

STUDY OF THE PROCESS AND REASONS FOR THE DESTRUCTION OF QOBBEH SABZ IN KERMAN BASED ON THE RESULTS OF ARCHAEOLOGICAL SOUNDINGS

Saeed AMIRHAJLOO¹ and Reza RIAHIYAN GOHORTI²¹ Department of Archaeology, Tarbiat Modares University, Tehran, Iran, (Corresponding author: saeed.hajloo@gmail.com).² Department of Archaeology, Administration of Cultural Heritage, Handicrafts and Tourism of Kerman, Iran.

Received: 18 April 2022

Accepted: 01 June 2022

Available online: 20 June 2022

Abstract: The Qobbeh Sabz building in the historical context of Kerman was one of the relics of the Qutlugh-Khanids period in southeastern Iran and part of an extensive architectural complex including educational, religious, and mausoleum buildings in the city. Today, the only main porch of the Qutlugh-Khanids complex survives, and it is called the Qobbeh Sabz porch. During the Qajar period, a building was built in the southeastern corner of this porch as a Tekiyeh Qobbeh Sabz and still stands. One of the serious ambiguities about this Qutlugh-Khanids multipurpose complex is the process of its formation and historical course, as well as the reasons for its destruction. Accordingly, the present article studies the evidence from archaeological soundings in this complex. It analyzes the content of historical sources in order to answer these questions: What was the formation process, historical developments, and reasons for the destruction of the Qobbeh Sabz complex? What are the factors that caused its widespread destruction? However, some scholars have suggested the role of the 1896 earthquake in the widespread destruction of the complex. They believe that Qobbeh Sabz survived before this earthquake. The results of the second author's archeological soundings in 2020 and the analysis of historical texts by the method of "content analysis" showed that the process of extensive destruction of Qobbeh Sabz began some time ago, and probably some of these destructions consciously took place during the reign of Vakil al-Molk Nouri, ruler of Kerman from 1261 to 1284 AH. Based on these results, after the destruction of many parts of this multipurpose complex, part of its debris was scattered and leveled in the surrounding area. Another part of its debris was moved to another place - probably Qal'eh Dokhtar in Kerman - and then constructions took place in the Qobbeh Sabz area in the late Qajar period. Finally, the earthquake of 1896 caused damage to the last remnants of the Qutlugh-Khanids's complex, the main dome.

Keywords: Qobbeh Sabz, Qutlugh-Khanids, Qajar architecture, the historical context of Kerman.

چکیده: بنای قبه سبز در بافت تاریخی شهر کرمان، یکی از آثار دوره حاکمیت قراختایان در جنوب شرقی ایران و بخشی از یک مجموعه معماری گسترده شامل بناهای آموزشی، مذهبی و آرامگاهی در این شهر بود. اما امروزه از آن مجموعه متعلق به عصر قراختایی، تنها ایوان اصلی بنا برجای مانده و به نام گنبدی که در پشت آن قرار داشته، سردر یا ایوان قبه سبز نامیده می‌شود. در زمان قاجار در گوشه جنوب شرقی این ایوان، بنایی به عنوان تکیه قبه سبز ساخته شد و تا امروز پابرجاست. یکی از ابهامات جدی درباره این مجموعه چندمنظوره قراختایی، روند شکل‌گیری، سیر تاریخی و همچنین دلایل تخریب آن است. بر این اساس، در مقاله حاضر به مطالعه شواهد باستان‌شناختی حاصل از گمانه‌زنی باستان‌شناسی در این مجموعه و تحلیل محتوای منابع اسنادی پرداخته شده تا بتوان بدین پرسش پاسخ داد که روند شکل‌گیری، سیر تاریخی و دلایل تخریب مجموعه قبه سبز چگونه بوده و چه عواملی سبب تخریب گسترده آن شده است؟ اگرچه برخی پژوهشگران از نقش زمین لرزه سال ۱۲۷۶ خورشیدی در تخریب گسترده این مجموعه سخن گفته‌اند و به باور آنان، قبه سبز تا قبل از این زمین‌لرزه پابرجا بوده، اما نتایج گمانه‌زنی‌های باستان‌شناسی نگارنده دوم در سال ۱۳۹۹ و تحلیل متون تاریخی به شیوه «تحلیل محتوا» نشان داد که روند تخریب گسترده قبه سبز از زمانی پیشتر آغاز شده و احتمالاً بخشی از این تخریب‌ها به صورت آگاهانه، در زمان وکیل‌الملک نوری، حاکم کرمان در فاصله سال‌های ۱۲۶۱ تا ۱۲۸۴ قمری صورت گرفته است. بر پایه این نتایج، پس از تخریب بخش‌های زیادی از این مجموعه چند منظوره، بخشی از آوار آن در محدوده پیرامون بنا پراکنده و تسطیح شده و بخش دیگری از آوار آن به مکانی دیگر - احتمالاً قلعه‌دختر کرمان - منتقل شده و سپس ساخت‌وسازهایی در دوره متأخر قاجار در محدوده قبه سبز صورت گرفته است. در نهایت زمین لرزه سال ۱۲۷۶ خورشیدی، آسیب‌هایی بر آخرین بقایای مجموعه قراختایی یعنی گنبد اصلی وارد کرده است.

کلمات کلیدی: قبه سبز، قراختایی، معماری قاجار، بافت تاریخی کرمان.

