

LORE FORTRESS
LARGE CITY



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The following brochure gives a detailed description on the process of the establishment and development of one town from the Medieval Armenia, the fortress large city of Lori. Historical overview of the founding of the Kyurikyans' dynasty and Lori as a medieval fortress and its historical-political role in the context of holes in the region is provided. Separately, the peculiarities of the construction of monuments located in the territory of the historical reserve "Lori Fortress" are presented. Designed for various circles of a bookworm society.

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Entrance to the citadel

A FEW WORDS

Back in 1965, when the subject of my PhD thesis was being discussed, professors Karo Jafadaryan and Babken Arakelyan suggested for me to study Lore Fortress, arguing that prior to that, medieval Armenian archaeology had been concentrated on major capitals of Ani and Dvin, neglecting the presence of a number of Armenian fortresses. The only exception was Amberd which was excavated by famous archaeologist Joseph Orbel. The choice was justified by the following fact:

1. It was the center of an ancient kingdom and was one of the fortresses of average-size cities of Armenia.
2. There, the dynasty of Bagratunis enlarged its political, economic, cultural, and construction activities, later being followed by Zakaryans.
3. Lore was situated on the border of Armenia, Georgia and Aghvanq-Azerbaijan, where a number of collaborations in terms of politics and economics were organized.

During the first six months, I was introduced to written sources, Lore's political history, its role in medieval Armenian history, brief information provided by travelers, Georgian sources, and more. Having them in hand in 1966, in the summer, Karo Jafadaryan and I visited the ancient site. Based on his advice, I started the excavations with 250 rubles in my pocket, which was provided by the scientific part of Yerevan State University, as I was a postgraduate student in the Chair of History of the Armenian People. The situation was depressing; I was a beginner with no architect, photographer, and, most importantly, a digger. My condition was very limited; adult males were not satisfied, and school-aged children preferred to swim in the rivers and earn more than I offered: 1 ruble and 80 coins, by collecting empty bottles left by vacationers.

I overcame difficulties, carried out number of research excavations, found topography of the archeological site, as well as the thickness of the layer on various parts of the Castle, collected details and materials such as gravestones, columns, fragments of inscriptions found by the residents of both the site and the fortress.

The following year, the amount of the provided money was raised; I also attracted archeology students from the Faculty of History, made an arrangement with the architect, and left to carry out excavations. I excavated and studied two bathhouses, a construction named "Civic House," the chapel-tomb attributed to the king David Anhoghin's wife, the underpass, ruined church of the 11-13th centuries, and one residential area.

Although the amount of money provided during 1968-1973 was not large, it gave me an opportunity to excavate and study the bathhouse adjacent to the Dzoraget Gorge with its territory with its two adjacent swimming-baths, its fountains, house courtyard, and the adjacent building where a fresco-rich room was found as well as a huge cave. It was used in the Middle Ages for food preservation as a refrigerator, with rich material culture and food residues. A structure named "Storage Lake" was also studied. It turned out to be a spacious two-storey structure that probably served as a "palace" or residence for the lords of Lore Castle.

During the following years, due to lack of funds, I stopped the excavations. The university no longer provided funding. It was only in 2009-16 the Ministry of Culture provided serious funds for a joint study with the Forensic Science and Research Center in the territory of the Fortress. First, the entire wall of the fortress 214 meters long was excavated and explored with its round and rectangular pyramids, as well as the water ditch along its entire length, inside the corridor from the entrance. We also found out the architectural look, as well as the initial and subsequent changes. Inside the castle, a large section of the fence was excavated and surveyed with its multi-layered dwellings, economic wells, and numerous tonir huts. As a result, a large number of stones and soil were removed from the fortress.

As a result of the excavations, the architects and restorers brought the entrance of the fortress to its initial state, the courtyard adjacent to it, as well as the right and left towers of the entrance.



Battlement of the citadel, photo by N. Mar, 1892-93

A special attention was given to the construction named “Civic House.” Eventually it was discovered that the building used to be a mosque, the surrounding area was explored alongside with local water supply facilities, secondary use of a number of cross-stones and their pedestals, new 19th-century graves and grave-stones, economic wells, and so on.

A study was carried out in the bathhouse of the citadel, with the entire wardrobe open, with its surrounding structures. The area adjacent to the Dzoraget Gorge, which was between the fence and the palace, was excavated, with various successive building blocks, numerous constructions, and so on.

This is how the excavation and restoration works of Lore fortress began and continued. It is now the time to salute and to encourage the initiative that the “Service for the Protection of Historical Environment and Cultural Museum-Reservations,” SNCO started that is all about to improve, organize a museum, refurbish the road, and carry out further activities. The latter will allow increasing the flow of tourists to the site, which will give a second life to the monument and facilitate its further preservation and archaeological study that is necessary for the monument.

Dr. I. G. Gharibyan

ARCHEOLOGICAL EXCAVATIONS OF LORE FORTRESS

In 1966, expedition (head I. Gharibyan) of Yerevan State University carried out reconnoitring and, later on, regular excavations in the territory of the fortress that lasted until 1974.

