



The Tomb and treasury of Hülegü Khan

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Abstract

The Il-Khan ruler Hülegü (1215–1265 CE) was a grandson of Genghis Khan (the founder of the Mongol Empire), a son of Tolui, and a brother of both Möngke Khan and Kublai Khan. He died on February 8, 1265, CE, at an estimated age of 48 years. Unlike our knowledge about the death and burial of Genghis Khan (d. 1227 CE), which is recorded in one of the oldest of the autochthonous chronicles, *The Secret History of the Mongols*, with no reference to time or place, the approximate location of Hülegü's final resting place is referenced in several documents. Contemporary Persian resources unanimously suggest that the treasury and royal tomb of Hülegü Khan lie somewhere in Lake Urmia on Shahi Island (Jazīreh-ye-Shāhī), Northwest Iran. Rashīd al-Dīn posited that the Hülegü's treasury is filled with pillow-size gold ingots and treasures gathered from across the Ilkhanid Empire. The exact location and discovery of this hidden treasure and the burial place of Hülegü remain one of the most persistent unsolved mysteries and none of the later archaeological studies challenged this attribution. This paper will discuss the idea that Shahi Island contains the fabled tomb of the legendary ruler of Ilkhanid Iran (1256–1335 CE) Hülegü, his sons Abaqa Khan (1234–1282 CE), as well as Mongol queens, high priests, and other elites. The findings of this research are important because they could launch a new era for Mongol studies and the archaeology of hidden treasures.

Keywords Mongol burial · Royal tomb · Shahi Island · Jazīreh-ye-Shāhī · Hülegü Khan

1 Introduction

In 1253 CE, the Great Mongol Khan, Möngke, appointed his brother, Hülegü, as the head of a massive army, consisting of a fifth of all imperial forces. In 1257 CE, however, after dealing with the Nizari Isma'ilis of northern Persia, Hülegü turned against the 'Abbasid caliph and besieged Baghdad in February 1258 CE (Āshtiyānī 2010: 108). To intuitively visualize just how much wealth the Ilkhanid court inherited after the fall of Baghdad, the richest city of all time, Rashīd al-Dīn reports that endless supplies of gold were a consistent and readily available source of wealth for many years afterward and these treasures were redistributed several times among both the nobility and wider society during the subsequent reigns of Abaqa Khan (1234–1282 CE), Ahmed Tekuder (1246–1284 CE), Arghun Khan (1258–1291 CE), and Ghazan Khan (1271–1304 CE) (Rashīd al-Dīn 1994: 1288). After this event, the Ilkhanid capital of Tabrīz

became one of the wealthiest cities on the planet as well as the center of architectural technology and the arts in the thirteenth century (Ibid: 1291).

When the Mongol ideology of world domination was halted after Hülegü's withdrawal and General Kitbugha's defeat by Sultan Qutuz at the battle of 'Ayn Jalut in September 1260 CE (Stewart 2019: 321), Hülegü returned to Northwest Iran and ruled the Il-Khanate for the remainder of his life (Fig. 1). His empire covered the southwestern portion of the Mongol Empire and included the Iranian capital cities of Maraghe, Tabrīz, and Sultaniyya (Boyle 1968: 88). However, his territory was officially a subsidiary khanate of the Mongol empire, the capital of which was established at Dadu (modern-day Beijing) by Möngke's successor Kublai Khan in the 1260s (Steinhardt 2018: 92).

Rashīd al-Dīn provides a window back in time to when treasures and precious objects were transferred to Northwest Iran after Baghdad was burnt to the ground, thus marking the end of

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Fig. 1 Hülegü Khan with his Nestorian Christian wife Dokuz Khatun, from *Jāmi' al-tawārīkh* (granger.com)



the Abbasid Caliphate and the Islamic Golden Age¹: [...Hülegü Khan conveyed all of the treasures to Azerbaijan (Northwest Iran) and ordered Malik Maj Al-Din Tabrizi to build an impregnable stronghold on a mountain called Tāle which is located on the shore of Lake Urmia and Salmas.² This mountainous stronghold was a place to shelter his war booty taken from Baghdad since the treasury in Tabrīz was not spacious enough for this purpose. All of the gold items were melted down and stored inside the fortress]. (Rashīd al-Dīn 1994:1022). Rashīd al-Dīn further suggests that the burial vault (Sanduq) of Hülegü was lowered into his grave amidst a huge qōrugh (great taboo) on a hilltop on Shahi Island in Lake Urmia (ibid). According to Rashīd al-Dīn, this qōrugh is located close to Dehkhareqn and the Chaqato River (ibid 1048). In his *Shāhnāme-ye Changizi*, Shāms al-Din Kāshani (fourteenth century) writes the following couplet concerning the credibility of Rashīd al-Dīn's notes about the mysterious burial place of Hülegü:

نهاندند اساسی به دریا کنار به نزدیک سلماس و ارمن دیار

They established the foundation of Hülegü's tomb nearby Lake Urmia close to Salmas and Urmia [city] (Shams al-Din 1998: 107).

The Persian historian and Ilkhan official, Wassāf (1299–1323 CE), narrates a similar report, adding the details that: after Hülegü's destruction of Baghdad (1258 CE), all

significant fortunes, works of art, etc. were carried off by the Mongol troop to the Ilkhanid capitals of Tabrīz and Maraghe (Wassāf 1966: 29). Wassāf reports that Hülegü's intention was to invest part of this wealth in constructing a huge observatory under the directorship of Naṣīr al-Dīn al-Ṭūsī (a Persian scientist and astronomer). He wrote: [...Hülegü passed away in 1265 CE when the construction process of the observatory was not completed yet. As was the Mongol burial custom, they buried him (Hülegü) in conformity after preparing an underground chamber (dakhme). Then, at the time of the interment, vast quantities of gold and jewels were poured into it and several beautiful young women dressed in sumptuous clothes were made his bed-fellows to protect the Khan from the horror of the darkness and narrowness of the grave] (Ibid: 30). The search for a burial site, the discovery of which might resolve many of the questions regarding Hülegü's treasury and burial place, has thus far been unsuccessful. In this paper, the author shall reflect on this lacuna on the basis of information provided by chronicles and archaeological remains.³

¹ See: Cyril (1951). *A Medical History of Persia and the Eastern Caliphate*. United Kingdom: Cambridge University Press. P. 76.

² Armenian sources which deal with Mongolian history refer to the appearance of a huge comet and the death of Hülegü and his wife in the following year. See: Kirakos of Ganjak 1963. *History of the Armenians*, Trans. John Andrew Boyle, Kirakos of Ganjak on the Mongols, *Central Asiatic Journal* 3 (3): 45–60.

³ The 13th-century Armenian historian, Kirakos of Ganjak, mentioned a palace that lay somewhere between Lake Van and Lake Urmia which is supposed to be Hülegü Khans burial place. Kirakos of Ganjak mentioned that the Ilkhanate constructed a summer capital northeast of Lake Van at Ala Taq, which likely included a palace. See: Kirakos of Ganjak 1963. *History of the Armenians*, Trans. John Andrew Boyle, Kirakos of Ganjak on the Mongols, *Central Asiatic Journal* 3 (3): 45–60. Recently, a group of experts from Turkey and Mongolia carried out archaeological surveys on the Çaldıran Plain under the leadership of Professor Ersel, head of Izmir Katip Çelebi University's Turkish-Islamic Archaeology Department. What is known for certain is that this region was an important area for the Mongols and we should not be surprised to find ruins of Ilkhanid caravanserais and small settlements, perhaps even palaces in the region. Whether this site is the palace of Hülegü described by Kirakos is an open question to be answered.

