 遼 period (907–1125 ad) were robbed during the subsequent rule of the Jin 金 (1115–1234) during their takeover of the empire (Hooker 2007: 35). Given the high rate of disturbance of ancient burials in China, and the abundance of information from historical texts on burial practices and treatment of corpses, what is left for archaeologists to discover about ancient Chinese burial practices?

First of all, ancient burials are constantly being discovered, and require excavation and study. Most tombs are accidentally discovered by farmers during construction and farming work, e.g. while building roads and canals, or flattening mounds to extend agricultural lands. Now more than ever, farmers are equipped with heavy machines, which has sped up the pace of discovery, and also of destruction.

Second, there is still much research to be done on the burials of nonelite people, that is to say, people who did not belong to the upper classes of the society. Most burials represented in archaeological publications are those with elaborate tomb architecture, mural paintings, and inscriptions (Kuhn 2006: 28). By contrast, there are only a few reports about simple earthen pit tombs, considered by archaeologists to be burials of the “common people”. Information on burial practices from many periods in Chinese history is therefore limited to the aristocracy (members of high ranking noble families, mostly the Yelü and the Xiao clans in the case of the Liao-Jin period) and the elite (powerful but non-aristocratic individuals, e.g. lowerranked nobles, rich merchants, craftsmen, landowners, etc.).

Finally, archaeological data allow us to ask how the culture and identity of the elite are represented in material culture, how elite burial practices reflect cultural changes during historical periods, and how burials reveal the influences of other regions (including distant regions, such as central China and the Yellow River Valley, and present-day Hebei 河北 and Shanxi 山西 provinces; or more locally within Jilin 吉林 and Liaoning 遼寧 provinces, and the Changbaishan 長白山 and Yanshan 燕山 regions). In this paper, we ask to what extent archaeological findings related to burial practices reflect a social hierarchy and the multiple cultural influences of the Liao-Jin period (10th to 13th c. ad). To answer these questions, this

article analyzes Liao-Jin period elite burials in and around the Horqin region. In the present paper, we use the term “elite”, defined by Kuhn as “not only degree-holders and office-holders, but also the families of scholar-officials, and members of local elites, such as landowners, men of property, private scholars, literati, merchants, entrepreneurs etc.” (Kuhn 1994:12). The main burial types discussed here are brick chamber or stone burial tombs, which are constructed by digging a large pit in which a small architectural feature is built. These constructions typically include a door, an entrance corridor, and a main dome-shaped room (chamber) covered with a cupola, and sometimes, in more elaborate and elite cases, an antechamber and secondary rooms (see the typological study in Kuhn 1998: 35). In the main chamber, there can be a stone sarcophagus, a wooden feature to contain the body, or a brick platform. Compared to tombs used in other times and places in China, these tombs are quite similar to some (for instance, the brick chamber burials of the Northern and Southern dynasties in central China, e.g. Shanxi 1972), but very distinct from others (for instance, the catacombs used in the Sichuan region during the Han dynasty, which are chambers dug into the ground or a cliff face, e.g. Sichuan et al. 2015). We will follow the periodization used by Qin Dashu 秦大樹 (2004: 176, 217–219) for the Liao-Jin period (table 1). This periodization is based on the reigns of dynastic rulers, though other periodizations exist, including one based on the locations of the main capitals<sup>2</sup>. Qin’s chronology is the one most commonly used in archaeological reports in Chinese, and the best choice if we hope to compare our results with published materials.

Early Liao Before the reign of Jingzong 景宗 before 983 ad

Middle Liao From the reign of Shenzong 聖宗 to that of Xingzong 興宗 983 – 1055 ad

Late Liao From Daozong 道宗 to Tianzuodi 天祚帝 1055 – 1125 ad

Early Jin From the foundation of the Jin Empire to before the reign of Zhenglong 正隆 1115 – 1160 ad

Middle Jin From the Dading 大定 year of the Shizong 世宗 era to before the reign of Weishaowang 衛紹王 1161–1208 ad

Late Jin From the first year of the Da’an 大安 era to the end of the dynasty 1209–1234 ad

Table 1 — Chronological phases of the Liao and Jin periods

### History of archaeological research

In Northeast China, the Khitan (Qidan 契丹) people founded the Liao dynasty, which existed from the 10th to the 12th centuries ad (907–1125) (Marsone 2011). The Khitan were later overthrown by the Jurchen (Nüzhen 女真) people, who founded the Jin dynasty (1115/1125 – 1234). The Liao territory formed an oblong shape from the Altai Mountains and eastern Kazakhstan, across the full extent of Mongolia and north of Beijing, up to the Khabarovsk region and the Uda Gulf in the Sea of Okhotsk, north of the Sakhalin, and finally to the Primorsky region and Vladivostok, thus including all of Northeast China to the borders of Korea. The Jin territory extended north-to-south from the Uda Gulf to the Greater Xing’an (Khangai) mountain range, to Hohhot 呼和浩特 and Lanzhou 蘭州, including the Zhengzhou 鄭州 Basin, and all of the Shandong 山東 peninsula (Tan 1987). The Horqin (Ke’erqin 科爾沁) Basin was thus ruled by

<sup>2</sup> 1115 – 1153 ad (Shangjing 上京, Acheng 阿城 near modern Harbin 哈爾濱), 1153 – 1214 ad (Zhongjing 中京, Yanjing 燕京, modern Beijing 北京), 1214 – 1234 ad (Nanjing 南京, Bianjing 汴京, modern Kaifeng 開封) (Yao 1971; Tillman & West 1995: 24).

both the Liao and Jin dynasties.

The primary archaeological sources on this region are excavation reports published as short articles in specialized journals, or as monographs, in technical Chinese (the history of discovery of the material culture of the Liao, somewhat better studied than the Jin, has been summarized by Kuhn [2006: 27–28]). So far, most of the research has focused on two types of burials: 1) those with inscriptions, and the link between the tomb owner and historical texts; 2) those with mural paintings that can be studied iconographically, as shown for example by the large bibliography about the Xuanhua 宣化 Liao tombs in Hebei (Elisseeff 1994; Shatzman Steinhardt 1997a; Feng 2001; Li Q. 2008; Zhangjiakou 2008). After years of regular publications and hundreds of reports, however, the fact remains that the bulk of Liao archaeological materials has not been published or exhibited (Tsao 2000). Furthermore, Liao tombs are rarely fully analyzed (Shatzman Steinhardt 1997b: 283): excavation reports simply include the date of the tomb (early, middle, or late phase of the Liao or the Jin), and identify the tomb occupant as either a Han or a Khitan, and as either an aristocrat or a commoner, usually without further discussion.

One reason for the under-exploration of funerary architecture of the Northeast is the region's marginal location, both in terms of modern scientific institutions and in terms of Chinese cultural geography (Shatzman Steinhardt 1998: 227–229). Moreover, historical archaeology has largely been overlooked in China, as in many other countries. However, in addition to some spectacular gold and silver funerary objects that have been displayed in exhibitions (Gong 2006; Hooker 2007), there is now enough data, from hundreds of reports in monthly journals, to allow us to raise new questions on funerary customs in the Northeast during the Liao-Jin period.

A few notable scholars published analyses of Northeast Chinese medieval funerary archaeology and architecture. The two most prominent Western scholars to have done so are Dieter Kuhn and Nancy Shatzman Steinhardt. Kuhn is the most prolific specialist of Song (960–1279 ad) and Liao burials (Kuhn 1992, 1994, 1996, 1997, 1998), and has drawn attention to the complex social hierarchy represented in funerary data. Shatzman Steinhardt is a specialist in Chinese imperial architecture (Shatzman Steinhardt 1997a, 1997b, 2006), and both scholars have also analyzed the rare mentions of funerary customs in historical texts (Shatzman Steinhardt 1998: 225–227). Iconographic analysis was carried out by Danielle Elisseeff (1994) and Linda Cookes Johnson (2011). Finally, one of the best English-language sources for this field is a richly illustrated collection of articles published as a catalog for an exhibition of Liao burial goods, titled “Gilded Splendor” (Shen 2006).

In Chinese, Feng Enxue's 馮恩學 dissertation and subsequent articles (Feng 1995, 2001, 2011) and Qin Dashu's manual of medieval archaeology (Qin 2004) provide some of the latest research on Liao and Jin burials. The most recent and exhaustive typochronological research was published by Liu Wei 劉未 (Liu 2009).

The rarity of intact burials means that questions such as assemblages of burial goods are rarely discussed. However, a few well-preserved tombs have been found, and have been well described in the literature. Discovered in 1985, the tomb of Princess Chenguo 陳國 and her husband Xiao Shaoju 蕭紹矩 (in Tongliao 通遼, Inner Mongolia) was the first royal tomb discovered intact and, surprisingly, with a complete set of burial offerings (Neimenggu & Zhelimumeng 1993; Shatzman Steinhardt 1998: 229–231; Sun 2006). Tomb number 6 of Haoqianying 豪欠營 (in Wulanchabu 烏蘭察布, Inner Mongolia) is famous for its mummified human remains (Wulanchabu 1983; Shatzman Steinhardt 1998: 231 – 234); tomb number 7 in Yemaotai 葉茂台

(in Faku 法庫, Liaoning) contains an important example of a small wooden structure used as a coffin (*xiaozhang* 小帳) (Liaoning 1975; Shatzman Steinhardt 1998: 234 – 237); the tombs of Xiabali 下八里 (Xuanhua 宣化, Hebei) are known for their mural paintings (Elisseeff 1994; Shatzman Steinhardt 1998: 237 – 239; Feng 2001; Hebei 2001); and the tomb of Tu’erjishan 吐爾基山, discovered in 2003 (Neimenggu 2004; Ta & Zhang 2006), is famous for its painted wooden coffin (Zheng 2010).

A glance at the available bibliography shows that there are far fewer archaeological reports and far less research on Jin dynasty remains and tombs than on Liao remains. This can be explained by a combination of factors, including the relative lengths of the two dynasties, the different amounts of available historical data from each dynasty, the size of the dynastic territories, and the nature of the tombs and material cultures.

The Jin period is half as long as the Liao, who ruled for approximately 218 years (907–1125), while the Jin ruled for only 109 years (1125–1234). Historical research on the Jin is also relatively lacking, as this period does not have a direct equivalent to the encyclopedic work of Wittfogel and Feng (1949), though the work of Franke and Chan on the Jin period (1997) is very rich. Furthermore, the territory of the Jin dynasty was smaller than that of the Liao, and only a few tomb discoveries have been published for this period, mostly the lavishly painted ones of Shanxi and Hebei (among others, see for example Wenxi 1988). Most tombs of the Jin aristocracy that have been discovered are still awaiting more extensive publication, since the tombs are less impressive than those of the Liao<sup>3</sup>.

Furthermore, and especially in the West, there have been several exhibitions on the art of the Liao/Khitan, but none, to our knowledge, on the Jin/ Jurchen. This is perhaps because the gold and silver artwork of the Liao is especially spectacular, and perhaps the sedentary, agricultural, pig- and horse-breeding Jurchen seem less sensational than the nomadic horse-riding Khitan. However, recently conducted research in Heilongjiang 黑龍江 (the excavation of the Acheng Capital [Jilin 2015]) and Jilin (the discovery of an imperial ritual architectural complex at Baomacheng 寶馬城 [Jilin 2014, Zhao 2015]; the discovery of the salt production workshop of Yinjiawopu 尹家窩堡 [Sebillaud et al. 2015, 2017]; and research on the Jurchen cities during the Ming period, [Sebillaud & Liu 2016]) may give new momentum to Jin archaeology.

This article aims to advance this research, by examining two burials that were excavated in 2016 and placing them in the context of the existing publications up to 2016, using a digital database as well as GIS for spatial analysis. Many of the tombs of this period discovered so far are “undated tombs of unknown people” (Kuhn 1994: 89), that is, tombs without inscriptions, which have largely been overlooked in archaeological research in Northeast China. We therefore present detailed descriptions of two such tombs to illustrate the utility of the data that can be gathered from such remains. Then, we will use a large dataset of published tombs from in and around the Horqin region to find patterns in the burial customs of the Liao-Jin elites. These funerary data provide new insights into processes of cultural hybridization in this region in terms of mortuary architectural features, burial goods, and the treatment of bodies for burial. The descriptions of the tombs include the architectural features, the artefacts and an analysis of the human remains. We present these datasets side by side, including the osteological analysis, out

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<sup>3</sup> For additional work on the royal and aristocratic mausoleums of the Jin, see publications on the Wanyan Xiyin 完顏希尹 clan mausoleum (Pang 2010; Jilin & Jilin 2012; Liu & Fu 2013) and the Wanyan Loushi 完顏婁室 clan mausoleum (Liu 1990).

of a commitment to real multi-disciplinary research: each type of data in an archaeological context contains rich layers of information about the lives and societies of the deceased, and is most fruitfully interpreted when placed within the context of all the other available data (Buikstra 1991).

### **Natural and cultural environment of the Horqin Basin**

The recently excavated tombs presented in this paper are located in the Horqin region, a topographical basin with a complex environmental history. A vast lake until the middle Neolithic, this region slowly turned into marshes and hollows before progressively drying up to form a large steppe, which has been a rich pastureland in use for centuries. The remaining forest was converted to agricultural land over the course of the 2nd millennium ad, and these areas have now become flat “sandy land” or “sand fields” (*shadi* 沙地) – a patchwork of fields and hard yellow alkaline, often salty desert with stabilized and semi-stabilized dunes, as well as evaporating lakes in constant aeolian erosion and drought. Today, this is known as the “Horqin desert” (fig. 1). This environmental phenomenon has changing boundaries (Yi et al. 2013), but the “Horqin desert” commonly refers to the transitional area between Inner Mongolia and the Manchurian Plain, totaling an area of 500 000 km<sup>2</sup> (Zhao et al. 2013). This area encompasses modern Taonan 洮南, Tongyu 通榆, Changling 長嶺, and Shuangliao 雙遼 districts in Jilin province and Tongliao, Zhaluteqi 扎魯特旗, Horqin Banner 科爾沁旗, Kulun Banner 庫倫旗, Balin Left Banner 巴林左旗, and Aohan Banner 敖漢旗 in Inner Mongolia.

During the Liao-Jin period, the Horqin region was most likely a steppe zone with rich pastures, the forest and marshes being progressively cleared to open new fields for the fast-growing sedentary population (Liu et al. 2016). The flat topography has also led to many changes in river courses. Periods of desertification and decreased productivity generally align with the ending phase of a dynasty (for the Liao, with the desertification processes from 1050 ad onwards; for the Jin, with the decreased productivity after 1220 ad), and more fruitful conditions often coincide with the beginning of a new dynasty (good conditions between 920 and 1050 ad, when the Liao began; and after 1160 ad, when the Jin began) (Wang et al. 2010).

During the Liao-Jin period, this region was inhabited by people of different ethnic origins, with different linguistic characteristics, divided or mixed into different states, mainly Khitan (Shamanists, Buddhists), Jurchen (Shamanists, Buddhists), Han (Confucianists, Taoists, Buddhists), and Mongols, Tungus, Xi/Bo 錫/伯, Bohai 渤海, Shiwei 室韋, Zubu 阻卜, Koreans, and Uyghurs (with a variety of belief systems), most of whom consisted of sedentary agricultural population (Di Cosmo 2006: 20).

We chose the Horqin Basin as our region of study because of its marginal character in relation to Han Chinese cultural geography, its central location in relation to both Liao and Jin cultural geography, and its unique topography.

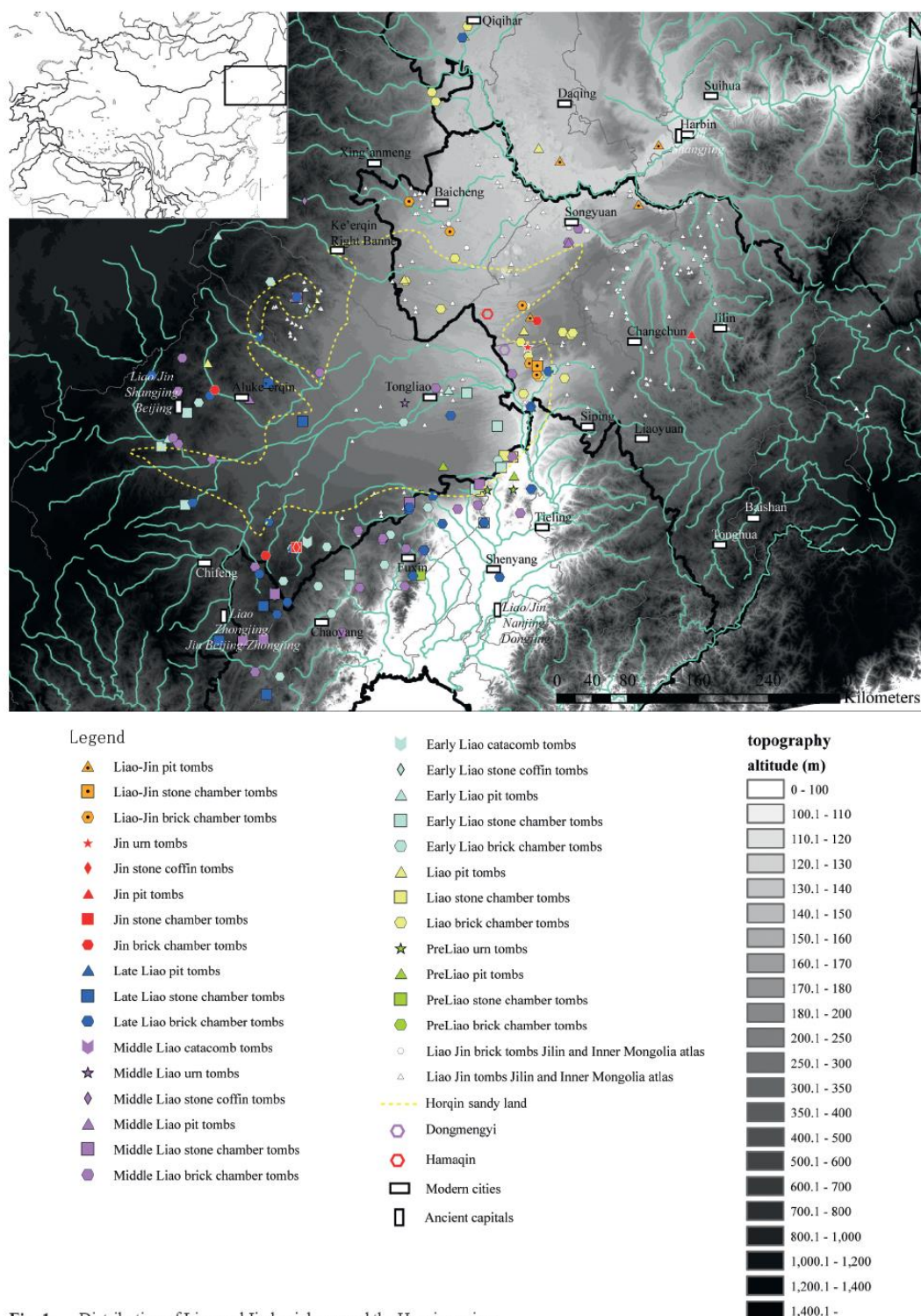


Fig. 1 — Distribution of Liao and Jin burials around the Horqin region.

