

Por-Bajin

An Enigmatic Site of the Uighurs in Southern Siberia

I. Arzhantseva¹, O. Inevatkina², V. Zav'yalov³, A. Panin⁴,
I. Modin⁵, S. Ruzanova⁶ and H. Härke⁷

Por-Bajin⁸ is located in the very centre of Eurasia, on the borders of Russia and Mongolia, where we can see the interaction of Chinese civilization and the early medieval nomad empire. The site itself occupies a small island in lake Tere-Khol, high in the mountains between the Sayan and Altai ranges, 8 km west of the isolated Kungurtuk settlement in the southwest of Tuva, southern Siberia. Por-Bajin (which means 'Clay House' in the local Tuvian language) has been known since the 18th century, and was explored in 1891 for the first time. In 1957 - 1963, S. I. Weinstein excavated in several areas of the site (Vajnstejn 1963), but it was not until 2007 - 2008 that large-scale research was carried out here under the aegis of the Por-Bajin Fortress Foundation.

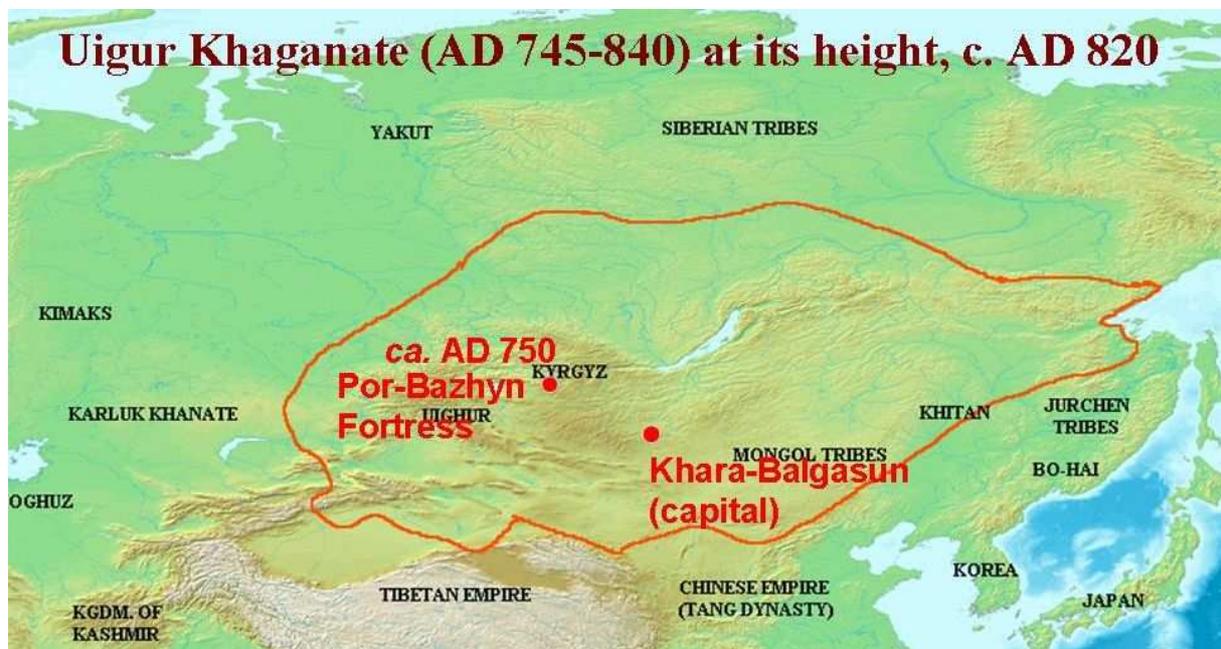


Fig. 1: Map of the Uighur kaganate.

The 'fortress' (as it will be provisionally called here until its interpretation is discussed below) occupies practically the whole island, covering 3.5 hectares. Even before the excavations, the walls clearly showed the complex lay-out of the site. The curtain walls form a rectangle (spanning 215 x 162 m), with its long axis orientated east-west. The interior is taken up by two large yards, a monumental building on the central axis, and a chain of small yards along the northern, western and southern walls. The western and eastern curtain walls are relatively well preserved; by contrast, severe destruction can be seen at the northwestern

¹ Institute of Ethnology and Anthropology, Russian Academy of Sciences, Moscow, Russia, <arzhantseva@rambler.ru>.

² State Museum of Oriental Art, Moscow.

³ Institute for the History of Material Culture, Russian Academy of Sciences, St Petersburg, Russia.

⁴ Faculty of Geography, Moscow State University.

⁵ Faculty of Geology, Moscow State University.

