

## **Tepe Nur, an Īlkhānid Monument in Sulṭāniyya**

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The plateau of Sulṭāniyya, located on the main road from Tehran to Tabriz, in the province of Zanjān, is essentially known for the impressive mausoleum of Ūljāytū (704-16/1304-16), and more recently also for its intriguing citadel.<sup>i</sup>

The mausoleum of Ūljāytū has been the subject of various studies, nevertheless even today there are numerous unknown factors about it.<sup>ii</sup>

The citadel is virtually unknown; portion of it was excavated by an Iranian archeologist, Sa'id Ganjavi; but the excavations stopped before the entire urban layout of the area could be determined. Most interestingly, an impressive monumental passageway leading from the northern gate to the interior of the citadel was discovered; a rather unique configuration in Īlkhānid architecture.<sup>iii</sup>

It is not surprising that the entire area was an ancient inhabited region long before the Mongol invasion and the foundation of the city of Sulṭāniyya, as it was a fertile pasture surrounded with plentiful forests, abundant game, and easy access to many water sources.

In fact, there are distinctive sites of known prehistoric townships in the immediate area around Sulṭāniyya.

Today there are numerous other monuments that have survived the perils of time, including the mausoleum of Čelebi Ođlu, Mullah Ṭasan Kāshī, the monuments of Viar, the complex of Behistan which includes a castle, and conceivably a Buddhist monastery. Other magnificent ancient monuments that have endured the ancient weathering of time are the mosques of Sujās, Qorveh, and others including the “tepe” known as the palace of Fatṭ ṬAlī Shāh.

There is however one monument that has been totally ignored, although it is barely 1500 m from the mausoleum on a large tepe with the foundations of a monument excavated in the late 70's.

This tepe is known as Tepe Nur, sometimes referred to also as Tepe Mahur. There is no thorough archeological documentation or records in existence.<sup>iv</sup>

The only description of Tepe Nur with a rudimentary plan is a short essay by Sa'id Ganjavi, the Iranian archeologist, who excavated the site in the 70's. Unfortunately, his summary comprises of a few generalities, an approximate plan, and a report of a basic finding of the archeological excavations.<sup>v</sup>

In actuality, little is known about this Persian medieval monument. There has been limited excavation, evaluation, and as such it is essentially impossible to confirm any hypothesis about it with finality. This paper is intended to provide and suggest Tepe Nur's authentic characteristics and functions, and to further stimulate others to explore this extraordinary structure.

Unveiling the magnificent wonder of Tepe Nur, it is one of the most sophisticated and intriguing Īlkhānid structures of early 14<sup>th</sup> century Islamic architecture.

The tepe itself consists actually of two hills, respectively known as *Nure Bozorg* and *Nure Kutchik*; the large and the small *Nur*. It covers an area of approximately 130 x 150 m with a height of about 15 m.

The only structure excavated from the site, on the large tepe is a dodecagonal building. There is no exact evidence as to what it really is, so for all practical purposes, all discussion about this monument is simply a hypothesis based upon the remains of the building itself and a few known facts.

The smaller-scale tepe was excavated approximately 10 years ago and an abundant-number of prehistoric pottery pieces and other artifacts were discovered. The excavation pits were then covered again and a modest archeological report was published. Interestingly, no building traces of the Īlkhānid period were discovered in the smaller-scale tepe.

The rudimentary plan published by Ganjavi, shows a circular interior space with a diameter of 9 m enclosed within the dodecagonal form, and a huge monumental staircase in the northeast direction.

Conversely, this plan is actually incorrect and does not reflect the actual remains of the structure as it can be observed even today.

In essence, it consists of an elevated dodecagonal platform, upon which a second circular platform is built, and then finally, a third structure in a dodecagonal form is erected as the main monument.

A stairway leads to the first elevated dodecagonal platform. To date, only three stairs have been excavated and are clearly visible. It is close to irrefutable, that more stairs led to this monument, possibly from the foot of the hill. Also, there is no archeological evidence for the huge, monumental stairway in a trapezoidal form that is indicated in Ganjavi's rudimentary plan.

This staircase is built in polished stone and has a width of 2 m, a depth of 31 cm, a height of 20 cm, and with a landing of 2.90 m wide.

The first dodecagonal platform is built in the same green tufite stone as the base of the mausoleum of Ūljāytū, cut from the same quarries of Dash Kasan/Viar. The platform has a diameter of 26.10 m and a height of 1.20 m, corresponding to the two layers of stonework cut to a height of 60 cm each. While the length of the stones varies, the height is always exactly the same, as a consequence facilitating its prefabrication off-site and a speedy assembly on-site. The massive stones are joined together with a mortar of gypsum, and the platform was covered with stone paving.

At 2.70 m from the edge of this first platform, there is a second, circular platform with a height of 1.40 m, built in rough stone and gypsum mortar, which was apparently covered with a veneer of bricks and decorative elements.

Upon this circular base, recessed by about 1.10 m, there is another dodecagonal platform built again in a dyad of layers of the green tufite stone of a height of 1.10 m, with a diameter of 18.70 m.

What is fascinating about this second platform is the elegant and complicated architectural detailing of the corners of this secondary dodecagon.

