Pottery Kilns of the Khitans in Mongolia

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Abstract: After the Xiongnu Empire, new style kiln-fired ceramics were found from the Göktürks (552–744 AD) and the Uyghur Khaganate (744–840 AD). These may have been produced using kilns, but no production site has yet been discovered. It is possible that kilns were also used in other eras, but excavated items have thus far failed to confirm this possibility. For these reasons, it is difficult to conduct a diachronic study on pottery production in Mongolia at present. This essay provides an overview of our investigations of pottery kiln ruins at the site of the Chintolgoi Castle, built by Khitans, and discusses how this example should be placed within the wider context. Based on a detailed examination of the pottery, it is presumed that the pottery production at Chintolgoi Castle was an amalgamation of pottery traditions of different origins, such as those of the Bohai and Uyghur. It can be said that the relics of the material culture of the Khitan people reflected the state of “imperial” rule by which the Khitan people commandeered and reorganized the groups and technologies of other ethnic groups in the region as they expanded their territory.

Keywords: Mongolia, Khitans, Chintolgoi Castle, Bohai, Uyghur

12.1. Introduction

The ruins of only three types of pottery kilns have been found in Mongolia to date: those of the Xiongnu, the Khitans and the Northern Yuan dynasty. Since earthenware and stoneware were also found from the Göktürks (AD 552–744) and the Uyghur Khaganate (AD 744–840), these may have been produced using kilns, but no such ruins have yet been discovered. It is possible that kilns were also used in other eras, but excavated items have thus far failed to confirm this possibility. For these reasons, it is difficult to conduct a diachronic study on pottery production in Mongolia at present. This paper will provide an overview of pottery kiln ruins at the site of the Khitan Chintolgoi Castle, which we investigated, and discuss how we may position this example within the wider context.

Archeological research on the Khitans has concentrated on the study of the tombs of nobles and the city walls, and not on other products. The research on pottery has mainly focused on the chronology of pottery excavated from the tombs of nobles. The pottery of the Khitans is known to consist of soft earthenware, kiln-fired stoneware and porcelain. However, there has been no survey of the production sites of any of these pottery types, and an analysis of production techniques and a distribution have not yet been carried out. Therefore, the examination of the kilns at Chintolgoi Castle is of significance to the history of the Khitans. In addition, the kilns of the Khitans were more developed than those of the Xiongnu and Bohai, which is also meaningful when considering the changes in kilns in North Asia.

12.2. The advance of the Khitans into the Mongolian Plateau

In Chinese history books, the Khitans emerged around the fourth century AD. They were nomadic people inhabiting the basin of the Xar Moron and Laoha rivers, tributaries of the Liao River. The Khitan people had been divided into various groups, but Taizu (AD 872–926), also known as Abooji, unified those groups and founded the Liao Dynasty (AD 916–1125). After assuming power, he extended his influence eastward, destroyed the Bohai (AD 926), and advanced southwards, eventually gaining control of the Sixteen Prefectures. He then advanced into the Mongolian Plateau. Because the Hexi Corridor (also known as the Oasis Route, or the Gansu Corridor) was controlled by the Western Xia (also known as the Tangut Empire), Taizu sought to establish a trade route with the countries to the west via the Steppe Route extending from the Mongolian Plateau. There was no unified Mongolian nation during this period, and the region was controlled by nomadic groups such as the Zubu and Yujue; the Khitans had to suppress these nomadic groups in order to establish the Steppe Route. To this end, in 1004, Emperor Shenzong of Liao established the Zhenzhou Military Base in what is now Bulgan Province, Mongolia, as well as three provinces, namely Zhenzhou (supervised by a military commissioner), Fangzhou and Weizhou (supervised by a provincial governor). He stationed 20,000 cavalries in the area, and placed 700 Han Chinese, Jurchens and Bohai settler households in the region to govern the Mongolian Plateau.

In the process of expanding his territory, the emperor settled groups from different cultural and social backgrounds,
such as the Han Chinese, Bohai people and Jurchens, in the newly conquered areas, and created a system which combined the traditions of the Liao Dynasty with cultures and systems of different origins. This system incorporated Buddhism, the Khitan script and dual apparatuses to govern nomads and settled agriculturists under different systems. The establishment of the governance and transportation structures under the five-capital system, prefectural and provincial systems was one of these features, and these provinces and prefectures have been preserved as the castle sites.