## Methods

The two case studies that follow were burials excavated in salvage operations, conducted over nine weeks by a team made up of members of the Jilin Province Archaeological Research Institute, the Research Center for Chinese Frontier Archaeology at Jilin University, the Centre National de la Recherche Scientifique (CNRS), and the University of North Carolina during the summer of 2016. Both operations were carried out by a small team (three archaeologists and three local workers).

Each stratigraphic layer was removed down to the level of the opening of the burial chamber pit. Half of it was then excavated in order to obtain information on its filling process. The roof of the chamber was then cleaned, recorded, and drawn, and the brick layers that were not stable enough to leave in situ were drawn and removed layer by layer to gather data on the construction techniques. The fill of the burial chamber, which contained some artifacts, was then excavated and recorded layer by layer. The tombs were recorded using architectural drawing (Illustrator, AutoCAD), photography, photogrammetry (Agisoft photoscan), and 3D mapping.

After the excavations, we created a large comparative bibliography of archaeological reports of Liao and Jin tombs in Jilin, Inner Mongolia, Liaoning, Heilongjiang, Hebei, and Shanxi, all of which contain information on around 500 tombs covering an area of 32 districts around the Horqin Basin. Among them, information related to the 246 burials that were documented (the other 254 burials are just mentioned, but not described in the available publications) were entered into a database (constructed in FileMaker Pro) in order to carry out simple statistical analyses (using Microsoft Excel). We located each site's coordinates on Google Earth using information from the published reports and produced multiple maps using geographic information system software (ESRI ArcGIS), allowing us to find patterns in the spatial distribution of these burials and some of their main characteristics.

## Two case studies: Dongmengyi and Hamaqin tombs

### *Dongmengyi*

#### *Discovery and description of funerary architecture*

Dongmengyi 東孟益 village is located in the western part of Jilin province, in the north of Shuangliao district. The site contains several brick chamber tombs, located in a small wood on a hill on the east side of the village. One tomb was looted in 1986, and when a portion of the ground collapsed and opened a new hole into the tomb in 2016, a team of archaeologists was sent by the Provincial Institute to excavate it. A survey of the surroundings recovered pottery sherds from the ground surface and identified a site (possibly a settlement) east of the tombs, on a small rectangular hill that stands about 5 m higher than the surrounding landscape and likely contains settlement remains. The salvage excavation revealed a brick chamber tomb consisting of a large pit with a ramp, and two looting pits (Liu *et al.* in press).

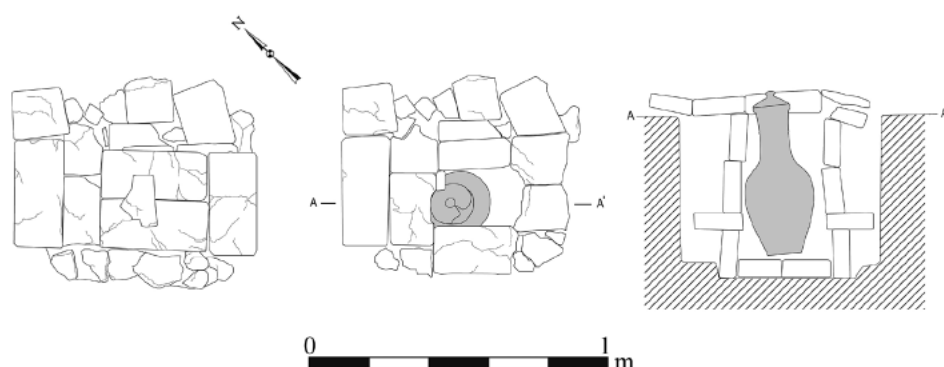


Fig. 2 — Brick feature of the Dongmengyi tomb.

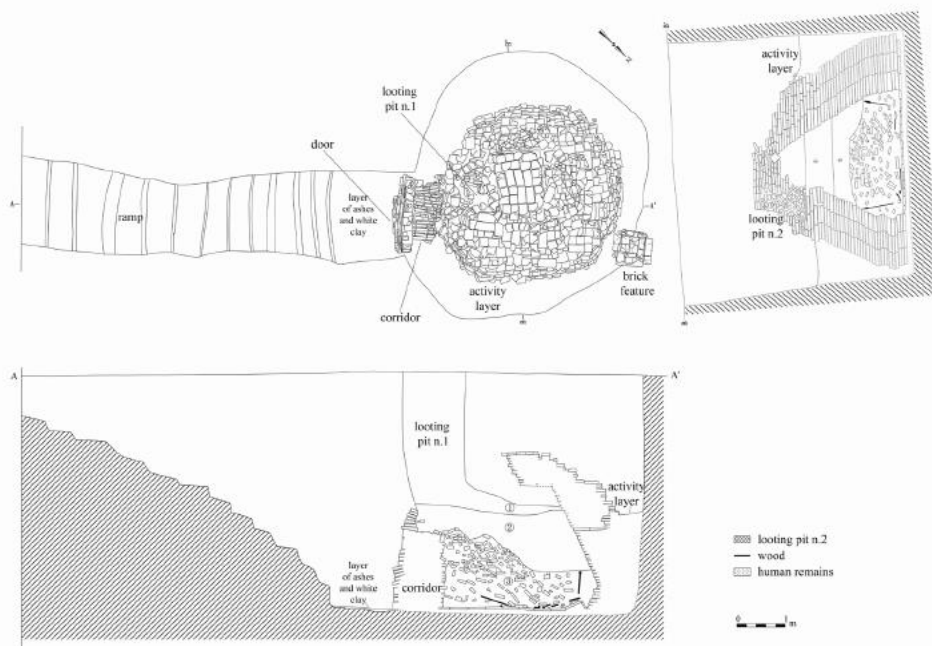


Fig. 3 — Plan and section of the Dongmengyi tomb.

A small brick chamber was found on the northern side of the opening of the tomb pit, measuring  $81 \times 52$ – $70$  cm and orientated  $144^\circ$  southeast (figs. 2 and 5-1). This pit, lined with bricks and dug from the Liao period level, was just apparent on the surface at that time, and contained a gray terracotta long necked *hu* 壺 vase (fig. 7-1) with organic residue on the bottom that resembled fabric and which had been deposited on top of a few sheep bones.

The brick burial chamber sits in a large pit with an access ramp orientated southeast ( $127^\circ$ ), and a total of  $12.9 \text{ m}^2$  were excavated (figs. 3 and 4). The access ramp, with  $7.8 \text{ m}$  of its length excavated (part of it was left unexcavated for practical reasons), measures  $1.4$ – $1.9 \text{ m}$  in width, and has a  $31^\circ$  slope and 12 steps (each  $20$ – $60 \text{ cm}$  wide and  $11$ – $40 \text{ cm}$  high), with a maximum depth of  $4.9 \text{ m}$  from the opening of the pit.

The ramp leads to the door of the brick chamber, which is  $2.4 \text{ m}$  high and  $1.3$ – $1.9 \text{ m}$  wide, with a rounded top crowned by a line of tiles imitating a lintel, which symbolizes a rooftop (fig. 5-2). Beyond the door is a corridor with a radiating barrel vault, which has been damaged by a looting pit. The corridor measures  $0.7 \text{ m}$  in length,  $1.5 \text{ m}$  in exterior height,  $1.2 \text{ m}$  in interior height,  $1.4 \text{ m}$  in exterior width, and  $0.9 \text{ m}$  in interior width. It is constructed of two layers of bricks.

The main brick chamber is almost round in shape, with a diameter of  $4.9$ – $5.4 \text{ m}$ , and a depth of  $4.8$ – $4.9 \text{ m}$ . At about  $2.8 \text{ m}$  deep the excavation encountered an activity layer composed of hard compacted earth mixed with a large quantity of brick fragments. This activity layer surrounds the roof of the brick chamber, which rises above it by  $1.4 \text{ m}$  in height. We presume the workers stood on this level to build the roof of the brick chamber.

The roof of the chamber appears round from the outside, with a diameter of  $3.6$ – $3.8 \text{ m}$ , and has been partly destroyed by a looting pit. On the inside, the chamber has a square-based pyramidal corbelled shape starting from the floor. The chamber and its roof are composed of 52 courses of bricks ( $3.2 \text{ m}$  high); only eight courses of bricks form a low straight wall at the base of the burial chamber. On the inside of the chamber, the slope of the roof is formed by 37 courses of bricks

which were each shifted in 2–4 cm, and covered with a layer of lime, which is flaking off. Seven courses of bricks form the pinnacle of the roof on the outside. The pyramidal shape of the inside is finished with six remaining half (square) bricks placed as diamond-shape keystones and covered by a few tile fragments to establish a level surface.

The chamber is a square room of 2.8 × 2.8 m in plan and 2.5 m in height, paved with bricks. Underneath the floor of the chamber, corridor, and door is a thin layer of ashes and pure white clay, used to prevent humidity. This technique was in use since the Warring States period to waterproof similar structures (Kuhn 1994: 26). The chamber is filled with bricks collapsed from the looting pits and silt from infiltration of water and flooding.

The bricks used to build the chamber, roof, door, and corridor are fired at different temperatures and oxidation levels, with gray or red coloration, and the door and corridor are filled with bricks coated with lime. The bricks are rectangular and uniform in dimensions (34 × 16 × 5 cm, making the proportions 7 × 3 × 1).

The northern part of the burial chamber is occupied by a small wooden aedicule (*xiaozhang* 小帳) (Shatzman Steinhardt 1997b), sometimes termed a “wooden sarcophagus”, which would have resembled a miniature wooden house, and which contained the remains of the tomb occupants. Its roof has collapsed and only its four walls are still standing, measuring 2.3 m in length, 1.7 m in width, and 0.9 m in height. Each wall is composed of five to six wooden boards (72 × 32 × 1 cm), each linked at the top by a horizontal piece of wood, 10 cm in width, which was fitted in a groove with tenons, mortises, and wooden nails. A gap in the center of the front wall shows where a small door was originally placed. A reconstruction of this aedicule can be proposed by studying the placement and measurements of the collapsed boards (fig. 15).

In sum, the Dongmengyi tomb is a single chamber tomb, round on the outside but square on the inside, with a small corridor, a door, and an access ramp with stairs cut into it, with a *xiaozhang* but no mural paintings, which are all features typical of the middle phase of the Liao dynasty (983–1055), according to Qin Dashu’s research (2004: 180).

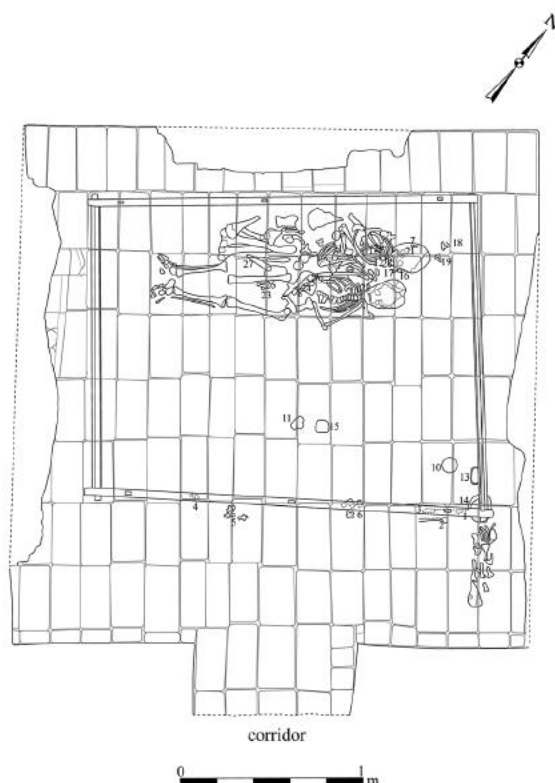
### *Burial offerings*

The vessel found in the small brick chamber to the north of the Dongmengyi tomb is a long-necked hu vase (50 cm in height, 13 cm opening diameter) with a lid. The vessel was wheel-thrown, and made out of gray clay with a combed pattern decoration (fig. 7-1). Inside the fill of the ramp, there were a few pottery sherds, pieces of tiles, and an iron object.

Inside the *xiaozhang*, two individuals were laid on a piece of fabric (badly decomposed at the time of discovery), with heads to the northeast: individual A, a female, on the south side, and individual B, a male, on the north side (fig. 6). Individual A had agate beads on one side of her head, and a dark gray fabric purse in her right hand containing more beads, as well as small bronze openwork spherical ornaments, a fine bronze chain (4 × 0.6 cm) (fig. 7-11), and a bone tube (9.3 cm in length and 0.3 to 0.8 cm in diameter) containing a needle and some thread (fig. 7-36). Her sacrum and four lumbar vertebrae were displaced, probably from a looter yanking her belt, which may be the partial belt discovered in looting pit number 2. This belt is composed of leather, iron plates, and gilded bronze plates (3.3 × 2.1 cm), which are decorated with a vegetal pattern (figs. 7-7, 8). Individual B had two bronze curved ornaments underneath his skull, which could have been ear or hair ornaments (5 × 4 cm) (figs. 7-33, 34), an agate bead on his head, and openwork bronze spherical ornaments on the side of his skull, which seemed to be linked to a

headpiece made of yellow wood. A golden earring (1.8 cm in diameter), made from gold wire bent into a C shape, was also found next to the skull (fig. 7-35).

Fig. 6 — Plan of the chamber of the Dongmengyi tomb.



The openwork bronze spherical ornaments found on the bodies are all made of two half-spheres of bronze wire linked by a silk thread (about  $2 \times 1.5$  cm) (figs. 7-10, 28). On his torso, individual B had another bronze leaf-shaped ornament ( $3 \times 2.3$  cm) with a hole (fig. 7-9) and another bead. Near his body was a wooden sheath with a bronze opening containing a long iron knife (about 28 cm in length) with a wooden handle (fig. 7-42). His pelvis had been displaced and his legs were bent underneath his body.

The dark red-brown agate beads found on the bodies are round (0.4 to 0.6 cm in diameter), rectangular (1.5 to 1.9 cm in length by 1.3 to 1.4 in width), or tubular (3.6 to 4 cm in length, 0.6 cm in diameter), and their holes are pierced with a drill (figs. 7-12 to 27 and 29). A piece of agate raw material, unpolished, was also found between the legs of individual A (fig. 7-30).

In front of the door, inside the xiaozhang, were two very thin silver bowls with flower-shaped openings with five or six petals (7 cm in diameter, 3 cm in height) (fig. 7-6). Towards the southeastern corner of the xiaozhang was a bronze mirror, 13 cm in diameter, with a quatrefoil shape and a dotted line as decoration (fig. 7-5).

Outside the southeast corner of the xiaozhang, two gray clay hu vases with combed patterns were placed next to the remains of a sheep. The smaller vessel was made with the same facture (same clay, same shape, same fabrication method, same decoration) as the one from the small brick chamber, and measured 36 cm in height (fig. 7-2), while the other vessel has a cruder fabric (along with a lower firing temperature, slightly different decoration, different fabrication traces) and measures 30 cm in height (fig. 7-3). There were also two small iron knives (4.6 and 6.5 cm in

length) (figs. 7-32 and 43), and a pair of iron shears or scissors (12.6 cm) (fig. 7-39).

Outside the xiaozhang, next to the door, were eight pieces (13–15 cm in length) of four iron butterfly hinges (figs. 7-37, 38, 40, and 41). The bottom of a light gray clay vessel (18 cm in diameter) was discovered in the fill of the ramp in front of the door. It has a round small hole pierced in it, possibly making it a *huiqi* 毀器, an object deliberately modified to be unusable and offered to the deceased (fig. 7-4). A bone toothbrush (18 cm in length and 0.4 to 0.9 cm in width, with 17 small round holes) was discovered along with the belt fragments in looting pit number 2 (fig. 7-31).

#### *Human remains*

Two sets of human remains were unearthed from the tomb chamber at Dongmengyi, both of which were in extended supine positions, though slightly disturbed by looting. Sex, age, and pathological conditions of the bones were assessed and recorded in the osteoarchaeology laboratory of Jilin University.

Skeleton A, female, 50+ years old. — This skeleton is partially preserved, with an intact spine but fragmentary cranium, limb bones, pelvis, and shoulder girdle. Degenerative changes in the form of porosity on the articular facets is seen throughout the spine, and the 12th thoracic vertebra has suffered a severe compression fracture. Most of the teeth were lost antemortem, and only seven, mostly anterior mandibular teeth, remain (the maxillary alveolar bone and teeth were not preserved). All the pathological conditions in this skeleton were potentially related to old age.

Skeleton B, male, 45–50 years old. — This skeleton is partially preserved: the long bones are well preserved, but the cranium, vertebrae, scapulae, clavicles, hands, and feet are incomplete. The skeleton is relatively rugose, which could be related to high levels of activity and/or to hereditary causes.

There are pronounced osteophytes, lipping, and porosity throughout the shoulder girdle, and the joint surfaces of the glenoid fossae are clearly enlarged. These changes are more pronounced on the left side. The attachment sites of a number of shoulder muscles have enthesopathies. There are arthritic changes, enthesopathies, and very developed muscle insertions in the elbow joints, again more pronounced on the left side.