The corners of the dodecagonal form consist in fact of two layers of semicircular stonework, of which the lower base is 110 cm in diameter and the second only 90 cm. It is inquisitive, because of an unusual architectural detail, almost invisible in a structure of this size. In fact, the lower semicircle consists of two half-circle stones with a generous gap between them. The second semicircle is further recessed by 20 cm, thus creating an additional, refined detail.

Upon this second platform rises the walls of the actual structure built in brick. Square bricks of 20 x 20 cm are still visible abundantly today.

The staircase leading to the structure reaches the level of the first platform, and at the point of the circular base 5 stairs lead to a lower vaulted corridor, that ends in the interior of this building.

These stairs today are totally destroyed; despite that, approximately forty years ago Ganjavi clearly saw their remains.

The interior space is in the form of a Greek cross, with the northwest to southeast wings being slightly longer than the northeast to the southwest one, and it is paved with stone.

The Greco cross form is not unusual in Persian crypts, evidenced by other existing examples of similar crypts in Iran.

The technique of its construction is heterogeneous materials and craftsmanship. The rough stonework has been finished in bricks, and a layer of finished plaster is still visible in certain areas.

Approximately 3 m from the level of this space, in the northwest corner of the crypt/*sardab*, there are traces of the entry of a vault, indicating that at some point at this level there was a vault of medieval Persian typology.

Apparently, its interior was fully decorated with a large number of glazed tiles, including some with ornate gold. Several of these are preserved in the museum of Zanjān and are very similar to those used in the mausoleum of Ūljāytū. The area abounds even today with pieces of glazed tiles that have been used both in the interior and the exterior of the original building.

The entire building seems to have an axis orientation that is in close proximity to that of the mausoleum in Sulṭāniyya, with the main door towards northeast, and the opposite wall facing the direction of the *Qibla*.

This is not an overly large structure and by far smaller than the majestic dome of the mausoleum of Ūljāytū. However, it is unique and unlike any other Īlkhānid building.

It is almost certain that this polygonal structure was covered by a dome; although, there is no valid archeological evidence. For unknown reasons, Ganjavi assumes that it was of double shell construction with a thickness of 150 cm at its base.

In reality, it is not known how high the entire structure was and how it was finished. Any suggestion in this regard, is purely speculative, based upon similar structures and a structural calculation projected in the past.

Nevertheless, some assumptions can be examined and create deductions.

First of all, the Greco cross-formed chamber could not have been the only interior space of the building covered with a dome to whatever height it ascended.

It seems more logical to assume that this space is what it was supposed to be: a *sardab* - a crypt, covered with a second space above it, serving as the actual *aramgah*, a mausoleum chamber.

As the building has collapsed entirely we can only refer to similar Īlkhānid structures.

In point of fact, there are several Īlkhānid structures that have domes over a circular space of 9-14 m with a wall thickness of about 1.5 to 2.5 m.<sup>vi</sup>

Characteristic of Tepe Nur is an unusually solid foundation opus, almost double to that of the mausoleum of Sulṭāniyya. It has also two massive platforms that succor and distribute the vertical loads of the central structure.

At this point, assuming a wall thickness of 2.00 to 2.40 m, the interior space to be covered with a vault, would be about 14 m as compared to almost 25 m of the mausoleum of Ūljāytū.

This is still an impressive space, which could be covered with a dome without centering, as Persian masons had done so for centuries.

The span of the space does not necessarily warrant a double shell construction. Moreover, and given that all buildings of the area were covered with simple cupolas, and not with a conical secondary shell, I assume the structure in Tepe Nur would have had a simple semicircular vault. Perhaps, it had a slightly ovoid shape, similar to that of the mausoleum of Ūljāytū as this was proven to reduce any lateral loads.

With the above in mind, the total height of the building must have been approximately 30 m, as it would further correspond to the local construction tradition, whereby the height of the building is double its diameter. An initial structural calculation seems to confirm this from a technical point of view. This does not preclude any other considerations that may have determined its shape and construction.

A structural analysis was conducted assuming several scenarios with various wall thicknesses and heights. Without pursuing the technical details, which will be discussed on another occasion, the most logical assumption would be that the height of the building was between 30 to 35 m, as this is providing the most natural range as to its proportions. Anything higher would create a major uplift of the structure and would not be stable.<sup>vii</sup>

It is highly possible that the semi-columns were the bases of vertical minaret type accents at the edges of the dodecagon. Similar architectural features were well known in medieval Iran as for example in the tomb towers of Kharaghan and Radekan.

However, these semicircular ribs are not only decorative, but serve to strengthen the body of the building, and in several cases provide additional support for the roof system.

Encompassing all axes there are multifarious aspects of this element.

New research on structural elements of tall buildings has brought to light an intriguing discovery, as it relates to the forces of wind, or small movement vibrations and resonances.

Discovered and manifested is the lateral load of the wind pressure on a building with a central plan will divide itself into two waves, one larger than the other, thus pulling the building in two different directions. The simplest way to deflect these forces of the vortex, are to interrupt them with another vertical element. It seems that Iranian architects have deduced this by their proven extensive experience over centuries, and have added these ribs to their building structures, that serve in reality a variety of purposes.