12.3. The site of Chintolgoi Castle as a colonial city

More than a dozen Khitan castle sites have been found on the Mongolian Plateau (Fig. 12.1). One of them, the site of Chintolgoi Castle, is located in Dashin Chilen Aimag, Bulgan Province, Mongolia. Researchers assume that this was the most prestigious castle in Zhenzhou, functioning as the governmental center of the plateau. This assumption is based on the fact that the castle was named after the hill called Chintolgoi, located north of the castle ruins. “Tolgoi” means “hill” in Mongolian, and “chin” is similar in sound to “zhen.” Another basis for this assumption is that it is the largest of the Khitan castles on the Mongolian Plateau, with a circumference of 3840 m. Studies have determined that the size of Khitan provincial castles in China is proportional to their rank. The ruins of Khar bukh Castle and Ulaan kherem Castle, both in Dashin Chilen Aimag, Mongolia, which were designated as provincial capitals supervised by a provincial governor, have circumferences of 2780 m and 2040 m, respectively. It is likely that Chinese standards were maintained in the castles of the Mongolian Plateau.

If the Chintolgoi Castle site was Zhenzhou Castle, then it would have been built in 1006. The year it was ruined is unknown. Nevertheless, Qui Chuji, who visited the area in 1188, confirmed that the castle of Khitan was in ruins at that time. Perhaps it lost importance when the Mongol Jin Dynasty exterminated the Khitans in 1125. Therefore, artifacts from the ruins of Chintolgoi Castle are considered to be from the early eleventh to twelfth century, mainly from the eleventh century.

The castle site is a flat rectangle with a north–south length of approximately 1260 m and an east–west length of approximately 660 m. An inner wall extends east to west near the middle of the interior, dividing the structure into north and south (Fig. 12.2a). This multi-layer structure is one of the characteristics of Khitan castles, and has also been found at Shangjing, Zuzhou Castle and Raozhou Castle.

The height of the castle wall is, currently, about 3 m. A moat between 10 and 12 m wide encircles the castle wall. Five spurs on the north–south side and nine spurs on the east–west side are attached to the walls at intervals of 65 to 70 m. The dimensions of the castle reveal that it was designed, measured and constructed based on grid partitions using the Tang chi (shaku) measuring unit (Usuki and Enkhtur 2009).

![Figure 12.1. Khitan castle sites in the central part of the Mongolian Plateau (based on Ochir et al. 2005).](image-url)
Both the north and south castles have gates in the south, east and west walls. These gates have a barbican, comprised of an L-shaped auxiliary castle wall projecting toward the outside. The northeast gate of the north castle has been excavated to examine its structure (Senda and Enkhtur 2011, 2015; Fig. 12.2b).

The gate path would have been about 11 m long and 5.8 m wide, cutting through the castle wall. The road was paved with sandy white soil rather than stone or brick. On both sides of the gate path, excavators found a row of granite blocks surmounted by wood. In the center of the path were the gatepost foundation stones, as well as the stones that served as a threshold and the standing stone as a door stopper. The wood placed on the row of stones was a piece of square-edged timber with a width of about 25 cm, cut from a single tree with a solid, unbroken length of about 11 m. About every 70 cm, 15 square mortises were drilled...
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to support the insertion of upright pillars, while bars were piled in the soil below the castle wall to construct the body of the gate. Wave-shaped traces found in the soil suggest that hemispherical logs were used as bars. The side walls of the gate path were made of pine and stood vertically. Radiocarbon dating of debris from the exterior parts of the castle indicates the eleventh century, which is approximately consistent with the establishment date of Zhenzhou.

No remains of the gate ceiling and gate tower shed have been found, but since flagstones, tiles and bricks were excavated from the survey site, the gate tower was probably made of these materials. Many large flat tiles and pieces of antefix with gargoyles were also excavated, indicating that this was most probably an important, high-class structure.

The ruins of Zuzhou Castle and the Zuling mausoleum of Bairin Left Banner in the Inner Mongolia Autonomous Region of China are currently the only excavated examples of Khitan castle gates. The mausoleum is the tomb of the first Emperor Taizu of Liao, and the Zuzhou Castle was established in 927 as a castle site to protect the tomb. The inner gate of Zuzhou Castle (called the Xingsheng Gate according to The History of Liao) has three gate paths. The central path was excavated by Masao Shimada and others in 1943 (Shimada 1955; Fig. 12.2d). It measures 4.95 m in width and about 20 m in length, and in structure is similar to the ruins of Chintolgoi Castle. The Heilong Gate, the entrance to the Zuling mausoleum, was excavated and studied in 2010 by the Institute of Archaeology, Chinese Academy of Social Sciences and the Inner Mongolia Institute of Cultural Relics and Archaeology. The study revealed that the gate structure was also similar to that of Chintolgoi Castle (Second Inner Mongolian archeological teams, IA, CAA et al. 2011; Fig. 12.2e). This gate also has three paths but was more carefully constructed than the ruins of Chintolgoi Castle, with masonry side walls and the brick-paved roads. However, the Heilong and Chintolgoi gates have width in common, both being approximately 5 m wide. Since this type of castle gate is not in evidence at the Tang Dynasty Daming Palace or Shangjing Longquanfu in Bohai, it may have been standardized by the Khitans.