I. Introduction

Qobbeh Sabz building in the Khajeh Khezr quarter in the historical context of Kerman (Fig. 1) is part of an educational, religious, and tomb architecture complex. It was built during the reign of Qutlugh-Khanids in southeastern Iran, specially developed during the rule of Turkan Khatun in the middle of the seventh century AH. The quarter in which this complex was formed was called the Turkabad quarter (Royal History of Qutlugh-Khanids, 1976, corrected introduction: 67). The expansion of this complex was completed with the construction of the school and the completion of the dome of the shrine by order of Turkan Khatun in its vicinity (Royal History of Qutlugh-Khanids, 1976: 108). Turkan Khatun worked hard to develop and maintain

the complex. At her command, the best architecture and arrays were used. This complex enjoyed an important position in the time of Turkan Khatun and became one of the most important scientific centers in southeastern Iran. Today, only the main porch of Qobbeh Sabz and the Tekiyeh belonging to the Qajar era remain on its eastern front (Fig. 2). One of the serious ambiguities about this Qutlugh-Khanids multipurpose complex is the formation process, the historical evolution as well as the reasons for its destruction. In a few studies on this complex, its destruction has been considered a consequence of the earthquake of 1896 (Gabriel, 2004: 143; Javadi, 2000: 14; Mohammadi *et al.*, 2013: 80). It has been suggested that Qobbeh Sabz existed before the earthquake. Laleh and colleagues in the study of this

complex have stated that a collection of buildings of the Qutlugh-Khanids era is buried in this part of the historical context of Kerman (Laleh *et al.*, 2012: 377).

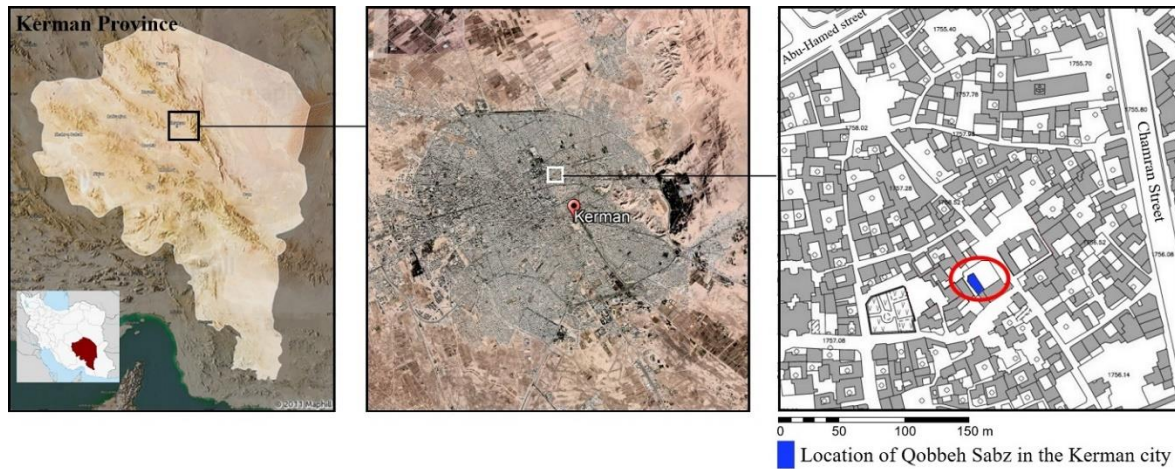


Figure 1. Qobbeh Sabz location in the urban context of Kerman (maps and satellite images taken from Mohammadi *et al.*, 2013: 86; Google Earth 2021; maphill.com; redesigned and revised by the authors).

In the present article, the archaeological evidence obtained from soundings in this collection has been studied, and the article has been formed based on two questions: First, what was the formation process, the historical evolution, and the reasons for the destruction of the Qobbeh Sabz complex? Second, what factors have led to the widespread destruction of Qobbeh Sabz?

The importance of this research is that it provides new information about the process of continuation and destruction of architectural structures buried in the Qobbeh Sabz area, based on the latest archaeological soundings. With a critical approach, it rejects previous theories about the architectural evolution of the Qobbeh Sabz complex up to the time of the earthquake of 1896 and the beginning of the destruction of the complex due to it. It also challenges previous hypotheses about the existence of identifiable architectural structures from the Qutlugh-Khanids era beneath the soil layers. It provides new information about the destruction of the architectural elements of the Qutlugh-Khanids era and its possible causes.



Figure 2. Overview of the Remaining Porch of the Qobbeh Sabz Building (Authors).

II. Research background

Qobbeh Sabz was first noticed by Sykes's direction and is listed as a tomb from the Qutlugh-Khanids period and a part of the Turkabad school. In his travelogue, Sykes described the architectural features of Qobbeh Sabz (Sykes, 1902: 194—195). The English version of Sykes's travelogue also includes a photograph of the semi-ruined dome of Qobbeh Sabz (*Ibid.*: 264) (Fig. 3). In contrast, the Persian translation of this travelogue does not provide the image. Wilber made a brief reference to Qobbeh Sabz and he described the structure of architecture, decoration, and inscriptions, and explained its chronology (Wilber, 1986: 116). Also, Wilber and Golombek have studied the school and the tomb of the Qobbeh Sabz and studied the porch as the only remnants of this architectural complex. According to them, in 1965, there were no signs of the dome. However, referring to a photograph taken by Sykes before the dome's destruction, they compared it with other domes of 15th-century buildings in Iran and Turan (Wilber and Golombek, 1995: 559). Laleh and colleagues (2008) have also studied the archaeology of Qobbeh Sabz and the role of Qutlugh-Khanids development measures in the development of Kerman. During the primarily archaeological studies, they have also studied this complex by geophysical methods. Their geophysical surveys have been concentrated at three points around Qobbeh Sabz, Zaki Zadeh's house behind the Qobbeh Sabz porch, adjacent to the south wall of Sadat Khoshrou's tomb, and at one of the houses on the north side of the green area west of Qobbeh Sabz. Also, the first and only archaeological excavation in the Qobbeh Sabz complex took place in

the 1970s or 1980s in some parts in front of the main porch of Qobbeh Sabz and the surrounding area.

However, there is no written report of these excavations in the administration of Cultural Heritage in Kerman Province or the Archaeological Research Institute. Only Laleh and colleagues have provided information based on a few photographs of this excavation and conversations with the excavator and restorer Qobbeh Sabz (Laleh *et al.*, 2012: 24) (Fig. 4).