2 Literature

It was not until 1955 that Donald N. Wilber made an initial attempt to pinpoint Hülegü Khan's royal tomb in Northwest Iran (Wilber 1969: 75). Based upon historical sources and chronicles, he was the first person to conclude that the summit of the great rock rising 1000 ft (c.300 m) above the shore of Jazīreh-ye-Shāhī could be the burial place of Hülegü, the founder of the Ilkhanates. However, Wilber's excursion failed to provide detailed information regarding Hülegü's enigmatic tomb and treasury, and he did not succeed in studying Hülegü's fortress nor the site and archaeological remains to be found there. His publication on Jazīreh-ye-Shāhī encouraged other scholars to evaluate different theories and address this archaeological void, albeit without further physical investigations (Ahutja 1967; Boyle 1974). The account of Jazīreh-ye-Shāhī has left fragmentary evidence in archaeological and historical archives. The only systematic archaeological investigation on this island since the Islamic Revolution in Iran (1979) has attributed the first architectural phase of Hülegü's so-called fortress to a Sassanid settlement (224–651 EC). Since then, no archaeologist has revisited the site.

In October 2006, the author tirelessly sought out any scholars able to assist him, in searching for evidence and obtaining all the information related to Hülegü Khan's tomb. Four years later, in 2010, during a one-month investigation, the author interviewed several elderly people on the island, who stated that Kāboodan, located in the southern part of Lake Urmia, would be a promising site to visit surface finds. This survey uncovered 13th-century glazed potsherds similar to those found at other Mongol settlements in Northwest Iran, such as the summer capital of Ojan (Velayati et al. 2017). Moreover, atop the ground surface, the author noticed some lines of stone masonry in the lime mortar that indicated a relatively large former structure. The first course of the wall measured 10.21m × 1.12m, with only 30 cm of its height visible from the ground surface. However, this expedition did not conclude with any scientific publication.

3 Methodology

The methodology in this research adopts a multidisciplinary approach. The first section of this paper will examine contemporary historical narratives that supposedly pinpoint the location of Hülegü Khan's tomb and treasury. Subsequently, it will focus on archaeological remains through a survey of the site to assess the credibility of written sources. The input to study in this research is the description of the architectural remains to produce basic data on their identity that can serve as a future point of reference for coming research on Mongol studies in the region and beyond. The study does not only provide a broad view

of the historical setting that eventually motivated the construction of the fortifications in Jazīreh-ye-Shāhī, but also a catalog of very basic information, such as materials, construction techniques, architectural forms, and features. To this end, after the collection of relevant data from fieldwork and surveys the attempt was to correlate this information to the time of construction, initiators, and their origin as well as the historical setting.

4 Lake Urmia and the Legendary of Hülegü Khan

Lake Urmia (Daryāchēh-ye Orūmīyeh) lies at the bottom of the large central depression of the Azerbaijan region in Northwestern Iran, at an elevation of 4,183 feet (1,275 m) above sea level. The basin is surrounded by mountains to the east (Kūh-ī Sahand) and north (Mishoodāghi Mount), plateaus to the south, and volcanic cones to the north (UNEP 2012).⁴ The main rivers of the basin are located in its southern half, the most important of which are Ājcahāy, Zarīnerud, Sīmīnerud (Tatavi), Mahabadrud, Bāranduzchāyi, Zolāchāy, and Nāzlichāy. Shahi Island (Jazīreh-ye-Shāhī), which translates literally to Royal Island, is the largest island in Lake Urmia (Fig. 2). This island is the only inhabited one in Lake Urmia, and is comprised of seven villages including Burāchālu, Qībchagh, Teymurlu, Aq Qonbad, Qāmichī, Sārāy, and Bāhrāmabad. All of these villages are located

⁴ Lake Urmia was once the largest lake in the Middle East and the second-largest hypersaline lake on earth (Utah's Great Salt Lake is the first) prior to catastrophically losing about 90% of its surface area over the past few decades (Sharifi et al. 2018; Daraine et al. 2019). Additionally, Lake Urmia is the biggest inland body of water in Iran and was announced as a Wetland of International Importance by the Rāmsar Convention in 1971, and further determined as a UNESCO Biosphere Reserve in 1976 (Golian et al. 2014).² The longest is the Zarīnerud River, with a length of approximately 230 km, entering the lake from the south. In recent years, the lake environment has been physically altered in the aftermath of the construction of the Kalantari Causeway, an east–west spanning dike-type highway that stretches 15 km across the center of the lake. The highway has severely disrupted the natural water circulation and flow of sediments across the lake's north and south basins. Water only enters Lake Urmia via rainfall and runoff from the rivers flowing into it. Lake Urmia is a closed-basin lake that has been shrinking due to continuous declines in water flowing into the lake since 1995 (WRI 2006). Consequently, the volume of Lake Urmia is at a record low in August 2014, approximately 80% less than in 1972 (Ibid). While natural forcing mechanisms of abrupt climate change are favored as an explanation by most local authorities, extensive anthropogenic activities in the catchment basin and within the lake environment, appear to have led to a runaway hydrological imbalance that threatens the complete disappearance of the lake altogether within a few years (Sharifi et al. 2018). Since the 1960s, more than 59 dams have been constructed in the lake's catchment basin, and excessive extraction of groundwater from more than 65,000 wells across the watershed area has had a lasting and increasingly worsening effect on the delicately balanced environment of Lake Urmia (Abbaspour et al. 2012).

Fig. 2 Lake Urmia basin before climate change; Landsat data from USGS, 1998. A: Jazīreh-ye-Shāhī, B: Arīzu, C: Kāboodan, D: Espīr, E: Ashk, F: Chīyerlī, G: Dānālu, H: Kāmar Dāq, and I: Azin



along the shores of the island. As a result of the declining water level, Jazīreh-ye-Shāhī is now connected to the mainland on its eastern side and thus forms a peninsula. In the southern portion of Lake Urmia, there is a cluster of about nine tiny islands encompassing Arīzu, Kāboodan, Chīyerlī, Dānālu, Gīzīl Konqur, Espīr, Kāmar Dāq, Azin, and Ashk. Among these islands, Kāboodan is the central island and

differs greatly from its smaller counterparts in that freshwater is available there all year round. In *Al-Tanbīh wa l-ishrāf*, Alī Ibn Ḥusayn al-Mas‘ūdī (893–957) mentions that Lake Urmia’s name comes from a village called Kāboodan, on the island at its center (al-Mas‘ūdī 1381: 70). In his *Mu‘jam ul-Buldān*, Yāqūt al-Ḥamawī (1179–1229 CE) reports: [In Lake Urmia, there is an island which is called Kāboodan.