Based on the above survey results, Chintolgoi Castle seems to have been a colonial city designed and constructed with techniques and workers already established in the area when the Khitans advanced into the Mongolian Plateau.

12.4. Excavation of the pottery kilns at the ruins of Chintolgoi Castle

The urban ruins of Chintolgoi Castle have been associated with numerous production activities. The containers and tiles used in the castle were manufactured using the Chintolgoi kilns, which are located about 300 m south of the castle site on slightly elevated ground near the old river channel, which runs from the west to the south of the castle ruins (Fig. 12.2c). Analysis of materials collected from the surface and the magnetic survey in the area has revealed that there were several kilns. One of the excavations, that of Kiln 1, was carried out between 2008 and 2009 (Senda and Enkhtur 2010; Fig. 12.3).

Figure 12.3. Pottery Kiln 1 at the Chintolgoi Castle.
As part of the research, the western kilns were excavated to understand their structure, while the eastern kilns were left unexcavated to preserve the remains. After excavation, the remains such as walls and floors were preserved and backfilled.

The kilns are flat and semi-subsurface, with a major axis length of about 5.2 m and a width of about 2.6 m. The ceiling is a semicircular dome. An oval pit approximately 1 m deep was dug in the raised part of the slightly elevated area along the river, and then the inclined part was also dug to set up a chimney and a firing chamber. The south side of the firing chamber was dug to a depth of about 1 m to construct the combustion chamber. The major axis runs in a north–south direction. There is a single chimney, and there is a clay partition between the wall and the firing chamber. The northern half of the firing chamber is made of sun-dried bricks, while the southern half of the firing chamber and the combustion chamber are made of clay and flagstones stacked to form a wall. Eave-end round tiles with gargoyles and unfired pot-shaped pottery were embedded in the southeastern part of the outer wall. The floor of the firing chamber is paved with brick. A square vestibule, which served as a working space, was dug into the front of the firebox of the kiln. The masonry on the wall seems to have been restacked, and the floor was definitely expanded. It was evident that a major renovation had been carried out. After the repair, the ash was not removed; the kilns appear to have been used at least 10 times after the repair. Since the kilns were buried once the products were removed following the final firing, only fragments of the walls and products had accumulated inside. On the east side of the kiln ruins, investigators found traces of pits and topographic alterations they considered to be related to kiln construction.

Unglazed pottery was produced in this site (Fig. 12.4a). The main types of production include storage vessels and tableware such as jars, bowls and large pots, but boiling tools including fringed kettles with tripod and deep bowls were also found. The principal products are jars, which account for about 40 percent of the total, while bowls make up about 20 percent. Although it is difficult to specify the period, it is assumed to have been operated in the early to mid-eleventh century, not long after the construction of Zhenzhou Castle.

From 2004 to 2008, a Russian–Mongolian joint excavation was conducted in the southwestern section of the site, near the intersection of the north–south central road and east–west central road in the north part of the Chintolgoi Castle (Kradin et al. 2011). In the excavation area, houses and storage cells of various periods were discovered. Since the homes discovered were not particularly large, the area was considered to have been an ordinary residential quarter. A comparison between the material excavated in the castle (Figure 12.4b) and the material excavated from Kiln 1 indicates that the basic composition of the pottery remains is very similar. However, some types of vessels not produced using this kiln, such as short-necked long bottles, vessel stands and inkwells, were also discovered (Fig. 12.4b: 23–25). In addition, a relatively large number of bowls and plates have been excavated in the castle, but most of these were not produced in kilns at Chintolgoi Castle. These items were also slightly different in shape.

What the compositions of the excavated pottery of Kiln 1 and the castle have in common is that Kiln 1 was a production site for daily utensils supplied to the castle. However, while bottles account for 40 percent of the pottery produced at Kiln 1, a certain number of bowls and plates were excavated in the castle. It is possible that the main types of vessels produced were different at each kiln.