The archeological excavations of the fortress-city were continued by the Scientific-Reserach Center of Historical-Cultural Heritage in 2009-2015 (chief of the program H. Simonyan, head I. Gharibyan). The state program envisaged the restoration of the fence of the citadel and separate buildings. The main works were concentrated in the inner and outer parts of the wall, around the church and the central bath. As a result of archaeological studies of the new sections of the opened fence, it was found that the latter has different degrees of preservation and urgency, in some sections fittings and modifications. Various rooms have been opened adjacent to the fence, ranging from the establishment of the fortress town of Lore to the 1930s.

Excavations have uncovered a rich collection of construction, public and glazed pottery, metal weapons, jewelry, tools, luxury items, Armenian inscriptions and stone monuments.

On the basis of the results of excavations, architect H. Sanamyan's project restored the entrance to the citadel and separate parts of the walls.

In 2010, based on the decision of the Government of RA, Lore became a reservation.

Dr. H Simonyan





Interior of rooms, near battlement





INTRODUCTION

Lore or Lore fortress is located about 5 km north-east of Stepanavan, at the crossing of gorges caused by the confluence of Dzoraget and Miskhana rivers. The Lore Fortress covers an area of 35 hectares, spread over a broad, nomadic, 1490 meters high on the table-land. The deep gorges created by the Dzoraget and Miskhanas rivers made the castle inaccessible on three sides. The relatively flattened side of the citadel is a north-west stretch of 214 m long, inaccessible roundabouts with inaccessible round and rectangular towers. At the northwest corner of the fort is the only entrance to the fortress, the width of which is 20 meters and 20-25 m in height. A water ditch was dug along the wall. About 500 meters north-west of the citadel wall is the city's fence-wall, which has not been preserved. In addition to natural barriers, artificial dikes were also built in the gorges of the citadel. At first the Kyurikians, then the Zakaryans and their successors built palaces, churches, bath-houses, suburbs in the city's gorges, bridges, and cross-stones. An underpass was also constructed that reached the Miskhana River and ended with a towering structure. It has been used to maintain contact with the outside world and to obtain drinking water when needed. Based on the decision of the Government of RA (September 16, 2010, N1426) The Lore Fortress was included in the newly created Lore Fortress Historical and Cultural Reservation, with an area of 38.98 hectares.

The following brochure attempts to present the story of the founding, development and decline of one of the most powerful Armenian fortresses in Lore. The peculiarity of the booklet is that the main emphasis is on the transfer of detailed and interesting information about the monuments in the complex, rather than a historical axis. It is important to mention that the booklet contains personal impressions and memories of archaeologists who carried out excavation works on the territory of the monument (I. G Gharibyan, H.E. Simonyan) related to the process of studying the site.

THE ESTABLISHMENT OF KYURIKYAN OR TASHIR-DZORAGET DYNASTY

The 10th century was the peaceful years of the reign of the kings of Bagratuni. A number of provinces of Armenia became so economically powerful that their loyalists were able to accumulate large amounts of material, increase their military might, and did not miss the opportunity to declare independent power. It was a characteristic of all the countries of the authoritarian era. Authoritarian relations were developing and deepening throughout Armenia, so the emergence of small authoritarian kingdoms was natural.

Abbas Bagratuni (928-953), followed by his son, Ashot III (953-977), also known in our bibliography as Ashot "Merciful (Voghormats)," was as courageous and resolute as his predecessors when it came to the external enemy. But he was equally indecisive about his domestic rivals. We mean in 961, when Ashot proclaimed Ani as a capital instead of Kars, then his brother Mushegh declared himself independent in Kars and even wore a royal crown. Ashot III not only did not prevent intervene, but also, according to historians, took the outcome as a fact.

According to prof. I. Gharibyan, it was impossible for such a wise king to neglect the subject. Most probably, he tried to punish his brother, however, the initiative was not successful. One of the historians of the period, Asoghik, silently avoids this topic. In reality, historians, especially those who try to shed a positive light on their rulers, do not talk about such cases where their king failed during some kind of an initiative, but rather applaud and give a detailed description of every successful occasion.

Ashot Merciful, during his ruling time as well, made his son Smbat a co-regent. We learn about it from the record of Barsegh's Caesar's manuscript book, The City of the Hermits, which is transcribed in the Sanahin Monastery. The record says: *"I am unworthy of honor, my glorious pen Simeav, in the NIA (421 + 551 = 972) ... courageous and congratulatory kingdom of Ashot and his son Smbat."*

This fact is quite possible, as during this period the kingdom of the Bagratunis was mainly spread over most of the provinces of Shirak, Gugark and Ayrarat. Consequently, Ashot Merciful, fearing the Gugark princes who had previously attempted to declare independence, sends his eldest son, Smbat, as a throne king to govern it. Moreover, in the second half of the 9th century, in Gugark, Ashot Merciful and his wife Khosrowanuysh undertook an important task: the construction of the popular monasteries

of Sanahin and Haghpats. In fact, the whole burden of building these monasteries has weighed on the shoulders of the Gugark governor, particularly Smbat and his younger brother Gurgen.