This island includes four villages in which the life of the inhabitants is based on seafaring and agriculture. On the mountain of this island, there is a famous fortress whose inhabitants were rebels against the rulers of Azerbaijan for most of the time] (Yāqūt al-Ḥamawī 1995: 351). Ḥamd-Allāh Mūstūfī (d. 1344) and Ḥāfez-e Abru (d. 1430) attest to Hülegü Khan's motivation to rebuild and fortify this fortress to hide large amounts of gold ingots, and bags of outlandish coins after the ransacking of Baghdad (Mūstūfī 1913:56; Ḥāfez-e Abru 1992: 104). In *Taqwim al-Buldan* (A Sketch of the Countries), Abū al-Fidā (1273–1331 CE), a Mamluk-era geographer, refers to “Bahirat al-Tāle” as follows: [Bahirat al-Tāle is the same Lake Urmia that is located between Maragheh and Salmas. In the middle of it, there is an island with an impregnable fortress called Qaleye Tāle. Hülegü Khan put his treasury in it, ... and it is said that he is buried inside this fortress] (Abū al-Fidā 1996: 46). Shams al-Dīn Muḥammad ibn Abī Ṭalīb Damīshqī (1256–1327 CE) in *Nukhbat al-dahr fī ‘ajā’ib al-barr wa-al-baḥr* tells a similar story to that of Abū al-Fidā by emphasizing that the enigmatic fortress of Hülegü is located on top of a mountain called Tāle (Shams al-Dīn 1978: 121). In addition to Rashīd al-Dīn, Ḥamd-Allāh Mūstūfī, and Ḥāfez-e Abru concretely report that Hülegü himself is buried somewhere inside the fortress and that according to a Mongol custom, the slaves involved in constructing the mortuary were executed to keep the location of his tomb secure (Mūstūfī 1913:56; Ḥāfez-e Abru 1992: 108). The Mountain Tāle emerges in the post-Hülegü period as an ideal burial place for the Mongol elites. Rashīd al-Dīn narrates Hülegü's grandson Abaqa Khan's (1234–1282) desire to be buried in the same place as his father in Jazīreh-ye-Shāhī. He wrote: [On Sunday, the 16th of Muharram in the year 681, Abaqa Khan passed away and his coffin was taken to Shahu Tāle and buried near the great Ilkhan (Hülegü)] (Rashīd al-Dīn 1997: 1118). Regarding Ahmed Tekuder's coronation, Rashīd al-Dīn further mentioned that: [He was elected on 6 May 1282 and enthroned on 21 June 1282 at Aladağ, east of Lake Van. After the feast and happiness, he [Ahmed Tekuder] ordered the treasurers to prepare part of the confiscated fortunes from Baghdad that were kept in Shahu Tāle. Then, he distributed it among the noblemen, princes, governments, and the poor] (Rashīd al-Dīn 1997: 1128). This research explores a question entirely ignored by archaeology to date; the probable location of the tomb and treasury of the great conqueror, Hülegü.

5 Archaeological remains in Jazīreh-ye-Shāhī

Although there are many mountainous and coastal paths by which Lake Urmia may be reached, the most convenient and navigable route is via Ilkhchī, which can easily be reached

from Tabrīz, the former Mongol Capital. As aforementioned, Jazīreh-ye-Shāhī is the biggest geological feature surfacing from Lake Urmia and has been cut off from neighboring localities by land salinization in recent decades. Historically, the distance between Jazīreh-ye-Shāhī and the surrounding high mountain ranges was covered by the green valley of the Zarīnerud basin, however, increasing soil salt concentration has made inter-village social life on this island impossible. From the names given by Ḥamd-Allāh Mūstūfī in *Nuzhat al-gulub* (written in 740/1340 CE), we know that the Mongolic name of Zarīnerud, designated to Lake Urmia, was Jaghātū (Mūstūfī 1983, 76).⁵ According to Vladimir Minorsky, the name Jaghātū is most likely derived from the Mongolian word “jaqa”, meaning "border" or "bank", added to with the possessive suffix –tu (Minorsky 1957).⁶ In his *Ḥabīb al-siyar fī akhbār afrād al-Bashar*, Ghiyāth al-Dīn Khwādamīr (1475–1535 CE) highlighted the rivalry between Arpa Khan and Khwaja Ghiyath al-Din Muhammad, writing: [...near Jaghātū, the two armies collided, they used swords and daggers, and Khwaja was defeated by Arpa Khan and escaped. To commemorate this triumph, Hossein Abād village, which is approximately 15 km away from Shāhīn Dej city, was chosen by Hülegü Khan as the summer capital, and Zarīnerud was named in honor of Genghis Khan's son Jagtāi (Jaghto)] (Ghiyāth al-Dīn 2001: 97).

In addition to Jaghātū, a number of other very interesting names are noticeable in local toponymy. The majority of villages in Jazīreh-ye-Shāhī and the Lake Urmia basin bear Mongol names and seem to reflect the period of Mongol domination of this huge area encompassing Northwest Iran. In Qībchagh, for example, which is a village situated to the north of the island, the toponymy bears witness to definite Mongol infiltrations (Hildinger 1997: 112).⁷ Similarly, the village of Dash Kasan, some 28 km to the east stands as a reminder of the original Mongol localities. From archaeological research, we know that the same name, Dash Kasan, was given to imperial camping sites in the southeast of Sultaniyya (Moradi 2022).

According to local testimonies, it was almost impossible to access Shāhī Island from the opposite shore twenty years ago. In fact, the island did probably not need special

⁵ Zarrīnehrud, is one of the longest and most expansive rivers in Northwest Iran. This river rises near the Shiler Valley, an important communication route between Mesopotamia and the Iranian plateau that forms a deep salient of Iraqi territory into Iran (Afshin 1995: 99).

⁶ Minorsky reconstructed an even earlier name of the river as Vālārūd, from the “Balaráthō” (Βαλαράθω) given by Theophylact Simocatta (an early seventh-century Byzantine historiographer), and also in the *Life of Mar Yahballaha* which refers to a river “called in Mongolian Jaghatuy and in Persian Vakya-rud” (Minorsky 1957).

⁷ Qībchagh were a Turkic nomadic people and confederation that existed in the Middle Ages, inhabiting parts of the Eurasian Steppe (Grousset 1970: 225).



Fig. 3 Current remains of Qal-e ye Hülegü Khan in Jazīreh-ye-Shāhī, Lake Urmia. See from the south (Photo by Amin Moradi the author 2023)

fortifications in this part because it was already well-protected by water. The remains of a huge fortress are visible on the top of a rocky hill in Jazīreh-ye-Shāhī, which can be accessed from Aq Qonbad village. The ascent from Aq Qonbad to the fortress takes about three hours. Dry riverbeds to the north indicate that the fortress's northern approach was once surrounded by a ring of freshwater meres. Too shallow to be of any defensive use, these meres would have made the fortress look as though it were floating on an island, surrounded by water. Approaching the fortress from the foothill, one's eyes are inevitably drawn to a massive fortification made of dry joint stone technique which stretches east–west (Fig. 3). Extremely thick masonry walls would arguably have been expensive and arduous to build around the fortress, therefore the dry joint construction technique was likely adopted to privilege time-saving and manpower as well as to conserve resources that could be better spent on other security factors. This wall is made up of irregular courses of untrimmed stone blocks and is called “qapi” [the gate] among villagers. Considering the width of the stone wall (ca. 2.80m), it is reasonable to conclude that it provided extra security for the fortress. The area inside the wall shows no remarkable masonry evidence. It looks to have been left empty and unoccupied, suggesting that the wall was to give an appearance of strength and imposition rather than having a practical utility. The whole path from qapi to the highest level of the fortress [qal-e ye Hülegü Khan] is marked by stone signs. Not tracking and following

these indicators, put in place by compassionate climbers, may result in getting lost while hiking. This may not seem too dramatic at first, but when said lost hiker ends up wandering into the deep precipices all around the fortress, the situation can be hazardous.

Unlike the entirely inaccessible northern and eastern sides comprised of rising perpendicular walls of solid rock, the slope on the eastern face is much more gradual. Here, most of the cliff face has been badly affected by erosion and is quite impassable without elaborate mountaineering equipment. A person wishing to enter Hülegü Khan's fortress would instead first need to climb up a short flight of stone stairs constructed within a triangular fissure in the rock on the east side of the hill.