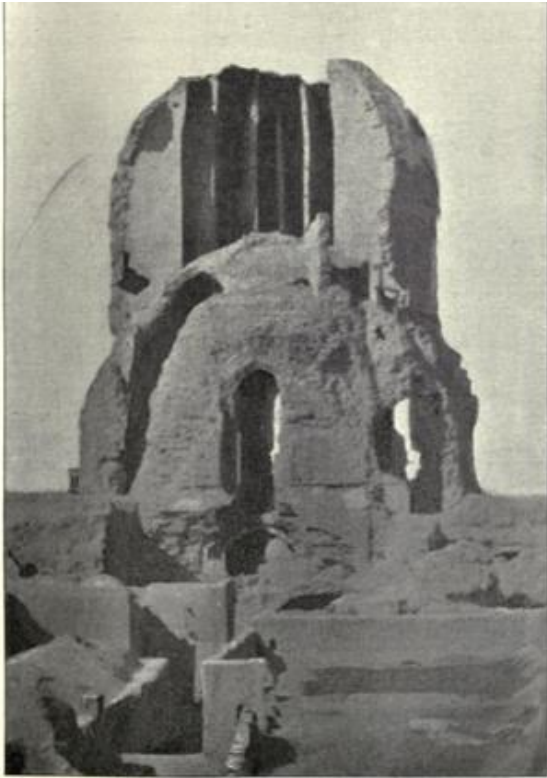


Figure 3. The Dome of the Qobbeh Sabz in the Early Twentieth Century (Sykes, 1902: 264).



Figure 4. Archaeological excavations of the 1970s or 1980s in front of the Qobbeh Sabz porch (Laleh *et al.*, 2012: 36, Fig. 13).

III. Research method

Archaeological studies in the Qobbeh Sabz complex were started in order to organize and revive it with the support of the administration of Cultural Heritage in Kerman Province and Kerman Municipality. In the first phase of this project, in 2020, soundings were put on the agenda to delimit the Qobbeh Sabz complex. After the permit was issued by the Archaeological Research Institute, this project was implemented under the direction of the second author of the article. In this project, the area around Qobbeh Sabz was divided into three sections, and soundings were made in each section. This division was made in order to achieve a clear understanding of the scope of the complex. Due to the existence of residential houses and the network of passages, there were many restrictions in choosing the location of the test trenches, but in total, 11 test trenches were created (Fig. 5). After that, the process of survival and destruction of this complex was explained by studying evidence from archaeological soundings and comparing and evaluating of this evidence, surface evidence, ancient visual documents, and analysis of the content of written historical and geographical sources. Analyzes were presented on the factors and reasons affecting the widespread destruction.



Figure 5. Location of the current Qobbeh Sabz (Blue Rectangle) and eleven archaeological test trenches around it (Authors).

IV. Current features of Qobbeh Sabz

Today, the Qutlugh-Khanids era, religious tomb, and educational complex, which included a mosque, hospital, dormitory, school, and tomb, only one tomb with large marble, the main porch of the school with exquisite tiles, and the large wall at the base of the dome remain (Mohammadi *et al.*, 2013: 83). The tomb of Qobbeh Sabz is the burial place of some of the rulers of Qutlugh-Khanids, namely Buraq Hajib, Turkan Khatun, Jalaluddin Sivar Ghatmash, Padeshah Khatun and Mohammad Shah (Bastani Parizi, 1972: 673). Comprehensive and complete information is not available about the style and architectural features of other buildings in this complex. However, at least we know about the Qutbiyeh school, built on the orders of the Turkan Khatun in this place, which was probably a four-aisled building. Because of historical sources, the phrase "Chahar Soffeh" is used to refer to it and is described by the following statement: "Its four platforms are like five roads of direct senses, and its six directions are like the foundation of seven strong constellations" (Imperial History of Qutlugh-Khanids, 1976: 336). Wilber stated that at the time of Schroeder's visit to the building [mid-twentieth century], only the lower parts of the tomb walls and porch remained. The porch arch was later rebuilt and attributed to a school that no longer exists (Wilber, 1986: 116).

Of the interior remains of the porch, written in white Thuluth script on an azure mosaic tile, only the words "Abde Abdul R ..." are read with difficulty, and for this reason, it is known among the people as the school of Khaja Abdul Rashid (Islampanah, 1991: 402-403). Some of the architectural arrays, such as mosaic tiles and screw tiles on the edges of the porch, with a very advanced technique, are probably related to the reconstructions and additions of the periods after

Qutlugh-Khanids (Javadi, 2000: 14). In the past, there was an inscription around the dome from the outside, and the inside of the dome was decorated with a large Toranj style of gold and azure. The tile design of the dome is exactly the same as the tile design of Shah Nematullah Vali in Mahan (Islampanah, 1991: 402). Above the main porch, there were two minarets collapsed along with the porch arch, and at the same time¹, only the porch arch was rebuilt (Islampanah, 1991: 402—403). Although much of the complex has been destroyed, according to historical sources, the construction and development of the multipurpose complex around Qobbeh Sabz began in the Qutlugh-Khanids period and culminated in the Turkan Khatun period. The situation of Qobbeh Sabz and the buildings around it from the Qutlugh-Khanids era onwards is examined based on written historical sources.

V. Qobbeh Sabz's appearance in historical sources

After Buraq Hajib, the founder of the Qutlugh-Khanids dynasty, died on the twentieth of Dhu al-Hijjah in 632 AH (September 1235), he was buried in a school he had built in the Torkabad quarter of Kerman (Munshi Kermani, 1983: 26). His tomb became a place to develop the educational, religious, and tomb architecture complex of Qutlugh-Khanids. A few years later, Turkan Khatun of Qutlugh-Khanids, to develop the complex, ordered the demolition of the buildings around the glorious Qutlugh-Khanids shrine so that their land could be used for school buildings and other buildings (Imperial History of Qutlugh-Khanids, 1976: corrected introduction: 67). Accordingly, although the tomb of Qobbeh Sabz and the school were built in the glorious era of Buraq Hajib, the porch was tiled eight years after his death, and the school was completed from the time of Turkan Khatun onwards (Imperial History of Qutlugh-Khanids, 1976: corrected introduction: 69). The school built on the orders of Turkan Khatun was originally named after her husband, Qutbuddin, "Qutbiyeh". It later became known as the Esmatiyeh School due to the title of Turkan Khatun, "Esmat al-Din" (Imperial History of Qutlugh-Khanids, 1976: corrected introduction: 70).