In 977 Ashot III dies, and, as Asoghik claims, *"King Ashot (426 + 551 = 977) died in the time of Zain (426 + 551 = 977), and on the same day his son Smbat reigned."*

Smbat, after rising to the throne, probably appoints Gurgen as the governor of Gugark, who was the third son of Ashot Voghormats, Smbat's second brother. During the reign of Smbat (977-989), Gurgen proclaimed a separate kingdom in Gugark, giving the basis for the Bagratuni kingdom of Gugark. It is well-known in history as Tashir-Dzoraget, or the Kingdom of Kyurike. Historian Mkhitar Ayrivanetsi writes: *"King David (David Anhoghani – I. Gh.), son of Cyricus, built the fortress of Lore and other fortresses"*. The creation of the Kyurikyan kingdom was a time-consuming process, and its date is disputed in historical literature within 966-988. This is partly explained by the fact that only Mkhitar Ayrivanetsi from the original sources mentioned the date of Gurgen becoming a king. According to him, this happened in 981. Two other authors referring to this event - the anonymous chronologist who lived in the 12th -13th centuries and Vardan Vardapet, do not mention any date. According to the first one of them, after the death of Ashot III, his sons, Smbat, Gagik, and Gurgen, *"divide the kingdom by taking Smbat as their father"*, and according to the second, Ashot III died *"leaving my son, Smbat, Gagik, and Gurgen, to take the same throne of Elder Smbat on the same day ... and the younger brother to inherit Tashir Sevordovq in Dzoraget."* I. Gharibyan, after discussing all possible suggestions, concludes that it took place in 979.

The fortress of Lore was founded by King David Anhoghin in 1010-20, because of the situation created by the clash between himself and his uncle, Gagik, the powerful king of Ani. The process took place in 1001 and ended with David's defeat and obedience. Thus, he needed to have a strong and unshakable fortress to rely on in times of need.

According to extremely scarce bibliographical information, the city of Lore has lived through a number of historical stages during its existence. It must be assumed that major urban development and city upgrading took place in the middle of the 11th century, that is, when Lore soon became the capital of the Tashir-Dzoraget kingdom during the reign of Kyurike II.

In the middle of the 12th century, after the conquest of Armenia by the Seljuks, Lore came into their possession. With the reinforcement of neighboring Georgia in 1118 under King David the Builder, Lore joined Georgia and surrendered to the Georgian Orbeli prince as a domain. During the reign of Ivane Orbelian in 1177-78, some work was done on fortifying the fortress, as Lore was then the center of the rebellious Ivane, which remained untouched during the six-month siege.



*Sculpture of Smbat and Cyrique King-Brothers
in Haghpat Monastery Complex*

For services rendered to the royal court of George III and his daughter Tamar, Lore gets handed over to the amalgamator Sargis Zakaryan, and later to his son Zakare.

The new owners of the city, who are known throughout history for their zealous construction work, also carry out significant urban development work here. They strengthen the battlements of the fortress, build church and civic buildings inside the fortress, and construct bridges in the deep gorges surrounding Lore. The growing importance of the city under the Zakarians speaks of the convening of a pan-Armenian church in Lore at the initiative of Amirspasar Zakaria, attended by prominent figures of the Armenian Church, prominent monks of the monasteries, including well-known Mkhitar Gosh, Khachatur Suresh, Khachatur Khurretsi.

In 1236, after the occupation of Mongols, the city of Lore was returned to the Zakarians, but continued to transfer from hand to hand during the 14th century, including representatives of the Armenian Orbelian ruling tribe in Syunik. In 1430, foreigners suddenly capture it, but two years later, thanks to the Georgian King Alexander, the city gets returned to the Orbelians.

Until the middle of the 15th -17th centuries, the city remained in the hands of Georgian and Persian rulers. By the end of the 18th century, Indian-Armenian opulent Shahamir Shahamiryan was already abandoned and destroyed by the Georgian monarchs; impending death disturbs that patriotic initiative.

The ruins of the town of Lore were further developed on the remains of the city, the inhabitants of which lived in 1925-1931. Due to water supply and other inconveniences they had to move outside of the territory of the fortress, establishing their new village with the old name Lore Fortress.



Inscription on one of the entrance stones - Ghala (fortress)

PECULARITIES OF MEDIEVAL CITIES

The emergence of medieval and ancient cities in Armenia was conditioned by the country's political, socio-economic and military interests, which is why the cities are located in the centers of a kingdom or feudal empire, in fertile plains, in places conveniently protected on important commercial highways.