A certain number of pottery have been excavated in the castle, and it is also possible to collect the surface soil. Compared to ordinary Khitan pottery identified at other sites, the long-necked jars share similar features. However, not all types of pottery are earthenware and stoneware. These found do not include the most distinctive ornamental varieties, such as “Jiguan” (“cockscomb”) jars and “Jitui” (“chicken thigh”) bottles. No dishes (plates) have been found to date. By contrast, the pots, bowls, fringed kettles and deep bowls were not produced in porcelain. Some types of products were made of earthenware, while others were usually stoneware.

White porcelain is the main type of ceramics found inside the castle ruins, while black glazed wares, bluish-white porcelain and celadon were also discovered. Most of these ceramics were small bowls. Earthenware, stoneware, and porcelain may have been used in a complementary manner in the ruins of Chintolgoi Castle, but there are far fewer of the latter than the former two. There are kilns other than Kiln 1 that produced bowls and dishes as a mainstay or in relatively large numbers, and most of the castle’s daily utensils are thought to have been made of earthenware and stoneware.

The above suggests that the earthenware and stoneware used in the castle was produced in the nearby kilns, but that a small number of porcelains were imported from distant locations. Porcelains seem to have been a luxury item. Up until recently, the year of production for Khitan pottery was calculated based mainly on the materials excavated from aristocratic tombs, most of which were porcelains (Imano 2002, Peng 2003). Moreover, as the proportion of porcelains increased over time, the earthenware and stoneware production features, which served as daily utensils in each period, were unknown. Therefore, the results of kiln 1, the first survey on the pottery production site, become essential for future reference material.

12.5. Material culture artifacts indicating the “imperial” characteristics of the Khitans

After destroying the area around the Bohai in 926, the Khitans dispersed a large number of Bohai people to various locations within their territory. The geographic
description in *The History of Liao* also mentions that some Bohai people were brought to Chintolgoi Castle. Russian troops excavating the inside of the Chintolgoi Castle ruins determined that Bohai workers had been transferred to the Chintolgoi Castle based on the similarities between the pottery excavated inside the castle and Bohai pottery (Kradin et al. 2011: 116–18; Ivliev 2020).
The shapes of long-necked jars and deep bowls which characterize the Khitan pottery are different to Bohai pottery. The frequently used pressed patterns are also different, but the shape of the rims of bowls (Fig. 12.4a: 1; b: 17; c: 30, 31), pots (Fig. 12.4a: 9; c: 32) and neckless jars (Fig. 12.4b: 16; c: 28) is similar. At the same time, the bridge-shaped handle as shown in Fig. 12.4a: 12 has an embossed pattern unique to Khitan pottery, but this kind of handle is common in Bohai pottery (Fig. 12.4c: 30, 31).

Although it is necessary to review this after becoming more familiar with the characteristics and composition of Khitan daily utensils manufactured before their advance into the Mongolian Plateau, the similarities they share with Bohai pottery at the ruins of Chintolgoi Castle are probably due to the fact that Bohai craftsmen were involved in their production. Tiles with the design of the Bohai Sea have been excavated at Zuzhou Castle, Liaoyang Castle and Raozhou Castle, which are locations to which Bohai people are known to have immigrated. This suggests a high possibility that Bohai immigrants were engaged in production activities at such locations (Shimada 1993: 140, Mukai 2011).

Khitan pottery kilns appear to have been discovered in Shangjing, but their details are unknown, and thus comparative studies cannot be conducted. Nevertheless, as discussed above, the design and construction of Chintolgoi Castle are assumed to have been directly transferred from the Khitan homelands, and since many of the items produced using the kilns are assumed to have been general daily utensils used by the Khitans, the techniques and systems of the production of pottery were probably established among the Khitans before they advanced into the Mongolian Plateau. Despite the involvement of Bohai craftsmen, perhaps those techniques and systems had already been incorporated into pottery production before their relocation to the area.

