

KHERMEN DENZH TOWN IN MONGOLIA

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The present article describes the results of field work undertaken at the Khitan town of Khermen Denzh in Mongolia in 2010–2012. This continues a series of publications about the excavations of Khitan sites (Kradin et al. 2005; Ochir et al. 2005; Kradin and Ivliev 2008, Kradin et al. 2011, 2014). The results which have been obtained are important for the study of urbanization amongst the nomads on the territory of Mongolia (Kiselev 1957, Perlee 1961, Danilov 2004, Rogers et al. 2005, Kradin 2008, Tkachev 2009, Waugh 2010 etc.).



The settlement site of Khermen Denzh is located on the shore of the Tuul River in Zaamar somon of Töv [Central] aimag in Mongolia [Fig. 1]. The site is the most striking of the Khitan fortified constructions in Mongolia; the walls, towers and moats of the town as well as its precisely chosen location make a vivid impression [Figs. 2 (below), 3-4 (next page)]. The town has been successfully positioned in the natural relief. On its western and eastern sides, ravines defend it; on the south it faces onto the right bank of the Tuul. It has an irregular trapezoidal shape where the longer sides that widen to the south are oriented SSW–NNE. Like many Khitan towns, the site is divided into northern and southern sectors, here with an interior wall separating them. The northern part is precisely laid out and is the highest part of the town. A variety of objects and two streets can be distinguished on its territory. The main street extends southward from the northern wall through an interior gate into the southern sector and up to an exit gate; the eastern street extends from the approximate center of the northern sector to the east [Fig. 5]. The length of the western wall is 534 m, the eastern 538 m, the northern 328 m and the interior wall 419 m. Little remains of the southern wall, which has been destroyed by the river. The northern, interior and, judging from its remaining parts, the

southern walls are parallel and oriented precisely along the direction of latitude. The distance between the southwestern



Fig. 1 (upper left). Khermen Denzh – Google Earth picture.

Fig. 2. Khermen Denzh. View from the north.

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Fig. 3 (above). The main eastern wall, the ditch, the exterior wall and the eastern bastion. View from the north.



Fig. 4 (right). The main western wall. View from the south.

and southeastern extremities of the town is about 450 m. Approximately in the center of the southern wall is a gate which is flanked by towers. In that location on the wall is a Π-shaped projection into the town. Moreover, access to the gate was defended as well by the fact that attackers from the south could be fired upon from all sides. The entire perimeter of the

Fig. 5 (below). Map of Khermen Denzh, with the location of the excavation pits marked and numbered

Fig. 6 (right). The northern wall showing the rammed-earth construction. View from the west.



wall measures 1926 m and encloses an area of about 20 hectares. The height of the wall varies from 4 to 10 m, its width is 2–6 m at the top and 25–30 m at the base.

Along the exterior is a ditch. The wall was constructed by the tamped earth method (*hangtu* 夯土) in 15–20 cm layers, which can readily be discerned [Fig. 6]. In all probability, during the construction of the wall a wooden crib was erected which was filled with solidly compressed layers of earth. This then explains the good state of the wall's preservation. In some places on the northern and southern walls are charred bits of wood.

The town has seven towers which, like bastions, markedly project outward by 15 to 20 m and one small tower. Since the northern side is the more vulnerable, the largest number of towers is there—two at the corners and two in the center, in addition to the small tower [Fig. 2]. Approximately in the center of the wall between the towers is a break which was not evident in aerial photos made in the 1960s. According to the local inhabitants, the northern wall was broken through in the 1970s. On the western and eastern walls the towers are placed approximately where the wall that divides the town into its northern and southern sectors is located. In addition, there is a tower on the eastern wall located approximately in the middle of the wall's northern half. There is



no such tower on the west. It is possible that the explanation lies in the fact that a walled suburb was located adjacent to the town on that side. The length of the northern wall of the suburb is 790 m, its western side 560 m, and its southern 560–640 m (part has not been preserved). There was also a suburb on the east which was not fortified. On the surface there are knolls and small parcels enclosed by walls (residences?) as well as a lot of ceramics.