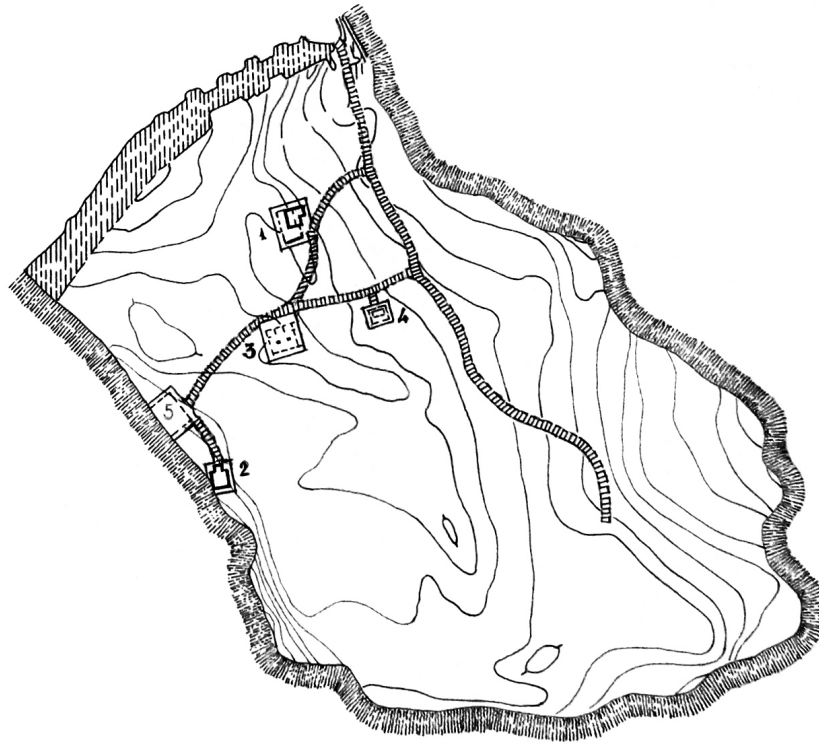
The combination of medieval topographic maps reveals an interesting feature that allows one to conclude that there appears to have been some regularity in the choice of form and location of the urban area, which should be considered as characteristic of the urban development of the mountainous country. As it turns out, the fortified city was largely occupied by a triangular perimeter area, with gorges or valleys cut in two and only one side adjacent to the plain, plateau or mountain (Ani, Lore, Manazkert, Khlat, Bjni, etc.).

The fortress or citadel is practically designed as a well-protected residence for the king, minister, feudal lord, military commander or other high ranking official. As a rule, the palace complex or castle was located here, the size and structure of which depended on its ownership. The complex usually consisted of solemn reception halls, living rooms for the housekeeper, bathrooms, a number of auxiliary rooms (storage room, kitchen), a palace church, a reservoir, and so on.

Warehouses were sometimes built underground in the Palace Complex (such as in Ani, Bjni, Lore, Kharberd, Bayazet in natural or artificially excavated sites) for treasure, valuables, food and ammunition. Throughout the combination of the citadel and other structures of the palace complex, greater concern was given to the safety of the inhabitants. In case of danger, the fortress or citadel should have been able to accommodate a certain number of the population of the city, becoming the last point of resistance. Alongside with this, the fortress should have provided an opportunity to leave in the event of the desperate situation of the defenders by using the underpass.

Being a spatial expression of the idea of traditional domination within the structure of the ruling city, the citadel was scarcely placed in the geometric center of urban space. In the case of most of the medieval cities of Armenia, one can see a certain pattern in this respect, the essence of which was closely linked to the fortress and citadel security interests. This should explain the fact that the citadel in the city planning layout (not only in medieval Armenia, but also in other countries of the authoritarian world as well) placed the fort near the wall of the fortified city and provided it with an impregnable wall.

This same principle can be seen in many medieval fortresses of Armenia, such as Amberd, where the palace is located directly on a high wall with a wall surrounding the fortress. It has to be said that such a location was necessary not only from the need to be protected from external enemies but also from the possibility of danger by the city; an event that is quite understandable in conditions of social inequality. The solid gates and doors of the citadel, which served as a means of permanent contact, had additional ways and exits with the city designed to withstand both external and internal attack.



Layout of Lori fortress







Tower near the entrance

FENCING AND THE ENTRANCE OF LORE FORTRESS

In the 10-20s of the 11th century, David Anhogin (989-1048), the Prince of Gugark, chose a relatively flat area of about 9 hectares, with a longest part from north to south of 400 meters, a width of 280 meters from west. The citadel is surrounded by gutters on three sides and is accessible only to the northwest. Therefore, the citadel wall is built on that part of the fortress. It has a length of 214 meters; the thickness is different in various sections. It is 18-20 meters thicker on the Dzoraget side and 7-8 meters on the Miskana side.

The battlement of the fortress has one entrance. In the southwest corner of the fence, adjacent to the Dzoraget gorge, small observatory was originally built, with a double height of about 6 meters. The fence continued on the observatory. From here the city was visible, as well as any maneuver or attack in the Dzoraget Gorge.

The fencing has been rebuilt many times over the course of its 800 years of existence, altering from its original appearance. This is evidenced by the numerous enclosures and the number of walls; on the western side it reaches four rows and 22 meters of thickness. In the walls of the partially preserved fence, there are various rows with stones that were previously used for different purposes; 14th -15th centuries' gravestones, fragments of khachkars and inscriptions. Studying the battlement shows numerous reconstructions that were carried out throughout history.

On the northwest side of the fortress is the only entrance to the castle, with an arched section consisting of inner and outer gates. On one of the stones found on the entrance, an Arabic inscription is found (15th-17th centuries) that only reads the word "fortress."

The gate is the most vulnerable part of the fortress. For this reason, in the middle Ages, the number of gates was always minimized when building castles. The gates of Lore are large arched openings: 3-4 meters wide, 6-7 meters high. The gates were made of solid wood (oak, cedar) and covered with metal (copper, iron) sheets on the outside, which were fastened to the wood by thick, bent steel bars.