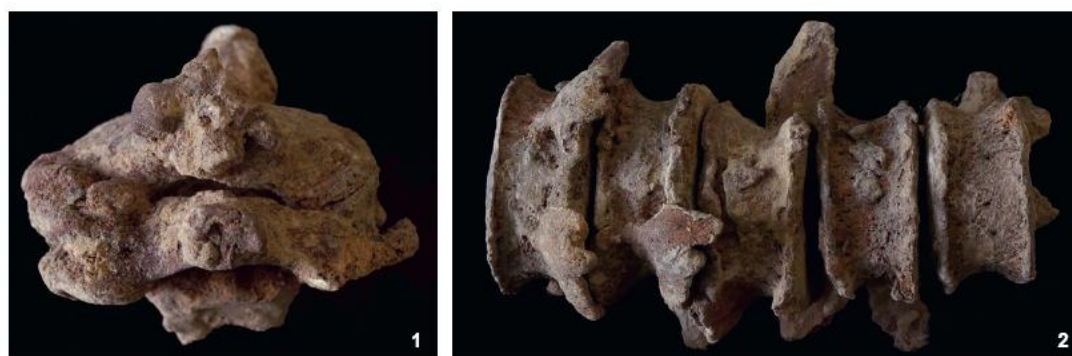


Fig. 8 — Human bone specimens from the Dongmengyi tomb. 1) Ankylosis of second and third cervical vertebrae in Dongmengyi B (posterior view). 2) Possible DISH in lumbar vertebrae of Dongmengyi B (anterior view; inferior is to the left).

The middle of the shaft of the right ulna has a healed complete fracture, which resulted in a large bony callous that doubles the thickness of the shaft. The fracture also may have contributed to

asymmetry in the degenerative and enthesal changes in the shoulder joints. The femora are very rugose, with thick femoral necks and very developed muscle attachments at the lineae asperae and the gluteal muscle tuberosities. The distal joint surfaces have faint marginal lipping. The right patellar joint surfaces have appositional bone, and the patellar ligament is clearly ossified.

The second and third cervical vertebrae are ankylosed at the articular facets (fig. 8-1), which would have limited the individual's ability to bend and turn his neck. The thoracic vertebrae have relatively small osteophytes around the margins of the centra and clear bone spurs caused by the ossification of the ligamentum flavum, the latter of which can potentially cause spinal cord compression, which can lead to pain, limb numbness, and other symptoms. The lumbar vertebral centra all have clear osteophytes, and the fourth and fifth lumbar vertebrae have ossified anterior longitudinal ligament, which had almost caused joint ankylosis, and would have limited the bending of the waist (fig. 8-2). The ossification of this ligament is often associated with a joint disease called distal idiopathic skeletal hyperostosis (DISH).

Most of the teeth were lost antemortem, which is a sign of poor oral health. Only six severely worn, anterior teeth were left. It is clear that this individual's upper and lower dentitions were no longer in occlusion, and he could not chew.

From the upper skeleton, we can speculate that this individual's shoulder and back muscles were developed, with severe shoulder, cervical vertebral, and sterno-clavicular degenerative joint disease, maybe having to do with frequently bearing heavy weight on the shoulders. The development of the flexor muscles of the upper limbs could be related to lifting heavy objects. The lower limbs possibly reflect that this individual's body mass was quite large and the lower limb muscles were developed; the degenerative disease on the patellae and knee joints have to do with frequent activity.

The pathological changes to the lumbar vertebrae had to do with the upper body bearing heavy loads. All the degenerative pathological changes in this individual's body are also related to old age. To sum up, this individual did heavy manual labor for a good part of his life; there is no way to say if he practiced martial arts, warfare, hunting, heavy lifting, manual trade, or animal husbandry, or a combination of those. At the end of his life, his movements were limited and he would have needed soft food.

## **Hamaqin**

### *Discovery and description of funerary architecture*

Hamaqin 蛤蟆沁 village is also located in the west of Jilin province, in the south of Changling district. A brick chamber tomb at the site was damaged during soil extraction, and the same archaeological team that worked at Dongmengyi was sent to excavate it in 2016 (Jilin et al. 2019). The tomb is located on a long hill, about 3 to 5 m higher than the surroundings, northwest of a lake.

The tomb is built in a large pit dug into the slope of a hill, with an access ramp orientated east (98°) (figs. 9 and 10). It is a brick tomb with a single chamber covered by a corbelled dome with a corridor and a ramp. The bricks are of a very uniform gray clay, and each bore the mark of a human palm (shouwenzhuan 手紋磚) (30 × 15 × 5 cm, following the proportion scheme 6 × 3 × 1). The bricks were set in lime mixed with clay, 1 cm thick, and many were cut to perfectly fit the space between the bricks in the round cupola. Sometimes pottery sherds were used as

wedges.

The ramp (excavated on 8.5 m long) is 0.95 to 2.1 m in width, with a 21° slope, and has 11 uneven steps. It is filled with loose gray-brown sandy soil, mixed with charcoal fragments and a few pottery sherds. In front of the entrance, a goat head and hooves had been deposited.

The corridor is rectangular, and connected to the cupola of the chamber and the side of the chamber. This corridor has a flat exterior roof and an inner corbelled vault with a triangular profile, measuring 2 m in length, 1.2–1.3 m in width, 2.3 m in height on its exterior, and 1.4 m in height and 1 m wide at the base on the interior. The bricks of the floor have been disturbed. As in the chamber, the bricks at the bottom of the walls are standing (soldier), and the ones from the second to the uppermost (16th) course alternated one course horizontal (stretcher) with one course transversal (header). The walls are straight until the 8th course, and a brick that was cut to use as a wedge closes the top of the triangular vault. The entrance of the corridor has no proper door and was not sealed (fig. 11-1).

From the outside, the corbelled vault of the chamber appears round, with a small rectangular flat top. The vault is destroyed in two places. It is composed of 20 courses of bricks (headers) set in a mix of lime and clay. The spaces between the bricks are filled with other bricks cut into trapezoidal or triangular shapes.

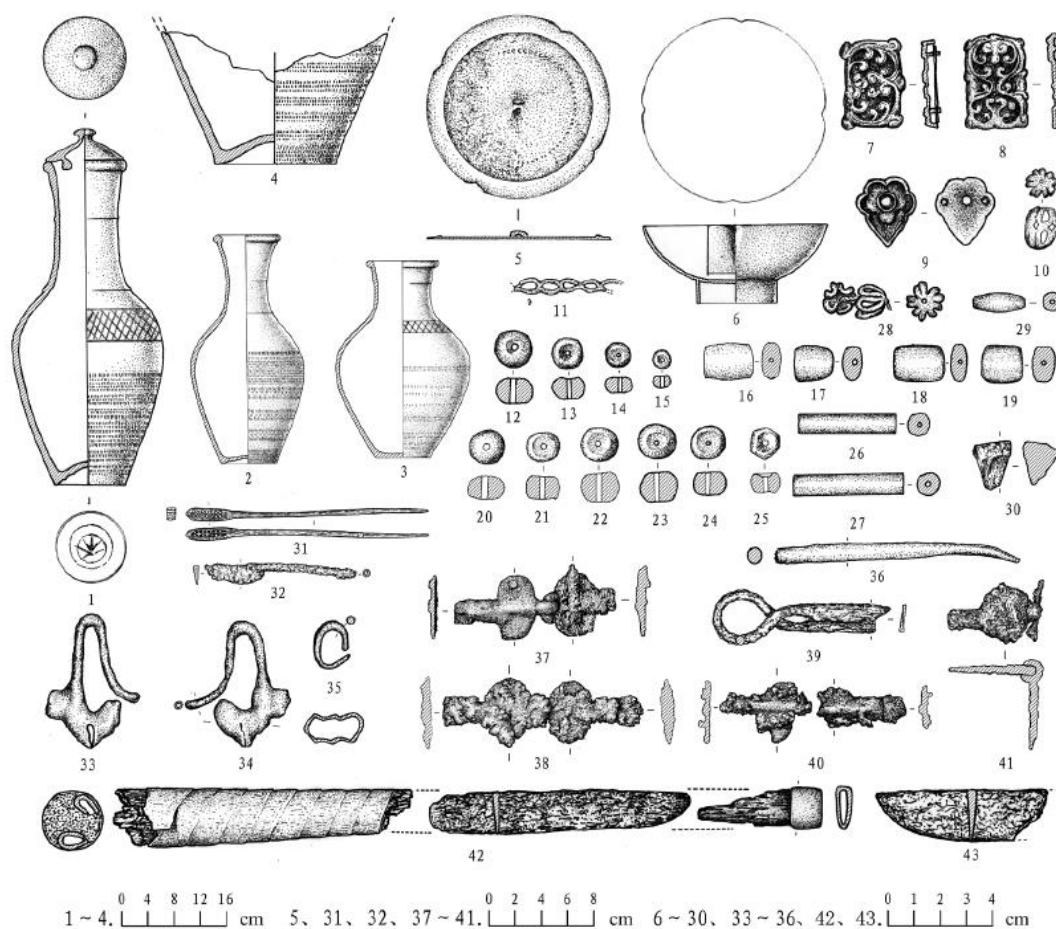


Fig. 7 — Artifacts from the Dongmengyi tomb.

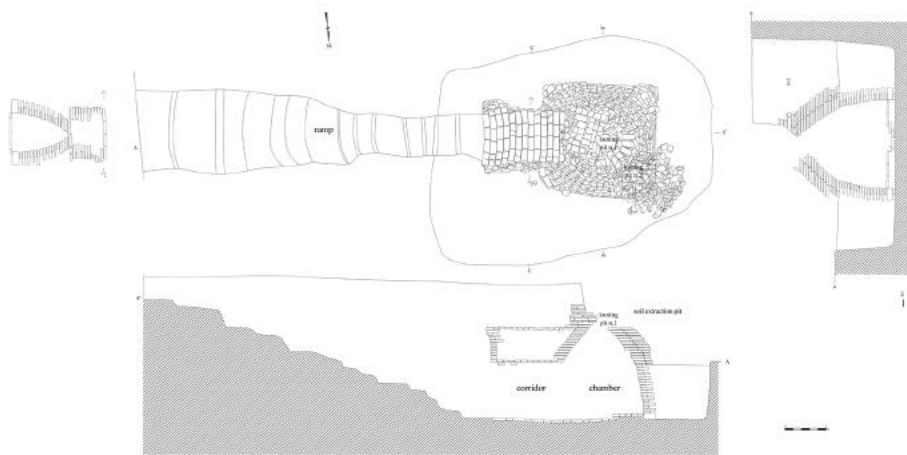


Fig. 9 — Plan and section of the Hamaqin tomb.



Fig. 10 — Photogrammetric plan and profile view of the Hamaqin tomb after excavation.

The chamber is square ( $2.3 \times 2.2$  m, with a height of 2.3 m). The straight walls (1.2 m in height) are made of 20 alternating courses of stretcher and header bricks, with a bottom course of standing (soldier) bricks (fig. 11-2). The chamber has been disturbed and many bricks displaced. The ground is covered with three layers of bricks at the western end of the chamber, forming a funerary brick bed.



Fig. 11 — Door and interior of the chamber of the Hamaqin tomb.

During the looting, the human bones were disarticulated and stacked in the southern corner. The room is half filled with earth, pottery sherds, and some modern garbage. Along with the human bones, two ceramic vessel bottoms, two iron knives, three bronze coins, two bone artifacts, and one shell were discovered.

#### *Burial offerings*

Because this tomb had been looted and visited many times, the remaining artifacts were all displaced, and only 23 objects made of ceramic, iron, bone, and copper were found. The ceramics were all wheel-made, mostly of fine clay, with a small proportion of sandy gray ware, fine black ware, and fine gray-white ware. The pottery fragments included pieces of two vessels with flat-rolled rims (figs. 12-7 and 11), a part of the shoulder and neck of a jar with protruding line decorations (fig. 12-12), seven large vessel bottoms with combed patterns or burnished lines (figs. 12-1 to 4, 8 to 10), two fragments of white china (figs. 12-5, 6), two iron knives (17 and 9.2 cm in length) (figs. 13-6, 7), one iron arrowhead (5.7 cm in length) (fig. 13-9)<sup>4</sup>, two bone objects shaped like vessel lids (3 and 3.3 cm in diameter) (figs. 13-4, 5), a bone bead shaped like a rounded triangle in section (1.1 cm in length) (fig. 13-8), and three bronze coins (two *Kaiyuan tongbao* 開元通寶, the most common Chinese coin, produced in large quantities from 621 to 907 [figs. 13-1 and 3]; and one *Huangsong tongbao* 皇宋通寶, produced between 1039 and 1053 [fig. 13-2]).

<sup>4</sup> This type of arrow equipped with a whistle is called a *mingdi* 鳴鏑. It was common beginning in the Liao period; see example from the Erlinchang 二林場 tombs in Tongliao, Inner Mongolia, from the middle phase of the Liao dynasty, the end of the 10th century (Zhang 1995); some had been made partly of bone since the early phase of the Liao dynasty, as in the Shazigou 沙子溝 cemetery in Aohanqi, Inner Mongolia (Aohanqi 1987).

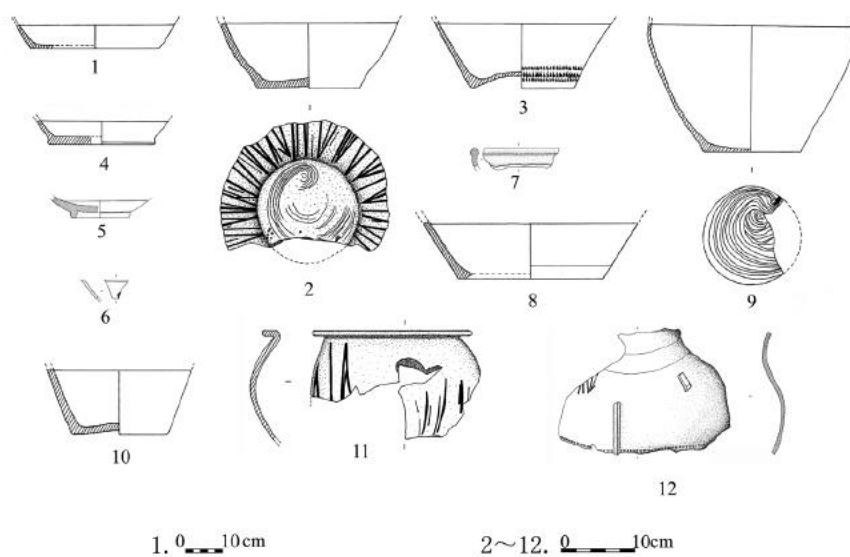


Fig. 12 — Artifacts from the Hamaqin tomb: pottery and porcelain.

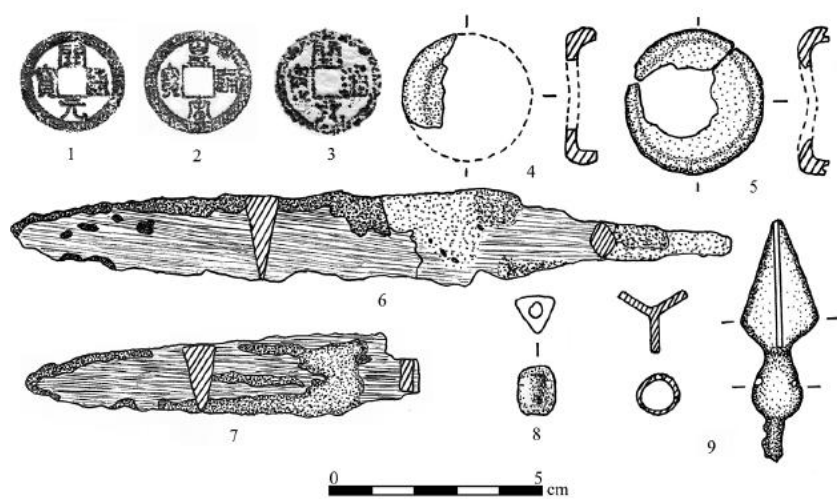


Fig. 13 — Artifacts from the Hamaqin tomb: bone and metal objects.

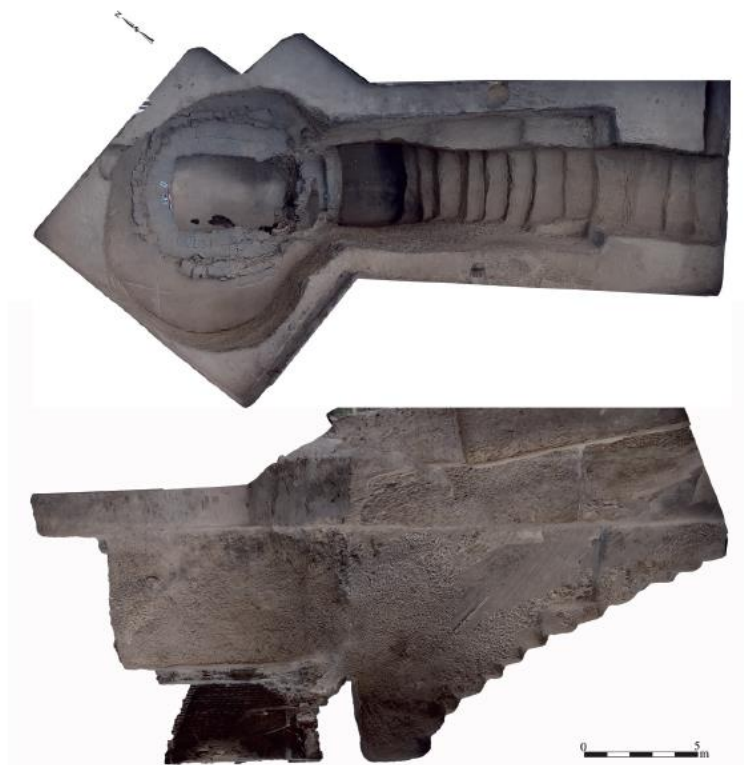


Fig. 4 — Photogrammetric plan and profile view of the Dongmengyi tomb after excavation.



Fig. 5 — Brick feature and door of the Dongmengyi tomb.