It is ambiguous, and less likely that these minaret type elements would have an interior staircase. They are too small in diameter and would not lead necessarily to a usable space at the base of the dome.

Generally, from a structural point of view in a minaret type structure of 90 cm, only the outer shell of the minaret is load bearing, and with a wall thickness of 20 cm one could easily reach a height of 25 m. The remaining space would be almost too little to incorporate a staircase. On the other hand, filling this space with construction materials would add mostly unnecessary weight and vertical load.

It is distinctly possible that the ribs terminated at the base of the emerging dome. However, the temptation to project the intriguing idea of this semi minarets terminating above the base of the dome itself, much like that of Sulṭāniyya, is too great to resist.

More complicated is the question: where was the door to the mausoleum proper located and how was it accessed?

It is not uncommon to have the door to the crypt and the door to the mausoleum proper aligned, one above the other.

And in a dodecagon that would make sense, as there is no particular reason to have it in any other location.

The problem is, how it was accessed? This possible door would be approximately 2.80 m from the top of the first platform, and would require 12 to 14 steps to reach it. Thus, stairs could not be perpendicular to the structure, as it would interrupt the passageway on the top of the first platform. Ideally it could consist of a double lateral staircase, which is not uncommon. Conversely, the circular base of the second pedestal would force these stairs to follow a curved line. This is certainly possible but unlikely or at least not common.

Perhaps, hypothetically, one could argue that there were no permanent stairs for the higher floor access door, as this is also quite often the case. The tomb towers of Čelebi Ođlu, Mullah Ṣasan Kāshī, and Nakhichivan are good examples of this genre of buildings.

The critical question still remains: *What is the function of Tepe Nur?*

The few literally sources do not give an annotation specifically regarding the function. The diverse travelers apparently never visited the Tepe Nur and left no description of it. Local oral history has no recollection about it.

It has been speculated that Tepe Nur is an observatory; a theory that for some time has been a very fashionable assumption for many structures, including that of the mausoleum of Ūljāytū.

Additionally, it has been also suggested it may be the tomb of Ghazan (1295–1304), or even Arghūn (683-90/1284-91).<sup>viii</sup>

It is widely recognized that Ghazan built his own magnificent dome in Ghazaniyya in Tabrīz, and hence there is no reason to further elaborate this train of thought.<sup>ix</sup> The option of assuming the Tepe Nur could be the tomb tower of Ghazan is far from reality.

As to the location of the burial place of Arghūn, I believe there are sufficient historical descriptions, indicating that he was buried in an anonymous location in the mountains of Sujās, as was the custom of the Mongols at the time.<sup>x</sup>

Furthermore Arghūn was the first founder of the new city of Sulṭāniyya. One would assume if he wanted to build a mausoleum for himself, Arghūn would build it within his own citadel. After all this is exactly what his son Ūljāytū accomplished a few years later.

In addition to this, long after Arghūn's death, there was a period of relative peace and prosperity and his mausoleum would be honored, visited, and mentioned by his successors, as was the case with the tomb tower of Ghazan.

Moreover, generally it is assumed that it was Ghazan Khan who build the very first, cardinal, large scale, monumental mausoleum of a Īlkhānid ruler after his conversion to Islam. A fact that is given ample importance in the literally sources.<sup>xi</sup>

It is perplexing to imagine all the various contemporary historians would neglect to mention the mausoleum of Arghūn, while they repeatedly mention the tomb tower of Ghazan Khan.<sup>xii</sup> Although, I do not believe this to be the mausoleum of Arghūn; I am very much inclined to assume that it is in fact a mausoleum.

Presuming this is the case, the most viable candidate that would qualify would be Abū Saṭīd (1305 – 1355), the son of Ūljāytū.

Abū Saṭīd is the last of the Īlkhānid emperors. Following his death the empire virtually disintegrated, and no mention is ever made of any building activity in Sulṭāniyya after the death of Abū Saṭīd.

Tepe Nur is certainly not the mausoleum of any of the major viziers of Ghazan, Ūljāytū, or Abū Saṭīd. These viziers were all centered in Tabrīz, where Rashīd al-Dīn built a famous mausoleum, and Tāj al-Dīn Ṭālishāh a huge mosque, next to which he was buried.

On the other hand, we do know that Abū Saṭīd was buried in a mausoleum, he build for himself, in the environs of Sulṭāniyya, in an area called Shāhrūyāz.<sup>xiii</sup>

It can be substantiated that Abū Saʿīd could not build a mausoleum within the citadel, as it was fully built with hardly enough open space left for yet another lavish building. Also considering, it was greatly dominated by the massive mausoleum of Ūljāyū.

Consequently, building outside the citadel, but in its proximity, made actually sense.

The already existing elevated hill was an ideal location for something of importance to be built upon.

Clearly the building itself is a lambency of sophistication. It has an ornate, monumental staircase leading from afar into the inner chamber of the building. Three elaborate platforms create the base for an impressive tower. The detail work is amazingly delicate, with rounded corners, minute setbacks, and lavish decorations of all kinds, including golden glazed tiles. This certainly was not a utilitarian structure; this was a royal building.

