

PROCEEDINGS ARTICLE

On the 'Glkhatun' Type Cave Dwelling of Ani: Preliminary Research

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ABSTRACT

The so-called underground Ani is a vast multi-tiered structure of hundreds of cave complexes and separate spaces in the rocks of the Ani Plateau and neighboring gorges. Explored in 1915–1916 by members of the N.Ya. Marr expedition, D.A. Kipshidze and N.M. Tokarskiy, this man-made architectural ensemble hidden in layers of volcanic tuff raised many scholarly questions. Even after the latest research by Italian and Turkish colleagues, they did not drop out. This article examines only one architectural type of these underground monuments: square hypogea with high pyramidal tents. This type of structure, possibly dating back to pre-Christian traditions, is practically unknown outside of Armenia. As a result of our study, we came closer to understanding the architecture of these halls. Despite the existing hypothesis on dating, function, and origin of the halls, we are to propose new solutions, although some more deep studying of these monuments is still needed. Limited historical and archaeological data does not prevent us from discussing the problems of the Ani cave structures in the context of analysis of their architecture. It is necessary to expand the circle of analogies to this type of halls – both in Armenia and in the neighboring regions of the medieval world – to undertake new natural studies of the underground Ani.

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1. INTRODUCTION

The architecture of the so-called underground Ani is an integral part of the heritage of the main city of medieval Armenia. The structures carved in the rocks directly under the plateau where the city of Ani was located, in the rocks of the adjacent gorges, and in some distance from the city, were known to European travelers, the first explorers of the settlement¹, and became a subject of study mainly in the course of the XIV Ani archaeological expedition in 1915. Its member D.A. Kipshidze carefully measured dozens of cave complexes, for the first time systematized their extensive material, and offered some important hypotheses. The following season, his studies were

continued by N.M. Tokarskiy, who, due to circumstances, was able to fulfill the tasks set by N.Ya. Marr only partially ([2], pp. 52–53). In 1915–1916, those works were accompanied by photographic recording of the premises, carried out by Aram and Artashes Vruir ([3], pp. 168). Rock structures were investigated also by T. Toramanian who worked in Ani from 1903 till 1917. He made valuable remarks in his publications about the social affiliation of inhabitants of such premises. He denied the idea of their belonging to the poor classes, because of the high cost of creating numerous large structures [4].

Decades later, Tokarskiy prepared the manuscript of Kipshidze's report for publication in 1972. His own views on rock structures in Ani were presented in this article. Later, it was completed and published in the collection of his research works in 1973.

1. M. Brosset published an engraving of a rock church [1].

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In the 21st century, certain interest in studying the phenomenon of underground Ani led to a number of new studies [5,6,7]. Not only a new opportunity to work in the east of Turkey played an important role, but the popularization of caves monuments significant from religious and touristic points of view, such as the Geghard Monastery in Armenia, monastic and residential complexes in Cappadocia, monasteries in the Tigray province of Ethiopia.

The historiographic reviews of residential and underground structures of Ani, carried out in 2022, systematized research conducted in the 20th century, paying special attention to the recent publications [8,9,10]. These studies revealed some unresolved issues as well. In this article, we set a task to study a group of buildings carved into a rocky massif, which are distinguished in their typological uniformity. These are large halls with a square base and with a high tent rising above the walls with a light oculus at the top. Even a preliminary acquaintance with this type of underground structures prompts the assumption that a stable architectural idea was embodied in their composition.

The purpose of this article is to conduct a study of the Ani constructions of this type in order to present the degree of prevalence, to clarify its function, and to approach the understanding of the origin of this form of premises carved in the rock. We stress the preliminary character of this publication even in the title of our article, since so far we limit our own experience in studying this type of monuments *in situ*. It includes the direct observation and photographic fixation by A. Kazaryan of a group of such buildings in one of the rock massifs of the Gayledzor Gorge adjacent to Ani in 2018.