This last coin indicates that the tomb could not have been sealed before the middle of the 11th century *ad*. Many other cultural features of the tomb also suggest it was built later than this, during the 12th or the beginning of the 13th century. Comb patterns with large triangular bases (*bidianwen* 篦點紋) were a common decorative pattern on ceramic vessels during the Jin period<sup>5</sup>. One of the vessel rims in the Hamaqin tomb (fig. 12-7) belongs to a type that was very common in Jilin province during the Jin period (Jilin 1998: 34, fig. 7-7; Jilin et al. 2009: 33, fig. 4-6). These traits were still common at the end of the Jin period, and were found at the late Jin pottery workshop of Shangzhi 尚志 in Dongliao 東遼 (Tang 2004: 95, figs. 5, 93, figs. 3, 94, fig. 4). The peculiar burnished decor of some sherds from Hamaqin (figs. 12-2 and 11) is close to that of the sherds from the Lichunjiang 李春江 site in Dehui, which dates to the middle phase of the Jin period (Jilin & Dehui 2009). Furthermore, bricks with hand prints on one face were common in

<sup>5</sup> See, for instance, vessels found at the Jin period site of Jinjia 金家 in Baicheng 白城 (Jilin 2012: 81, figs. 14-2, 6) and the Jin city-site of Chenggangzi 城崗子 in Dehui 德惠 (Jilin 2000: 26, figs. 6-6, 7, 8, 12, 15).

China during the 1st millennium ad and were widespread in North China. They were also used in the Xinxiangfang 新香坊 cemetery in Harbin during the early and middle phases of the Jin dynasty (Heilongjiang 2007: 56, fig. 8-1, pl. 4-4), as well as in Shanxi (Dai 1989: 12).

To summarize, this burial consists of a single square-based chamber, the bodies were not cremated, there was no coffin, xiaozhang, or shihan 石函 (small stone coffin with a large sculpted cover used for cremated remains). These features indicate that the tomb dates to the early phase of the Jin dynasty, around the first half of the 12th century ad (Qin 2004: 216–220).

#### *Human remains*

Four sets of human remains were unearthed from the tomb chamber at Hamaqin, and all were severely disturbed, so that the burial method is not clear. The human bones were assessed for age, sex, and pathological conditions in the field. Four individuals were identified, including three adults and one subadult, designated skeletons A, B, C, and D. They are mostly well preserved, but some damage could be observed, for example, skeleton B has a fragmentary cranium.

Skeleton A, female, 30–35 years old. — This skeleton is in a good state of preservation, with a complete skull and mandible, limb bones, clavicles, scapulae, innominate bones, and sacrum, but damaged vertebrae, and partial ribs and hand and foot bones. The cranium has multiple traces of green (possibly from a bronze object) and black marks. The right frontal bone has a long oval depression, likely the remains of an antemortem depression fracture (fig. 14-1). It was a blunt force trauma, with the point of greatest force at the inferior margin of the lesion, causing the bone to hinge inward. That might have led to permanent brain damage or chronic headaches. The margin of the lesion has undergone remodeling, and is somewhat thickened. The individual suffered from periodontal disease and lumbar spondylolysis, and had osteophytes in multiple places (these are especially clear in the cervical and lumbar vertebrae). In addition, there are accessory articulations between the sacrum and the ilia posterior to the auricular surfaces on both sides. This individual has marked osteoarthritis at the posterior surfaces of the medial and lateral condyles of both femora, which may indicate she squatted frequently and must have put a lot of strain on her knees.

Skeleton B, male, 35–40 years old. — This skeleton is also in a good state of preservation: the limb bones, clavicles, scapulae, innominate bones, and sacrum are complete, and the vertebrae, ribs, and hand and foot bones are mostly present, though the skull is damaged. The individual has a black mark on the frontal bone and there are traces of green inside the cranium (possibly from bronze). According to observation of the mandibular teeth (the maxillae were damaged), the individual was suffering from periodontal disease and dental calculus, as well as enamel hypoplasias, which are evidence of growth disruption in childhood.

Both first metatarsals have slight extensions of the metatarsophalangeal joints, a condition called “executive foot” by Ubelaker (1979), or kneeling facets. It is caused by excessive dorsal flexion of the metatarsophalangeal joints from kneeling on the toes (*ji* 跣).

There are osteophytes throughout the thoracic spine in the rib articulations, and on the odontoid joint surface of the first cervical vertebra. All the thoracic vertebrae have osteophytes caused by the ossification of the ligamentum flavum. The right shoulder, both proximal fibulae, and both proximal calcanei also have osteophytes, and the left tibial tuberosity has enthesophytes. There are Schmorl’s nodes on a number of vertebrae, which indicate chronic or acute pressure inflicted on the discs of the vertebrae. There is also marked destruction of the proximal surface of the left

navicular bone, possibly caused by osteochondritis dissecans, or separation of pieces of bone from the surrounding surface. There is no evidence in this skeleton for infectious or metabolic diseases. The enamel hypoplasias mean that he survived illness, starvation, or some other physiological stress in childhood.



**Fig. 14** — Human bone specimens from the Hamaqin tomb. 1) Cranium of Hamaqin A with antemortem depressed fracture on the frontal bone (antero-superior view). 2) Cranium of Hamaqin B showing preserved soft tissue and periapical abscess of the maxilla. 3) Right first metacarpal of Hamaqin D with lesion on the distal end (dorsal view, distal is left).

Skeleton C, male, ~25 years old. — This individual is in a very good state of preservation, with the cranium, limb bones, clavicles, scapulae, sternum, patellae, innominate bones, and sacrum all complete, most ribs and vertebrae present, and many hand and foot bones recovered. The individual has a small green patch on the right side of the palate (possibly from bronze), and the right side of the face and cranial vault have black traces, while the right temporal and occipital bones have some soft tissue attached. In addition, many bones have a red color, which might be from cinnabar, in addition to black, which might be the result of a fungal growth in the soil or some other form of staining. There are also traces of a small amount of fabric on the ribs and clavicles. The individual suffered from periodontal disease, dental caries, a periapical abscess in the left maxilla (fig. 14-2), enamel hypoplasias, a healed fracture on the distal right fibula shaft, and a possible healed fracture on the distal left ulnar shaft.

The individual's upper limbs are asymmetrical: the left humeral head and olecranon fossa are clearly smaller than the right, the left radius is slightly shorter than the right radius, and the

middle of the dorsal aspect of the right radial shaft has a pronounced muscle attachment. The individual also has a flattened occiput, possibly from deliberate cranial modification. His cochlea (inner ear bone) was ossified. Cochlear ossification can result from bacterial meningitis, and would almost certainly have reduced or eliminated hearing in that ear.

Skeleton D, about six years old. — This skeleton is in a moderately good state of preservation: of the skull, only the maxillae, mandible, and left zygomatic were found; the left side of the mandible is incomplete; a number of vertebrae were found (many still fusing); and the humeri, femora, tibiae, tali, clavicles (damaged), ilia, and pubes are all complete. In addition, the right scapula, left radius and ulna, right ischium, and several long bone epiphyses were found. The individual's maxillary deciduous incisors bear a small labial carious lesion. Also, there is a destructive pathological lesion on the distal right first metatarsal, possibly from an infection or a benign tumor such as a chondroblastoma (fig. 14-3).

Although the four skeletons were found in the same tomb, there are significant differences in terms of preservation between skeleton C and skeletons A, B, and D. Skeleton C is therefore very likely an intrusion from a later period, though the cause for this is unknown.

### **Reconstruction of the chaîne opératoire**

According to all the observations gathered here, many questions needed to reconstruct the chaîne opératoire of the construction of these burials remain unanswered. An unknown period of time after the death of a first deceased individual, a plot of land was chosen, a large pit with a ramp was dug, bricks were transported there, and the ground of the entrance and the chamber were built.

In the case of Dongmengyi, it is possible that the chamber was built first, and the pit then partially filled to allow workers to finish the roof, and the *xiaozhang* later installed inside the room. During a ceremony, the burial goods and the corpse(s) must have been put inside, and the door could possibly have been sealed up. The exact sequence of burial is unclear. The two individuals may have died at the same time, with one more or less voluntarily accompanying the other into death, after which they were interred together. The second possibility is that the first individual to die was interred in the Dongmengyi tomb, and that the tomb was reopened for the burial of the second individual, as was the case of Princess Chenguo in Inner Mongolia, who died a year after her husband Xiao Shaoju and who was interred with him. Finally, one individual could have died first, and could have been temporarily interred or preserved elsewhere, and the two individuals could have been buried together when the second one died (for discussion of textual sources that explicitly describe these different modes of burial, see below).

In the case of Hamaqin, the ramp may simply have been filled with soil, and reopened each time a member of the family passed away, but perhaps the site was abandoned before the last deceased could be interred and the door sealed with bricks, so the tomb looks as if it was never finished.

### **Discussion**

#### *Temporal and spatial distribution of published tombs*

This analysis will focus on some characteristics of the funerary practices of the region, beginning with architectural features, in order to identify material markers of cultural hybridization and social stratification in burial practices, as well as their spatial distribution. The analysis is based on

a bibliographic survey of 246 preliminary or final reports on tombs from in and around the Horqin region, covering 36 districts of Jilin, Liaoning, Heilongjiang, and Inner Mongolia. There is a bias inherent in these data, because most of the excavations in the region are salvage projects, and their publication is often incomplete.

In this corpus, no radiocarbon dates are available, and only a few (29/246, 11.8%) burials have inscriptions that clearly date them. Some have a terminus post-quem based on coins placed in the burials, but the periodization of these burials in the published reports is mostly based on relative dating from typological comparisons with other burials and their funerary objects.

In this dataset, there are four pre-Liao tombs, 212 Liao tombs, 11 Jin tombs, and 19 “Liao-Jin” tombs that could not be more precisely dated. The discrepancy in numbers could be explained by several factors. First of all, in the study region, only very few “pre-Liao” tombs have been found and published. Indeed, the lack of settlements during the so-called “Wei-Jin- Sui-Tang 魏晉隋唐” or “post-Han” period (3rd to 9th c. ad) has been confirmed by systematic regional survey (Peterson et al. 2014; Liu et al. 2016; Liu et al. 2017; Williams 2017). The Horqin Basin was far away from the centers of formation of distinct ethnic groups, such as the Shiwei, far to the north of the Greater Xing’ an Mountain 大興安嶺 in Hulunbei’ er 呼倫貝爾 (Zhongguo et al. 2006). Therefore, population density in the region was very low in the Han period and after, but underwent a clear demographic expansion during the Liao-Jin period (Liu et al. 2016). Rare Xianbei 鮮卑 tombs have been found, for instance at the Xinhuang 新荒 site in Da’an 大安 (Jilin 1975) in the north of the Horqin Basin, but overall, archaeological remains are very sparse for the pre-Liao period.

Secondly, the region chosen for this study was closer to the core of the Liao dynasty’s power, and more peripheral during the Jin dynasty. The burial practices of the Liao time may also have survived here longer, and some tombs attributed in the reports to the late Liao phase should probably be reattributed to the Jin period. Finally, because of the dearth of brick chamber tombs from the Jin period and the reliance on pit burials, Jin burials are less sensational and are therefore less often chosen for publication. Indeed, there are a number of published examples of large Jin brick chamber tombs with murals in the south of the territory ruled by the Jin dynasty (Hebei and Shanxi).

By integrating our database into GIS software, we can visualize the spatial distribution of the published tombs in the Horqin region (fig. 1), and expand on Kuhn’s work, which mapped dome-shaped tombs of the Liao (Kuhn 1998: 14–18) and dated tombs of the Northern and Southern Song dynasty (Kuhn 1994: 48). In our findings, the rarely found so-called pre-Liao tombs are located in the east of Inner Mongolia, on the western margin of the Horqin Basin. The early Liao tombs are spread across the slopes of the Greater Xing’an Mountains and the Yanshan Mountains, around the western and southeastern border of the Horqin Basin, with a small cluster along the Xilamulun 希拉穆倫 River. During the middle phase of the Liao period, the burials seem to be distributed along the lower slopes of the Greater Xing’an in the western part of the Horqin Basin, and also on the southern side of the Yanshan into the Liaoning Plain. The distribution of the late Liao tombs looks quite similar to the previous phase. Most of the tombs identified as belonging to the Liao period without further precision are located in the western part of Jilin province, corresponding to the lower part of the Horqin Basin. Recent and future archaeological work in Jilin province will clarify this distribution.

Published Jin tombs are surprisingly rare, but tombs of this period have been discovered in

Heilongjiang province, in the center of Jilin province, in the eastern margins of the lower part of the basin around Changling and Shuangliao cities, and in the southeast of Inner Mongolia around Aohan Banner. In addition, as previously noted, some burials that have been attributed to the late Liao phase because of the characteristics of their architecture and burial offerings may in fact be the remains of Liao stylistic practices that endured in this region into the Jin dynasty.

During both Liao and Jin periods, pit tombs, though underrepresented, can be found quite homogeneously throughout the region. Stone chamber tombs, on the other hand, are more prominent in the south. They originated from the southwest of the Horqin region, on the slopes of the Greater Xing'an, progressively spreading to the Yanshan Mountains during the middle phase of the Liao. Brick chamber tombs were popular in the mountainous margins of the northwest, southwest, and south of the Horqin region, with major clusters in the Yanshan in northern Liaoning, and also in the lowest part of the basin in western Jilin province. Urn burials are rarely found; they seem to be present in the north of the Liaoning Plain, in the southernmost part of the Horqin Basin.

### *Architectural features*

Liao brick chamber tombs form the majority of our dataset (148 of 246 tombs). Of these, ten are small structures without a ramp, corridor, or dome (table 2, p. 315). The next most commonly published types of burial are pit burials and stone chamber tombs. Other burial forms are found in smaller numbers, such as stone coffins, urn burials (associated with cremation), and catacomb burials.

The published data allow us to have a slightly more precise look at the Liao burials than the Jin burials (table 3). The percentage of brick chamber tombs among the well-dated Liao burials rises from almost half during the early phase, to 67.6% during the middle phase, to 71.7% during the late phase. Tombs with corbelled domes went out of fashion around the late 12th-early 13th centuries (Kuhn 1994), around the time the Hamaqin tomb was built, though it does have a corbelled dome.

Conversely, the percentage of stone chamber tombs decreases, from almost a third (28.3%) during the early phase of the Liao, to 14.2% during the middle phase, to 11.7% during the last phase. This shift from stone to brick tombs could be related to the development of brick kilns, which would have made bricks more easily available, but so far, there is no available data on brick production in this region.

Overall, the diversity of burial types decreases during the late phase of the Liao, and no simple stone coffin tombs, urn burials, or catacomb burials – rare types during the early and middle Liao phases – have been identified for the late Liao phase. The percentage of pit burials is small for the three phases (15%, 6%, 16%), with a drop during the middle phase. This might merely be the result of the partial publication of the data and the bias towards aristocratic and elite tombs, as among non-elites this type of burial was more common than burials with underground architecture, and many pit burials excavated during the last few decades remain unpublished.

The Liao period also underwent a diversification of the shapes of tomb chambers and a flourishing of brick building techniques. Only three brick chamber tombs have been identified from the pre-Liao period: two of these have a rectangular chamber, and one has a round chamber (table 4). During the Liao period, many shapes were in use. The shape of the chamber may have a specific meaning in terms of beliefs, wealth, or social class, in the way larger tombs

with wall paintings sometimes reveal the beliefs of their owners and are a testament to their wealth (Hebei 2001; Li 2008), though the meaning of the tomb chamber shape is not yet known. The main chamber could be round (24.8%), octagonal (23.3%), or rectangular (22.5%), and less often square (17.8%). There were even a small proportion of hexagonal (4.6%), horseshoe (3.1%), elliptical (2.3%), and even decagonal (1.5%) chambers. Four-sided chambers are the most common (40.3%); these had been the norm in early Tang (618 – 907 *ad*) and pre-Tang tomb architecture (Shatzman Steinhardt 2006: 47; and see example in Zhang 1997).

Breaking down the distribution by period, a clear trend emerges (table 5). The early Liao phase is dominated by square chambers (54.5%), while round chambers (22.7%) and rectangular chambers (18.2%) were less common. All four-sided chambers represent 72.7% of the total in the early Liao period in this region. The Yelü Yanning's 耶律延寧 tomb (985 *ad*) is the earliest known instance of a Liao round chamber (Shatzman Steinhardt 1997a: 288). This shape already existed during the Tang period (Liaoning & Chaoyang 1998: 25), and spread during the subsequent historical phase. Indeed, the middle Liao phase is dominated by round chambers (41.6%). This period also saw the appearance of octagonal chambers, a decrease in square chambers, and the rare appearance of other shapes (oval, hexagonal, horseshoe-shaped). During the late Liao phase, however, octagonal chambers clearly dominate (51.2%), followed by rectangular chambers (23.3%), while the previously dominant round shape is much scarcer (7%), and the square, hexagonal, horseshoe, and even decagonal shapes remain even more rare.

In terms of stone tombs, the only pre-Liao example in the Horqin region has a round chamber (table 6). The stone chambers of the Liao period are mostly square (36.4%), and four-sided shapes overall constitute half of the Liao stone chambers (54.6%). The same diversity of shapes as in the brick chambers is also observable, as round (18.2%), octagonal (12.1%), and a small number of hexagonal (6.1%), horseshoe, elliptical, and even trapezoidal chambers (3% each) have been found.

Very few brick chamber tombs have been attributed to the Jin period in this region. Among those that have been found, the chambers are relatively homogeneous: the chambers were all octagonal, square, or rectangular, with no round chambers yet found. Compared to the elaborate northern Chinese aristocratic and elite burials of Hebei and Shanxi from this period (Shanxi *et al.* 1996; Kuhn 1998: 31), the burials of the Horqin region are relatively simple.

The small brick chamber at the edge of the pit of the Dongmengyi tomb (figs. 2 and 5-1) has no equivalent in all the Liao-Jin tombs published so far. This might be related to the fact that archaeologists rarely have the time to look for the circulation (or activity) level of the period of the building of the tomb. Nevertheless, according to our observations, this feature belongs to the tomb and was built after the burial pit was refilled, and was located exactly at the edge of the pit, which might roughly have corresponded to the edge of the mound created by the backfill dirt from the burial pit, if there was one. It might have been built as a libation offering to the couple buried in the tomb. This hypothesis is reinforced by the observation by Kuhn (2006: 32) about aristocratic burials of the Yelü family, “which were constructed not just for the burial of the dead but also for public functions, such as performance of libation ceremonies (*dianli* 典禮) – [they] were manifestations of the status of the deceased in Liao society and thus preserved the social hierarchy of the living among the dead”.