The structure on Tepe Nur itself was a zenith towering mausoleum. It is probable, that adjacent to the mausoleum there were other structures, as it was common in this period of time around the mausoleums.

There is a possibility there could have been secondary structures within or outside this enclosure including a mosque, a *Khānaqāh*, facilities to host scholars, pilgrims, and others.

Furthermore, the mausoleum of Ghazan had a secondary enclosure wall. It is not unlikely, that Tepe Nur was also surrounded with a protective wall, at the bottom of the hill.

Historical sources indicate that the mausoleum of Abū Saʿīd was located in an area by the name of Shāhrūyāz.<sup>xiv</sup>

Theoretically, some Iranian archeologists actually have suggested that Shāhrūyāz was in the area of Viar/Dash Kasan. But, this is purely speculative and appears to be a farfetched hypothesis. Viar/Kasan was the site of a Buddhist monastery and a working stone quarry far away from everywhere, certainly not a likely location for a monumental, royal resting place.

Prior to the Mongol invasion, and their extensive use of the site of Sulṭāniyya as a “summer camp,” or as a temporary “military base,” the general area was referred to by two names: Qongqur Öläng and Shāhrūyāz.<sup>xv</sup>

It is almost certain, that the name of Qongqur Öläng refers to what today is known as *Chamane Soltanieh*: a fertile grazing ground with large pastures and plenty of water; the primary reason the area has been used over a millennia to accommodate a large number of people and animals. This location is about two miles to the northwest of Sulṭāniyya.

At the time of Arghūn, in selecting the site for a new city, it would have made perfect sense, not to disturb this natural and most flourishing commodity and to build the city slightly away from this fertile plain, whereas in its vicinity, presuming it could be used for the variety of amenities it provided as an essential asset, and an integral part of the entire ecosystem.

Moreover, the water table at this location was almost at the ground level, consequently building slightly away from it at a higher elevation would make sense from a construction point of view.

Some historians characterized Qongqur Öläng and Shāhrūyāz as the “older” names for Sulṭāniyya. This is not the case. Literally sources clearly refer to three distinct locations, that of Sulṭāniyya, Qongqur Öläng, and Shāhrūyāz.

At this point in time the location of Sulṭāniyya and Qongqur Öläng are of course well known, whereas the location of Shāhrūyāz has been always a mystery.

It is my suggestion that Tepe Nur is the site originally known as Shāhrūyāz.

Prior to the Mongol invasion, next to the pasture of Qongqur Öläng, there was only one dominant tepe, with a rich history of habitation on a prominent hillside, with possible remains of ancient cultures. It must have been well visible, known and recognized. Today we believe this to be the site of Shāhrūyāz. This understanding is now being shared by a number of archeologists, who have worked in the area of Sulṭāniyya as the only possible location with a specific name, to qualify for the location of Shāhrūyāz.

Several prominent chronicles written by Hāfiz-i Abrū, Mīr-Khvānd, and Khvānd-Mīr, all in various wording state that after his death, the body of Abū Saʿīd was brought to Shāhrūyāz - in the vicinity of Sulṭāniyya and buried in the mausoleum he built for himself during his lifetime.<sup>xvi</sup>

An added benefit to any major construction project in the area was the fact, that at the time of the death of Ūljāytū, there were literally thousands of architects, artisans, and craftsmen working in Sulṭāniyya. And although many of them went to Tabrīz and others cities, to carry with them the message of a new Īlkhānid architecture, there is no doubt of an extremely talented pool of expertise, readily available for such a project, with the added benefit of easy access to operating stone quarries and brick kilns.

However, while there is no doubt that the mausoleum of Abū Saʿīd was built in the area of Sulṭāniyya, sometime after 1317, there is still the question if Abū Saʿīd would build a less impressive mausoleum for himself, given the extraordinary scale and importance of both mausoleums of Ūljāytū and Ghazan.

To review Tepe Nur in this perspective it is essential to consider the fact that the building itself was about 30-35 m high, built over three large platforms over an elevated, existing hill. As a result, the overall height of the structure, visible from almost anywhere would be around 45 m, in the proximity to those of the mausoleums of Ūljāytū and Ghazan and extremely visible in the overall cityscape.

In fact, in comparison the mass of the mausoleum of Ūljāytū seen from Tepe Nur is almost identical to the mass of Tepe Nur as seen from the gallery level of the mausoleum of Ūljāytū in Sulṭāniyya.

In early 14<sup>th</sup> century, this magnificent medieval Persian work of architectural quintessential beauty dominated the surrounding area with almost the same volume, height, and impressive mass, much as the other large-scale buildings of the city.

The reality that the structure in Tepe Nur was lavishly decorated further provides substance to the assumption that this “*sui generis*,” medieval archetype, was certainly a royal structure of major historical importance.



In conclusion, I believe that Tepe Nur is the last of the monumental mausoleums built by the last Īlkhānid emperor, Abū Saʿīd, as a direct continuation of a tradition established by Ghazan and Ūljāytū, within the context of the medieval Islamic architecture of Iran.

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#### Notes:

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<sup>i</sup> Please, see Brambilla, Marco (2013) [www.sultaniyya.org](http://www.sultaniyya.org).