In the vicinity of the town are also six sites which to a greater or lesser degree were connected with the main settlement. Five of them have Khitan ceramics and a sixth only ceramics from the Uighur period.

Description of the excavations

In 2005 the site was studied by a joint Mongolian-Dutch expedition (Pit No. 1). It uncovered remains of houses with *kang* (炕)-type heating ducts. The results of this excavation have not yet been published. In 2010–2012 the joint Russian-Mongolian expedition undertook excavations both within the town and in the adjoining area. During the first two years, Pit No. 2 was opened in the northern sector of the town along the main street. A trench was dug across the street to study the stratigraphy (Pit No. 2A). A third, small pit was opened in the southern part of the town along the edge of a walled square (presumably of a building that had been roofed with tiles) in order to study the stratigraphy and obtain tile remains (Pit No. 3). Yet another pit was opened outside the town to the east, that site named Khermen Denzh 2. That excavation uncovered a wall of baked brick and large scatters of Uighur-type ceramics.

Fig. 7. House in the southern sector of the town with the kang heating system. View from the northeast.



Fig. 8. Finds from Pit No. 5 at the passage on the north wall..

In 2012 we undertook a new excavation, Pit No. 4, and opened a trench in the southern sector of the town along the main street where on the surface could be seen the stones from residence kang. The main street extends from north to south. West of it was excavated a residence with an L-shaped kang [Fig. 7]. The kang was made of stones, oriented first along a NS axis before it bends to the east. Its construction materials included pieces of tile and bricks. The kang was about 5 m long, exactly 1 m wide on the northern end, 80 cm in the middle and 70–75 cm at the south. Beyond where it bends to the east, it was sheathed with vertically placed flat stones. In addition, bricks and fragments of tiles were used for support. It is possible that the kang initially was Π-shaped but then was rebuilt. On the exterior (southern) side of the house are vertical slabs which form the walls of the kang. From the south, the wall of the kang was strengthened with pieces of tile.

At the location of the break in the northern wall (the so-called “passage”) a cut was made across the wall (Pit No. 5) measuring 12 x 1 m. In the lower horizons here were found traces of a wooden crib, which strengthened the city wall that was made using the Chinese tamped earth technique. In the compressed layers of the wall were Khitan ceramics, the fragment of a disk-shaped tile roofing end-cap, an arrow head, a hook, and animal bones [Fig. 8]. This material suggests that the wall was built in the Khitan period.

We preserved a large piece of wood for dendrochronological and radiocarbon analysis. The results of the latter presented us with a quandry, since the wood dated not to the Khitan but to the Uighur period. The

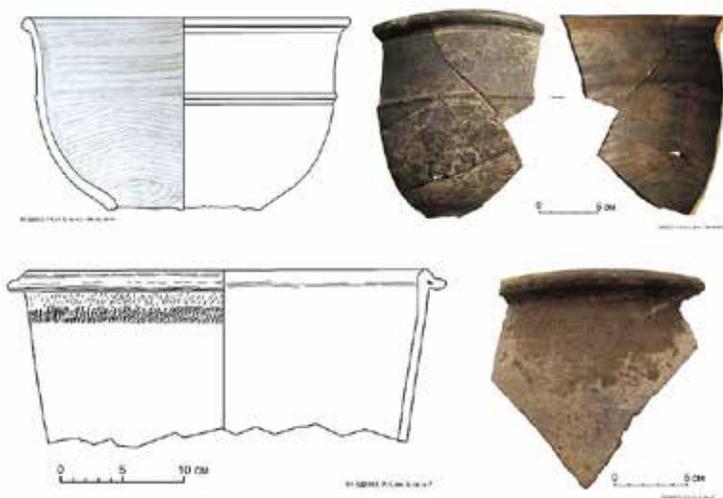


Fig. 9. Ceramics from Khermen Denzh.

data are as follows: Sampled ugams 17008: 1160±25, 68.2% probably 780 CE; 68.2%, 820 CE; 95.4% probably 765 CE; 94.5%, 840 AD; Agreement 106.3%. Thus the wood comes from the time of the Uighur kaghanate. It is possible that at some later point, due to the limited availability of wood in the steppe and the good preservation of this piece, the Khitans re-used it in building the new wall.