Compared to our dataset of published materials and to Kuhn's comprehensive typochronology (Kuhn 1998: 32–36), the overall construction of the Dongmengyi tomb is an anomaly: while other

tombs of the same region and period are constructed with domes or cupolas, and have straight lower walls, allowing room to stand inside, the Dongmengyi tomb has a dome with inner corbelled pyramidal construction, with a triangular profile and six square cut bricks used as keystones, and no straight walls. This triangular construction does not allow a person to stand inside, requires a very large quantity of bricks to achieve a round shape on the outside of the chamber, and would create a heavier dome than the round dome of the Hamaqin tomb. No known equivalent to the Dongmengyi tomb has yet been discovered in the region.

#### *Architectural tomb elements among the elite*

Though some published tombs have funerary inscriptions (29/246, 11.8%), side chambers (45/246, 18.3%), exceptional burial objects, or wall paintings (57/246, 23.2%), most of the published tombs in the region are brick tombs without paintings and with only one chamber. They seem to have been built for local elite, defined by Kuhn (1994: 95) as “prosperous landowners who did not belong to the aristocratic or official class [who] adopted the elaborate type of tomb with corbelled dome”. These elites favored corbelled-dome tombs with small but sophisticated construction (see also Kuhn 1994: 102). This scenario seems consistent with the Dongmengyi and Hamaqin cases.

The use of underground brick funerary architecture in the Horqin region arose from the influence of the practices of Chinese aristocracy (Shatzman Steinhardt 1998: 227). Members of the Liao or Jin aristocracy would have encountered these mortuary practices during the Northern Wei 北魏 (386 – 535 ad) and the Tang in North China, as well as during the Koguryo (37 bc–668 ad) (see Yanbian 1982; Byington 2016b: 319–438; Perrin 2016) and the Bohai (698–926 ad). There were also aristocratic chamber burials with murals in the east of Jilin province, Heilongjiang, and the Korean peninsula, which were influenced by the Northern and Southern dynasties (450–589 ad). The influence of Buddhist monuments must also have played a role (Shatzman Steinhardt 2006: 51). In addition, the multi-room arrangements found at this time were ultimately descended from the traditions of the Tang and even Han periods (Kuhn 1998: 31–32).

Pre-Liao royal and elite tomb architecture was rich and complex (Byington 2016a: 101–139), but around the time of the Liao and Song dynasties, elite burial traditions across China underwent an overall trend towards simplification (Kuhn 1996; Kuhn 1998: 20). At this time, the Khitan aristocrats and elites developed unique burial traditions that arose from the adoption of Chinese burial customs, which they hybridized with their own traditions, such as those pertaining to the preparation of the body, and to the use of interior tents and other architectural features (Kuhn 1998: 24). During the Liao period in the Horqin Basin, on the slopes of the Greater Xing’an in eastern Inner Mongolia and in the Yanshan Mountains in Liaoning, and even up to Hebei, the elites used simple chamber corbelled dome tombs made of brick or stone. In contrast to the overall trend towards simplification observed by Kuhn across China, in the Northeast, the members of the aristocracy built ever more complex tombs, which contained up to four rooms, mural paintings, funerary inscriptions (*muzhi* 墓誌), and rich burial offerings.

During the subsequent Jin period, in the Harbin and Changchun 長春 Plains, rare royal tombs contained complex double wooden coffins and rich burial goods (for example, the King tomb of Acheng, in Heilongjiang: Heilongjiang 1989). Some were also built with shendao 神道 ( “spirit paths” ), or roads leading to the tomb flanked with stone sculptures (as in the cemetery of the Wanyan clan near Changchun: Pang 2010; Jilin 2012; Liu & Fu 2013). However, most of the Jin

tombs were simple earthen pits, with belt plaques and pearls as burial offerings, which demonstrates the influence of the local Tungusic Mohe 靺鞨 (Mogher) people, one of the ancestral groups of the Jurchen.

During the Jin period, Liao funerary customs were still in use across the whole Horqin Basin to some extent. In fact, the Jin period scholar Wen Weijian 文惟簡 wrote in 1125 ad that the embalming methods of the Liao period continued past the end of the dynasty among members of the aristocracy (Kuhn 1997: 218; Kuhn 1998: 22).

#### *Brick construction*

Bricks were used to build tombs in China beginning in the Han period (206 bc–220 ad) (Bodolec 2005: 23; Pirazzoli-t'Serstevens 2009; Nickel 2011). The brick cupola tombs of North and Northeast China during the Song and the Liao-Jin period are the most elaborate types of underground brickwork buildings in the history of Chinese mortuary practice (Bodolec 2005: 25). Such tombs were built of a type of gray brick (*qingzhuan* 青磚) that required sophisticated firing techniques. The firing process also allowed for faster turnover, and these bricks dominated Chinese construction materials beginning in the Northern and Southern dynasties (Bodolec 2005: 55–57).

By contrast, the bricks from the Dongmengyi tomb were fired quite heterogeneously, and had colors ranging from red-brown to gray. The reddish bricks were more friable, and were used in the outside part of the roof, while the gray, more uniform bricks were used in the vault of the corridor and the cupola. The bricks from the Hamaqin tomb, on the other hand, were very uniform and had been fired at a high temperature, showing the relatively high quality and standardization of *qingzhuan* production, and each bore a slight palm print, indicating bureaucratic oversight of production.

Pieces of broken tiles were used as wedges in the roof of the Dongmengyi tomb, but bricks were precisely cut into triangles or trapezoids in the Hamaqin tomb. Using cut bricks (*kanzhuan* 砍磚, *zhuozhuan* 琢磚) as a construction material is specific to Chinese architecture (Bodolec 2005: 59–60).

Brickwork imitation of wooden features in Chinese architecture has been widely discussed (Kuhn 1994: 96; Shatzman Steinhardt 1997a, 1998), but in the single chamber burials in the Horqin region, this phenomenon is mostly seen in the construction of the door, which is sometimes developed into an “entrance pavilion” *menlou* 門樓, which is only suggested in the case of the Dongmengyi tomb and is totally absent in the case of Hamaqin.

#### *Vaults and cupolas*

In brick chamber tombs, corridor and doors were usually covered by a vault, while the main chamber was usually covered with a dome or cupola. Depending on the shape of the chamber (round, elliptical, square, hexagonal, octagonal, etc.), different forms of vault were used (e.g. barrel vault *gongding* 拱頂, arched vault *gongjuanding* 拱卷頂, cupola-like corbelled dome *qionglongding* 穹隆頂) (Kuhn 1994: 15 – 17). These variants do not always fit western architectural vocabulary, e.g., what could be termed a “corbelled composite dome”, consisting of four segments meeting at the top (Kuhn 1994: 96). Cupola-like corbelled domes (like the one found at Hamaqin) are mainly found in North China (Shanxi, Henan, Hebei), where the loess provides good conditions for underground architecture (Kuhn 1994: 94). However, in the sandy

Phaeozems (aeolian fine sandy deposits) of the Horqin region, they are a challenge to construct. The corridor of the Dongmengyi tomb was roofed with a barrel radiating vault (classic form), with bricks standing on their long and narrow side (rowlock), while the roof of the corridor of the Hamaqin tomb was corbelled with a triangular profile (which is very rare). The Dongmengyi tomb chamber was roofed with a pyramidal corbelled dome, of which we found no comparable published examples, but the Hamaqin tomb chamber's cupola is a classic form, with radiating header bricks forming a round shape over a square formed of straight walls.

### *The xiaozhang*

A term *xiaozhang* comes from the *Yingzao fashi* (Li 1974), an early 12th century text on palace architecture of the Song dynasty, in the chapter on “lesser carpentry” (*xiaomuzuo* 小木作) (Shatzman Steinhardt 1997a, 1998: 234–237). It can be defined as a “coffin housing”, a wooden reproduction of Tang era architecture (Kuhn 1998: 37), which was meant to house the dead (Kuhn 2006: 33). It is sometimes also called *muguoshi* 木槨室 (“wooden coffin room”) (Zhou & Ha 1997), referring to the fact that it might contain the coffin, or *guo* (outer coffin).

Based on the measurements of the wooden planks and how they were found in the Dongmengyi

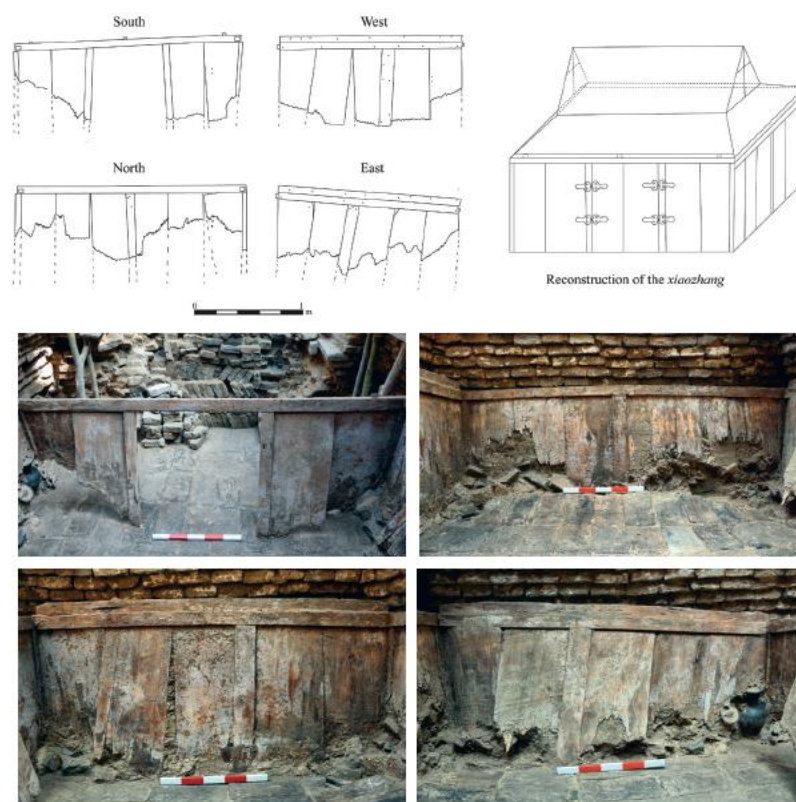


Fig. 15 — Reconstruction and photographs of the four walls of the *xiaozhang*.

tomb, we were able to reconstruct a *jiuji xiaozhang* 九脊小帳 (“miniature wooden aedicule with a 9-ridged roof”) (fig. 15). This structure had a double panel door with four sets of iron hinges, set in the center of the southeast side of the *xiaozhang* facing the entrance of the tomb chamber. This *xiaozhang* resembles an example found in Balin Right Banner (Shatzman Steinhardt 2006: 48), which, like the Dongmengyi example, had no wooden floor. This type of funerary

aedicule was in use during the beginning and the middle of the 11th century (Liu 2009).

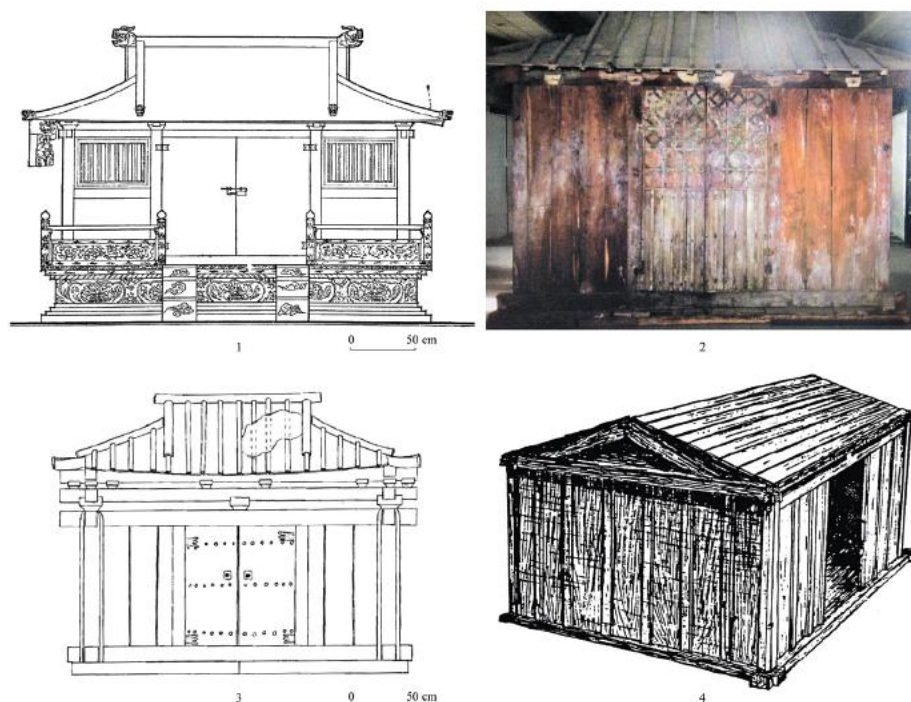


Fig. 16 — Examples of xiaozhang. 1) Yemaotai, Faku, Liaoning, Early Liao (Liaoning & Liaoning 1975: 61). 2) Daxintala, Keyou zhongqi, Inner Mongolia, Early Liao (Shatzman Steinhardt 2006: 47). 3) Halahaigou, Chifeng, Inner Mongolia, Early Liao (Chifeng & Songshan 2008: 13). 4) Quanjugou, Beipiao, Liaoning, end of Early Liao, around 980 (Zhang & Li 1990: 26).

Disordered pieces of xiaozhang are sometimes found in tombs, but the bad preservation often makes reconstruction difficult (e.g. Tamura & Kobayashi 1953: 33). A preserved xiaozhang can be seen in the Liaoning Province Museum (tomb number 7 of Yemaotai, Liaoning 1975) (fig. 16-1). Extant examples include a xiaozhang with painted panels representing the two adult tomb occupants, a male and a female, though not the child found with them (tomb number 1 of Youai 友爱 in Duxisumu 都希蘇木 in Balin Right Banner 巴林右旗, Inner Mongolia, Balinyouqi 1996); a windowless model with a wooden floor (Qianjuyong 泉巨涌, Beipiao 北票, Liaoning province, Zhang & Li 1990; Shatzman Steinhardt 2006: 48) (fig. 16-4); and several others with various features (e.g. an early Liao example from Halahaigou 哈喇海溝, Chifeng 赤峰, Inner Mongolia, Chifeng & Songshan 2008; and a simple model from tomb number 3 of Daiqintala 代欽塔拉, in Keyou Central Banner 科右中旗, Inner Mongolia, Xing'anmeng 1997; Zhou & Ha 1997; Shatzman Steinhardt 2006: 47) (figs. 16-2 and 3). Some of these xiaozhang are clearly influenced by temple architecture from the Liao and earlier periods (Shatzman Steinhardt 2006: 48).

Though discovery of well-preserved xiaozhang is very rare, they are considered a typical trait of Liao funerary customs. They are a continuation and elaboration of a similar tradition from the Sui (581–618) and early Tang (618–907) dynasties (Tsao 2000: 10). The xiaozhang of the Liao period in Northeast China was also prefigured by wooden architectural miniatures found in burials from the Tang period in other regions (Kuhn 1994: 32–34), and by wooden coffins bearing architectural features from the Southern Tang (937–975) (Kuhn 1996: 32).

The *xiaozhang* and other types of interior tomb aedicules meant to contain the remains of the

deceased were typically composed of a platform enclosed by walls and a roof (Shatzman Steinhardt 2006: 49). By contrast, in the case of the Hamaqin tomb, the body was simply set on a brick platform (*guanchuang* 棺床), which slightly elevated the bodies from the level of the entrance, but did not enclose them. The platform in this case was large enough to accommodate more than one individual, and the discovery of four sets of human remains in this burial raises other questions, which will be addressed below.

### *Orientation*

The database constructed for this study also allows us to observe variation in the orientation of tombs (table 7). In the pre-Liao period, the favoured orientation was southeast. During the Liao period, this was still clearly the dominant orientation: among all burials, 68.1% had a southeast orientation (mostly tombs with entrances in the southeast), while far fewer are oriented south or southwest (6.9% and 5.9%, respectively). Burials with north (6.4%) and northwest (8.5%) orientations are mostly pit burials, in which the head of the deceased was traditionally placed towards the north. The southeast orientation is also predominant in the small number of Jin period tombs in the database.

Looking only at brick chamber tombs, the preference for a southeast orientation is even clearer, with 77.9% of the Liao period brick tombs and all the Jin period ones oriented to the southeast (table 8). The only notable variation observed among the Liao brick chamber tombs is a small number of brick tombs orientated clearly south or southwest.

The Dongmengyi tomb is oriented southeast, and therefore fits the pattern seen in the larger dataset. However, the Hamaqin tomb is oriented to the east, which is a rare exception. This is difficult to explain. It might be related to the topography of the tomb location or to local variation in burial customs, as the tomb's location is far away from the main cultural centers of the Jin period.

### *Collective burial, couple burials, and sequence of interment*

About two thirds of the burials in our database, and more in certain periods, contain one individual. Single and double burials combined account for over 95% of burials in the database (table 9). During the Liao period, two thirds of the brick chamber tombs contained only one individual (table 10), and one third had two individuals, most identified as couples. Couple burials were even more common among the stone chamber burials (about half) (table 11).

The construction, interment, and sealing of a tomb were a long and multiphase process. From the textual record, we learn that emperors' tombs were not always sealed, thus allowing the family to reenter (Kuhn 1998: 20). In the epitaphs (*muzhi*), we also read that members of the aristocracy could be interred successively in the same tomb. Though burial was supposed to take place as quickly as possible, the cost of the tomb construction and funerary rites often delayed the event (Kuhn 1994: 45–46). It is also possible that the first individual to die was preserved or temporarily interred elsewhere until the death of the second tomb occupant, usually a spouse, and they were then interred together in the tomb.