<sup>ii</sup> See Brambilla, Marco, (30 March-1 April 2012). Masons at Work: Architecture and Construction in the Pre- Modern World. The University of Pennsylvania School of Arts Sciences (Philadelphia). <https://www.sas.upenn.edu/arthistory/events/2012-03>.

<sup>iii</sup> See Brambilla, Marco, (22 November 2014). The Idea of Iran: From Saljuk Collapse to Mongol Conquest (The School of Oriental and African. Centre for Iranian Studies. Series: The ideas of Iran Annual Symposium.) University of London, London. [www.soas.ac.uk](http://www.soas.ac.uk).

<sup>iv</sup> The earliest published information about this site is in an anonymous report first published in an anonymous report (under the heading CRONACA) in Annali di Ca' Foscari, XIII, 3, 1974 (Serie Orientale, 5), p. 237: It states briefly that: “Besides Viar and other notable monuments around the city, there are still other historically significant remains. Closest to the mausoleum are the ruins of a twelve-sided construction”.

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<sup>v</sup> See: Ganjavi, S. (1355/1976). “*Kavosh dar Tappeh-I Nur-e shahr tarikhiy-e Soltanieh*,” *Barresiha-ye Tarikhi*, Vol. XI, No. 66, pp.161-197 (Tehran, Iran, Supreme Commander’s Staff).

<sup>vi</sup> For a list of all Īlkhānid buildings see: Wilber, D. (1955). *The Architecture of Islamic Iran: The Il-Khanid Period* (Princeton, University Princeton Press). pp. 100-104.

<sup>vii</sup> In attempting to determine the possible height of this building, I have used both the typical proportions of similar structures and the relationship of their height to the span of their domes in Iranian architecture, as well as the unique expertise of the structural engineer, Mr. Khoren Salmassian. Mr. Salmassian wrote a special program with the purpose of evaluating the structural stability of this building. This special program is computing the building materials and documented thickness of the walls, based upon the most recent survey of this tomb tower. With this program various factors were considered and structural calculations completed assuming several different configurations for the overall height of the building. The most likely scenario based upon this evaluation was surprisingly extremely close to the known proportions of similar buildings. Thus, based upon these calculations the most logical building height for this structure would be between 30 – 35 m. A separate report will be published shortly on [www.sultaniyya.org](http://www.sultaniyya.org).

<sup>viii</sup> Ganjavi, S. (1355/1976). “*Kavosh dar Tappeh-I Nur-e shahr tarikhiy-e Soltanieh*,” *Barresiha-ye Tarikhi*, Vol. XI, No. 66, pp.161-197 (Tehran, Iran, Supreme Commander’s Staff). Ganjavi actually proposes this is the tomb of Arghūn. Other local scholars in unpublished presentations and or verbal communication have suggested various functions for this building.

<sup>ix</sup> On an interesting note, a *kushk* of Arghūn is mentioned next to the tomb of Ghazan, where Ūljāytū sojourned for 2 days. This is clearly not the tomb of Arghūn, in contrast it is simply a *kushk*, where one could live. (Kashani p. 179)

<sup>x</sup> Rashīd al-Dīn Fadl-allāh Hamadānī.(1247–1318). *Jami-al-Tawarikh*, Vol.2, Karimi, B. (ed),(Tehran, Iran, Eghbal)

<sup>xi</sup> Rasid Al-Din Fadlallah (1940). *Geschichte Gazan-Han's aus dem Ta'rih-i Mubarak-i-Ghazani*. Reprint of Jahn, K. (eds), (London, Luzac & Company)

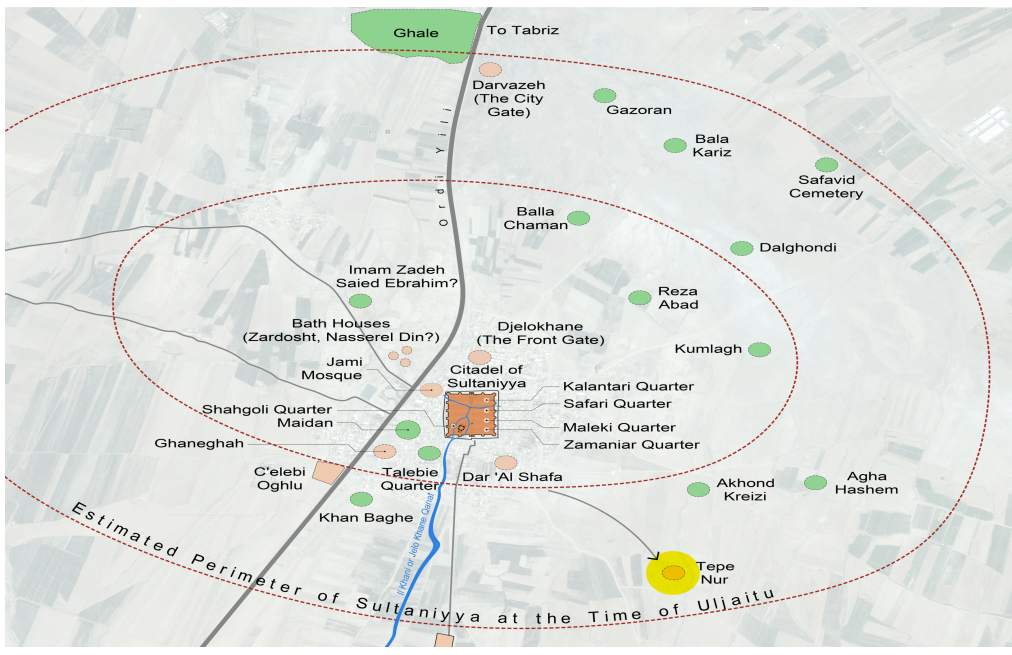
<sup>xii</sup> Ūljāytū visits the tomb of Ghazan every year, giving alms and taking care of the various structures. Kashani p. 31, 41, 44, 52