From the landing at the top, any visitor would proceed west, ascending a via Ferrata that is fixed to the rock and gives access to the upper part of the cliff. However, climbers should not be advised to secure themselves to it as a means to limit any falls. It is easy to envision that when enemies arrived at the site, soldiers and inhabitants would retreat inside the fortress, finding safety behind its walls and on top of the rock cliffs. After climbing the via Ferrata, one finds oneself standing in front of several rock-cut cells that have been uniquely carved into the sedimentary bedrock at various heights. These cells have an almost-uniform width of about 2.60 m but vary in length between roughly 3 to 6 m (Fig. 4). Remains of human skeletons and pottery shards are visible among the debris inside the cells. These cells have



Fig. 4 Rock-cut cells on the southern side of Qal-e ye Hülegü Khan in Jazireh-ye-Shāhī (Photo by Amin Moradi 2023)

been ransacked by treasure hunters and repeatedly excavated by locals in the hope of finding the hoard of relics buried inside them, meaning that tons of soil have been shoveled in and out of them multiple times. Apparently, these antiquity hunters have handled enough soil and rock in this fortress so as to relocate an actual part of the mountain. In other words, if these lunatics that have tried to plunder these cells had hired out with road contractors, they could have earned lots of money instead of this terrible waste of energy. A vast part of the rock face has been flattened around these cells and the cleavage of picks is discernable on the resulting vertical surface. It is likely that the cliff was intentionally flattened with a view to accommodating more cells in the future. The other hypothesis would be that the cliff face was flattened so as to cut off access to the heart of the fortress and make it difficult for visitors and external threats to enter.

There are two cylindrical cisterns at the level of the cells. While the smaller one measures ca. 13m in height and ca. 8.60m in diameter, the bigger one is almost double its size, measuring ca. 27.44m in diameter and 4.12m in height (Fig. 5). A hard layer of hydraulic plaster mixed with lime, ashes, and grit applied on the walls of both cisterns led the author to conclude that they were used as water storage

containers at one time. Numerous rock-cut grooves around the cisterns were designed to convey the rainwater to said containers. As rains are usually heavy in this area, and can occasionally be torrential, the amount of water that these water tanks could catch could be several thousand cubic meters after each heavy rain. Even though history gives no account of who actually planned and supervised the construction of this site, cutting these channels was certainly not beyond the skills of engineers in the region. Several rock-cut hooks close to the cisterns appear to have been carved to tie animals' leashes. On the eastern side of these cisterns, there is a room with an irregular plan (measuring 1.56 × 2.20m) with niches on all sides to hold oil lamps.

Shards, both glazed and plain, can be found all around the site. Amongst the plain shards are parts of large vessels (Khumra) used for storing water or grain. Shards of different shades of cobalt blue are thought to be parts of smaller bowls and plates. These shards have a fairly uniform, fine-textured turquoise and blue composition, are mostly light in color and well oxidized in the firing, apparently thus not originating from local workshops (Fig. 6).

Three different construction material techniques were identified during the inventory of the fortress conducted in

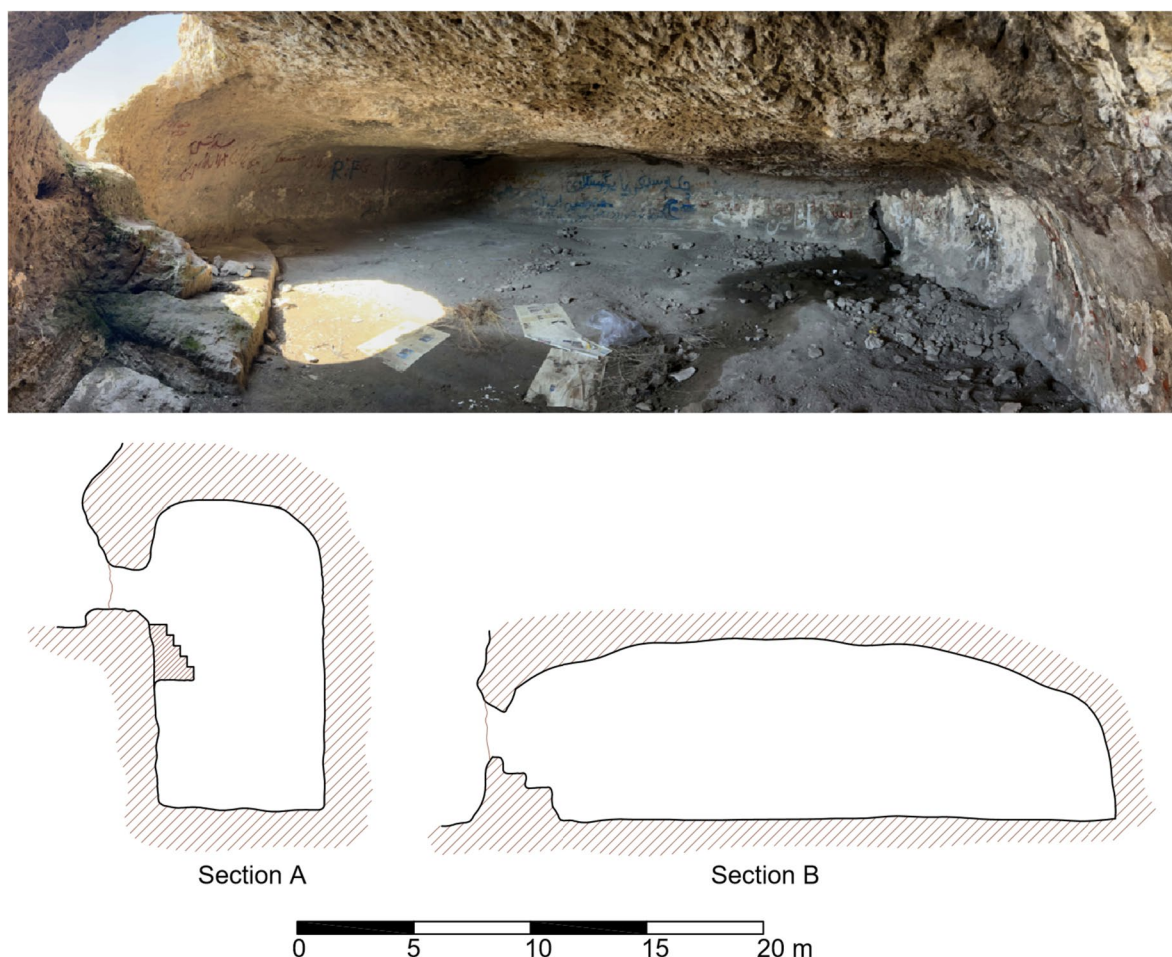


Fig. 5 Panoramic view of the larger cistern (up) and sections of cisterns in in Qal-e ye Hülegü Khan (Photo and drawing by Amin Moradi 2023)

the summer of 2022. The oldest phase represents the stone masonry made up of natural volcanic blocks and lime-based mortar. Types of mortar used on, and textures and colors applied to structures within the fortress vary depending on the structural type and construction phase. The dominant type of mortar applied in the fortress can be identified by a gray tint, and is made up of coarse-grained sand and has a high lime content. The upper phase includes dry-laid stone masonry with weathered surfaces for fortification. Several small rocks were pieced together to fill the space between these stone blocks. Finally, a limited number of bricks and mud bricks, found scattered between the rubble, indicate the third variation for the material.

The geological outlook of the scenery of Lake Urmia presents other interesting features. The Kāzīm Dashī itself is an immense piece of a sedimentary bed, lifted up into a near-perpendicular position (Fig. 7). Local inhabitants have unverified stories about this rock mass which have been handed down from earlier times. According to a very long-standing oral tradition, the queen of this fortress was at one

point kidnapped by an evil army and imprisoned in Kāzīm Dashī. The day before this event, the queen had thrown all the fortress's gold plates and jewels into a very deep well in the grounds and pronounced a curse against anyone who should try to find it ere she returned. It is also said that these curses or bewitchments often damaged farmers' crops or caused outbreaks of disease. "Hossein Jan" the legendary hero of the region, defeats the army of evils, slays the chieftain of the demons, and returns the captured queen to the fortress.