However, some cases cannot simply be explained by the transfer of techniques and systems from the Khitan homeland. The patterns on the pottery found at the Chintolgoi Castle ruins are mainly pressed patterns, crypto grams and ridges on the neck and the lower half of the body. Many pressed patterns feature long and short triangles and squares. There are also pressed patterns of overlapping half-arcs by the stamp, as shown in Fig. 12.4a: 13 and Fig. 12.4d: 33. These items were probably produced in a manner similar to that used to produce other artifacts on the site, as many were excavated at the site and they exhibit the same patterns as the other artifacts. However, these patterns were not found on the pottery in other Khitan territories. This type of pressed pattern is similar to a class of pattern variations found in Uyghur pottery (Fig. 12.4d: 34, 35). Although there is a gap of about 200 years between the downfall of the Uyghur Khaganate and the advancement of the Khitans into Mongolia – thus allowing room for further investigation – the similarity in the patterns suggests that earthenware and stoneware production workers from Chintolgoi Castle remained in the region and associated with those who were involved in the production of Uyghur pottery.

To summarize the above aspects, the pottery production at the Chintolgoi Castle appears to be a fusion of pottery traditions of different origins. Artifacts of the material culture of the Khitans may reflect the state of “imperial” governance by the Khitans, requisitioning and reorganizing groups and techniques of other peoples in the area along with the extension of their territory.

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The Production System of Kiln-Fired Pottery
in the Korean Peninsula

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Abstract: This essay examines how the technology of the kiln and potter’s wheel introduced in the early Proto-Three Kingdoms period replaced the long-term continuous ceramic technology tradition, and how the process of the replacement was different in each regional part of South Korea. Unlike in the Han River basin, where kilns were introduced late and different types of pottery were produced by different organizations, the Nakdong River basin integrated production of Wajil ware (gray-colored and kiln-fired earthenware) mainly for offering in burials, and Yeonjil pottery (orange-colored and mostly open-fired earthenware) for daily use at an early stage. This is the background to the regional differences in ceramic production during the Korean Three Kingdoms period.

Keywords: Proto-Three Kingdoms period, Han River basin, Nakdong River basin, Wajil ware, Dojil ware

13.1. Introduction

It was at the beginning of the Proto-Three Kingdoms period (P-TKP, 100 BC–AD300) that kiln firing was, for the first time, applied to the pottery production in ancient Korea. According to the Records of the Three Kingdoms (Sanguozhi), a Chinese historical record of the same period, during the P-TKP, 78 Guk (small-scale polities) were distributed in the southern part of the Korean peninsula and the Lelang commandery, which was established by the Han Empire, was located in the northwest. In this period, the polities of South Korea were able to participate in a network of close interaction with Chinese civilization through the commandery. Through this Northeast Asian network, the technologies of ceramic and iron production were introduced to Southern Korea and the new technology triggered the process of technological innovation in the indigenous society (Barnes 2015: 317–22). During the Korean Three Kingdoms Period (KTKP, AD 300–676), the early states, such as Baekje, Silla and the Gaya polity group rose in Southern Korea. Along with the sociopolitical development, the central workshops of some polities turned to large-scale industry; the ceramic production systems were hierarchically organized within both early states, Baekje and Silla. In this chapter, the process of technological innovation in pottery-making and the transformation of the production system will be discussed in the two regions, where Baekje and Silla rose up. It will be described how the kiln firing and potters’ wheel techniques were adopted and connected to technological innovation and how this organized ceramic production in two different sociocultural contexts.

13.2. The pottery production system in Korea

Research on the organization of pottery production has been of interest to archeologists for quite a long time. This usually started with the question of how it relates to social complexity, focusing basically on the economic aspects of pottery production. At first, archeologists interested in the organizations of production took the approach of classifying them into several types, taking into account the economic, social and political attributes of craft production. Since the early 1990s, Korean archeologists have also been discussing the organization of ceramic production, and attempts have been made to distinguish the types of production system according to the level of specialization, the degree of production and the scope of distribution (Lee S.1991; Choi G. 2000; Cho S. 2014).

The recent research on the organization of ceramic production has changed considerably. The problem with the formal approach has been pointed out: that by categorizing the production systems into several types in advance and fitting the various ancient organizations into them, one could ignore the various characteristics that appear in ethnological and archeological data (Costin 2001). Recently, from the perspective of relational ontology, the organization of ceramic production has been not seen only as a product of social processes. Instead, by understanding the organization of production as a result of the interaction of people, tools, artifacts, materials and animals, a new approach to it is required (Duistermaat 2017).

The pottery-firing features of the Jeulmun (8000–1400 BC) and Mumun periods (1400–100 BC) remain basically in the form of shallow, simple burnt pits that have mostly been found near villages (Kim H. 2002; Bae S. 2007). No research has yet been conducted on what quantity of vessels was produced from those open firing features near the villages and how widely the products were distributed. However, it is not too difficult to conclude that the products...