There are many historical examples of such an arrangement. The body of Yelü Abaoji, the first emperor of the Liao dynasty, was kept for a year before burial. There is also the aforementioned case of Xiao Shaoju and his wife Princess Chenguo, who died a year apart but were buried together (Neimenggu & Zhelimumeng 1993). This configuration is only known from the tomb

inscription, as it was not directly observable from positioning of the bodies or funerary goods. The inscription in the tomb of Zhang Shibei 張世本 indicates that he died in 1088 and was placed in his tomb five years later, in 1093. His wife, Lady Jiao, died in 1143 *ad* and was interred with her husband a year later, in 1144 *ad*, 51 years after he was buried (Elisseeff 1994: 70). In a letter to his brother-in-law, Ma Zhiwen 馬直溫, husband of Zhang Guan 張館 (daughter of the Duke of Jin, 1048–1113 *ad*), lamented that his wife died before him, and mentioned that they had their tomb built in advance (Kuhn 2006: 34–35). The scholar Su Shi 蘇軾 (1036–1101) in the *Dongpo zhilin* 東坡志林, describing a similar custom in Sichuan 四川, writes about the successive burial of several individuals in the same structure (Kuhn 1994: 161–162).

In the whole dataset, there are very few subordinates buried in the tombs with their masters, even in the tombs of members of the aristocracy. This custom was only revived a few centuries later for the Ming emperors (Emperor Taizu 太祖 was buried with 38 concubines, and Emperor Yongle 永樂 with 16; Kuhn 1998: 20). Burials with six, eight, or ten individuals exist, but they are unique cases. Our examples of burials containing six and eight individuals are in fact pits where urns were gathered together, from the Shuangjinggou 雙井溝 cremation cemetery in Balin Left Banner, Inner Mongolia (Zhongguo 1963). The burial containing ten individuals was a tomb with wall paintings (at Qianwulibuge 前烏力布格 in Nailin'gao 奈林高 town, in Kulun Banner, Inner Mongolia, Jilin & Zhelimumeng 1973). This was a large brick structure with an octagonal chamber, dated to around 1080 *ad*. Unfortunately, the funerary inscription was smashed to pieces and the skeletons badly disturbed by looters, so it is difficult to imagine exactly how the ten individuals were originally deposited in the tomb. Four were found in the main chamber, three in the northern side chamber, and one in the southern side chamber. Nevertheless, it is important to note that the door and entrance corridor of this particular burial had not been sealed.

In many past societies, not all individuals were given full funerary rites, or different mortuary treatments were reserved for people of different genders or age groups, especially women and children. As for the sexes of the deceased in published reports, and the question of access to burial for women and children, unfortunately, information on sex and age is available in very few cases, but there seem to be fewer women buried alone than men (tables 12, 13 and 14). Many women may have been buried in simple pit tombs (rarely excavated or published), and some were buried with their husbands. The extremely rare presence of children in burials suggests that they were interred elsewhere, perhaps in pit tombs next to settlements. In the present dataset, there is one brick chamber tomb reported as containing one child, with three ceramic jars, discovered in Haizhou 海州 in Kangping 康平 district, Liaoning province, which dates to the pre-Liao period (before 900 *ad*) (Zhang 1988), and another was reported as containing one immature woman presumed to be from the aristocratic Xiao clan, dating to the early phase of the Liao period, discovered in Wulanmutu 烏蘭木圖 Mountain in Bajiazi 八家子, in Fuxin 阜新, Liaoning province (Liaoning & Fuxin 2004). One other brick chamber tomb contained three individuals: an adult male, an adult female, and a child, which is close to the number of individuals in the Hamaqin tomb. It is dated to the middle or the early phase of the Liao period, and was discovered in Youai village in Duxisumu in Balin Right Banner district, Inner Mongolia (Balinyouqi 1996).

The Hamaqin burial appears never to have been sealed. There was no distinct door, just the end of the corridor, with no menlou, and the ramp was quite irregular and filled with loose sandy soil. The tomb may have been built for the first of the deceased, but not sealed in order to open the

ramp for later burials. Since the burial was disturbed during the last few years before it was excavated, and the human bones had been stacked in a pile in the southeast corner of the chamber, it was impossible to gather other clues to the sequence of the placement of the bodies. There are many questions remaining about the tombs in our case studies, especially Hamaqin. Was it built during the life of the deceased? If not, how were bodies preserved until final interment? Were tombs of couples made specifically for two individuals? Nothing in the architecture of the tombs (size, morphology, composition) seems to indicate that some were meant for two individuals rather than one. Were the deceased placed successively or at the same time? In between the two interments, how was the tomb left “open” or “openable”? Did those performing the burial refill the ramp but leave the door unsealed after the burial of the first deceased, and seal the entrance only after the burial of the second? If that is the case, how does one explain that the Hamaqin tomb was left unsealed? After depositing the bodies of one adult male, one adult female, a child, and a young man, did they plan to wait for the death of another member of this group to seal the entrance, and was the group a family? Why did they never do it, and leave the site on the Hamaqin hill abandoned and the burial unsealed and essentially unfinished?

#### *Preparation of the body*

Regarding the ways of manipulating the body and putting the individuals to rest, we observe a great variety of practices. Most commoners seem to have been buried in an earthen pit, and it is even possible that a part of the population did not get access to a proper burial at all. However, the pits could still be furnished with small or large wooden features, i.e. the inner and outer coffins called *guo* 槨 and *guan* 棺.

An account of Jurchen funerary practices in the *Luting shishi* 虜庭事實 (Veritable Facts from the Court of Caitiffs, dating from the Song dynasty) reveals the complex mosaic of cultures thriving in Northeast China at this time: “The funeral rites of the Northerners are not uniform. The Chinese bury the remains after cremation and their mourning rites are exactly like those in the Central Plains. The Jurchen put [their dead] in wooden coffins which they bury in the mountains and forests but they do not heap up a mound or plant a tree. Only the Khitan have something very different” (Franke & Chan 1997: 183–184).

Elaborate methods of corpse preparation for aristocratic burials are known in China from textual and archaeological records from as early as the Han period (Shatzman Steinhardt 1998: 226). The Song Emperor Taizong 太宗 (Deguang 德光 902 – 947 ad) was “opened up and filled with salt”. Then the treatment involved “hang[ing] the corpse from the feet and piercing the skin all over with straws to allow the bodily fluids to drain off”. Finally, the body was desiccated using alum, and then interred in a tomb. Another method was to clean the body of inner organs and fill the abdomen with aromatic herbs, salt, and alum, sew it up with threads of five colors, and then desiccate it. During this process, the face was covered with a metal mask and the hands and feet bound with copper wire (Kuhn 1998: 22; Shatzman Steinhardt 1998: 226; Kuhn 2006: 30). The binding of the hands and feet was also practiced in Yakutia, as recounted in the burial of Kyys Ounouogha in the 17th century (Crubézy 2007).

Similar mummification treatment (removing of bodily fluids and desiccation of the skin) are reported for Yelü Jian 耶律建, a member of the Khitan aristocracy (Shatzman Steinhardt 1998: 226), and archaeological evidence of this type of treatment was found on the body of the woman

in tomb number 6 of Haoqianying (Wulanchabu 1983; Shatzman Steinhardt 1998: 231–234). The trace of trepanation on the skull of this woman led Shatzman Steinhardt (1998: 232–233) to compare the mortuary practices here to those found in the Scythian kurgan number 2 of Pazyryk in Siberia from around the middle of the 1st millennium bc (desiccation, use of masks, etc.), and to Herodotus' writing about such nomadic funerary practices. The fact that postmortem processing of bodies appears in many steppic cultures over large distances of time and space shows the persistence of cultural exchange across northern Eurasia through the centuries.

Cremation was already in use in the Khitan cultural area before the beginning of the Liao dynasty. However, so far only few examples of cremation are known among Liao burials, far fewer than in Song territory (Ebrey 1990). Buddhism was the national religion of the Khitan, but they still did not commonly practice cremation (Tsao 2000: 11). However, excavations of Liao sites conducted in recent decades have revealed many cremation burials, which might overturn Ebrey and Tsao's theory about its unpopularity in Liao territory. The historical texts on the Jurchen also mention cremation, associated with their practice of Buddhism (Franke & Chan 1997: 138). It is difficult to know if the custom became more frequent because of the influence of Buddhism (Kuhn 1998: 21), as cremations are rarely found, properly excavated, and published. The published data so far only let us observe a small sample from the Khitan (pre-Liao, 9th c.) to the Jin periods (13th c.), which have been found in different burial settings: ashes and charred bones in ceramic urns in a pit, in a stone chest (*shihan* 石函) or cist (stone slab container), or in a corbelled-dome stone or brick chamber tomb.

One other quite different local burial practice is reported in the texts. The *Qidan guozhi* 契丹國志 (History of the Khitan Empire), the *Wudai shiji* 五代史記 (Historical Record of the Five Dynasties) (Kuhn 1998: 21) and the *Liaoshi* 遼史 (History of the Liao) (Stein 1939: 41) all contain passages that report how relatives placed their dead in trees in the mountains, then returned after three years to gather the bones and burn them. This custom is also reported in the earlier histories of the Northern dynasties (Li 1974: 94/3128), the Sui (Wei 1973: 49/1881), and the Tang (Liu 1971: 199/5b), in reference to the "Eastern barbarians", which Shatzman Steinhardt (1998) believes refers to the Khitan. A few centuries later, in the neighboring Russian region of Yakutia, the custom of leaving bodies in trees was still the main funerary practice, and only very special individuals had access to a burial (Crubézy 2007). This type of practice would likely have left no archaeological traces.

The *Sanchao beimeng huibian* 三朝北盟彙編 (*Collection of documents concerning alliances with the North during the three reigns*), compiled by Xu Mengxin 徐夢莘 (1126–1207), seems to indicate that the Jurchen did not use coffins, but the *Luting shishi* says that "the Jurchen placed the corpse into a wooden coffin and buried it in the mountains or forests, without building a tomb or planting a tree" (Franke & Chan 1997: 138). Furthermore, after a battle, "bodies of those whose name nobody knew" were left unburied (Kuhn 1994: 218). Therefore, it is likely that many people in Liao and Jin times did not get access to a burial.

By contrast, elaborate or expensive funerary rites often accompanied the burial of an important person. For instance, the Jurchen are reported to have gashed their foreheads with a knife when an individual died, to "take leave with bloody tears", which is a custom also known for the Xiongnu 匈奴. Of the Xiongnu, it was also written that "they bury their dead but do not have inner and outer coffins. If a nobleman dies, they burn alive his favorite slaves and the saddles and horses which he had used for riding as company after death. Also, all the food and drink used for

sacrifice is burned without exception". This description does not appear to apply to all Xiongnu burials, as the presence of coffins in at least some cases has been confirmed by archaeological research (Miller 2011: 565). The custom of destroying the horses of the deceased is also reported for the Mohe (from the *Sanchao beimeng huibian*, in Franke & Chan 1997: 137–138), and horse remains have been found in archaeological contexts across the steppe (Frachetti 2012).

### ***Burial goods: viaticum for the afterlife***

The Dongmengyi and Hamaqin tombs did not yield inscriptions (*muzhi*), metal facemasks, or a suit of wire, only ornaments, tools, and pottery vessels. These last two types of burial goods have been found in the best-preserved, highest ranking aristocratic Khitan tombs (Kuhn 2006: 31). Overall, it is safe to say that "grave goods such as pottery, tools and weapons of stone and bone, ornaments of stone, bone and ceramics, and even ocarina-like instruments bear witness to a belief that life continued after death and that objects used during one's lifetime continue to be employed beyond the grave" (Dien 1987: 1–2).

Epitaphs (present in 27, or 11%, of the 246 tombs in our database) are mainly found in aristocratic burials. The use of epitaphs originated in the later Han (25–220 *ad*), but they did not develop into a formal genre until the Northern and Southern dynasties (Kuhn 1994: 256–257).

Mirrors are present among the burial offerings in 13% (32/246) of the tombs in our dataset. They had several different meanings or functions. Mirrors were commonly included in burials in medieval China (34% of 490 burials from across China, from the 10th to the 14th centuries, investigated by Ho Chuimei) (Ho 2005); many were simply placed next to the body or belonged to a toiletry set, and they were mostly found in aristocratic and elite burials, as they were considered luxury goods (Ho 2005: 91). Sometimes mirrors were incorporated into tomb architecture: in all but one of the Xiabali tombs (in Xuanhua, Hebei), mirrors were found still fixed in their original place, in the middle of the lotus flowers painted in the centers of the vaulted ceilings (Shatzman Steinhardt 1998: 238–239; Ho 2005). Finally, Kuhn notes that "from the *Guixin zazhi* 癸辛雜識 [Miscellaneous Notes from the Guixin Quarter] by Zhou Mi 周密 (1232 – 1308) we learn that it was quite usual in the 13th century to fix a mirror at the inside of the coffin lid, so as to throw some light on the dead body in the darkness" (de Groot 1892: 399; Kuhn 1994: 35). Generally, this type of mirror was called "the mirror which shines on the body" (*zhaoshenjing* 照身鏡). Such use of a mirror in the coffin is well documented from as early as Han times (Kuhn 1992: 72–74).

The mirror in the Dongmengyi tomb was found inside the *xiaozhang*, in its eastern part. It could have been fixed to the ceiling of the small wooden construction and fallen when it collapsed, it could have been displaced during the looting of the grave, or it could have originally been placed in this angle not far from the two ceramic vessels.

The frequent presence of tools, and especially scissors or pliers, among the burial offerings is also quite intriguing. They are present in 6.5% of our dataset (16/246 tombs). Placing this specific type of tool in a tomb might have earlier local antecedents, such as the ones put in underground tombs with ramps and wooden coffins at the Guoliang 郭梁 cemetery in Wushenqi 烏審旗, Inner Mongolia, dated to the Sui-Tang period (Neimenggu & E'erdusi 1997: 494, fig. 16-1).

There always seems to be a place for food offerings in the brick chamber tombs, but unfortunately, no organic material analysis has been conducted so far on the ceramic vessels from our case studies, so we do not know exactly what the vessels contained. The presence of

animal remains is also often associated with the remains of food. In Dongmengyi, a young sheep was placed in the southeast corner next to the ceramic jars, and in Hamaqin, the head and feet of a goat were placed in the fill of the ramp in front of the entrance of the brick structure.

Most of the objects discovered at Dongmengyi and Hamaqin have their counterparts in burials dated to the middle phase of the Liao dynasty (the end of the 10th to the first half of the 11th centuries) (table 15, figs. 17 to 23). There are fewer funerary objects from Hamaqin, and so also fewer possible comparisons to published materials (table 16, fig. 24).

The distribution of artifacts comparable to those from Dongmengyi and Hamaqin can be observed on a map (fig. 25) (tables 15 and 16) (figs. 17 to 24). It is clear that the style of the burial furnishings is similar to that found in the south and southwest of the Horqin region, and that the center of use of these objects was in the Fuxin, Kangping, and Faku regions in northern Liaoning, and in Chifeng and Balin Right Banner in southeast Inner Mongolia. We are not able yet to form a hypothesis about production centers, but future research may clarify production and distribution of these objects.

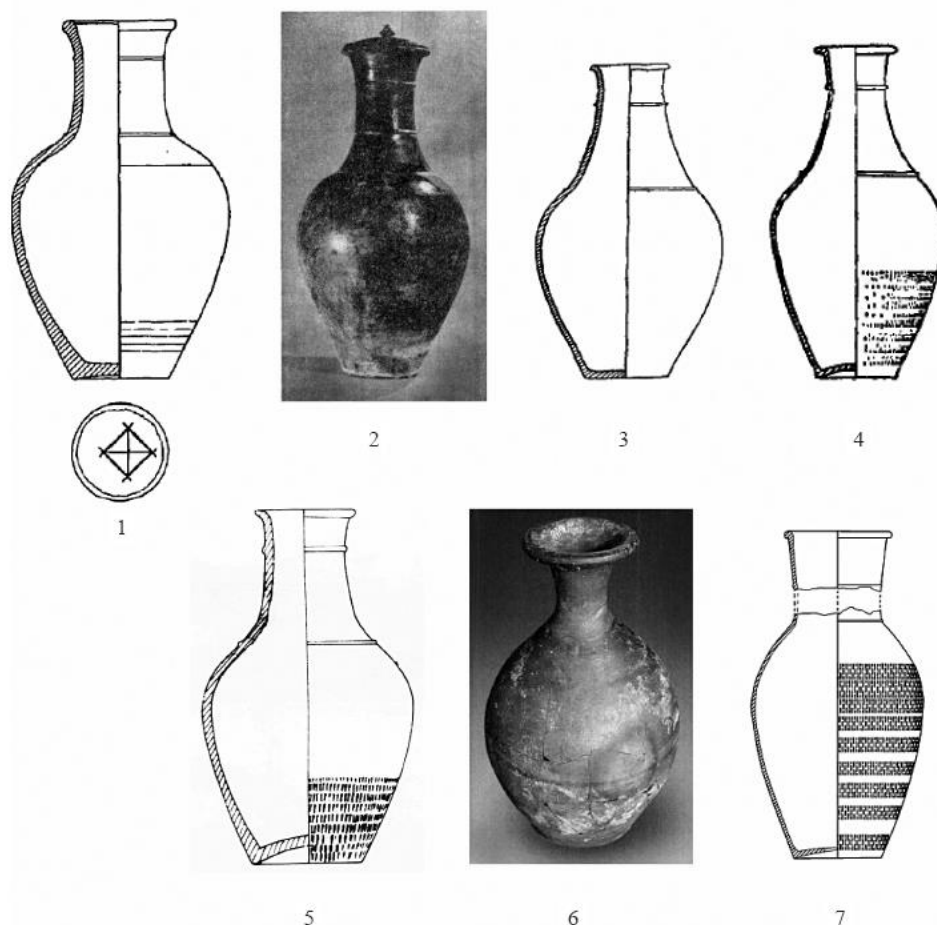


Fig. 17 — Comparison specimens for *hu* vessel (for provenance see table 15).

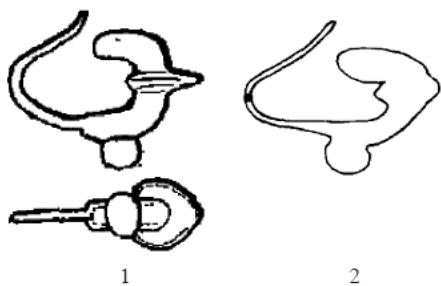


Fig. 18 — Comparison specimens  
for bronze earrings (for  
provenance see table 15).