During the First World War (28 July 1914 – 11 November 1918), Kāzīm Dashī was used as a shelter for the surrounding villages. Indeed, it is named after "Kāzīm Khan", the commander of the village guards, who himself was from Ghoshchi, the nearby village. Kāzīm Dashī was also known as Qīkhlār. According to the elders of the village, in ancient times, forty people escaped from the cruel ruler of the region and took refuge in this place for a while. At the highest point of this rock mass, a well has been dug in the heart of the rock which was used to store snow and rainwater. Locals believe that this well was once used as a prison.

Fig. 6 A selection of potshards from field surveys in Qal-e ye Hülegü Khan (Photo by Amin Moradi 2023)



Fig. 7 General view of Kāzīm Dashī. See from the south (Digital collection of Cultural Heritage and Tourism Organization; Iran)

6 Discussion

As aforementioned, Hülegü's fortress is known among locals as a fortification structure, and it is a convincing hypothesis that the remains can be linked to defensive architecture. The

first key question concerning this fortress is: What kind of fortification was it? Chronicles give a clear answer that it was chosen as a secure place to house the Mongol royal treasures (Abū al-Fidā 1996: 46; Müstüfī, 1913: 56; Ḥāfez-e Abru 1992: 104; Wassāf 1966: 28), rather than being conceived as

a governmental center. Hence, it was not expected to fulfill multiple functions within its walls, such as hosting: a magnificent great hall with ample space to hold the Mongol court and serve state banquets (to impress as well as intimidate its visitors); huge barns to store grain; stables and shelters for animals; lodging for workers; and all manner of workshops. Paradoxically, the idea of saving water in huge cisterns, which is a common feature of defensive fortresses in mountainous Northwest Iran, cannot actually be considered for practical purposes in a fortress controlled by the Mongols, the most powerful military army of the time. In other words, in Hülegü Khan's fortress, the desire to ensure a safe place for tons of gold ingots surpassed the need for spacious, comfortable living arrangements inside the walls. However, it is likely that the fortress was associated with tax collection and might possibly have been the residence of an arrogant garrison, which made the citadel and its residents the frequent focus of attention for rebellions and independent citizens who tried to either ransack the treasury or staff them with their own men.

The second major question then arises: Where was the treasure kept? To answer, Rashīd al-Dīn suggests that Hülegü's treasury had an important role in finance management and budget planning during and after his reign (Rashīd al-Dīn 1994: 1118). Hence, it must have been a repository to which governments had relatively easy access to the spoils of. Although no dated historical evidence for different construction phases was found, the architectural history and development of the rampart confirm that the current fortification was built upon an older construction. It could be suggested that Hülegü ordered the reconstruction of the fortress (Müstüfī 1913: 57; Hāfez-e Abru 1992: 104) so as to use the huge cisterns by changing their functionality from water tanks to a treasury. The intentional attempts to block the water channel with rubble, thereby disrupting the rainwater harvesting system of these cisterns, is support of this idea. This fortress did not have any obvious practical military purpose at all, because it was the safest and most remote stronghold in the vicinity of the Mongol capital of Tabrīz.⁸ Hence, there was no need for these cisterns to supply drinking water to the fortress for sustaining soldiers or inhabitants to guard the treasury and tombs. Considering the remarkable dimensions of these cisterns, they have the capacity to store hundreds of tons of gold ingots and this explains why the builders of the site had an obvious interest in choosing this location. These cisterns on the peaks of inaccessible cliffs and reliably

isolated from the world were the ideal places for Hülegü to protect his treasure from uninvited guests. A vertical set of holes at the entrance to the cisterns allowed for them to be temporarily sealed by installing wooden sticks and leather sheets. Furthermore, a guard dog tied-up close to the cisterns using the rock-cut hooks could safeguard the treasury against unwanted or unexpected human entry while warning wardens. Rashīd al-Dīn reports that when Ghazan Khan sat on the throne (1295 CE), this treasury was empty because the treasurers were corrupt and its contents was gradually stolen from the fortress (Rashīd al-Dīn 1994: 1349).

To trace Hülegü and other Mongol elites' tombs back in the history of this fortress, it would be helpful to refer to the historical records as well as Mongol burial customs. It is known that during the Ilkhanid era, no mounds in the form of a grave, raised platforms, or tombs were made which would echo Muslim traditions (Ibid: 1335). This explains the conspicuous absence of any such commemorative plaque or platform and also the untraceable burial places of Mongol Khans and chiefs. If we consider the deaths of the Mongol elites, we must first look to Genghis Khan's death who died in August 1227 CE (Haenisch 1933: 503; Wright 1997: 425; Drobyshev 2006: 65; and Bold 2000: 95). According to Mongolian culture, kings' corpses retained their divine power after death, hence their remains were buried in unmarked, highly protected and inaccessible places, particularly on mountains where they were thought to be resting closer to their final destination: Heaven. (Drobyshev 2006). According to legend, Genghis Khan lies buried somewhere beneath the steppe of northeastern Mongolia, entombed in a location so secretive that anyone who mistakenly encountered his funeral procession was executed on the spot (Weatherford 2005: 66). Marco Polo wrote: [It has been an invariable custom, that all the grand khans, and chiefs of the race of Genghis Khan, should be carried for interment to a certain lofty mountain named Altai, and in whatever place they may happen to die, although it should be at the distance of a hundred days' journey, they are nevertheless conveyed thither].

In a frequently recounted tale, Marco Polo documented that the 2000 slaves who attended Genghis Khan's funeral were killed by the soldiers sent to guard them and that these soldiers were in turn killed by another group of soldiers who were tasked to dispatch anyone and anything that crossed their path, in order to conceal where he was buried (Polo 1960: 256). Finally, the legend states that when they reached their destination they themselves committed suicide (Levy 2007: 179). Historic accounts agree in stating that members of the Mongol Royal family, throughout the Empire, were buried in inaccessible places, for the most part, high up in the mountains (Polo 1960: 257; Carpini 1900: 112). Royal cemeteries were forbidden ground or taboo and were guarded by detachments of soldiers, though since the actual site of the grave was not indicated in any way, even members of the guard were ignorant of where the

⁸ Hülegü Khans selected Maragheh as the first Mongol capital in Iran between 1256 and 1265 CE. After Hülegü, Tabrīz was the capital of the Ilkhanate during the Ghazan Khan era who came into power in 1295 CE. Ōljaitü, also known as Mohammad-e Khodabande (1282 – 1316 CE), built the third capital city of Ilkhanates near Zanzan province, Iran, and called it Sultānīyeh. See: Kiani (1995). *Iranian Capitals*. Tehran: Ministry of Cultural Heritage. P. 110.