An important fact is that after overcoming the gate, the enemy could not immediately enter the citadel. With the help of fortifications and new towers, a long rectangular square was created, ending with a second, inward entrance to the citadel. On both sides of the entrance, the towers have been preserved. Judging by this arrangement of towers, according to I. Gharibyan, it is clear that the enemy, overcoming the defenses of the first gate of the castle, enters a rectangular, relatively narrow corridor between the first and second gates,



Inner gate

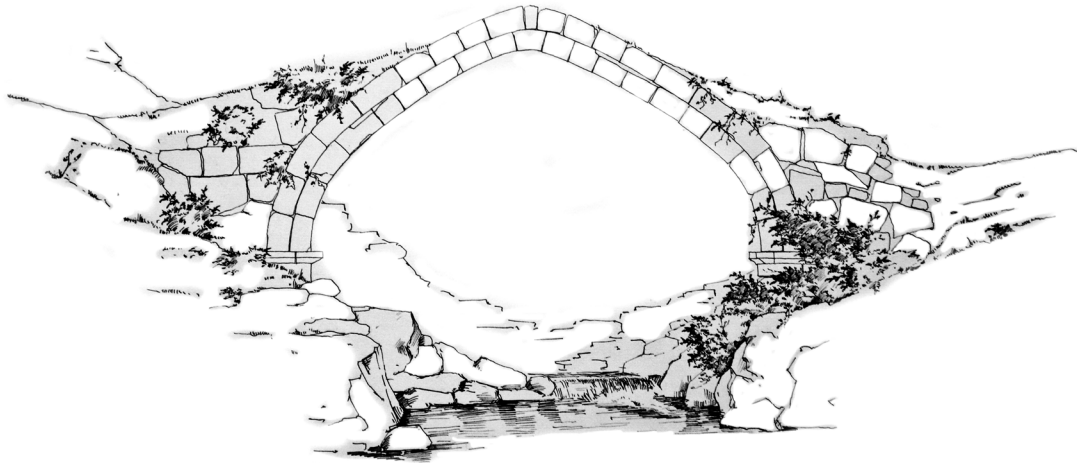


and again faces serious resistance. It should be noted that the second entrance is located 80-90 degrees to the south from the first one. W. Harutyunyan also records the presence of double gates in Ani.

The fortress and towers are built of rough local basalt, often with only one face with smooth stones joined together by lime mortar. In order to provide seismic resistance, wooden beams were placed in the fences at a certain height, the traces of which were preserved in columns and walls. The natural rock, which was adapted for this purpose, served as a base for the fence.

In addition to the fence, the citadel of the city of Lore was also protected from the enemies on the outer side of the fence and with a water enclosure built almost all along. The medieval walls and enclosures that were built in the middle ages were usually about 10-15 meters long, so that the front of the walls would be a stretch for viewers. The total length of the fortress of Lore is about 170 meters, its width is 8-10 meters, and its depth is 3-4 meters. To provide a permanent supply of water, the water was brought into an open canal about 5-6 km northwest of the Lore Fortress, where there is a fairly heavy mountain source. From here, the drinking water was also brought, with closed pipeline. The open canal was used until the 20s of the 20th century.

Recent field studies have also uncovered the citadel's fences, their foundations, and formerly covered towers. The fence is completely built on the rock and this is further strengthened by the fact that the jungle waters overwhelmed the base rocks and did not weaken the fence basis.



BRIDGES OF LORE

The bridges played an important role in the development of commercial caravans, and for communication in general. They are considered to be significant monuments that help understand the construction thought of medieval Armenia.

In the difficult geographical conditions of our country, on the rivers, in deep gorges, on the mountainous peaks, there are several dozens of standing, half-ruined stone bridges.

Bridge-building works were carried out especially during the reign of the Bagratunis (9-11th centuries), and then began to rise again under the Zakarians, when the traditional art of building Armenia reached its perfection.

During the development of Lore, the most important centers of medieval Armenia and Tashir-Dzoraget, the gorges entered the city with bridges stretching across the rivers of Dzoraget and Miskhana.

Medieval Armenian bridges were built for durable, long-term operation. The main building materials were basalt, tuff, limestone, and sandstone, which were mainly used in sanding. The construction mainly dictated the shape and structure of the bridge. Almost all the bridges, as well as the Miskana Bridge in Lore fortress, were arched. The arc shape is usually two-centered or semicircular. The process of choosing the loca-

tion for the construction of the bridge was even more important. With the purpose of preventing the pillars of the bridges from destruction, a place was especially chosen where the river had a minimum width and the shore is rocky. In order to have a powerful hydraulic system and to protect the towers from the damaging impact of the riverbeds, the towers are directed upstream of the water as opposed to the standing bridge of the Lore fortress.

The bridges were probably built during the most flourishing time of Lore in the 12-13th centuries, when the city of Lore under Zakarians lived its second, notable rise. At this time, the Kentagegh suburbs on the left bank of the Miskhana River and the Amrakak suburbs on the right bank of the Dzoraget River were included in the fortress.