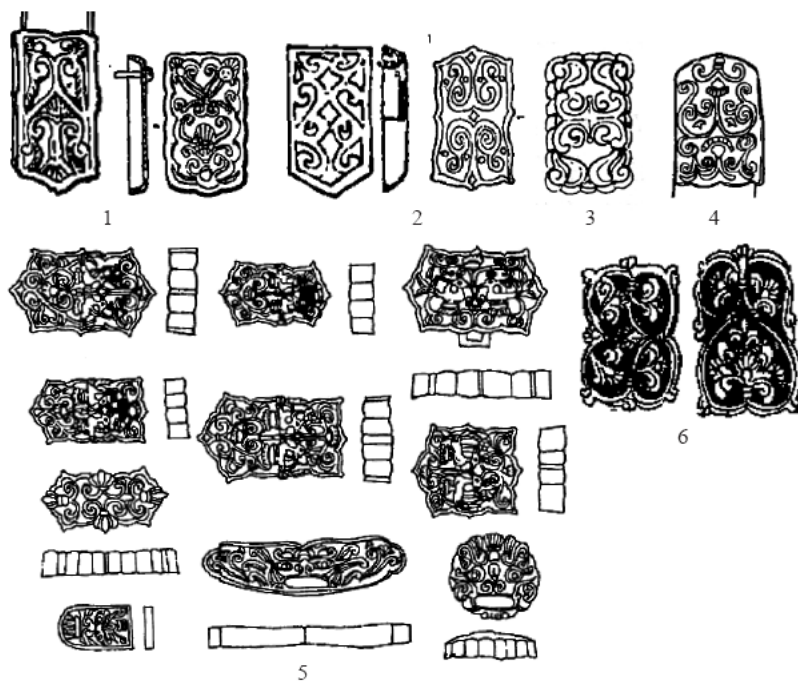


Fig. 19 — Comparison specimens bronze belt plaques (for provenance see table 15).

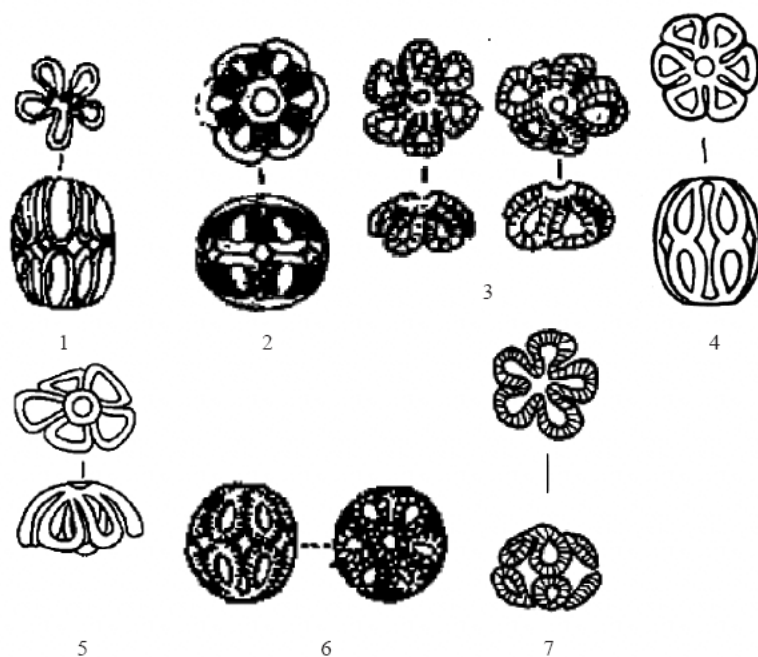


Fig. 20 — Comparison specimen for openwork spherical bronze ornaments (for provenance see table 15).

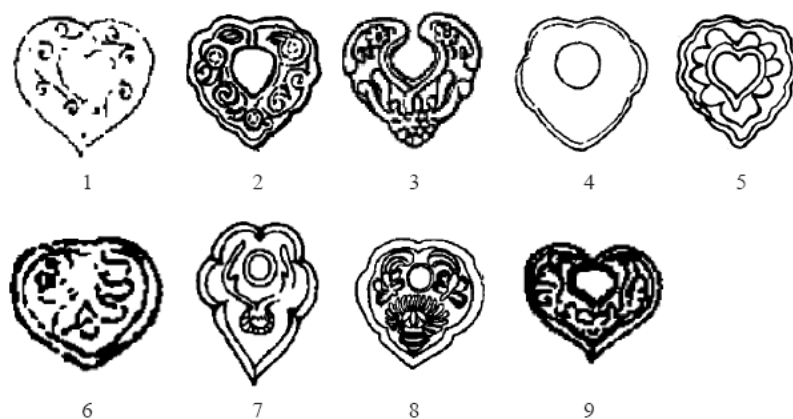


Fig. 21 — Comparison specimens for leaf-shaped bronze ornaments (for provenance see table 15).

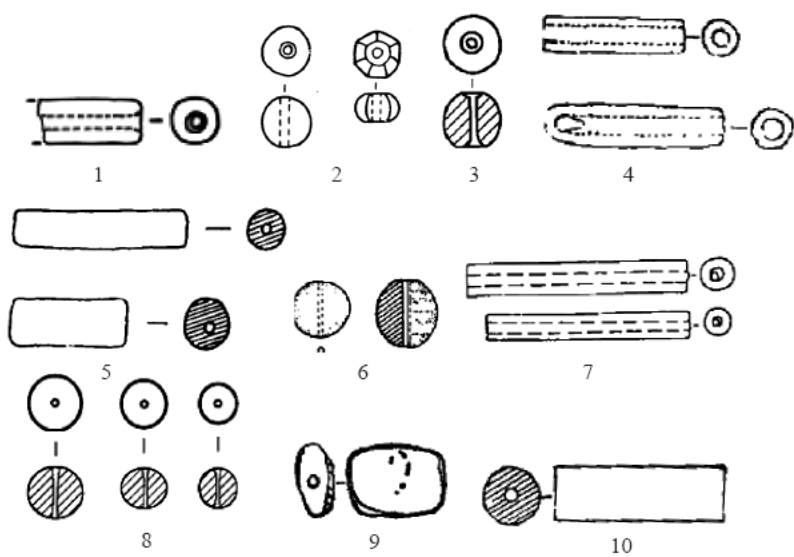


Fig. 22 — Comparison specimens for beads (for provenance see table 15).

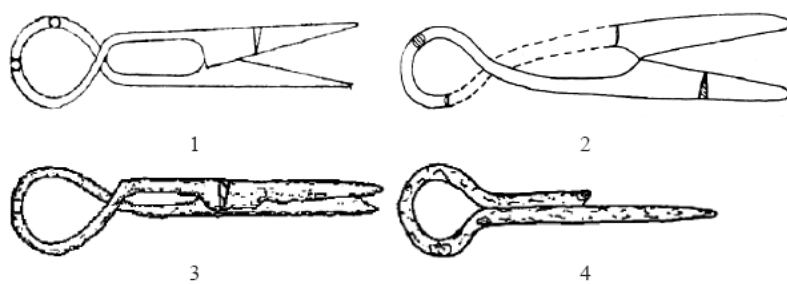


Fig. 23 — Comparison specimens for shears (for provenance see table 15).

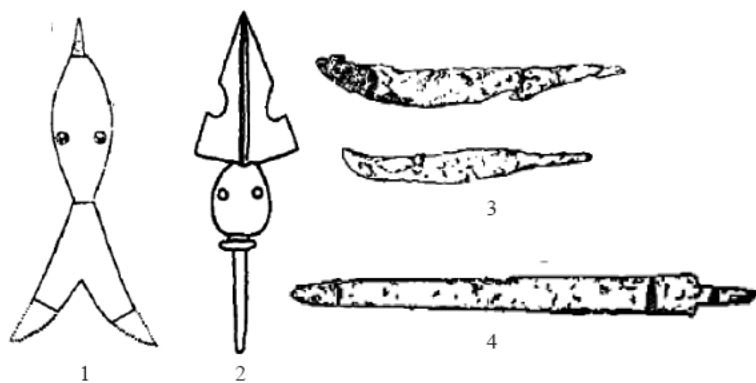


Fig. 24 — Comparison objects for Hamaqin (for provenance see table 16).

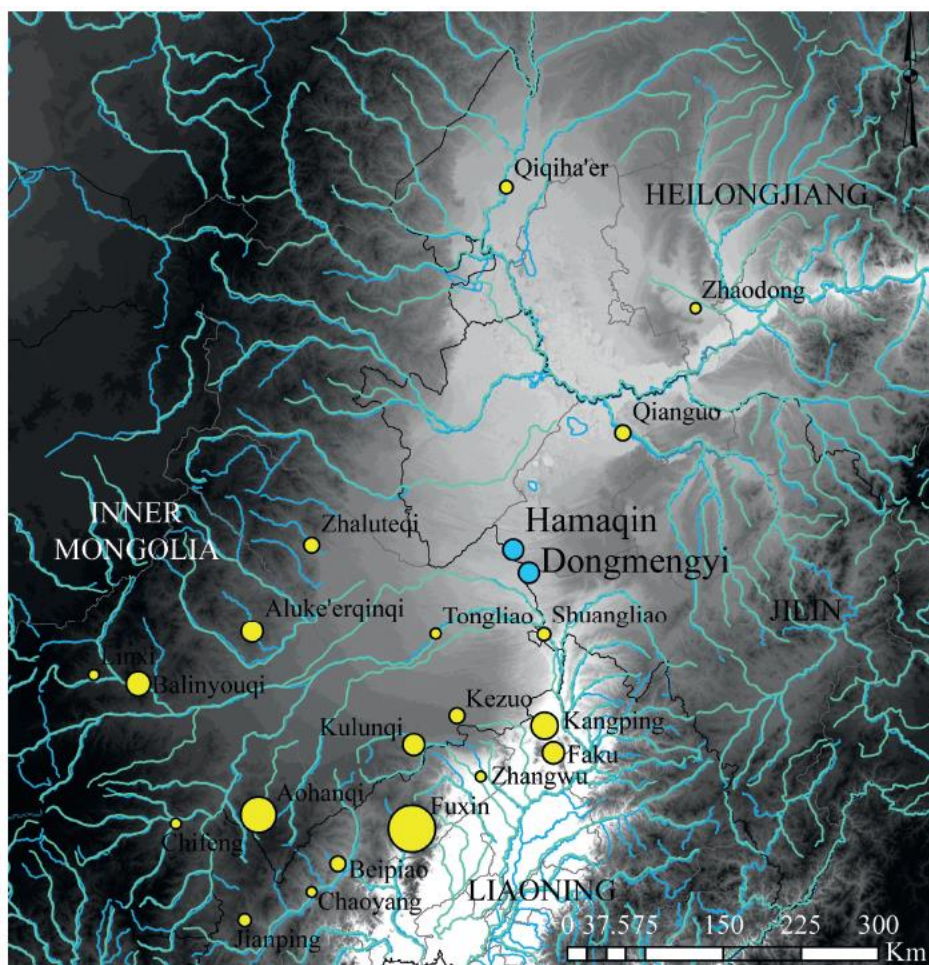


Fig. 25 — Locations of the comparative artifacts from other sites. Sites marked in blue are the cases described in the present study, yellow circles represents sites with comparative artifacts, and the size of the yellow circles represents the relative number of comparative artifacts from each site.

## Conclusion

On the whole, the burial practices of the medieval elites and aristocrats in the Horqin region between the 10th and the 13th centuries ad show the deep cultural hybridization of Northeast China in this period. In this “partially non-Chinese society” (Elisseeff 1994: 76), the aristocracy and elite of the Liao and the Jin incorporated traits from cultures all around them into their burial customs, from northeast and northwest Asia, including Chinese-style funerary architecture (Shatzman Steinhardt 1998: 233–234). Looking at the geographical location of the Khitan and Jurchen cultures, it is natural that they should have exchanged practices with their neighbors (Franke & Twitchett 1994: 46). Shen Hsueh-man adds that:

Archaeological evidence shows that the fusion of ideas and styles of different origins was one of the major features of Liao culture, thanks to the multiethnicity of the Liao people and the broad contacts the Liao had with their neighbors. The hybridity of Khitan and Han Chinese traditions is most obvious in such areas as the Liao bureaucracy, writing system, and mortuary practices. A large number of foreign goods and ideas were brought into Liao territory via various routes, both overland and via the sea. There were also Song Chinese artisans working in Liao territory, producing artifacts that combined features of Liao and Song Chinese cultures. In their religious life, Liao Buddhists developed a unique interest, based on

both Chinese and Korean Buddhist practices, in preserving and venerating Buddhist sacred texts” (Shen 2006: 14).

Ancient people shared many types of burial customs, but funerary architecture in particular represented the adoption of Chinese customs by northern Chinese groups (Shatzman Steinhardt 1998: 239). Cultural influence went both ways: the Khitan both “appropriated Chinese practices” and “imposed their own practices on the Chinese” (Tsao 2000: 19). Liao and Jin innovations had a long-lasting influence on China, for instance, in terms of the form of dual government administration of nomadic and sedentary subjects (Di Cosmo 2006: 18, 22; Hooker 2007: 30).

The burial practices observed here also show many elements related to a prolongation of Tang traditions. The architectural features of brick tombs, with their domes and roofed doors, can be seen as imitations of Tang tombs (Elisseeff 1994: 76). Most of the artisans working within the Liao territory were trained in traditions derived from the Tang culture, and the Liao thereby “appropriated much of their imperial culture from previous dynastic empires, so as to invest its dynasty with tradition and legitimize its rule” (Tsao 2000: 13). This process may be theorized as “cross-culturalization” or “hybridized culture”, though another framework, “Qidanization”, has also been proposed, in order to give Khitan culture, a “minor culture” but a major source of influence, the chance to speak for itself (Tsao 2000: 15; Kinoshita 2006; Feng 2011).

The burial practices of the Horqin region can be seen as a mix of local elements and constant adaptations. As Kuhn puts it, “the aristocrats of the Liao dynasty copied the burial style of the aristocratic Tang tombs, but soon transformed the underground architecture in various ways in order to cope with the quite different topographical conditions in Liaoning and Inner Mongolia and in order to match the Chinese tombs with their own burial tradition” (Kuhn 1994: 95). Furthermore, the large variety of burial modes among various segments of society, in terms of architecture, decoration, burial goods, body treatments, and ornaments, can be interpreted as a reflection of social hierarchy (Kuhn 1998: 24, 39).

It is clear that special care as well as a great deal of wealth and manhours were needed to create the stone or brick underground architecture to bury the members of the elite in the Horqin region, as well as in the whole of Northeast and Northern China during the first quarter of the 2nd millennium ad. In these burials, there is often no indication of religious orientation, so it is ultimately difficult to know what the deceased believed. However, the families of the deceased certainly believed in the importance of the care they took with funerary rites and customs, providing a home for the deceased in the afterlife, leaving behind a physical representation of cultural identity and social hierarchy among the living.

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| Burial type        | Number of burials | Pre-Liao | Liao | Jin | Liao-Jin |
|--------------------|-------------------|----------|------|-----|----------|
| Brick chamber tomb | 148               | 3        | 133  | 5   | 7        |
| Stone chamber tomb | 36                | 1        | 33   | 1   | 1        |
| Pit burials        | 41                | 3        | 29   | 1   | 8        |
| Stone coffin       | 8                 | 0        | 5    | 2   | 1        |
| Urn burial         | 6                 | 2        | 3    | 1   | 0        |
| Catacomb tomb      | 2                 | 0        | 2    | 0   | 0        |
| Total              | 241               | 9        | 205  | 10  | 17       |

Table 2 — Burial types in each period from published sources, information available for 241 of 246 tombs.

| Burial type        | Number of burials | Early Liao |       | Middle Liao |       | Late Liao |       |
|--------------------|-------------------|------------|-------|-------------|-------|-----------|-------|
| Brick chamber tomb | 113               | 22         | 47.8% | 48          | 67.6% | 43        | 71.7% |
| Stone chamber tomb | 30                | 13         | 28.3% | 10          | 14.2% | 7         | 11.7% |
| Pit burials        | 21                | 7          | 15.2% | 4           | 5.6%  | 10        | 16.6% |
| Stone coffin       | 5                 | 1          | 2.2%  | 4           | 5.6%  | 0         |       |
| Urn burial         | 3                 | 0          |       | 3           | 4.2%  | 0         |       |
| Catacomb tomb      | 2                 | 1          | 2.2%  | 1           | 1.4%  | 0         |       |
| Unknown            | 3                 | 2          | 4.3%  | 1           | 1.4%  | 0         |       |
| Total              | 177               | 46         | 100%  | 71          | 100%  | 60        | 100%  |

Table 3 — Burial types among the Liao tombs by period, information available on 177 of 204 tombs.

| Shape       | Number of burials | Pre-Liao | Liao |       | Jin | Liao-Jin |
|-------------|-------------------|----------|------|-------|-----|----------|
| Rectangular | 36                | 2        | 29   | 22.5% | 1   | 4        |
| Round       | 34                | 1        | 32   | 24.8% | 0   | 1        |
| Octagonal   | 32                | 0        | 30   | 23.3% | 2   | 0        |
| Square      | 25                | 0        | 23   | 17.8% | 2   | 0        |
| Hexagonal   | 6                 | 0        | 6    | 4.6%  | 0   | 0        |
| Horseshoe   | 4                 | 0        | 4    | 3.1%  | 0   | 0        |
| Elliptical  | 3                 | 0        | 3    | 2.3%  | 0   | 0        |
| Decagonal   | 2                 | 0        | 2    | 1.5%  | 0   | 0        |
| Total       | 142               | 3        | 129  | 100%  | 5   | 5        |

Table 4 — Shape of the main chamber in brick chamber tombs, information available on 142 of 148 tombs.

| Shape       | Number of burials | Early Liao |       | Middle Liao |       | Late Liao |       |
|-------------|-------------------|------------|-------|-------------|-------|-----------|-------|
| Rectangular | 21                | 4          | 18.2% | 7           | 14.6% | 10        | 23.3% |
| Round       | 28                | 5          | 22.7% | 20          | 41.6% | 3         | 7%    |
| Octagonal   | 30                | 0          |       | 8           | 16.7% | 22        | 51.2% |
| Square      | 22                | 12         | 54.5% | 8           | 16.7% | 2         | 4.6%  |
| Hexagonal   | 4                 | 1          | 4.6%  | 1           | 2.1%  | 2         | 4.6%  |
| Horseshoe   | 3                 | 0          |       | 1           | 2.1%  | 2         | 4.6%  |
| Oval        | 3                 | 0          |       | 3           | 6.2%  | 0         |       |
| Decagonal   | 2                 | 0          |       | 0           |       | 2         | 4.7%  |
| Total       | 113               | 22         | 100%  | 48          | 100%  | 43        | 100%  |