Material culture

The study of the site yielded a large quantity of artefacts, which can be grouped into several categories: ceramics, porcelain and glazed vessels, bricks, tiles, and wares made of stone, iron bronze and bone.

Ceramics constituted by far the largest part of the finds [Figs. 9–10]. All the vessels were wheel-thrown. Due to their poor preservation only some of the shapes can be determined, and then only partially. Among them are a vase, cauldrons, *Khitans* cooking pots, basins with ornament on the interior surface, a tub, cups, a spherical-shaped vessel, and dish-like vessels on six legs.

Fragments of clay cauldrons were found which copied metal spherical cauldrons, each with three legs. The neck is vertical; the widest part is a horizontal ring plate. Various fragments (rims, legs etc.) of more than ten cauldrons were found in Pit No. 4. The cauldrons were made of coarse clay tempered with sand and tiny bits of stone. The surface often is charred. The thickness of the walls is 0.7–1.4 cm, the diameter of the mouth 41–42 cm.

Two intact and some fragments of *Khitans* cooking pots were found in Pit No. 2. Their

height is from 15.3 up to 21 cm. The pots were made of coarse clay tempered with sand. As a rule, the rims of such vessels are wide and thick with incised grooves on the lower part. Both on the rims and on the lower walls often is ornament in the form of triangles and the wedge-shaped impressions made by a wheel stamp. The diameter of the rims of these vessels is 23–30 cm.

In Pit No. 4 were two large fragments of basins whose body widens at the top. The rim is smoothly bent outward and polished. The diameter of the rims of these basins is 29 and 49 cm. A third basin from this same excavation is represented only by its lower part. On its exterior is a net-like design created with polishing. The diameter of its base is about 22 cm. In addition, Pit No. 4 yielded a tub, a cup and other types of ceramics. One notes in particular that in this pit (square F-7, level 6) was a fragment of a vessel with a horizontal handle, typical for Bohai ceramics (on this see Kradin and Ivliev 2008).

In Pit No. 5 a vase-shaped vessel was found at a depth of more than 100 cm from the surface. The vessel was in the compacted layers of earth of the town wall. Its color is light gray, with small bits of white stone. Its rim resembles half of a tube, curved outward [Fig. 8]. The neck is cylindrical but widens at the top. There is a stamp in the form of vertical wedges. The diameter of the rim is 22.8 cm and thickness of the walls 0.6–0.7 cm.

Of some interest is a spherical vessel, whose upper part has been preserved from the top down to the narrowing of the waist below the middle. The clay is black with small bits of white stone; the exterior surface is almost black. The thickness of the walls is 0.7–1.1 cm. The vessel has the shape of a sphere flattened from

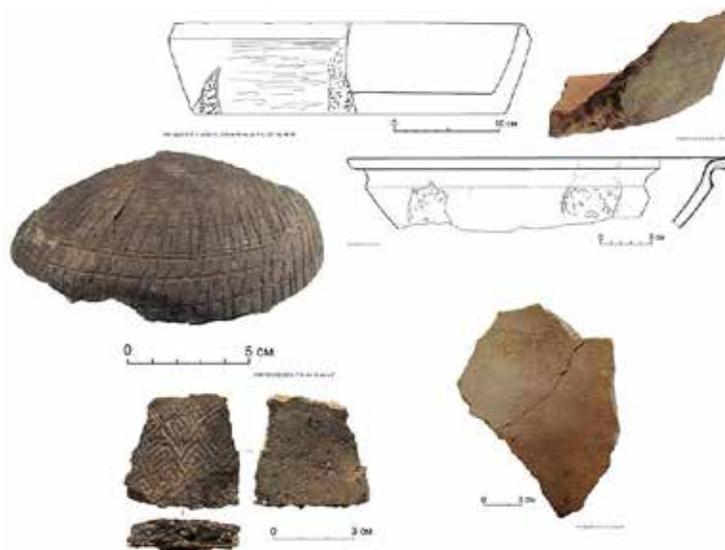


Fig. 10. Ceramics from Khermen Denzh.