The bridge across the Miskhana River is standing, and only the remains of the larger bridge on the left bank of the Dzoraget are preserved. The bridges are about 300 meters apart. Unfortunately, information about the bridges was not kept in written sources. It is possible that cross-stones were erected by the inscriptions on bridges that have not yet been discovered, since in the 12th -14th centuries the erection of cross-stones was marked by the construction of bridges. Similar reasoning is possible for a cross-stone raised on a bridge of Sanahin of Debet River.



Miskhana bridge



Bas-relief of a lion

Due to its location and high quality of construction, the Miskana Bridge has stood and continues to serve its purpose. It is built in a very favorable location; two large pieces of rock about 9 meters apart serve as a solid foundation for bridges.

The front walls of the bridge have been partially preserved. According to the measurements taken in 1956, the median span of the bridge is 8.50 meters, the arrow is 3.8 meters and the width is 2.8 meters. The arch is two-sided, 0.4–0.45 meters wide, the first row being 0.1 meters behind the second, presenting a smooth arch.

According to locals, the bridge operated until the beginning of the 20th century. After, during the summer of 1918, only one pillar of the right side was damaged due to the floods, which was later restored in a straight line and with broken basalt stones. Today the bridge is fully restored and brought back to its original appearance.

Preserved remains of Dzoraget Bridge allow us to understand the construction techniques of the bridge. The bridge was covered with fine basalt, lined with limestone. Inside it is filled with crabton made from scraps of the same rock. The constant alteration of the riverbed has led to the demolition of sterns of bridges over time.

The rectangular flat wall (4, 6x3, 35 meters) is preserved, with a pointed end facing the watercourse. The dimension of each side reaches 3.5 meters. On the two sides of the pillar, just below the arch heels, are quarter-cylinder profile belts, on which the ribs on both sides of the bridge probably rested during the construction of the bridge. The preserved dimensions of the towers indicate that the width of the bridge was 4.5-4.6 meters.

At the foot of the Dzoraget Bridge, facing the Miskana gorge, a lion's sculpture is preserved on the slope. V. Harutyunyan believes that it was Zakaryans' coat of arms that built the bridge. According to the excavating archeologist I. Gharibyan, the bridge was probably built in the first half of the 13th century when Lore had a large population. Connection with the newly emerging suburbs of the city would only be possible with the existence of bridges.



Ruins of Dzoraget bridge





General appearance of the First bathhouse



BATTHOUSES OF LORE

In the eastern countries, in Armenia as well, bathhouses played a significant role in the life of the urban population of the middle ages. As a rule, dozens of palaces and public baths existed in the major eastern cities.

In medieval Armenia baths were designed for individual and general use. Private-use baths were located in spiritual and secular palaces, such as Dvin (6-7th centuries) and Ani (11-12th centuries). The Bagratuni Magasberd (10th century) castle bathhouse was on the lower floor of the main tower and had an internal courtyard. Some of those were baths of Ani (12-13th centuries), Amberd (10-12th centuries), Apostles Monastery (12-13th centuries) and Ijevan (13th centuries). Baths were rarely built far from settlements. One of such bathhouses is the bathhouse of Tatev (17-18th centuries) which is located outside of the castle walls. The baths in Lore fortress were built during the city's rapid development in the years of the Kyurikian-Zakarian rule (11-13 centuries).

Based on the excavation, the number of bathhouses of Lore Fortress is two: complex and multifacated in structure. In terms of the area they occupy, both bathhouses are the same, thus, archaeologist I. Gharibyan simply called them First and Second bathhouses. Names such as Big and Small bathhouses are also widely used.

The ruins of the first bathhouse are located in the central part of the castle between the "civil building" and the citadel wall, on a large plane. Excavations have revealed a rather complex engineering structure that compares to the most prominent communal-domestic structures of medieval Armenia, in particular, the Ani bath.

The bathroom consisted of three main parts: a heater, a bath, and a dressing room, which were arranged from east to west parallel to each other. Later, apparently, to enlarge the area of the swimming pool, its area was expanded at the expense of the wardrobe. As a result, a new wardrobe was built on the south side with a relatively large area.



Interior of the First bathhouse

To provide relatively stable heat inside the wardrobe, a new architectural approach was developed and a small adjoining room—approximately 6m² (3.25x1.8m) was built. In addition, between the porch and the wall adjacent to the bath, there is only a room of 2.7 m², in the southwest corner of which was a basin (0.43x0.37 m) with slabs of clay pipes. The existence of such a pool is unique in bathrooms known in medieval reality. The floor and side slabs were arranged with high quality waterproof mortar and smooth plaster. All entrances to the bathroom have been mounted on different axes, thus minimizing the loss of heat inside the bathroom. For this purpose, even the entrance to the wardrobe was a little left.

According to archaeologist I. Gharibyan, the dressing room which occupied 41m² (6,3x6,5m) wide space (2/3 of which was covered up with sand and other walls were close to the bathhouse and the entrance) did not have a separate heating. The heating room is a small room that nowadays is in ruins. Its floor is half a meter higher than the floor of the swimming pool.