2. STATISTICAL DATA ON THE 'GLKHATUN' TYPE HYPOGEA

Oddly enough, attention was rarely paid to the totality of such constructions; and, as a result, they were not an object of special studies. At the same time, some considerations on the peculiarities of those structures and their possible origins were formulated from time to time. R. Bixio and his team rightly defined the large halls carved into the rocks of Ani as *hypogea*. The type in question makes up the majority of such halls.

In the book by Kipshidze, not less than 25 rectangular (conditionally square) *hypogea* with high ceiling imitating a tent are noted. They are located in different zones of accumulations of cave structures, mostly in the rock massifs in the immediate vicinity of the New City — in the adjacent gorges of Tsakhkotsadzor and Gayledzor (Fig. 1).

There are halls of different size, but, in general, they can be classified as large ones. Many halls have side dimensions between 6m and 8m, but there are also smaller ones, with a side of less than 5m. The height of the walls of the largest halls reaches 3m, and the height of the tent is more than 7m. Kipshidze and Tokarskiy give their plans and dimensions ([3], pp. 37–40, 63–70, 75–76, 79–82, 87–104, 159–160), while drawings of sections of some halls are present only in publications by Italian speleologists. Information on the structures of the same type in the books by Akçayöz, and Yazıcı is limited. A couple of color photographs in the cave spaces of sector D do not add information about the interiors of such constructions.



Figure 1. Ani: part of the caves in the Gayledzor gorge. Photo by A. Kazaryan (2018).

Such halls were built separately or as a part of big complexes. Two of them are especially interesting from the point of view of the development of the structure and the presence of several tented halls in a single composition, where each of the halls has its own entrance from the outside. They are located in the upper reaches of the Tsakhkotsadzor valley (sector D, according to Kipshidze) ([3], pp. 37 & 39; [11], pp. 18–22), and one complex is located in the upper reaches of Gayledzor ([3], pp. 158–162).

The complex in the sector D in the Tsaghkotsadzor Gorge is difficult for studying. Kipshidze's original drawing of 1915 was completed by Tokarskiy on the basis of his observations of 1916 ([3], pp. 37 & 39); and, in 2004, the complex was re-measured by a team led by the Italian speleologist R. Bixio. They made some correction of the drawing and included into the complex another large tented hall on the southeast side and on another level, which was considered separately in the book by Kipshidze.

The ensemble of rows of square rooms at different levels in the Gayledzor rock massif is interesting for its laconism of the planned structure, monumentality of the idea, the sequence of implementation of which is now difficult to understand (Fig. 2). It can be assumed that each hall in the rows could serve as home of a large family, and the succession of 'houses' formed a quarter. The rock cannot be uniform and continuous. Therefore, the strings of connected structures were limited in number.



Figure 2. Ani, Gayledzor: interior of the cave. Photo by A. Kazaryan (2018).

Now, we are not aware of information that sheds light on the dating of these halls. Undoubtedly, such solid constructions could appear during the heyday of Ani, when life near this city was especially attractive. Tokarskiy estimates the dating of artificial caves in the gorges surrounding Ani, given by Kipshidze and Marr, and also develops the idea of possible appearance of the first constructions in the early Christian era, from which underground tombs are known in various regions of Armenia ([2], pp. 64–65). We believe that it would not be a mistake to attribute the complexes, which include the studied halls, to the 10th–14th century. Italian researchers are sure that part of the Ani caves could have been created in pre-Christian times, and then adapted to medieval life. It will not be surprising to see further evidence that some of *hypogea* may predate the most remote ages ([11], pp. 68).

3. CONSIDERATIONS ON FUNCTION OF 'GLKHATUN' TYPE HYPOGEA

Relying on the opinion of N. Khanykov, who considered the Ani caves to be dwellings not only during the war, but also in peacetime, Tokarskiy claims that, at the same time, “there is no disagreement about the purpose of the caves”, and that they served only as a refuge for the townspeople in the wartime. Developing his reasoning, Tokarskiy, however, gives examples of rock chapels, tombs, caravanserais and suggests that one of the complexes opposite the Vyshgorod of Ani was created as a monastery ([2], pp. 52).