⁶ Institute of Ethnology and Anthropology, Russian Academy of Sciences, Moscow.

⁷ Abteilung für Mittelalterarchäologie, Universität Tübingen, Germany.

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and southwestern corners. The main gate, with gate towers and ramps leading up to them, is easily visible in the middle of the eastern wall. The curtain walls have survived up to a maximum height of 10 meters, the maximum height of the inner walls is 1 - 1.5 m. Construction materials and technologies show that Por-Bajin was built within the Chinese architectural tradition. It was most probably built at the time of the Uighur Khaganate, which thrived in the second half of the 8th and the beginning of the 9th century.



Fig. 2: Aerial view of Lake Tere-Khol and Por-Bajin island

Prospection and interdisciplinary fieldwork

Prior to the 2007 excavation, the entire island and the remains on it were laser-scanned, resulting in a complete topographical plan (1:200) and a three-dimensional model. This model served as the basis for all further work at the site. Our fieldwork has relied heavily on interdisciplinary approaches which have informed all our results and interpretations. In addition to the archaeologists, the 2007-2008 field team included geophysicists, geomorphologists, hydrologists, and soil scientists to shed light on the history of the lake and of this unique site, to identify the processes which had led to its destruction and decay, and to formulate appropriate measures to safeguard its remains (Arzhantseva et al. 2010).

As a result of their work, it is now clear that the lake did not form around the 'fortress', but existed long before the latter was built, although it was smaller at the time than it is today. The lake expanded to its current size only over the last 100 years or so. The main reason for this expansion may be melting of the permafrost in the area due to rising temperatures. The 'fortress' was most probably built on an island which had risen from the lake only one or two centuries earlier. The clay for the walls of the 'fortress' may have been taken from the lake bed around the island: detailed depth-plots have revealed a belt of greater depth around the island (Arzhantseva et al. 2009). The 'fortress' itself sits on a plug of permafrost, and permafrost is also found everywhere under the shores of the lake, but not under the shallow lake itself. This situation has created a twofold threat to the long-term survival of the site: thermokarst (melting of the permafrost) seems to undermine the stability of structures on the site, leading to collapse and decay; and frost fissures are causing constant erosion of the banks of the island to such an extent that it is estimated that the walls will start collapsing into the lake in about 80 years' time.



Fig. 3: Section through the northeastern curtain wall, exposing hangtu layers

Archaeological and geomorphological fieldwork revealed traces of at least two earthquakes which had accelerated the natural process of deterioration. The first of these seems to have happened already during the construction of the 'fortress' in the 8th century. It is not yet quite clear how long the buildings survived after the abandonment of the site in the 9th century, but some time after the abandonment there was another catastrophic earthquake which led to fires and to the collapse of the southern and eastern enclosure walls, and destroyed the northwestern corner bastion.



Fig. 4: Roof finial of Chinese type shown in situ

Excavation results

The outer enclosure of the 'fortress' consisted of a curtain wall which was 12 m wide at the base, and originally 11 m high. The main gate was found to have three gateways in heavy timber construction, much of it burnt. Four of the eleven bastions were placed on both sides



of the gate, inside and outside the walls. The excavation of the northern bastion on the east wall revealed traces of a wooden fighting platform running along the top of curtain wall and bastions. One of the most important results of the fieldwork was the identification of a Chinese construction method called *hangtu* that had been used for enclosure walls and bastions. In this technique, a timber framework made of larch was filled with clay; this was laid down one layer after another, each 10 to 12 cm thick, and compacted before the next layer was added.

The main gate opened into two successive courtyards which were connected by a gate. The outer courtyard was devoid of all structures, but excavation showed that the connecting gate had been wider in its first phase, possibly during the building of the site, and was later made narrower and fitted with a gate house in pavilion style, with wooden doors and a tiled roof.

Fig. 5: Apotropaic roof tile in Chinese style

The inner courtyard, thought to be a ceremonial courtyard, held the main complex made up of a two-part central structure and two flanking galleries. The previous excavator, Weinstein, had already established that the central structure itself consisted of two buildings, one behind the other, linked by a covered walkway. Both stood on square platforms which had been built up of clay layers and faced with bricks coated with lime plaster. Two staircases led from the inner courtyard up to the eastern platform with the larger building. This was subdivided by wattle-and-daub panels into two halls and a series of smaller rooms. Walls and panels were covered with lime plaster painted with horizontal red stripes low above the floor. The presence of two layers of plaster of different quality suggests repairs. The tiled roof had been supported by 36 wooden columns resting on stone bases. The building was most likely of the post-and-beam construction characteristic of Chinese architecture of the T'ang dynasty. Finds of burnt timber fragments point to the use of the typical Chinese technique of interlocking wooden brackets, called *dou-gung*. Ramps led down to the two flanking galleries which were roofed, open spaces looking onto the access to the main pavilion.