grave actually was (Rashīd al-Dīn 1994: 1349). These forbidden areas are everywhere designated by the same word, “qorugh”, which also occurs in the forms of “qorig” and “qhorug” (ibid).⁹ In the Mongol period, the word qorugh is used for anything sacred or taboo, private lands, most frequently Royal lands, the ruler’s place, and, in particular, his harem (Schéfer 1892: 27; Barthold 1970). From Rashīd al-Dīn’s accounts, we can certainly conclude that there were qorughs in Mongolia even before the time of Chingis Khan. He describes the sack of a part of the qorugh of the Kerait Wang Khan by his enemies (Rashīd al-Dīn 1994: 988). Hülegü’s qorugh, in Rashīd al-Dīn’s description, is reminiscent of the “yeke qorugh”, the “Great Forbidden Sanctuary” of Genghis Khan that Carpini reported in his travelogues. Carpini commented on Genghis Khan’s royal burial ground as a place where emperors, chiefs, and all nobles are interred and irrespective of where they died, were brought hereto if this could fittingly be done (Carpini 1900: 112). He also mentioned that a great deal of gold and silver was buried with them (ibid). Rashīd al-Dīn similarly speaks of the troops who, in his day, kept guard over Genghis Khan’s qorugh (Rashīd al-Dīn 1994: 1255). John Carpini distinguishes between the burial methods of elite and non-elite men. In the case of the former, after filling in the pit, it was covered over with grass so as to be undiscoverable (Carpini 1900: 122). Atâ-Malek Juwaynī (1226–1283 CE), the Persian historian, writes that when the tomb is covered up, horses are driven over it, in such a manner that not a trace of it remains (Juwaynī 1975: 229).¹⁰ We are also explicitly informed of the immolation of young women in the case of Genghis Khan and his grandson Hülegü (Wassāf 1966: 28). It is believed that not only the Khans’ grave but also their encampments came under the classification qorugh, and these latter were maintained as they were during his lifetime (Barthold 1970).

⁹ Hülegü Khans selected Maragheh as the first Mongol capital in Iran between 1256 and 1265 CE. After Hülegü, Tabriz was the capital of the Ilkhanate during the Ghazan Khan era who came into power in 1295 CE. Öljeitü, also known as Mohammad-e Khodabande (1282 – 1316 CE), built the third capital city of Ilkhanates near Zanjan province, Iran, and called it Sultāniyeh. See: Kiani (1995). Iranian Capitals. Tehran: Ministry of Cultural Heritage. P. 110.

¹⁰ Hülegü Khans selected Maragheh as the first Mongol capital in Iran between 1256 and 1265 CE. After Hülegü, Tabriz was the capital of the Ilkhanate during the Ghazan Khan era who came into power in 1295 CE. Öljeitü, also known as Mohammad-e Khodabande (1282 – 1316 CE), built the third capital city of Ilkhanates near Zanjan province, Iran, and called it Sultāniyeh. See: Kiani (1995). Iranian Capitals. Tehran: Ministry of Cultural Heritage. P. 110.

¹¹ Rashīd al-Dīn set up a scriptorium in the Tabriz suburb of Rab’-e Rashidi, where the book was researched, scribed, illustrated, and bound. The intention was to produce two illustrated manuscript copies each year, one in Persian and one in Arabic, for distribution around the empire; parts of three of these survive, as well as parts of other books from the workshop. They are illustrated in a consistent style, which the Great Mongol Shahnameh builds on and significantly develops. See: Blair and Bloom (1996). The art and architecture of Islam (1250–1800). U.S: The Yale University Press.

In relation to the Mongol funeral customs in Iran, our knowledge is limited to four folios from the Great Mongol Shahname (Book of Kings), probably dating back to the 1330s and illustrated in Tabriz.¹¹ These folios indicate some common features of the royal funerary in Ilkhanid Iran, such as the deploring of the dead by face-cutting and body-whipping, bringing the dead to the cemetery on a carriage or sled, sumptuous burials, a funeral repast, and the sacrifice of animals, especially horses, in honor of the dead. In some cases, the funeral ceremony was also accompanied by music, the beating of drums, ritual dancing, and song.¹² Whether Hülegü’s burial followed or deviated from these norms we do not know. There is no immediate iconography in the supposition that the abovementioned scenes are, in fact, part of a royal funeral procession. However, this illustration indicates the time when these traditions were alive and strong and it is probable that some commonalities could be found between this pictorial evidence and Hülegü’s funeral customs.

Considering the remarkable number of human skeletons inside the rock-cut cells, these spaces appear to have become a focus of burial ritual activity. Deposits of potsherds are thought to be the remains of offerings to those buried in these tombs. The category of burial gifts is well known from descriptions of Ilkhanid funerals where gifts from the mourners were carried in the funeral procession, with some of them being deposited on the pyre or in the grave. In Fārs-nāma-ye nāserī, Mīrzā Ḥasan Fasā’ī (1821–1898) on the death of Abīsh Khatun wrote: [Abīsh Khatun was the daughter-in-law of Hülegü Khan. She became ill and passed away in Tabriz. She was buried in Tabriz in the cemetery of the Mongol Sultans according to Mongol traditions. Although she was a Muslim, a believer, and a pure woman... gold and silver vessels filled with basil wine were placed in her grave (Mīrzā Ḥasan 2003: 277).

The exact parallel of these burial cells is visible in the neighboring Ilkhanid site of Rāsad Khāna.¹³ In both cases, the alignment of these cells represents a north–south axis that connected with the Mongolian cult in which particular attention is given to the sunrise with the head facing east (Halbertsma 2005: 161). Additional evidence from the prehistoric Mongol graves in Alag Tolgoi and Khanan cemeteries in northern Mongolia, all of which represent a field of Mongolian burials of the imperial period (Nelson et al. 2011:216), indicates the fact that the north–south orientation was the standard norm of inhumation from the Early Iron Ages (ca. 800–400 BC) in Mongolia. Therefore, it is reasonable to conclude that people who had designed

¹² To find out more see: Shirazi and Ghasemi (2012). Finding the origin of patriarchs’ customs and adapting them with Abu Saied Shahname by emphasizing the mourning illustrations. Negare 22: 25–40.

¹³ These caves are located near the Maraghe observatory which is believed to be built during the Hülegü Khan (thirteenth century) era under the supervision of his great vizier, Khajeh Nasir al-Din Tusi (1201– 1271 CE) (Moradi 2022).

and cut these burial cells or the occupants followed the Mongolian tradition. The idea that the corpses of Hülegü and other elites were buried in these small chambers is not one that can be put forward. Historic resources emphasize that Mongol tombs had no mounds and were trodden over by horses so as to imitate ordinary ground (Polo 1960: 258). It should consequently be impossible to find these places afterward. Moreover, it is suggested that a royal Mongol tomb in Northwest Iran might be an underground chamber hewn out of the bedrock in which a long shaft, sunk into the side of a hill, gives access to the burial chamber (Moradi 2022). Additionally, to keep the element of secrecy, Hülegü's funeral was the only Ilkhanid funeral to feature human sacrifice. Hence, the relatively small chambers that every visitor can see do not fit the funeral standards of the Mongol elites. These cells could belong to aristocrats, guards, warriors, servants, and persons who were not of noble birth. It is worth mentioning that the scattered remains of potsherds inside these cells stylistically indicate that they belong to the Ilkhanid period.

Recent findings concerning burials during the medieval period in western Mongolia, shortly before the emergence of Genghis Khan, confirm that both inhumation and cremation were practiced (Crubézy et al. 2006). These funeral alternatives can be studied in the contents of these cells, but fragments of potsherds found inside the chambers cannot take us further in identifying for whom any burial was intended. DNA analysis of the remains in these tombs could reveal any possible relationships between the tomb's occupants and further tests could also reveal whether the bodies were mummified.

The word *Rashīd al-Dīn* and *Wassāf* use for Hülegü's tomb, "dakhme" (*Rashīd al-Dīn* 1994: 1128; *Wassāf* 1966: 29), is commonly applied to a kind of rock-cut architecture which designates a space hewn in rocks, mountains, or hills in which the deceased is buried. Numerous dakhmes from different periods have been found in Western and Northwest Iran, which cannot be associated with the burial of a specific person (Huff 1989). The common feature of these burial spaces is that they have all been built on vertical surfaces after the removal of a huge amount of stone on the edge of the cliff.