Turkan Khatun entrusted the tutelage and teaching of law in the Qutbiyeh school to one of the jurists named "Taj al-Mallah va al-Din Sadidi al-Zozani" (Munshi Kermani, 1983: 42). The importance and beauty of the Qutbiyeh school are mentioned in historical sources: "When the Turkan, may God have mercy on them, finished the Qutbiyeh school, I did not

¹ Islampanah has pointed out that the two minarets above the porch have collapsed along with the arch of the porch due to the earthquake of 1896 (Islampanah, 1991: 402). While in the introduction of the book of royal history Bastani Parizi stated that

these two minarets were destroyed in the attack of Agha Mohammad Khan on Kerman by a cannon shot (Imperial History of Qutlugh-Khanids, 1976: corrected introduction: 69).

see a building with such delicacy and I did not hear a building with this elegance" (Imperial History of Qutlugh-Khanids, 1976: 336). In 681 AH/1283 AD, after the death of Turkan Khatun, she was also buried in the dome of the school- the remains of the porch are now known as Qobbeh Sabz (Le Strange, 2004: 328-329). Thus, the complex of buildings around Qobbeh Sabz was built or reconstructed in the Qutlugh-Khanids era – the seventh century AH/13th AD - and from the seventh century AH onwards, significant narratives and descriptions of this architectural complex have been included in historical sources. The oldest historical source about the Qutlugh-Khanids and Qobbeh Sabz complex is the Marco Polo Travelogue. Alfonso Gabriel wrote in "Marco Polo in Iran" his book that "When Marco Polo last came to Kerman, Turkan Khatun was buried in the tomb of his dynasty, Qobbeh Sabz, for ten years. This dome was an octagonal building about 17 meters high with blue-green (turquoise) tiles" (Gabriel, 2004: 143). Sykes, in his travelogue about 120 years ago, referred to Qobbeh Sabz as one of the most prominent buildings in Kerman and wrote about it: "The dome had a strange cylindrical structure that was probably about 50 feet high, and outside of its enclosure, charming inlays and gilding dazzled the viewer's eyes. In the interior plastering of the area, there were also distinct golden and gilding designs" (Sykes, 1902: 194). The inscription under the dome of Qobbeh Sabz contained a text entitled "A work by Master Khajeh Shokrallah and Master Enayatullah Valdan, Master Nizamuddin Isfahani Architecture". According to a person who accompanied him as a guide, Sykes wrote that the date of construction of the dome, the date of this building, is 640 AH [1243 AD] and that was built eight years after the death of Buraq Hajib of Qutlugh-Khanids, the founder of the Qutlugh-Khanids dynasty. Sykes has expressed doubts about the veracity of his guide (*Ibid.*: 194-195).

Two years after the 1896 earthquake, Vaziri reported on Qobbeh Sabz: "Today there are no altitude traces of Qobbeh Sabz. First, some of the sticks and tiles were cut and taken away by someone, and two years ago, when there was a strong earthquake in Kerman at dawn, the traces of it were destroyed" (Vaziri, 2006: 230). George Curzon also mentions Qobbeh Sabz as one of the most important buildings in Kerman in his travelogue. He described the Qobbeh Sabz as a round, domed structure built between 1100 and 1155 AD, where the damaged marble tomb and the blue tiles were located (Curzon, 1994: 298). According to some historical and geographical sources, Le Strange also referred to the inscriptions under the Qobbeh Sabz dome, the names of the architects, and the date of its construction (Le Strange, 2004: 329).

VI. Results of sounding in the Qobbeh Sabz site

In and around Qobbeh Sabz, eleven test trenches were created in architectural spaces, walkways, and open spaces. The position of these test trenches is given in Table 1. Test trench I and II were created at points previously studied by Laleh and her colleagues, in geophysical studies using GPR ground penetration radar. Based on these studies, they introduced these areas as areas containing the architecture of the Qutlugh-Khanids era (Laleh *et al.*, 2009: 21).

While what is introduced in the research of Laleh and her colleagues as Qutlugh-Khanids architecture in these places includes the works of late Qajar architecture because the second author's archeological soundings showed that the architectural works of the Qutlugh-Khanids era were completely destroyed in these places and there is no insitu structure from that period in these places. Test trench I contains evidence of stable and cluttered architecture, including brick walls and irregular brick accumulation. At the highest level and from a depth of 20 cm to 55 cm, a brick wall with bricks measuring 19.5×19.5×4 cm was identified. Below it, from a depth of 55 cm to 100 cm, an irregular accumulation of bricks with later ceramic fragments was identified, and beneath this accumulation of bricks is an older brick wall (Figs. 6 and 7). Considering the dimensions of the upper wall bricks and the presence of Qajar ceramic pieces in the irregular accumulation below it (Fig. 9), it seems that the upper wall belongs to the Qajar era, and that probably after the destruction of the older brick structure in this part, its surface is smooth with the bricks resulting from the destruction of the building. Due to the formation of the late Qajar brick structure on the accumulation of irregular bricks, it seems that the destruction of the old brick structure occurred in the Qajar era or before it. Then a new structure was built on it. The ceramic on the surface of irregular brick accumulation is of the late type of simple unglazed or monochromatic glazed ceramic. An accumulation of irregular bricks in test trench II was also detected at a depth of 68 cm, which continued to a depth of 110 cm and was almost flush with the accumulation of bricks in borehole I. This irregular accumulation of bricks at a depth of 70 cm was also detected in test trench III. On this brick surface, there were also simple potteries, and in front of it, there were a large number of pieces of mosaic tiles that remained from the destruction of the architecture of older buildings (Fig. 10).