<sup>xiii</sup> Abru H. p. 191 specifies the location of the tomb of Abū Saʿīd’s as Sharviaz.

<sup>xiv</sup> Abru H. idem

<sup>xv</sup> In 705 Kashani clearly states that Ūljāytū visits BOTH Sulṭāniyya and Qongqur Ōlāng, Kashani, p 45

<sup>xvi</sup> M□r-Khv□nd, p. 534. Khv□nd M□r p. 219.



The City and the Citadel of Sultaniyya and the location of Tepe Nur to the South-East



Aerial Photograph of Tepe Nur in the South-East of the Citadel

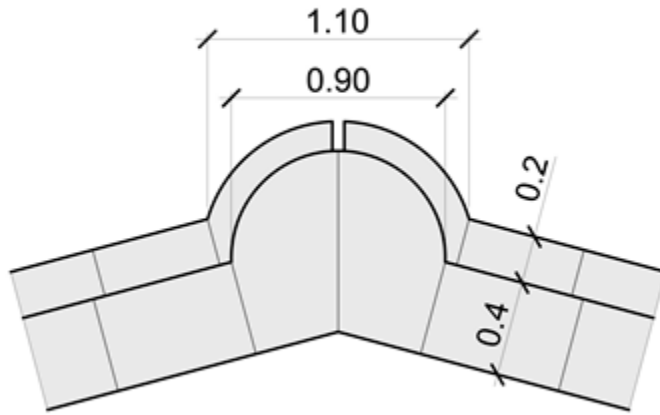


Tepe Nur with the excavated areas



Tepe Nur with various prehistoric pottery found on the site





**Detail of the rounded corners of the second dodecagonal platform**



**Photo of the rounded corners of the dodecagonal structure**





**The three platforms of the structure. The first and the third layers are built in cut stone and are dodecagonal in form, while the second structure is circular.**



**Entrance to the building**



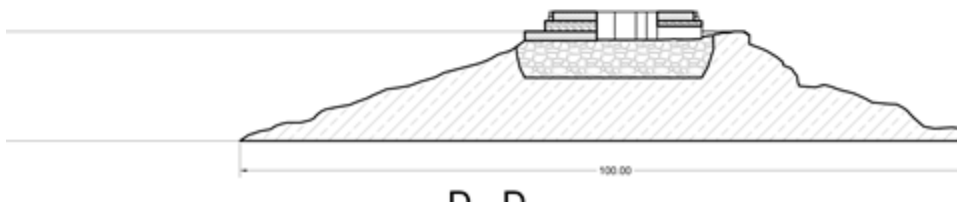
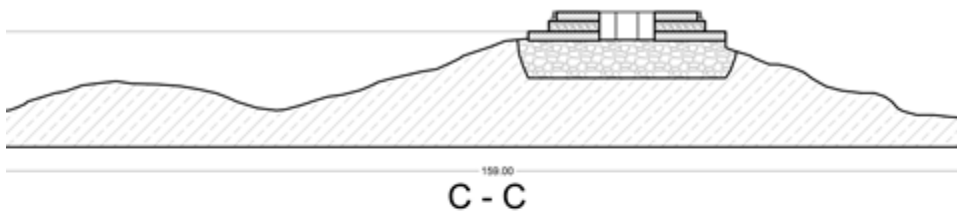
**Entrance and the interior of the mausoleum**



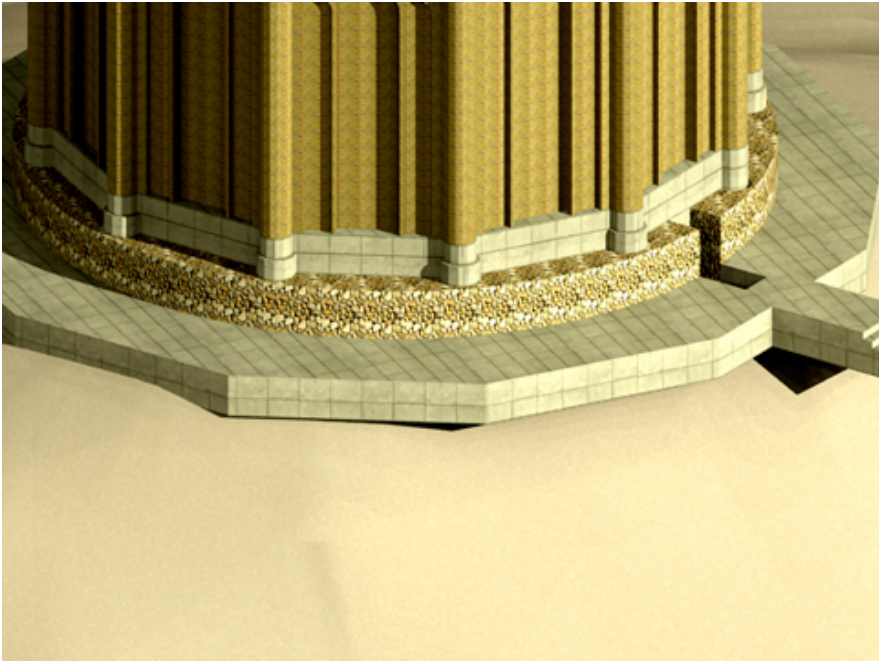
**Interior of the mausoleum with the inner bricks and finished stucco surfaces**