The only discovered Mongol dakhma which has been plundered during the Qajar Dynasty in Iran (1789–1925) belongs to Arghun Khan (1258–1291 CE). The fascinating narration of *Fasā'ī* about this dakhma confirms beyond any doubt that this form of architecture is a rock-cut cell accommodating the Khan and his precious grave goods. *Fasā'ī* wrote: [Nearby the Qidār¹⁴ village there is a spring known as Arghun Bulaghi, and on the south side of that village and spring, there is a mountain. One day Karbali Fathali, a local shepherd, was herding his sheep on the slopes of that mountain, and he was lying down to relieve his fatigue. Suddenly, he saw a mouse that took out some white pearls from a hole and put them in the sun. The shepherd took

those pearls and gave some of them to his fiancée, who was the daughter of Fathali Wali Nemet, and kept some for himself. When Fathali saw these pearls, he searched for the shepherd and went with him to the mouse hole. When they dug the rocky cliff, a dakhma was found, and they found some gold and jewels. That night, Fathali took them home and buried them. A young man called Majid who was from Garrus was informed about this incident. Since he had a book that recorded the events of the Mongol Sultans, especially those whose capital was in Khamsa province, they had written about Arghun Khan's dakhma at the foot of the same mountain. He (Majid), went to that place and carefully dug the plundered tomb and found other precious objects, and fled to the Shirvanat because of the fear of the rulers of that area. The shepherd man told the story to Nawab Abdullah Mirza, the Governor of Khamsa. After that, Nawab Muazi Aliyeh, with the help of several people, confiscated the treasure from Karbalai, Fathali. Among them was an inlaid gold vest that was made strangely and has tiny beads of pearl, emerald, and turquoise on it (*Mīrzā Ḥasan* 2003: 707).

At a glance, there appears to be no obvious physical indication of the location of a royal tomb inside the fortress. According to Mongol traditions, being buried close to the great Khans would have been a priority for any lay or noble person (Song 1976: 566). These individual graves could perhaps be attributed to the idea of improving the dignity of the deceased by having a tomb in the vicinity of Hülegü's tomb. The original depth of the rock-cut cliff to the west of the burial chambers is unknown. Its bottom is now filled with limestone chips and antiquity hunters have never successfully reached the very base point of the wall. In search for a potential place to create a dakhme, the rocky cliff to the west of burial chambers harks back to the elevation of a cliff burial from the eastern Han (206 BC – 220 CE) and Jin (265–420) dynasties in East Asia (Steinhardt 2017: 126) (Fig. 8). The cliff burials in these periods are tombs positioned next to each other horizontally, and forming several layers vertically along the upper reaches of the hills and mountainsides (Luo 2000, 47). Regarding the size and layout of the tombs, they vary in scale, with some containing a single shallow burial chamber just a few meters in length, while others extend over tens of meters into the mountainside with multiple chambers to accommodate numerous coffins (Wu 2000, 79). The other important fact to be considered is that the rock-wall is facing south, an orientation which is so characteristic of Ilkhanid sites. From the architectural evidence we know that the entrance of imperial structures in Ilkhanid Iran has typically located in the south (Moradi 2022).¹⁵ Hence, this possibility cannot be excluded that the entrance to an Ilkhanid dakhme might be located at the lower part of the rock-wall (Fig. 8). This hypothesis will be corroborated

¹⁴ Qidār is a city in the Central District of Khodabandeh County, Zanjan Province, Iran.

¹⁵ As Rubruk had already observed, the entrances of Mongol yurts and the gates of their encampments always faced South. (Rubruk 1900: 71).

Fig. 8 The southern side of the rock that has been hewn to create a vertical surface (Photo by Amin Moradi 2023)



with further examination of the site and archaeological trial trenching in front of the rock-wall. It is also believed that in Mongol customs, a woman, upon dying a natural death, would be restored to her husband as a matter of course (William of Rubruck 1900: 70). It was supposedly in connection with this belief that Mongol concubines and widows were expected, or often compelled, to re-marry within their husband's family (Boyle 1974).¹⁶ Hence, it is quite possible that Hülegü's wife, Doquz Khatun, is also buried in this fortress as, according to Rashīd al-Dīn's account, she passed away only four months and eleven days after Hülegü himself (Rashīd al-Dīn 1052).

7 Conclusion

The most famous Mongol tomb, after that of Genghis Khan, lies in Lake Urmia on Shahi Island (Jazīreh-ye-Shāhī), Northwest Iran, and its mystery belongs to Hülegü. In fact, this is a true treasure story, par excellence, with a sufficient mystery to maintain its intrigue. Even though hundreds

of treasure hunters have traveled to Jazīreh-ye-Shāhī to try to find the tomb and treasury of Hülegü, the site has never been found because there is no sign of a plundered royal Mongol tomb either inside or in the surroundings of the fortress. To be more precise, Hülegü's successors left an empty treasury, but the tombs of Hülegü and other Mongol elites await discovery in Jazīreh-ye-Shāhī. It is hard to say how many tombs remain undiscovered but it is certainly more than just a few, in which immense sums of wealth remain buried. This discovery would be important because it could usher in another era for Mongol archaeology. This paper hopes to develop a consensus among archaeologists on such a topic.

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Declarations

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¹⁶ This custom was amply attested amongst the Huns and pre-Islamic Turks and was still followed by the Kazakhs and Kalmucuks down to modern times. See: Togan. A. Z. 1939. *Ibn Faldan's Resebericht*. Pp. 129. Leipzig.