Irregular brick accumulation continued at a depth of 10 to 80 cm in test trench V, 170 cm deep in test trench VIII, and 160 cm deep in test trench IX. The reason why the mentioned brick accumulation was detected in test trenches VIII and IX at a lower depth than in other test trench is that the initial level of these two test

trenches is higher than in other test trenches. In other words, the fixed point of test trenches VIII and IX is 80 and 100 cm higher than the fixed point of the other four test trenches, respectively. Therefore, the depth of irregular accumulation of bricks in these two test trenches compared to the four test trenches I, II, III, and V is greater. If the difference in the height of the fixed point of test trenches VIII and IX is subtracted from the depth of irregular brick accumulation, the level of irregular brick accumulation in these two test trenches is equal to the level of brick accumulation detected in other test trenches. Therefore, the accumulation of irregular bricks resulting from the destruction of ancient buildings was identified in 6 of the 11 test trenches. The depth of this irregular accumulation in these six test trenches is on, average, 50 to 110 cm. The study of architectural evidence and cultural materials obtained from different depths in 11 test trenches excavated, shows that most of the identified architectural works in the Qobbeh Sabz area belong to the late period and specifically belong to the late Qajar period, with the exception of test trench VIII,

which is the lower part of the entablature and the Qobbeh Sabz porch appeared, with no other evidence of Qutlugh-Khanids-era architecture has been found in other test trenches. While glazed ceramic of monochromatic paste of the 6th and 7th centuries AH, painting glazed ceramic of the middle Islamic centuries, and luster wares and tiles of the 7th century AH are among the most significant findings in most test trenches.

The presence of these cultural materials, along with fragments of mosaic tiles from the 7th to 10th centuries AH, in unstable layers of debris from brick structures, indicates that the entire area around Qobbeh Sabz in the middle Islamic centuries was probably part of the urban texture and certainly included medieval architecture, was specific to the Qutlugh-Khanids, Al-Muzaffar, and Timurids. Therefore, in spite of this movable evidence, one must look for the reasons for the lack of stable Qutlugh-Khanids, Al-Muzaffar, and Timurid architecture in these test trenches. In the next section, the reasons for the lack of sustainable architecture from these periods are analyzed.

Table 1. Location and dimensions of excavated test trenches and their findings.

No. test trench	Position of test trench	Dimensions (cm)	Last exploration depth (cm)	Fundings
I	Room on the north side of Zakizadeh's house, attached to the west side behind Qobbeh Sabz porch	130 × 330	180	Late brick walls, irregular accumulation of bricks at a depth of 55 to 100 cm, plain and late carved ceramic without glaze, mosaic tile pieces
II	South of Sadat Khoshrou Tomb, 40 meters west of Qobbeh Sabz Porch	130 × 230	234	Irregular brick accumulation at a depth of 68 to 110 cm, simple late ceramic without glaze and glazed with turquoise and blue frit ware
III	Outdoors between Zaki's house and green space 35 meters southwest of Qobbeh Sabz	130 × 130	80	Irregular brick accumulation at a depth of 70 cm, simple late ceramic without glaze, large quantities of mosaic tiles from the ruins of the building
IV	In the green space located 50 meters west of Qobbeh Sabz porch	130 × 150	370	Mud-brick wall, plain unglazed ceramic, blue and white and molded, glazed frit ware, mosaic tile pieces
V	In the courtyard of Qobbeh Sabz, in front of Qobbeh Sabz porch	130 × 130	270	Irregular brick accumulation at a depth of 10 to 80 cm
VI	In the courtyard of Qobbeh Sabz, six meters east of borehole V in front of Qobbeh Sabz porch	130 × 130	165	Simple unglazed c, under-glazed paintings, mosaic tile pieces
VII	Near the eastern wall of the Qobbeh Sabz courtyard, three meters east of borehole VI	130 × 130	140	Late brick wall, simple unglazed ceramic, under-glazed painting, luster ware, luster tile pieces, and mosaics.
VIII	Attached to the north entablature of the Qobbeh Sabz porch	130 × 130	170	Brick walls and the lower part of the main porch of Qobbeh Sabz, irregular accumulation of bricks at a depth of 170 cm, simple unglazed ceramic, glazed monochromatic clay

				paste and frit ware, under-glazed paintings, mosaic tiles
IX	On the east side of the Qobbeh Sabz courtyard, attached to the Qajar's Tekiye wall on the east porch	110 × 130	165	Irregular brick accumulation at a depth of 160 cm, plain unglazed ceramic, under-glazed painting, Qajar blue and white
X	Passage and open space 20 meters southeast of Qobbeh Sabz porch	130 × 130	215	Late brick walls, irregular brick accumulation, plain unglazed ceramic, monochromatic glazed, under-glazed painting, mosaic tiles
XI	In the middle of the green space square 65 meters west of Qobbeh Sabz porch	130 × 130	310	Unglazed plain ceramic, under-glazed painting, monochromatic glazed, Qajar blue and white, mosaic tile pieces



Figure 6. Qajar era brick wall at the highest level of the test trench I, the accumulation of bricks below it, and part of the older structures at the lowest depth of this test trench.

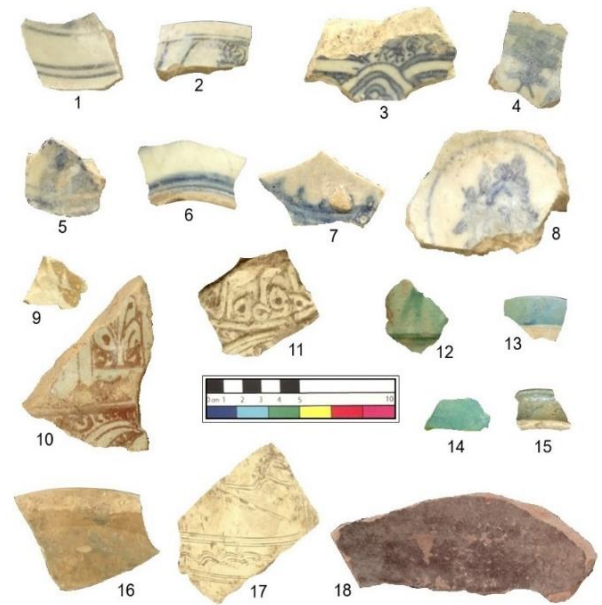


Figure 8. Medieval Islamic ceramics and tiles in test trenches.