On one of the sides a pool is placed. Here a pan was situated which was not preserved. Nowadays, with traces of clay pipes crushed in their nests, it is possible to determine that all three groups of water bodies were in the bath, one in the middle of the south wall, the other in the north wall, and the third in the east part. As there were openings on both sides of the pool communicating with each other, the pipes were brought here from the heater to a wall not too high or slightly sloping. Under the water boilers were large stone basins, from where they were taken for bathing. Now there are two large basins near the ruins of the bath, made of large basalt masses. One of them, relatively small (1,22x0.9 m), has a hole in the corner to change the water. The second one is bigger (1, 55x0, 95 m).

To keep in touch with the heating, or as H. Khalpakhchyan suggested, to draw water from the boiler, a rectangular hole is left in the porch separating the heating room from the bathroom:

To cover the bath (41.5 m² in total) it is divided into two uneven sections (17.5 m² and 24.0 m²) by a single wall. Each of them is covered with domes and quarters. The portion adjacent to the heater is covered by two small domes and one enclosure between them and the other is covered in the middle by a dome, and by quarters. The domes are built on pillars. The lighting and ventilation of the swimming pool was carried out through the jetty-holes left in the domes. By means of a large opening (2m wide) left in the east wall, the swimming pool was connected to the wardrobe adjacent to it. Chimneys are built in the same wall on both sides of the aperture. These were used to remove the gases and smoke that flowed from the heater under the floor of the bathroom.