Fig. 11. Uighur ceramics.

the top. The top of the sphere has been formed from flattened lump of clay. From the top of the vessel and extending downward on the surface are inscribed horizontal grooves, which if viewed in a plane form a spiral. Crossing the grooves are numerous slightly angled vertical lines impressed with a comb. The preserved part of the vessel is 7 cm high, its diameter 15.6 cm, and the thickness of its walls 0.7-1.1 cm. To a degree the decoration of this vessel has analogies in pre-Khitans ceramics found both within the town and in its environs. Also of interest is a vessel in the shape of a bowl on six legs. It has a flat bottom (the diameter about 30 cm) and sides that slope slightly outward. The legs have been attached to the walls, extending to their full height. There are traces of where the feet were connected. The internal color is brown, the external gray. The clay is tempered with small bits of white stone. The height of the vessel is about 8.5 cm. but the feet have not been preserved. The same kind of vessel, but with seven legs, was found in Pit No. 2.

All of these ceramics, except for the spherical vessel and vessels with feet, have direct analogies in the materials excavated at the town of Chingtolgoi Balgas and unquestionably date to the time of the Liao Empire (Kradin et al. 2011).

Uighur ceramics. This kind of ceramics includes fragments with specific traces of stamping which produced rounded protuberances 2-2.5 mm in diameter on the interior surface [Fig. 11]. In Pit No. 4 (square B-6, level 7) were found many fragments which we then glued together into a vessel. This was a basin with slightly inclined sides and a horizontal rim. The exterior is nearly black, the interior light gray. On the interior surface are small rounded protuberances. They can also be seen under a thin black layer of clay on the exterior. The height of the vessel is 16.5 cm, the diameter of the rim about 38 cm, the diameter of the base 22 cm. Also in Pit No. 4 on level 1 was a fragment of a vessel with rhomboid Uighur ornament. Such ceramics tell us that the Uighur population lived here up to the time of the appearance of the Khitans. However, we did not find in the large pits (Nos. 2 and 4) any separate undisturbed pre-Liao stratum. Most likely, those layers were completely destroyed by the Khitan construction.

Finds of *porcelain and glazed vessels* included the rim of a white porcelain cup about 20 cm in diameter, a fragment covered with green glaze and the fragment of a bottle covered with dark olive glaze.

Construction materials. Pieces of bricks were found.



The width of the bricks was 15-17.5 cm and their thickness 5.5-7.5 cm. They differ from the bricks found at Chintolgoi Balgas. The local bricks were of two types, distinguished by their process of manufacture. The first type is characterized by the fact that on one of the wide sides has rectangular imprints filled with parallel grooves – impressions of a rope. On the other type is a crescent-shaped impression of a rope. Probably the bricks of this type were pressed by a roller bound with rope.

Both flat and convex *tiles* were found. The flat tile of Khermen Denzh has an even, oblique cut on the end. The clay is very dense, gray and uniform with no stones (interestingly the tile from Chintolgoi Balgas is tempered with large stones). The thickness of the tile is 2.0-2.7 cm. On the line of the cut along the sides are two pairs of holes. They are located 2.57 cm from the end. This is a typical technical feature for 10th-13th century tiles of East Asia. The convex tiles include a fragment with a “tail” – a step-shaped joint for connection with next tile on the roof. In cross-section, the shape of the tile is semi-circular. The diameter of the rounded section of the tile is 11.4 cm, the thickness of the walls 1.8 cm. On the inner side is the impression of fabric.

A fragment of a decoration for the ridge end of a roof (*chiwei* 鴟尾) was unearthed in Pit No. 4A. One side with a vertical shaft has been preserved. The clay is gray and uniform, but there is one stone 1 cm in diameter. The fragment measures 14.5 x 12 cm. Four fragments of roof end-disks were found, three of them in Pit No. 4 and one in No. 5. They are all decorated with a stylized lotus blossom. In the center is a large protruding round knob. The variation in the measurement of the details of the decoration are evidence that several different molds were used to create the design. The diameter of each disk is about