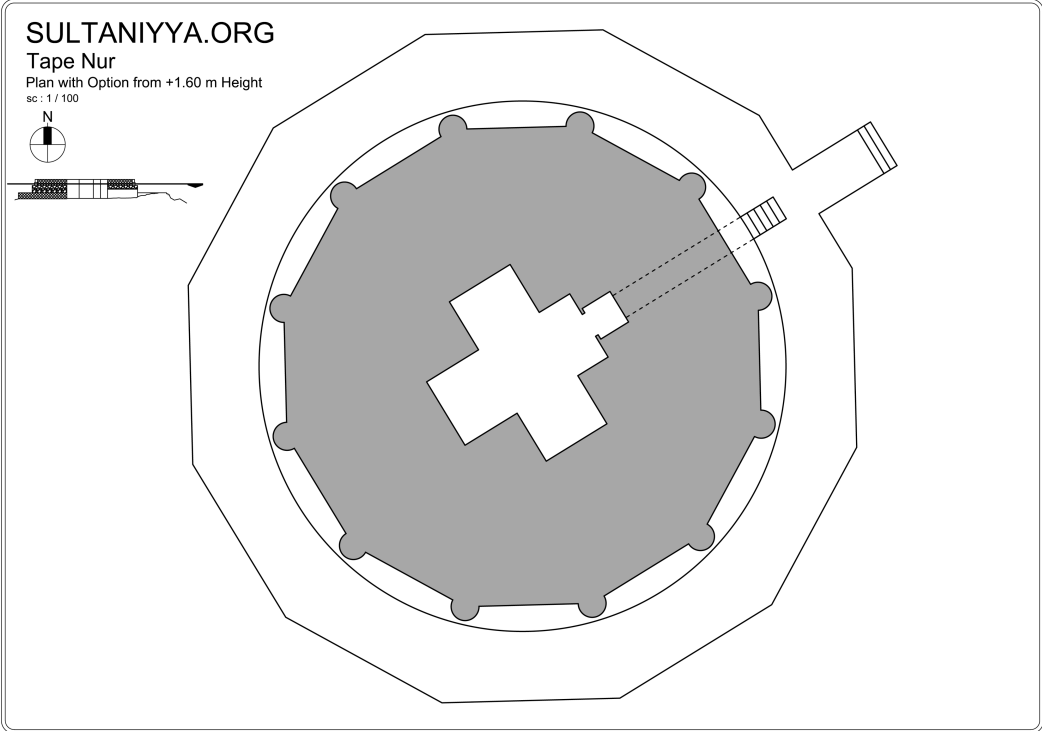
Sample of glazed tiles discovered within and without the structure



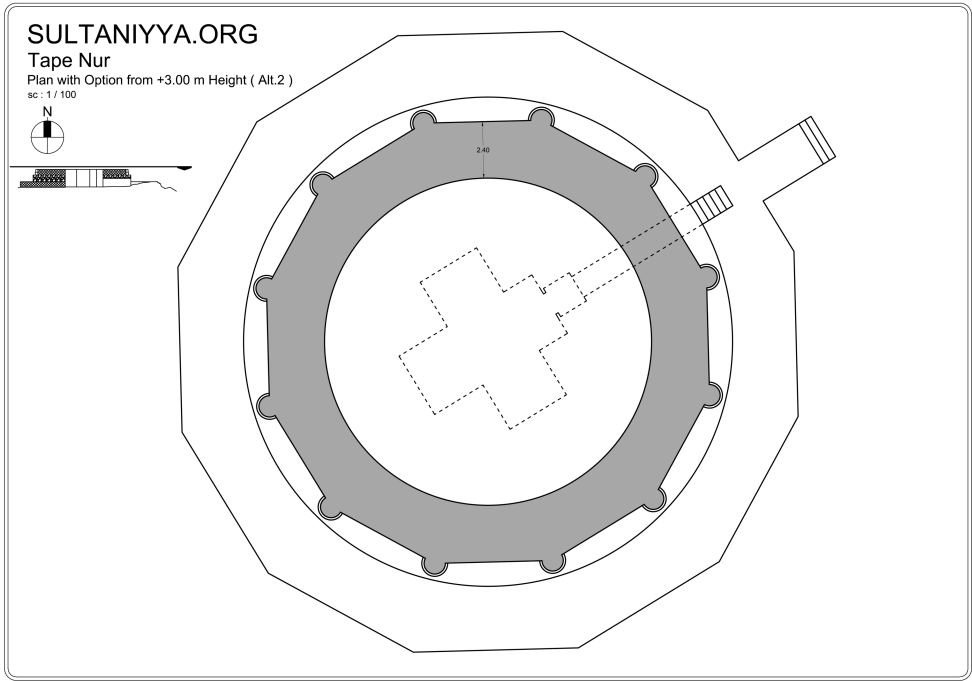
Sections of the structure, showing the elevated hills, the deep foundation work and the 3 platforms