Figure 7. Qajar period brick structure above and irregular brick accumulation below it in test trench X.

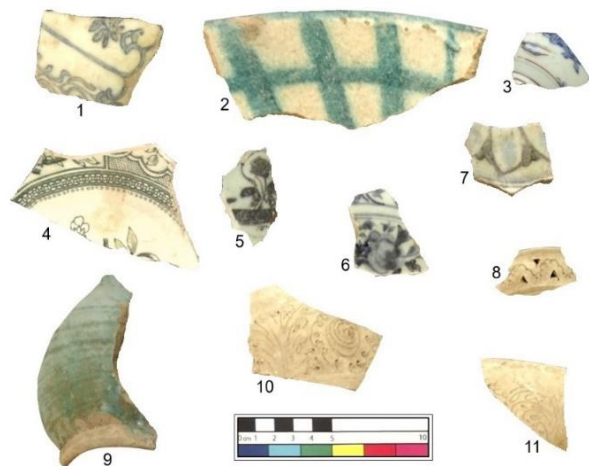


Figure 9. Qajar ceramic pieces in test trenches.

VII. Discussion and analysis

According to historical sources, after the formation of the Qutlugh-Khanids complex, the complex was developed by Turkan Khatun, and the development of Qobbeh Sabz and the surrounding buildings continued into later periods. During the Timurid period, a major reconstruction of the Qobbeh Sabz seems to have taken place. According to the oldest known image of the main dome of Qobbeh Sabz (Fig. 3), the dome was a double-shell dome with a high Gariv (tambour) and the interior space between the inner and outer shells with septums called "Khashkhashi". This dome form was a significant element in the architecture of the Qobbeh Sabz complex. There is no trace of this dome now (Islampanah, 1991: 402). Wilber believes that the dome that stands on top of this building, in terms of architectural style, is not from the pre-ninth AH [15th AD]. Sykes probably misread the date of 840 AH by 640 AH (Wilber, 1986: 115-116). Wilber also cited the theory of Eric Schroeder and considered the builder of the dome, namely Master Enayatullah, son of Nizamuddin, as the father of Haji Beg Ibn Enayatullah and explains that the name of Haji Beg Ibn Enayatullah appears on the altar of the Kerman Grand Mosque and is related to the reconstruction of the Grand Mosque in 967 AH (Wilber, 1986, 116). Accordingly, Wilber and Schroeder believe that the Qobbeh Sabz dome dates to the post-Qutlugh-Khanids period. These views seem logical considering the type of double-shell dome with a high tambour and the Khashkhashi between the space of the inner and outer shells, as well as the role and technique of the building's mosaic tiles and indicate the reconstruction of the building about three centuries after its foundation. Looking at the photo of the dome in Sykes's travelogue, the form of the dome of Qobbeh Sabz with two discontinuous shells with Timurid domes, including the dome of the shrine of Khajeh Abu Nasr Parsa in Balkh (Wilber and Golombek, 1995: 964), the dome of Goharshad shrine in Herat (*Ibid.*, 966), and the large dome of the tomb of the Imam of Isfahan (Rahravi Poteh *et al.*, 2016: 88) is identical. Islampanah, for several reasons, believes that Qobbeh Sabz was rebuilt in 940 AH under the direction of a man named Abdul Rashid (Islampanah, 1991: 404). Contrary to the process of expansion, reconstruction, and continuation of the life of Qobbeh Sabz and the surrounding buildings from the Qutlugh-Khanids era to the tenth century AH, there is no archaeological and historical evidence about the reconstruction and life of this complex from the tenth century AH to the Qajar era. In some contemporary studies, the earthquake of 1896 has been identified as the cause of the destruction of Qobbeh Sabz (Gabriel, 2004: 143; Javadi, 2000: 14; Mohammadi *et al.*, 2013: 80). Analyzing the content of some historical sources, it seems that the collapse of this



Figure 10. A number of pieces of medieval mosaic tiles in the test trenches.

Qutlugh-Khanids architectural complex occurred before the 1896 earthquake, and the earthquake only dealt the last blows to the semi-ruined structures of Qobbeh Sabz. For example, in 1209 AH/1795 AD, when Agha Mohammad Khan Qajar besieged Kerman because the people of Kerman took refuge in the domes and minarets of mosques, and from there they fired at Agha Mohammad Khan's camp, at the order of Agha Mohammad Khan, the minarets were shelled, including the long minarets of Qobbeh Sabz were destroyed (Imperial History of Qutlugh-Khanids, 1976; corrected introduction: 69). Decades later, Vakil al-Molk Nouri destroyed parts of Qobbeh Sabz in the guise of finding treasure (Sykes, 1902: 194). Bastani Parizi, in the preface of imperial history, referring to the same narration, stated that another part of this building was destroyed by Jalal al-Dawlah to find treasure (Imperial History of Qutlugh-Khanids, 1976: 68). Content analysis of Sykes's descriptions also confirms the demolition of the Qobbeh Sabz complex before the 1896 earthquake. Sykes wrote in his travelogue that the earthquake of 1896 completely destroyed the Qobbeh Sabz building, which was "on the verge of destruction" (Sykes, 1902: 194). Thus, the phrase "on the verge of destruction" in the text of Sykes's travelogue indicates that the process of destroying the green dome probably began some time ago and that the final blow was dealt with its body by an earthquake.