Besides, since the residential function of artificial cave rooms (according to estimates made in 1915–1916, there were about 1,000 of them), along with land dwellings, Marr and Toramanian classified on the base of the social and economic status of their owners. The researchers noted that carving a dwelling with several rooms into the rock was hardly cheaper than to build a traditional house, and among the peculiarities of the caves that attracted the population of Ani, Toramanian indicated their reliability and a special microclimate inside [4].

The issue of the function of rock complexes is complicated by many factors and has repeatedly been a topic of discussion. It suffices to recall the various interpretations of the Cappadocian ensembles [12].

A distinctive feature of the *hypogea* studied in our article is the monumentality of the images of their space, the laconic interpretation of the walls and edges of the tent, and small architectural forms, brought almost to the extreme. There are no

architectural details with ornamental carvings reflecting the fashions of a particular century in these halls. The only exception is a series of low niches (imitation of arcature) in one of the halls of Tsaghkotsadzor. Along with the scale of constructions that require special orders, the listed features allow us to attribute the creators of these halls to the wealthy and, at the same time. Intellectual part of the Ani society, which is not alien to life in such ascetically strict and majestic halls.

A special chapter of the study by Italian researchers does not introduce certainty regarding the purpose of both these and other cave structures, most of which were certainly intended for human habitation; and the assumption of dating part of the *hypogea* to the Classical era allows one to speculate about their secondary, that is, new use in the heyday of the medieval culture of Ani ([11], pp. 61–68). The topic is complicated, so, now, we restrict ourselves to the following remark. It is connected with the fact that there are chapels with adjacent spaces of the vestibule (*gavit*) in both complexes to the north. In Tsaghkotsadzor, these spaces are directly connected with the nearest tented hall. Should not we think about the purpose of these halls as monastic premises intended for the community? At the same time, it is not possible to specify the function of each structure, especially when it comes to the existence of three or four halls of the same type in one complex.

4. NOTES ON THE ORIGIN OF THIS KIND OF HYPOGEA

No less interesting is the issue of the origin of the composition of these halls. There is no doubt that it had deep roots. This is obvious in the repetition of the idea in two and a half dozen structures. Based on the statement of P. Cuneo, Italian speleologists rightly draw an analogy between a tent with an oculus and the ceilings of a folk house of the *glkhatun* type with a structure called in Armenia an *azarashen*, at the top of which a closing ring forms an opening for the light and smoke ([11], pp. 22–23). Earlier and in more detail, a similar idea was formulated by Tokarskiy in a commentary in the book by Kipshidze:

“The type of dwelling with a tent ceiling ending in an opening for the light and smoke (*yerdik*) was widespread in Transcaucasia (*darbazi* in Georgia). It is possible that Vitruvius also had it in mind when describing a house in Colchis in his treatise 'Ten Books on Architecture' (book II, chapter I)”.

“An indication of the existence of this type in Armenia in even more distant times can be seen in the description of Armenian villages in 'Anabasis' by

Xenophon in the 4th century BC (book IV, chapter IV, line 25) and in the remains of dwellings excavated by Ashkharbek Kalantar near Leninakan in 1934, which he attributed to the first millennium BCE” ([3], pp. 174–175).

On the one hand, it is quite possible to assume a genetic connection between the studied Ani rock-cut buildings and the type of hall of a folk house in which a wooden tent-like ceiling rested directly on the walls or on standing columns close to the walls [13]. On the other hand, the closest comparison can be found between the Ani *hypogea* and one of the reliquary halls of the Horomos Monastery. The hall, built by Prince Vache Vachutyan in 1229, is the same square space with a side of at least 8m, with low walls (about 3m), on which, over a wide horizontal cornice, a huge stone tent, was created in the technology of stalactite vaults [14,15]. Taking into account the proportions common for such constructions, the height of the tent could reach up to 6m, and the total height of the room, therefore, was close to 9m. Not only the generalized shape, but also the proportions of the sides and the height of the hall turn out to be similar to the largest *hypogea* of Ani. Stalactite tents are also known from the *gavit* of the Church of the St. Apostles in Ani, but the architecture of this building is much more complicated than the above-mentioned.