Table 5 — Shape of the main chamber by period among Liao brick chamber tombs, information available on 113 of 129 tombs.

| Shape       | Number of burials | Pre-Liao | Liao |       | Jin |
|-------------|-------------------|----------|------|-------|-----|
| Rectangular | 6                 | 0        | 6    | 18.2% | 0   |
| Round       | 7                 | 1        | 6    | 18.2% | 0   |
| Octagonal   | 5                 | 0        | 4    | 12.1% | 1   |
| Square      | 12                | 0        | 12   | 36.4% | 0   |
| Hexagonal   | 2                 | 0        | 2    | 6.1%  | 0   |
| Horseshoe   | 1                 | 0        | 1    | 3%    | 0   |
| Elliptical  | 1                 | 0        | 1    | 3%    | 0   |
| Trapezoidal | 1                 | 0        | 1    | 3%    | 0   |
| Total       | 35                | 1        | 33   | 100%  | 1   |

Table 6 — Shape of the main chamber in pre-Liao through Jin stone chamber tombs, information

available on 35 of 36 tombs.

| Orientation | Number of burials | Pre-Liao | Liao |       | Jin | Liao-Jin |
|-------------|-------------------|----------|------|-------|-----|----------|
| North       | 14                | 1        | 12   | 6.4%  | 0   | 1        |
| Northeast   | 6                 | 1        | 4    | 2.1%  | 1   | 0        |
| East        | 3                 | 0        | 3    | 1.6%  | 0   | 0        |
| Southeast   | 138               | 3        | 128  | 68.1% | 7   | 0        |
| South       | 16                | 0        | 13   | 6.9%  | 1   | 2        |
| Southwest   | 14                | 0        | 11   | 5.9%  | 0   | 3        |
| West        | 1                 | 0        | 1    | 0.5%  | 0   | 0        |
| Northwest   | 18                | 1        | 16   | 8.5%  | 0   | 1        |
| Total       | 210               | 6        | 188  | 100%  | 9   | 7        |

Table 7 — Orientation of Liao and Jin burials, information available on 210 of 246 tombs.

| Orientation | Number of burials | Pre-Liao | Liao |       | Jin | Liao-Jin |
|-------------|-------------------|----------|------|-------|-----|----------|
| North       | 0                 | 0        | 0    |       | 0   | 0        |
| Northeast   | 0                 | 0        | 0    |       | 0   | 0        |
| East        | 2                 | 0        | 2    | 1.6%  | 0   | 0        |
| Southeast   | 102               | 2        | 95   | 77.9% | 5   | 0        |
| South       | 12                | 0        | 10   | 8.2%  | 0   | 2        |
| Southwest   | 11                | 0        | 10   | 8.2%  | 0   | 1        |
| West        | 1                 | 0        | 1    | 0.8%  | 0   | 0        |
| Northwest   | 4                 | 0        | 4    | 3.3%  | 0   | 0        |
| Total       | 132               | 2        | 122  | 100%  | 5   | 3        |

Table 8 — Orientation of pre-Liao through Jin brick chamber tombs, information available on 132 of 148 tombs.

| Number of individuals | Number of burials |       | Pre-Liao | Liao |       | Jin | Liao-Jin |
|-----------------------|-------------------|-------|----------|------|-------|-----|----------|
| 1                     | 123               | 66.8% | 6        | 102  | 64.6% | 5   | 10       |
| 2                     | 52                | 28.4% | 1        | 48   | 30.4% | 1   | 2        |
| 3                     | 6                 | 3.3%  | 0        | 5    | 3.2%  | 0   | 1        |
| 6                     | 1                 | 0.5%  | 0        | 1    | 0.6%  | 0   | 0        |
| 8                     | 1                 | 0.5%  | 0        | 1    | 0.6%  | 0   | 0        |
| 10                    | 1                 | 0.5%  | 0        | 1    | 0.6%  | 0   | 0        |
| Total                 | 184               | 100%  | 7        | 158  | 100%  | 6   | 13       |

Table 9 — Number of individuals per burial, information available on 184 of 246 burials.

| Number of individuals | Number of burials | Pre-Liao | Liao |       | Jin | Liao-Jin |
|-----------------------|-------------------|----------|------|-------|-----|----------|
| 1                     | 71                | 3        | 66   | 64.1% | 0   | 2        |
| 2                     | 34                | 0        | 32   | 31.1% | 1   | 1        |
| 3                     | 6                 | 0        | 5    | 4.8%  | 0   | 1        |
| 10                    | 1                 | 0        | 0    | 0%    | 1   | 0        |
| Total                 | 112               | 3        | 103  | 100%  | 2   | 4        |

Table 10 — Number of individuals in brick chamber tombs, information available on 112 of 148 tombs.

| Number of individuals | Number of burials | Liao | Jin |
|-----------------------|-------------------|------|-----|
| 1                     | 13                | 12   | 1   |
| 2                     | 11                | 11   | 0   |
| Total                 | 24                | 23   | 1   |

Table 11 — Number of individuals in stone chamber tombs, information available on 24 of 36 tombs.

| Gender | Number of burials | Pre-Liao | Liao | Jin |
|--------|-------------------|----------|------|-----|
| Male   | 28                | 2        | 25   | 1   |
| Female | 18                | 1        | 16   | 1   |
| Total  | 46                | 3        | 41   | 2   |

Table 12 — Sex of individuals in burials, information available on 46 of 123 burials.

| Gender | Number of burials | Liao | Jin |
|--------|-------------------|------|-----|
| Male   | 14                | 14   | 0   |
| Female | 11                | 11   | 0   |
| Total  | 25                | 25   | 0   |

Table 13 — Sex of individuals in brick chamber tombs, information available on 25 of 71 tombs.

| Gender | Number of burials | Liao | Jin |
|--------|-------------------|------|-----|
| Male   | 4                 | 3    | 1   |
| Female | 1                 | 1    | 0   |
| Total  | 5                 | 4    | 1   |

Table 14 — Sex in stone chamber tombs, information available on 5 of 13 tombs.

| Artifact                           | Comparison   | Period (date if known) |
|------------------------------------|--|------------------------|
| <i>mingdi</i> (arrow with whistle) | Songjingou, Balinyouqi, Inner Mongolia (Neimenggu 2002)                  | middle Liao            |
|                                    | Houliudong, Kangping, Liaoning (Tieling & Kangping 1988) (fig. 24-1)     | early Liao             |
|                                    | Daxigou, Kangping, Liaoning (Liaoning 1991) (fig. 24-2)                  | early or middle Liao   |
| iron knife                         | Halacheng, Zhaodong, Heilongjiang (Wang 1961) (fig. 24-3)                | Liao or Jin            |
|                                    | Wangfengou (Xiao He's tomb), Fuxin, Liaoning (Liaoning 2005) (fig. 24-4) | middle Liao (997-1045) |

Table 16 — Comparative artifacts for the burial offerings in the Hamaqin tomb.

| Artifact  | Comparison  | Period (date if known) |
|---|---|------------------------|
| high neck <i>hu</i> vessel from the small brick chamber | Yemaotai, Faku, Liaoning (Liaoning 1975)  | early Liao             |
|   | Xiawafanggou, Beipiao, Liaoning (Chen 2002) (fig. 17-1)   | early Liao             |
|   | glazed <i>hu</i> from Yemaotai, Faku, Liaoning (Feng 1975) (fig. 17-2)  | middle Liao            |
| <i>hu</i> vessels from the burial chamber               | Shazigou, Aohaoqi, Inner Mongolia (Aohanqi 1987) (fig. 17-3)  | early Liao             |
|   | Dahenggou, Aohaoqi, Inner Mongolia (Aohanqi 1987) (fig. 17-4)   | early Liao             |
|   | Hailiban, Fuxin, Liaoning (Liaoning <i>et al.</i> 1991)   | early Liao             |
|   | Nangaoliyingzi, Fuxin, Liaoning (Liaoning & Fuxin 1992) (fig. 17-5)   | early Liao             |
|   | Zhangjiayao, Kangping, Liaoning (Xian 1997)   | early Liao             |
|   | Mutouyingzi, Nailinggao, Kulunqi, Inner Mongolia (Neimenggu 1981)   | middle or late Liao    |
|   | Chagantumo, Qianguo, Jilin (Jilin 2005) (fig. 17-6)   | middle or late Liao    |
|   | Laohuwo, Yemaotai, Faku, Liaoning (Liaoning & Shenyang 2010) (fig. 17-7)                                      | late Liao              |
|   | Sanhe, Qiqiha'er, Heilongjiang (Xin & Cui 1991)   | Liao                   |
| silver bowl   | gold bowl, Sumuchaoketushan (Yelü Yuzhi's tomb), Aluke'erqinqi, Inner Mongolia (Neimenggu <i>et al.</i> 1996) | early Liao (941)       |
| bronze mirror   | round with other patterns, Dahenggou, Aohaoqi, Inner Mongolia (Aohanqi 1987)                                  | early Liao             |
|   | Hailiban, Fuxin, Liaoning (Liaoning <i>et al.</i> 1991)   | early Liao             |
|   | Zhangshilangou, Quanjutong, Beipiao, Liaoning (Zhang & Li 1990)   | early Liao (c. 980)    |
|   | round with other patterns, Wushijiazhi (Qin Dechang's tomb), Jianping, Liaoning (Li 1995)                     | late Liao (1078)       |
|   | round with other patterns, Houliudong, Kangping, Liaoning (Kangping 1986)                                     | Liao                   |
| bronze earrings   | gold earrings, Shazigou, Aohaoqi, Inner Mongolia (Aohanqi 1987) (fig. 18-1)                                   | early Liao             |
|   | Xiaohada tomb, Linxi, Inner Mongolia (Linxi 2005) (fig. 18-2)   | middle Liao            |
| bronze belt plaques                                     | Shazigou, Aohaoqi, Inner Mongolia (Aohanqi 1987) (fig. 19-1)  | early Liao             |
|   | Houliudong, Kangping, Liaoning (Tieling & Kangping 1988; Kangping 1986) (fig. 19-2)                           | early Liao             |
|   | Hailiban, Fuxin, Liaoning (Liaoning <i>et al.</i> 1991) (fig. 19-3)   | early Liao             |
|   | Baijiawopu, Beipiao, Liaoning (Liaoxi & Beipiao 2008)   | middle Liao            |
|   | Haotehua, Zhaluteqi, Inner Mongolia (Zhongguo 2003) (fig. 19-4)   | middle Liao            |
|   | Dao'erqige, Aluke'erqinqi, Inner Mongolia (Cong 1992)   | middle Liao            |
|   | Libeibao, Faku, Liaoning (Lin & Xian 2001) (fig. 19-5)  | middle Liao            |
|   | Mutouyingzi, Nailinggao, Kulunqi, Inner Mongolia (Neimenggu 1981) (fig. 19-6)                                 | middle or late Liao    |
|   | Wenduo'er'aoruishan, Aluke'erqinqi, Inner Mongolia (Chifeng & Aluke'erqinqi 1993)                             | late Liao              |
|   | Xiaoliuzhangzi, Zhaowudameng, Inner Mongolia (Neimenggu 1961)   | late Liao              |
|   | Wuqintulu (Zheng Ke's tomb), Jianping, Liaoning (Feng 1960)   | late Liao              |
| openwork spherical bronze ornament                      | Baiyintala, Ke'erqinzuoqihouyi, Inner Mongolia (Neimenggu 2002) (fig. 20-1)                                   | early Liao             |
|   | Hutulugacha, Balin Right Banner, Inner Mongolia (Balinyouqi 1988) (fig. 20-2)                                 | early Liao             |
|   | Houliudong, Kangping, Liaoning (Kangping 1986) (fig. 20-3)  | early Liao             |
|   | Nangaoliyingzi, Fuxin, Liaoning (Liaoning & Fuxin 1992) (fig. 20-4)   | early Liao             |
|   | Haotehua tomb, Zhaluteqi, Inner Mongolia (Zhongguo 2003) (fig. 20-5)  | middle Liao            |
|   | Mutouyingzi, Nailinggao, Kulunqi, Inner Mongolia (Neimenggu 1981) (fig. 20-6)                                 | middle or late Liao    |
|   | Chenggou, Fuxin, Liaoning (Fuxin <i>et al.</i> 1998) (fig. 20-7)  | late Liao              |

| Artifact                    | Comparison  | Period (date if known)  |
|-----------------------------|---|-------------------------|
| leaf-shaped bronze ornament | Baiyintala, Ke'erqinzuqihouyi, Inner Mongolia (Neimenggu 2002) (fig. 21-1)  | early Liao              |
|                             | Shazigou, Aohaoqi, Inner Mongolia (Aohanqi 1987) (fig. 21-2)  | early Liao              |
|                             | Dahenggou, Aohaoqi, Inner Mongolia (Aohanqi 1987) (fig. 21-3)   | early Liao              |
|                             | Chaganwusugacha, Balin Right Banner, Inner Mongolia (Miao 1995) (fig. 21-4)                                       | early Liao              |
|                             | Zhangjiayao, Kangping, Liaoning (Pei 1996) (fig. 21-5)  | early Liao              |
|                             | Houliudong, Kangping, Liaoning (Tieling & Kangping 1988) (fig. 21-6)  | early Liao              |
|                             | Wulanmutushan (Xiao ?'s tomb), Fuxin, Liaoning (Liaoning & Fuxin 2004) (fig. 21-7)                                | early Liao              |
|                             | Qianchuanghu tomb, Chaoyang, Liaoning (Jin 1980) (fig. 21-8)  | middle Liao             |
|                             | Xintizimiao, Fuxin, Liaoning (Liaoning & Fuxin 2004)  | middle Liao             |
|                             | Mutouyingzi, Nailinggao, Kulunqi, Inner Mongolia (Neimenggu 1981) (fig. 21-9)                                     | middle or late Liao     |
| bronze belt buckle          | Chaganwusugacha, Balin Right Banner, Inner Mongolia (Miao 1995)   | early Liao              |
| beads                       | Baiyintala, Ke'erqinzuqihouyi, Inner Mongolia (Neimenggu 2002)  | early Liao              |
|                             | Baita, Aohanqi, Inner Mongolia (Neimenggu 2010) (fig. 22-1)   | early Liao              |
|                             | Nangaoliyingzi, Fuxin, Liaoning (Liaoning & Fuxin 1992) (fig. 22-2)   | early Liao              |
|                             | Wulanmutushan (Xiao ?'s tomb), Fuxin, Liaoning (Liaoning & Fuxin 2004) (fig. 22-3)                                | early Liao              |
|                             | in a necklace, Sumuchaoketushan (Yelü Yuzhi's tomb), Aluke'erqinqi, Inner Mongolia (Neimenggu <i>et al.</i> 1996) | early Liao (941)        |
|                             | Hutulugacha, Balin Right Banner, Inner Mongolia (Balinyouqi 1988) (fig. 22-4)                                     | early Liao              |
|                             | Mazhangwa, Guanshan, Fuxin, Liaoning (Liaoning 2011)  | early Liao              |
|                             | Wulanmutushan (Pingyuan Princess's tomb), Fuxin, Liaoning (Liaoning & Fuxin 2011) (fig. 22-5)                     | middle Liao (1051-1054) |
|                             | turquoise and amber, Dashalitu, Zhangwu, Liaoning (Liaoning <i>et al.</i> 1999) (fig. 22-6)                       | middle Liao             |
|                             | Haotehua, Zhaluteqi, Inner Mongolia (Zhongguo 2003) (fig. 22-7)   | middle Liao             |
|                             | agate, Erlinchang, Tongliao, Inner Mongolia (Zhang 1995)  | middle Liao, 10th c.    |
|                             | Laohuwo, Yemaotai, Faku, Liaoning (Liaoning & Shenyang 2010) (fig. 22-8)  | late Liao               |
|                             | in jade, Gaolige, Shuangliao, Jilin (Jilin 1986) (fig. 22-9)  | late Liao               |
|                             | Fula'erji, Qiqiha'er, Heilongjiang (Xu 1999) (fig. 22-10)   | Liao                    |
|                             | Halacheng, Zhaodong, Heilongjiang (Wang 1961)   | Liao or Jin             |
| iron shears                 | Shazigou, Aohaoqi, Inner Mongolia (Aohanqi 1987)  | early Liao              |
|                             | Zhangjiayao, Kangping, Liaoning (Xian 1997) (fig. 23-1)   | early Liao              |
|                             | Nangaoliyingzi, Fuxin, Liaoning (Liaoning & Fuxin 1992) (fig. 23-2)   | early Liao              |
|                             | Wulanmutushan (Pingyuan Princess's tomb), Fuxin, Liaoning (Liaoning & Fuxin 2011) (fig. 23-3)                     | middle Liao (1051-1054) |
|                             | Chagantumo, Qianguo, Jilin (Jilin 2005)   | middle or late Liao     |
|                             | Qianwulibu, Kulunqi, Inner Mongolia (Neimenggu & Zhelimumeng 1987) (fig. 23-4)                                    | late Liao               |
| bone needle holder          | Baita, Aohanqi, Inner Mongolia (Neimenggu 2010)   | early Liao              |
|                             | Maoshan, Qianguo, Jilin (Jilin 1988)  | middle Liao             |
| bone toothbrush             | Baiyinhanshan (Han Kuangsi's tomb), Bailin Right Banner, Inner Mongolia (Neimenggu <i>et al.</i> 2002)            | middle Liao (985)       |
|                             | Dahalabashan, Shuangliao, Jilin (Wang 1983)   | late Liao, 12th c.      |
| iron knife                  | Sumuchaoketushan (Yelü Yuzhi's tomb), Aluke'erqinqi, Inner Mongolia (Neimenggu <i>et al.</i> 1996)                | early Liao (941)        |
| iron hinges                 | Baiyinhanshan (Han Kuangsi's tomb), Bailin Right Banner, Inner Mongolia (Neimenggu <i>et al.</i> 2002)            | middle Liao (985)       |

Table 15 — Comparative artifacts for the burial offerings in the Dongmengyi tomb.