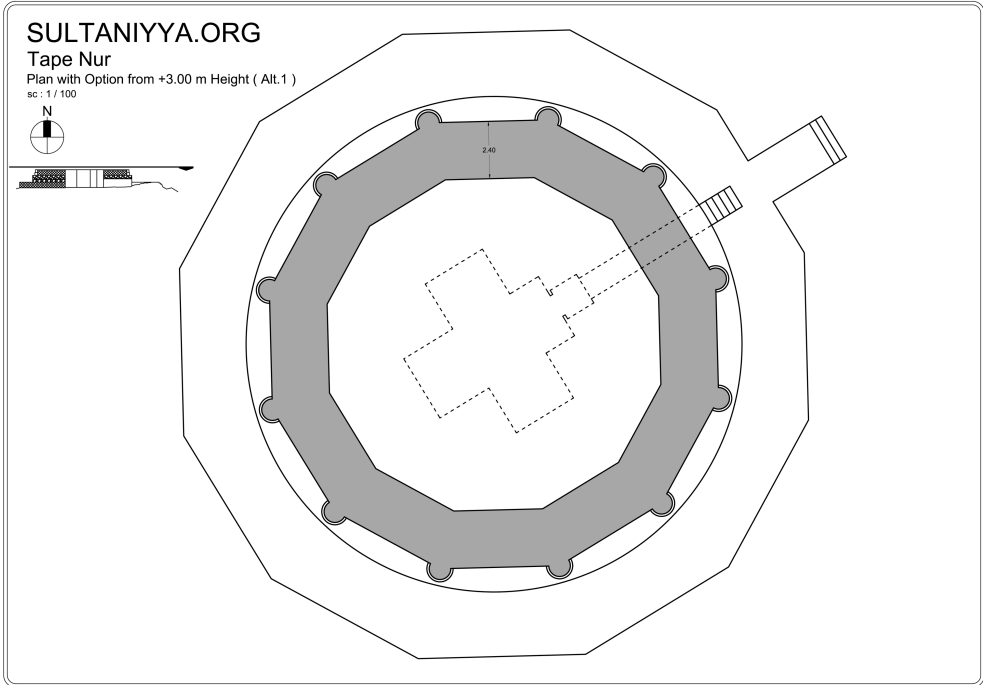
**Reconstruction of the base of the structure ( drawing finalized by A. Younessi)**



**The proposed configuration of the crypt of the building at the lower level**



**Option A**

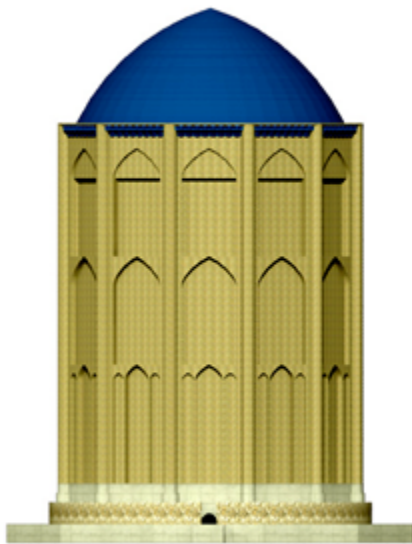


**Option B**

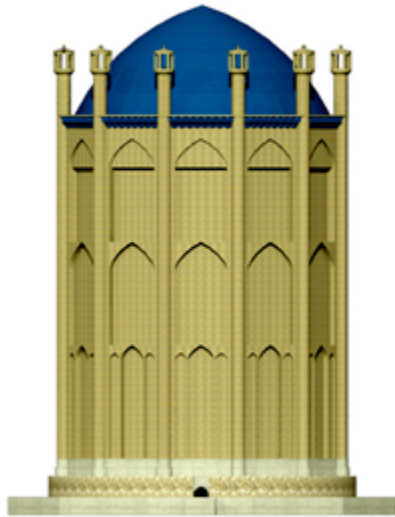
A and B, represent possible alternatives for the main chamber of the building above the crypt area



**Kharaghan , tomb towers**



**Reconstruction of the structure (Drawing finalized by A. Younessi)**



**Possible alternative solution for the reconstruction of the structure with corner ribs extending above the base of the dome, as seen in Sultaniyya. (Drawing finalized by A. Younessi)**



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The Chapel of Noravank in Armenia with the lower and higher chambers



keysari

The tomb tower at Keysari with the main chamber at the higher level





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**The overall estimated height of the mausoleum built over the Tepe Nur**



**The reconstructed structure of Tepe Nur as it would have been seen from the upper Galleries of the mausoleum of Uljaitu in Sultaniyya (photo by A. Younessi)**