Archaeological evidence in the test trenches excavated in 2020 also confirms the narratives of historical sources. It indicates the widespread destruction of this complex and then new constructions on it in the last decades of the Qajar era. Due to the identification of surviving architecture from the late Qajar period at the highest level of trenches, the existence of extensive accumulation of bricks from the destruction of the building in most trenches, and the lack of identification of intact architecture from the Qutlugh-Khanids period to before the Qajar, it seems

that this complex was widely destroyed in the late Islamic centuries until the Qajar period. In other words, archaeological soundings show the level of irregular brick accumulation that was detected at almost the same height level in most of the trenches and under the Qajar architectural buildings is probably due to the extensive destruction of older buildings. After that destruction, new structures were created in the late Qajar period. Accordingly, it seems that the Qutlugh-Khanids complex in this area, during the Qajar period or before, was extensively destroyed, and a level of brick accumulation was created due to the destruction of the building. Then, Late Qajar structures were formed on this brick pile.

Another issue that shows the widespread destruction of the Qutlugh-Khanids complex around Qobbeh Sabz in the Qajar era and before the earthquake of 1896 is the valuable tiles, along with the accumulation of architectural debris, were discovered in the archeological excavations of the second author from 2016 to 2018 in Qal'eh Dokhtar Kerman, 1500 meters southeast of Qobbeh Sabz. The study on these tiles showed that the tiles did not belong to the Qal'eh Dokhtar structure and were transferred from another building (probably Qobbeh Sabz) to the Qal'eh Dokhtar (Amirhajloo *et al.* 2020: 2) (Fig. 11). The historical inscription on one of these tiles (dated 661 AH/1263 AD, fig. 11; No. 6) and the stylistic study of the other tiles show that they all belong to the middle of the seventh century AH and coincide with the date of construction of Qobbeh Sabz (*Ibid*). These tiles were discovered among the rubble in Qal'eh Dokhtar that resulted from the collapse of the third floor in the space of the corridor of the platform (Fig. 12). Surveying the third floor above the platform, it was found that there is no trace of tiling in the structural elements of the third floor, including the plinths. Also, the structures of the third floor were created in the Qajar period according to the type of arches and the dimensions of mud bricks. Because the tiles are from the middle of the seventh century AH, the tiles cannot be considered a decoration of the third-floor spaces of the Qal'eh Dokhtar platform. Accordingly, in the Qajar period, these tiles,

along with other architectural rubble, were probably used as a pile of materials for flooring (third-floor filler). Their use on the third floor of Qal'eh Dokhtar was secondary (Amirhajloo *et al.*, 2020b: 7). On the other hand, the boxes containing the tiles attributed to Qobbeh Sabz of Kerman, which are currently kept in the same building, are luster tiles similar to the Qal'eh Dokhtar samples (Fig. 11: 14). In the soundings of 2020 on the Qobbeh Sabz site, similar luster tiles were discovered (Fig. 8: 10).

Thus, the Qobbeh Sabz complex in the middle Islamic centuries and before its demolition was adorned with similar luster tiles. As stated in the Imperial history: "... When the Grand Sultan [Turkan Khatun Qutlugh-Khanid] ordered the construction of a holy school, she insisted that large platforms be decorated with tiles" (Imperial History of Qutlugh-Khanids, 1976: 122). Therefore, it seems that the luster tiles from Qal'eh Dokhtar in Kerman were transferred from Qobbeh Sabz there. In other words, probably during the demolition of the tomb of the Qutlugh-Khanids at Qobbeh Sabz and the Turkan Khatun school next to it during the Qajar period, a large amount of rubble was left, some of which was scattered and flattened around Qobbeh Sabz (The form of brick accumulation in the trenches has been identified) and some of this debris has been transferred to Qal'eh Dokhtar on the outskirts of the city. By doing so, the Qobbeh Sabz site was cleared and prepared for further civil works. On the other hand, the Qobbeh Sabz architectural rubble was used in the flooring of the third floor of the Qal'eh Dokhtar platform (Amirhajloo *et al.*, 2020b: 8).

Another point is that in the northwest of Qal'eh Dokhtar, there was a deep well that Vakil al-Molk Nouri ordered to fill at the same time as the destruction of Qobbeh Sabz so that people could not be thrown into it (Sykes, 1902: 190). Accordingly, the transfer of Qobbeh Sabz debris to Qal'eh Dokhtar by Vakil al-Molk the use of part of the debris to fill the well, and the use of another part of the debris for flooring and third-floor construction of the platform are not unexpected (Amirhajloo *et al.*, 2020b: 8).



Figure 11. luster tiles of Qal'eh Dokhtar (No 1-13) and Qobbeh Sabz Kerman (No. 14).



Figure 12. Qal'eh Dokhtar platform and the site of the discovery of luster tiles amid the accumulation of architectural debris.

VIII. Conclusion

The complex of educational, religious, and tomb buildings developed in the Qutlugh-Khanids era, especially during the reign of Turkan Khatun in the middle of the seventh century AH/ 13th AD in the city

of Kerman, had become one of the most important scientific centers in southeastern Iran. It seems that this place was preserved at least until the Timurid era and the tenth century AH. Some of the architectural elements of the Qobbeh Sabz, such as the discontinuous double-shell dome with a high tambour and the Khashkhashi between the space of the inner and outer shells, as well as the abundant mosaic tiles on its architectural surfaces, clearly indicate the reconstruction of the complex in the post-Qutlugh-Khanids period, especially the Timurid era. However, not much is known about the status of this complex and its status and importance in the Safavid to Qajar periods. There is no data about Qobbeh Sabz and the surrounding buildings in historical sources from the Safavid period to the Qajar period. Archaeological soundings do not provide information about the reconstruction of architectural structures in the Safavid period before the Qajar period. Some scholars have commented on the role of the 1896 earthquake in the massive destruction of Qobbeh Sabz and the surrounding Qutlugh-Khanids, and Qobbeh Sabz has been shown to have survived before the earthquake. However, the results of the second author's archeological soundings in 2020 and the analysis of historical texts using "content analysis" showed that the process of extensive destruction of Qobbeh Sabz began long ago in the Qajar period, and probably some of these destructions consciously took place during the reign of Vakil al-Molk Nouri, the ruler of Kerman