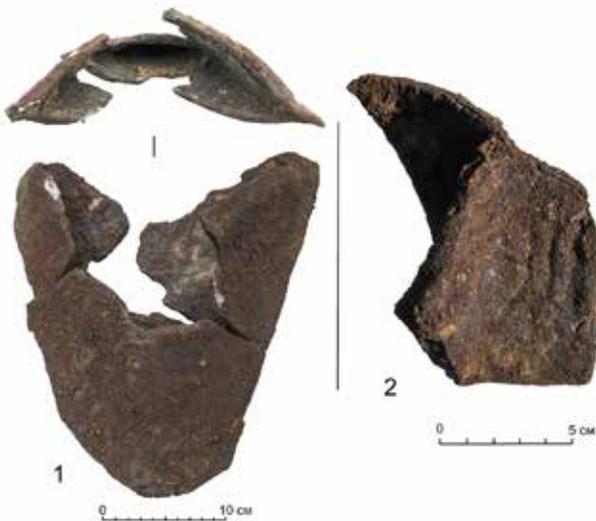
Fig. 12. A ceramic roof-end disk.

12 cm, the thickness 1.5–1.7 cm [Fig. 12]. Such disks are more characteristic for the period of the Tang Dynasty (7th–9th centuries); they are an anachronism for the Liao epoch. In Mongolia findings of such disks were reported in sites of Turkic period, particularly in Ungetu graveyard (Borovka 1927, p. 78; Voitov 1981).

Stone objects include fragments of a grinding mill, whose upper part is 30.5 cm. in diameter. Only part of a lower millstone has been preserved [Fig. 13]. It has parallel grooves on the working surface. Another stone artefact is a fragment of a weight made of light gray granite. There are several sharpening stones and also an obsidian bead [Fig. 15, next page].

Iron objects include a plowshare [Fig. 14], fragments of the walls and legs of iron kettles, nails and arrowheads [Figs. 13, 15]. Due to poor preservation, identifying many objects was impossible. The majority of the eight nails are four-sided forged ones whose head was formed by flattening and bending to the side of one of the ends.

Fig. 14. A plowshare.



The length of such nails is 4–7 cm. The eighth nail, which has a square section, has a round flat cap and is 2.9 cm long. There are two arrowheads [Fig. 15]. One is chisel-shaped with a rectangular section, 5.5 cm long, 1.4 cm wide and 1.35 cm thick. The other has a rhomboid section and likewise has been broken. The length (when flattened out) is 6.3 cm, the width 1 cm, and thickness 0.6–0.7 cm.

The only *bronze object* is the inner core for a strap appliqué (Pit No. 4, square C-4, level 4) [Fig. 13]. This is a thin rectangular plate with four holes at the corners for securing it and with a rectangular slit in the lower



Fig. 13. Miscellaneous artefacts including a bone awl, a bronze strap appliqué, iron nails, a fragment of a grinding stone and bone cheek pieces.

part. It is 2.7 cm long, 2.4 cm wide and 0.1 cm thick. The slit measures 1.7 x 0.8 cm, and the diameter of the holes 1.5 mm. In addition to this, two Tang Dynasty *Kaiyuan tongbao* (開元通寶) coins (621 CE–early 10th century) and one Northern Song *Tianxi tongbao* (天禧通寶) coin (1017–1021 CE) were found.

Bone objects in Pit No. 4 included three fragments of chopsticks, two decorated astragali game pieces, the makings of cheek-pieces from horn, and a well polished bone awl [Fig. 13]. On the two astragali, the ornament resembles a net; an iron fastener has been attached; holes have been drilled in both of them. Undoubtedly they were used for games. Also for games were “chips,” some 30 of them found [Fig. 15]. These are circular with diameters of 2.8–7.7 cm, made of sherds from the walls of vessels or from tiles. One of them has been made from the wall of a vessel with Uighur rhomboid ornament. A spindle weight shaped from a tile was found in Pit No. 4, its edge and surface carefully finished [Fig. 15]. Its diameter is 4.5 cm, thickness 1.7 cm and the diameter of the



Fig. 14. Miscellaneous artefacts including a bronze coin, an obsidian bead, arrowheads, an axle bushing, game chips and spindle weights.

hole 0.7–1 cm. Another spindle weight was made out of the epiphysis of a large tubular bone. Other finds worth noting include pieces of slag and fragments of birchbark.