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References

- Abbaspour, M., A.H. Javid, and S.A. Mirbagheri. 2012. Investigation of lake drying attributed to climate change. *International Journal of Environmental Science and Technology* 9: 257–266.
- Abū al-Fidā. 1996. *Taqwim al-Buldan*. Trn. Abd al-Ali Birjandi. Tehran: Shirkat-i intishārāt-i Ilmī wa farhangī.
- Afshin, Y. 1995. *Rivers of Iran*. Tehran: Ministry of Energy.
- Ahutja, N. D. 1967. Burial customs of the pagan Mongols. *Proceedings of the Indian History Congress* 29(2):215–221.
- Āshtiyānī, A. 2010. *Tārīkh-i Mughūl*. Tehran: Mu'asisih-i Intishārāt-i Nigāh.
- Barthold, V.V. 1970. On the question of funeral rites of the Turks and Mongols // Compositions. V. VI. M., 1966. pp. 377–339
- Blair, Sh., and J. Bloom. 1996. *The art and architecture of Islam (1250–1800)*. U.S: The Yale University Press.
- Bold, B.O. 2000. Death and burial of Chinggis Khan. *Central Asian Survey* 19 (1): 95–115.
- Boyle, J.A. 1974. The thirteenth-century Mongols' conception of the afterlife: the evidence of their funerary practices. *Mongolian Studies* 1: 5–14 ISSN 0190-3667. JSTOR 43193015.
- Boyle, J.A. 1968. *The Cambridge history of Iran*, vol. 5. The Saljuk and Mongol periods: Cambridge University Press.
- Carpini, J. P. 1900. *The Journey of Friar John of Pian de Carpino to the Court of Kuyuk Khan, 1245–1247*. Trans. W. W. Rockhill, London.
- Crubézy, E., F. Ricaut, H. Martin, S. Erdenebaatar, H. Coqueugnot, B. Maureille, and P. Giscard. 2006. Inhumation and cremation in medieval Mongolia: Analysis and analogy. *Antiquity* 80 (310): 894–905. <https://doi.org/10.1017/S0003598X00094497>.
- Cyril, Elgood. 1951. *A Medical History of Persia and the Eastern Caliphate*. United Kingdom: Cambridge University Press.
- Daraine, A., M. Ghasemi, F. Karimi, and Sh. Hatami. 2019. Urmia Lake desiccation and the signs of local climate changes. *Journal of Hydraulic Structure* 5 (2): 1–17.
- Drobyshev, Y.I. 2006. Funeral and memorial rituals of the medieval Mongols and their underlying worldview. *Anthropology & Archeology of Eurasia* 45 (1): 65–92.
- Ghiyāth al-Dīn, Khwāndamīr. 2001. *Ḥabīb al-siyar fī akhbār afrād al-Bashar*. Tehran: Intishārāt-i Khāyam.
- Golian, S., O. Mazdiyasi, and A. AghaKouchak. 2014. Trends in meteorological and agricultural droughts in Iran. *Theoretical and Applied Climatology* 119: 679–688. <https://doi.org/10.1007/s00704-014-1139-6>.
- Grousset, R. 1970. *The Empire of the Steppes: A History of Central Asia*. Rutgers University Press ISBN 978-0-8135-1304-1.
- Haenisch, E. 1933. Die letzten Feldzüge Cinggis Khan's und sein Tod. Nach der ostasiatischen Überlieferung. *Asia Maior* 9: 503–551.
- Ḥāfeẓ-e Abru, Abdallah. 1992. *Zeil Jami al-Tawarikh*. Edt. Khanbaba Biyabani. Teharan: Sherkat-e-Elmi.
- Halbertsma, T.H.F. 2005. *Early Christian remains of Inner Mongolia*. Chapter 7: Nestorian grave sites and grave material from Inner Mongolia. Netherland: Brill.
- Ḥamd-Allāh, Mūstūfī. 1913. *Nuzhat al-Golub*. Translate by G. Le Strange. Brill: London.
- Hildinger, E. 1997. *Warriors of the Steppe: military history of Central Asia, 500 BC To 1700 AD*. U.S: Da Capo Press.
- Huff, D. 1989. Säulenbasen aus Deh Bozan und Taq-i Bustan. *Iranica Antiqua* 24: 285–296.
- Juwaynī, Ala al-Dīn Atā-Mulk. 1975. *Tārīch-i Jahānguschāy*. Tehran: Amir Kabir.
- Kiani, M.Y. 1995. *Iranian Capitals*. Tehran: Ministry of Cultural Heritage.
- Kirakos of Ganjak. 1963. History of the Armenians, Trans. John Andrew Boyle, Kirakos of Ganjak on the Mongols. *Central Asiatic Journal* 3(3):45–60.
- Levy, J. 2007. *Lost histories: exploring the world's most famous mysteries*. United Kingdom: Vision Paperbacks.
- Luo, Erhu. 2000. Handai huaxiang shiguan yanjiu (Research on Han Dynasty Pictorial Sarcophagi). *Kaogu Xuebao* 1: 31–61.
- Minorosky, V. 1957. Mongol Place-Names in Mukri Kurdistan. *Bulletin of the School of Oriental and African Studies, University of London*. 19(1): 58–81. Retrieved 16 October 2022.
- Mirzā Ḥasan, Fasā'ī. 2003. *Fārs-nāma-ye nāserī*. Tehran: Intishārāt-i Amir Kābir.
- Moradi, A. 2022. Dash Kasan: An imperial architecture in the Mongol capital of Sultaniyya. *Asian Archaeology*. <https://doi.org/10.1007/s41826-022-00065-x>.
- Mūstūfī, H. 1983. *Nuzhat al-Golub*. Translate by G. Le Strange. Brill: London.
- Nelson, A. R., Honeychurch, W., and Amartuvshin, C. 2011. *Caught in the act: Understanding Xiongnu site formation process at Baga Gazaryn Chullu, Mongolia*. Edt, Jan Bemann. Germany: University of Bon.
- Polo, M. 1960. *The travels of Marco Polo*. Edinburgh: Oliver and Boyd.
- Rashīd al-Dīn. 1994. Jame-al-Tavarikh. In & Mousavi, M, ed. M. Roshan, vol. 2. Tehran: Alborz Publication.
- Rashīd al-Dīn, Faḍlullāh Hamadānī. 1997. *Jame al-Tawarikh*. Ed, Roshan, M. and Mousavi, M. Vol. 2. Alborz
- Rubruck, W. 1900. The journey of William of Rubruck to the eastern parts of the world, 1253-55. edited by Rockhill, William Woodville London, Printed for the Hakluyt Society, 1900. Pdf. <https://www.loc.gov/item/01019024/>.
- Schéfer, P. 1892. Description Topographique et Historique de Boukhara par Mohammed Nershakhy. Paris.
- Shams al-Din, Kāshani. 1998. *Shāhnameh-ye Changīzī*. Tehran: Intishārāt-i Sokhan.
- Shams al-Dīn, Muḥammad ibn Abī Ṭālib Damīshqī. 1978. *Nukhbat al-dahr fī 'ajā'ib al-barr wa-al-bahr*. Tehran: Farhangistān-i Adab va Hunar-i Irān.
- Sharifi, A., Shah-Hosseini, M., Pourmand, A., Esfahaninejad, M., Haeri-Ardakani, O. 2018. *The vanishing of Urmia Lake: A geobiological perspective on the hydrological imbalance of the world's second largest hypersaline lake*. In: The Handbook of Environmental Chemistry. Berlin: Springer.
- Shirazi, A., and S. Ghasemi. 2012. Finding the origin of patriarchs' customs and adapting them with Abu Saied Shahname by emphasizing the mourning illustrations. *Negare* 22: 25–40.
- Song, Lian. 1976. *Yuanshi 元史 (History of Yuan)*. Beijing: Zhonghua Shuju.

- Steinhardt, N. 2017. Tombs in Sichuan. By Xuan Chen. Oxford, Archaeopress, 2015. *Journal of the Royal Asiatic Society* 27 (4): 694–696. <https://doi.org/10.1017/S1356186317000402>.
- Steinhardt, N. 2018. *Mongols, mosques and mausoleums. China's early mosques*. Edinburgh: Edinburgh University Press.
- Stewart, A. 2019. *Hülegü: The new constantine? Syria in crusader times: conflict and co-existence*. Edinburgh: Edinburgh University Press.
- UNEP, 2012. *The drying of Iran's Lake Urmia and its environmental consequences*. Tech. rep. United Nations Environment Programme (UNEP) Global Environmental Alert Service (GEAS).
- Wassāf, Abdallah ibn Faḍlallah. 1966. *Tahrīr-i Tārīkh-i Wassāf*. Ed by 'Abd al-Muḥammad Āyatī. Tehran: Bonyād-e Fārhāng.
- Weatherford, J. 2005. *Genghis Khan and the making of the modern world*. New York: Crown Publishing.
- Wilber, D.N. 1969. *The architecture of Islamic Iran: The Ilkhanid Period*. U.S: Greenwood Press.
- WRI, 2006. *Synthesis report. Integrated water resources management of Urmia Lake*. Tech. rep. Water Research Institute, Tehran, Iran.
- Wright, D.C. 1997. The death of Chinggis Khan in Mongolian, Chinese, Persian, and European Sources, Historical and linguistic interaction between Inner-Asia and Europe. In *Proceedings of the 39th PIAC, Szeged, Hungary, June 16–21, 1996*, ed. Ä. Berta. Szeged.
- Wu, Hung. 2000. *Mapping early Taoist art: The visual culture of Wudoumi Dao*. In *Taoism and the Arts of China*. edited by Steven Little and Shawn Eichman. U.S: The Arts Institute of Chicago.
- Yāqūt al-Ḥamawī. 1995. *Mu'jam ul-Buldān*. Tehran: Research Center for Cultural Heritage.

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