between 1261 and 1284 AH/1845-1867 AD. Based on the results of archaeological soundings in the Qobbeh Sabz site and archaeological studies in Qal'eh Dokhtar in eastern Kerman, it seems that after the destruction of many parts of the buildings around Qobbeh Sabz, part of the debris was scattered and leveled in the area around the building and another part of the debris, has been transferred to Qal'eh Dokhtar on the eastern outskirts of Kerman. Later, constructions in the late Qajar period took place on the site of the leveled structures of the Qutlugh-Khanids era. Finally, the earthquake of 1896 dealt the final blow to the only remaining member of the Qutlugh-Khanids, the main dome. In GPR geophysical surveys by Laleh and her colleagues, some points have been identified as areas containing Qutlugh-Khanids architecture around Qobbeh Sabz. Extensive and conscious demolition of the Qobbeh Sabz complex and the leveling of the area during the Qajar period and then Qajar constructions on its site makes it difficult to reconstruct the Qutlugh-Khanids space and architectural form in the complex in future archaeological studies. In the 2020 soundings, no Qutlugh-Khanids architectural space was identified

completely. In GPR geophysical surveys, what was previously referred to as Qutlugh-Khanids structures are in fact, late Qajar architectural structures.

Acknowledgments

Archaeological soundings in the Qobbeh Sabz complex have been made possible with the help of individuals and the following executive agencies:

Dear Mr. Fereydoon Fa'ali, Director of the Administration of Cultural Heritage in Kerman Province, Mr. Shafiei, Deputy Head of the Administration of Cultural Heritage in Kerman Province, Dr. Shirazi, former director of the Archaeological Research Institute, Dr. Siamak Sarlak, Deputy Director of the Archaeological Research Institute, Engineer Alamzadeh, Mayor of Kerman, Dr. Qutbuddini, Mayor of District 5 of Kerman (old texture), and Mr. Sadeghzadeh, Executive Deputy of District 5 Municipality, Thanks to all these nobles. Also, thanks to the archaeological team members: Sareh Tahmasbizadeh, Amin Mahani (Bildar), and Alireza Zabanavar.

References

- Amirhajloo, S., Emami, M., Agha-Aligol, D., Riahiyan Gohorti, R. (2020a). Preliminary studies on polychrome luster tiles excavated from Qal'eh Dokhtar in Kerman by X-ray, SEM-EDX, and micro-PIXE spectroscopy; Insight into a new production center of lusterware in Southeast Iran. *Journal of Archaeological Science Reports*, 33, 1-14.
- Amirhajloo, S., Emami, S. M., Agha Ali Gol, D., Riahiyan Goharti, R. (2020b). Introduction, classification and structure of luster tiles found in the Qal'eh Dokhtar in Kerman, *Journal of Research on Archaeometry*, 6 (2), 1-23, (in Persian).
- Imperial History of Qutlugh-Khanids*. (1976). edited and corrected by Mohammad Ibrahim Bastani Parizi. Tehran: Iranian Culture Foundation, (in Persian).
- Bastani Parizi, M. I. (1972). Historical complexes in Kerman; Ganjali Khan Collection. *Yaghma*, No. 293, 670-676, (in Persian).
- Curzon, G. N. (1994). *Iran and the Case of Iran*, Volume 2, translated by Gholam Ali Vahid Mazandarani, Fourth Edition, Tehran: Scientific and Cultural Publications, (in Persian).
- Gabriel, A. (2004). *Marco Polo in Iran*, translated by Kikavous Jahandari, Tehran: Dr. Afshar Endowment Foundation, (in Persian).
- Islampannah, M.H., (1991). History of the inscription of the Qobbeh Sabz of Kerman. *Yaghma*, yadnameh Yaghma, 32: 400—405, (in Persian).
- Javadi, S., (2000). Qobbeh Sabz; The oldest example of mosaic tile in Iran. *Fine Arts*, 7, 12-20, (in Persian).
- Laleh, H., Shojaei Isfahani, A., Haji Alilo, S., Lorzadeh, Z., Varahram, L., Rafiei Alavi, B. (2012). Archaeological Survey of Kerman: Qobbeh Sabz and the role of Qutlugh-Khanids's road management in the development of Kerman, *11th Annual Archaeological Conference of Iran*. Tehran: Cultural Heritage Research Institute, (in Persian).
- Le Strange, G. (2004). *Historical Geography of the Eastern Caliphate*. Sixth Edition, translated by Mahmoud Erfan, Tehran: Scientific and Cultural, (in Persian).
- Mohammadi, M., Mohammadi, M. Khajehpour, M. (2013). Recognition and protection of values in the historical monument Qobbeh Sabz Kerman. *Studies of the Iranian Islamic City*, 12: 79—88, (in Persian).
- Munshi Kermani, N. al-D., (1983). *Samat al-ola le-al-hazrat al-ohya*. under the supervision of Mohammad Qazvini, edited by Abbas Iqbal Ashtiani, Tehran: Asatir, (in Persian).
- Rahravi Podeh, S., Valibig N., Rahimi Ariaei A. (2016). Analysis of geometric and executive details in discontinuous double-shell domes in Isfahan. *Soffeh*, Volume 26, Number 2: 85—104, (in Persian).
- Sykes, P. M. (1902). *Ten Thousand Miles in Persia; or Eight Years in Iran*. London: Murray.
- Vaziri, A.A.K. (2006). *History of Kerman*. edited by Mohammad Ibrahim Bastani Parizi, Tehran: Elm, (in Persian).
- Wilber, D. (1986). *Islamic architecture of Iran in the Ilkhanate period*. translated by Abdullah Faryar, second edition, Tehran: scientific and cultural, (in Persian).
- Wilber, D., Golombek, L. (1995). *Timurid architecture in Iran and Turan*. translated by Keramatullah Afsar and Mohammad Yousef Kiani, Tehran: Cultural Heritage Organization, (in Persian).