A series of small courtyards ran along the interior of the northern, western and southern curtain walls. Each of these courtyards was enclosed by a clay wall with gates opening into

the neighbouring yards. All courtyards held a one- or two-chamber structure of similar layout and building method.

Context and function

Since the end of the 19th century, Por-Bajin has been linked to the Uighurs because of its location, its date, and the similarity of its layout to that of the palace complex of Kara-Balgasun, the capital of the Uighur Khaganate. Weinstein, in 1963, identified Por-Bajin as the 'palace ... at the well' built, according to a contemporary inscription, by Khagan Moyun-Chur (also known as Bayan-Chor, 747-759) after his victory over local tribes in AD 750 (Vajnsstejn 1963; Ramstedt 1914).

The results of our 2007-2008 fieldwork cast doubt on Weinstein's identification. For a start, the virtual absence of an occupation layer implies a very short-lived, or not very intensive, use of the site. And there is no evidence at all of any kind of heating system that would have made it possible to stay up here, at 2300 m above sea level, in winter conditions. On the other hand, traces of repairs and minor rebuilding suggest that the site had been maintained for a certain time. Finally, dendrochronological and radiocarbon dates which have now become available indicate that Por-Bajin was built after the death of Moyun-Chur in 759, perhaps decades later.

The new dating, together with the other findings of our fieldwork, raises the question as to the purpose and function of Por-Bajin. After all, this was a permanent, even urban-like settlement in what was a nomad empire (Klyashtorj and Savinov 2005). Towns and urban culture may have existed among the nomads of Central Asia from the Turkic Khaganates (6th – 8th centuries AD) onwards (Kyzlazov 2006), and according to written sources, Chinese builders and craftsmen took part in the construction of memorial complexes in the nomad world (e.g. at Küül-Tegin, northern Mongolia; Mackerras 1972). Textual sources mention the existence of seven Uighur towns, suggesting extensive building activities during the Uighur Khaganate and a transition at that time from nomadic to sedentary lifestyle.

Archaeological evidence adds further urban-like sites dating to the Uighur period, giving a total of fifteen for Tuva alone. Generally, these are square or rectangular in plan, enclosed by walls, and with one or two gates each. They probably belonged to a network of fortified sites on the northern frontier of the Uighur Khaganate where they also provided centres of sedentary life, agriculture, crafts, and probably trade. There is widespread consensus among specialists that these Uighur towns were built by architects and builders from the neighbouring civilizations of China and Sogd, an Iranian polity in Central Asia (Kiselev 1957). The older suggestion of a Sogdian influence was based on the supposed presence of mud-brick structures; but mud-brick was found neither at Por-Bajin, nor at other Uighur sites in Tuva where trial excavations were undertaken in July 2007. By contrast, a Chinese presence or influence is confirmed by two key observations at Por-Bajin: (1) the presence of Chinese building materials, such as certain types of roof tiles; and (2) the use of Chinese construction methods, e.g. the *hangtu* technique, post-and-beam construction, and *dou-gong* ceilings (Chung-kuo ku tai chien 1984).

Seen from the Chinese architectural tradition, Por-Bajin combines the lay-out of the 'ideal town', with its axial planning and dominant central building, with that of the 'ideal Buddhist monastery', with living quarters along the inner perimeter of the enclosure walls. The lay-out and building techniques of Por-Bajin are closely reminiscent of palaces in the Buddhist Paradise as depicted in T'ang paintings (Chung-kuo ku tai chien 1984). But Por-Bajin shows no evidence of religious practice, be it Buddhist or Manichaean, nor does it show similarities to Turkic funerary complexes. And while its lay-out resembles a known Uighur palace complex, that of Kara-Balgasun, the lack of an occupation layer and of stationary heating systems suggests seasonal occupation, and perhaps only for a brief period, at that.

So, what we see here at Por-Bajin is a bit of a conundrum: possibly a summer residence, or conceivably a memorial complex, located in a very remote place on the outskirts of the Uighur nomad empire, built with Chinese architects and other building specialists, and abandoned after a short period of use. Its case also shows one of the ways forward for Central Asian archaeology – interdisciplinary work involving not just the traditional partners of

archaeology in this region, i.e. historians and linguists, but also natural scientists from various disciplines who can help us to make sense of sites and data which otherwise are difficult to interpret.



Fig. 6: Reconstruction of the Por-Bajin complex

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