Of particular interest was the find of a bone “tooth brush” in Pit No. 2. It has a handle with an oval cross-section and a somewhat wider functional head, whose surface is smooth. Along the head is a line of seven pairs of vertically drilled holes for bristles. The entire brush was carefully polished. On the end face of the head a deep hole has been drilled, which connects the lower ends of the vertical holes. The handle was broken, the length of what remains measuring 12.8 cm. Such brushes frequently were encountered in the excavations at Chintolgoi Balgas.

Discussion and Conclusion

The majority of the artefacts correspond entirely to those from other towns of the Liao Empire in Mongolia. Part of the ceramics can be dated to the Uighur period. Our excavations found such ceramics in both the northern and southern sectors of the town. It is possible that this is evidence indicating that the extent of the earlier Uighur site did not significantly differ from that of the later Khitan town. Moreover, next to the main town is located a site, Khermen Denzh 2 which we studied in 2010, where the ceramics are from the Uighur period. We were also surprised by the roof end-cap disks, which resemble those typical for the earlier Turkic or Uighur period in Mongolia.

Archaeological data now testify to a good many towns of the Uighur kaghanate on the territory of Mongolia (Danilov 2004, pp. 56–66). Two and a half km northeast of the town of Khermen Denzh is an elite

burial, dating from the 7th century, the period between the first and second Turk kaghanates. It is the tomb of I Yao Yue, the vicegerent of the Pugu region. In the tomb is a stele with an inscription in Chinese indicating that I Yao Yue died at age 44 in 677 CE. He had the Chinese title *dudu* (都督 commander-in-chief) of the Jin Hui Zhou district, the commander of the Lin Zhun region (Ochir, Danilov et al., 2013, pp. 103–26).

We note as well that the fortification of Khermen Denzh town is not entirely the same as that of other Khitan towns in Mongolia. In a number of the features of the construction (the technology of the building of the rammed earth walls, the height of the walls, the shape of the frontal and corner towers) Khermen Denzh is very similar to Karabalgasun and other Uighur towns. This then leads us to think that at the moment of the appearance here of the Khitans, walls, towers and other fortified structures of an earlier Uighur town had been preserved. The Khitans might only have renewed them, and, having strengthened the walls, erected buildings in the style of Khitan-Liao architecture. This seems all the more likely since, according to Turkic runic inscriptions, on the River Tuul was located a Uighur town, Togu (Kradin, Ivliev, Vasiutin 2013).

In order to confirm this hypothesis, in 2012 we decided to excavate a trench across the wall. In the northern part is a place where the wall was destroyed in the 1970s. This was a suitable spot for excavation, since here it was not necessary to destroy the wall at the same time that it was possible to study the underlying strata. The trench was 12 m long and 1 m wide. We were greatly disappointed in the finds from this 12 x 1 m trench, which yielded only Khitan period artefacts — part of a pottery vase with Khitan ornament, an iron hook, etc. [Fig. 14]. The wall was constructed at the same time and on a location where already for same time the Khitans had lived, since in the wall were found Khitan ceramics and other artefacts.

However we were even more confused when we received the results of the radiocarbon analysis. The wood from the wooden crib within the wall dated to the early Uighur period. The wall itself had been built on the location of an earlier wall 1 m high and 1.7 m wide. However, we do not know what part of the earlier wall the Khitans destroyed and what part they left in place. But why did the Khitans repeat the fortifications of the earlier Uighur period? So far there is no answer to that question.

According to the *Liao shi*, in 994 the Liao army

undertook a campaign into Mongolia against the Zubu. The annals relate that a Khitan town was erected on the site of the Uighur town of Kedun. We believe that the town of Kedun was located where Khremen Denzh now is, not at Chintolgoi Balgas. In 1004, 20,000 Khitan horsemen were sent to this territory for military service; 700 families of Bohai, Jurchen and Chinese were assigned to supply them with food (*Liao Shi* 1958: 37: 13b, 14a). It was precisely then that the Zenzhou district of the Liao Empire was created (Kradin et al. 2011, p. 163). Our more detailed examination of the evidence regarding the identification of Kedun with Khremen Denzh will have to be the subject of another article.

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