Noteworthy, there are no imitations of tents in the Ani caves, where a stepwise narrowing construction is used — neither a stalactite vault, nor an *azarashen*, despite the fact that the versions of *azarashen* in stone are known in Armenia. This is the *gavit* of the Arakelots Monastery of the 13th century, as well as a chamber in the western wall of the Ani Cathedral of the late 10th century. On the other hand, it is precisely the smooth edges created the pyramidal ceiling of the *zhamatun* of the Horomos Monastery in 1038, historically closely associated with Ani. This was achieved by using large trapezoidal slabs specially made for this ceiling, decorated with reliefs, crosses and ornaments. Similar are the overlapping of the central squares of some *zhamatuns* of the 13th century, for example, in Saghmosavank.

If the plan of the *hypogea* in question were to be traced back to the halls of folk houses and even palaces, we might expect them to be somewhat similar in the traditional architecture of Ani. Of course, most of the houses in the Anian quarters, especially those that were surrounded by neighboring buildings, could be covered with wooden tents with a light-smoke oculus, which simply did not survive. But these are houses of a different, smaller scale. We do not see monumental centric halls in the Bagratid Palace in Vyshgorod either. There is an impression that typologically, in each case, including functionally

unique group of ancient monuments, there was a variation in the development of the original idea, the roots of which were lost in deep antiquity.

The totality of examples convinces us that those origins were rooted in local tradition. Otherwise, there would be enough samples of the same type in neighboring countries. Along with the Georgian house of the *darbazi* type, among the rare, reminiscent of the variant of the Ani *hypogea*, one can cite the kitchens in the cave settlements of Cappadocia. Describing their interior with a pyramidal tent, R. Ousterhout notes the specifics of the composition, unlike for example the kitchens of the Athos monasteries, which were covered with domed structure. At that, kitchens played a secondary role in the Cappadocian cave complexes [12], and large halls, including square ones, imitated flat ceilings or vaults. These are completely different types of *hypogea* ([11], pp. 23), also found among the Ani caves.

In the context of our study, the hall carved into a rock mass at an early Christian monastery near the city of Harran in Upper Mesopotamia, in southeastern Turkey is of exceptional interest (Fig. 3). It is difficult to establish the specific purpose of this hall. Rows of small niches along the walls make it possible to attribute it to the dovecote. In all other respects – a square plan, low walls, and a high tent with smooth edges – it is extremely similar to the Ani *hypogea*. Its singular position among the monuments of this province, which is adjacent to the southern limits of the Armenian Highlands, leads us to the version that this type of cave halls spread from the territory of the highlands. The dating of the Mesopotamian monument and its chronological relationship with the known Armenian samples are still unclear.

5. CONCLUSION

As a result of the study, we have come closer to understanding the architecture of the tented cave halls in the rocks in the neighborhood of Ani. Existing versions are analyzed and put forward regarding the dating and function of the considered type of the *hypogea* of Ani, since none of the most difficult issues related to them has been resolved. Guided by the method of comparative architectural analysis with similar medieval buildings both in Armenia and in neighboring regions of the medieval world, we may concretize the reasoning and put forward a number of new issues that can be resolved in the forthcoming years. In this case, a large role will be assigned to field studies of the *hypogea* and the identification of peculiarities of their architecture. It will make possible to overcome the difficulties associated with

the limited historical and archaeological data on these monuments. The key research issue remains to determine the time of creation of these cave halls.

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Figure 3. Harran in Upper Mesopotamia: interior of the cave. Photo by M. Butyrskiy (2009).

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