Traces of hot and cold water pipelines



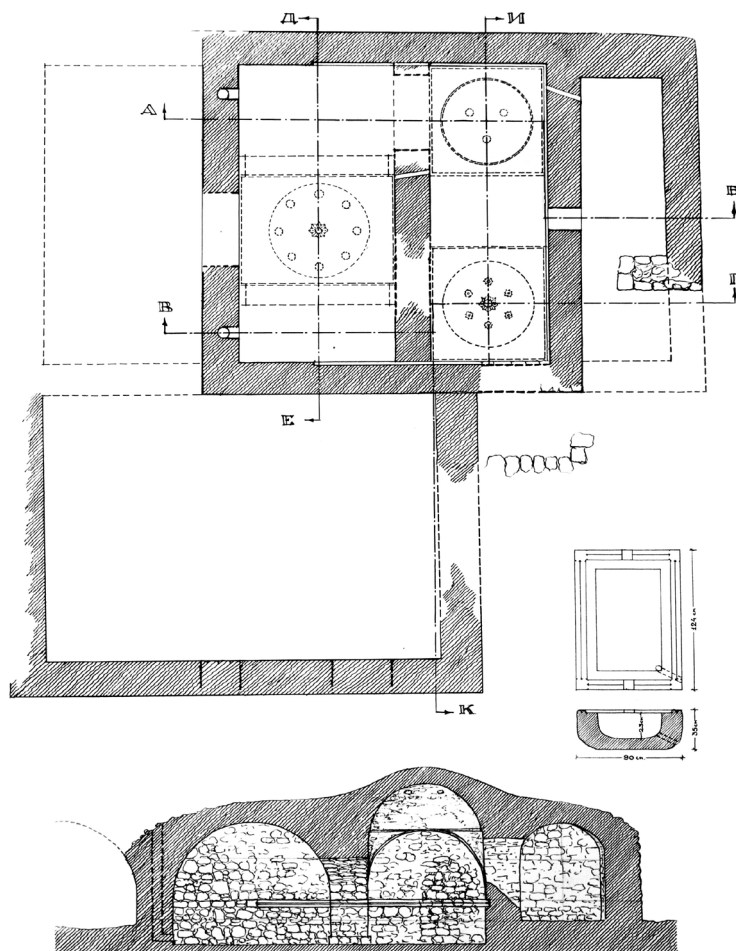
Stone basins



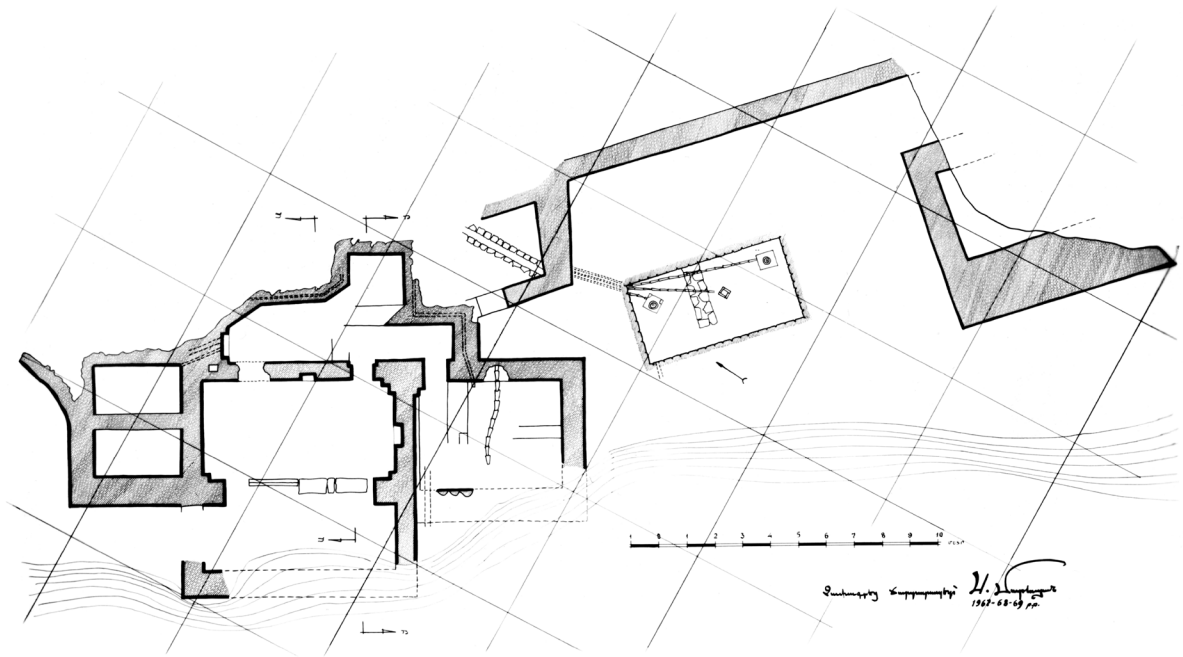
Bathhouse ceiling garret-windows

The building of the bath, the quarters and domes covering its separate portions, as well as the chimneys, are adorned with coarse basalt stones and limestone. On the inner surface, walls and domes are covered with mortar (lime, plaster, sand).

The second bath is built on the edge of Dzoraget gorge. With its installation, it had better operating conditions, since water and sanitation issues (to the gorge) were easier to handle here. It had a cloakroom adapted to the natural conditions of the area, three baths of different sizes, a stove-heater and a split-tank. It is obvious that the reservoir was built to have a permanent supply of water, especially during the siege of the fortress. The water was brought here with the city's water supply chain. After filling the reservoir, excess water was discharged into the gorge, with holes made of clay pipes located in a wall built directly on the western slope of the reservoir. The reservoir walls, given the considerable pressure of the water, are counted as pillars. This should explain their rather large thickness (1.7–2.3 m).



Layout and drawing of the First bathhouse



Layout of the Second bathhouse

The accumulated water was used for the daily needs of the bath. Due to the difference in basin and bath heights, the water was flowing through the bathhouse by gravity (part of the clay pipe crossing the wall under 45° was noticeable). The second bathroom, like the first one, consisted of three main parts: a heater, a bath and a dressing room. However, its layout is little different than the site conditions. If all three sections of the previous bathhouse were arranged on one axis, then the heater and the bathhouse were arranged so that the last one was on the west side, with its wall hanging directly on the bottom. That is why the wardrobe had to be placed on the south side of the bathhouse, also on the edge of the abyss. This facilitated the removal of the waste water in the bath, which caused considerable difficulty for the first bath built in the center of the citadel.



The Second bathhouse

From the north to the south, the portions of the bathrooms adjoin the stone wall to the east, so that they do not have an outer face on the respective portions. The bathroom is made of local semi-finished basalt and felsite stones. The bathhouse and reservoir are covered with felsite stone. The corners of the complex are arranged in large basalt. The walls (inside) and the preserved part of the floor (on raised pillars) are carefully plastered with a thick layer of waterproof veneer.

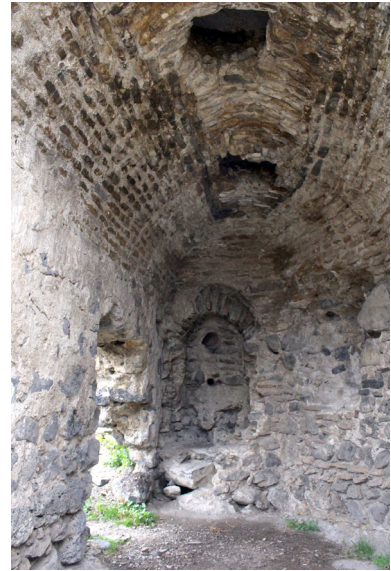
In the northwest corner there is a chimney, not made of clay pipes, but a series of small stones. In the plan, the square ($6.7 \times 6.5 \text{ m}^2$) bathhouse was probably covered with a dome, which had lighters and ventilation like the one in the first bath.

In the center of the wardrobe, there was a bench covered with basalt stones and high quality lime mortar 80-90 cm high.

According to excavating archaeologist prof. I. Gharibyan, the heater-furnace of this bath could have been located on the edge of the Dzoraget Gorge, adjacent to the south-facing wall of the dressing room. This would make it easier to get rid of the furnace ashes and, second, it would allow the furnace to be lowered and ease the problem of heating the bath and wardrobe floors. Along with the southern wall, this part fully spilled into Dzoraget Gorge.

Armenian baths, for the most part of a time, were used by males and females sequentially. In such bathhouses, women were provided with two days for taking bath. In the bathhouses of Ani and Dvin there are isolated parts created for males and females. And in the Zvartnots bathhouse (middle of the 6th century) the small department was created for the privileged class, and the large one for the regular servants.

Previously bathrooms had other functions as well. Meetings were often organized, talks were held, competitions of various games were held, and contracts were signed in the bathhouses. The process of visiting the bathroom took hours. It was a long-lasting ritual accompanied by mandatory massage. The bathroom was also conceived as a healthy and entertaining place.



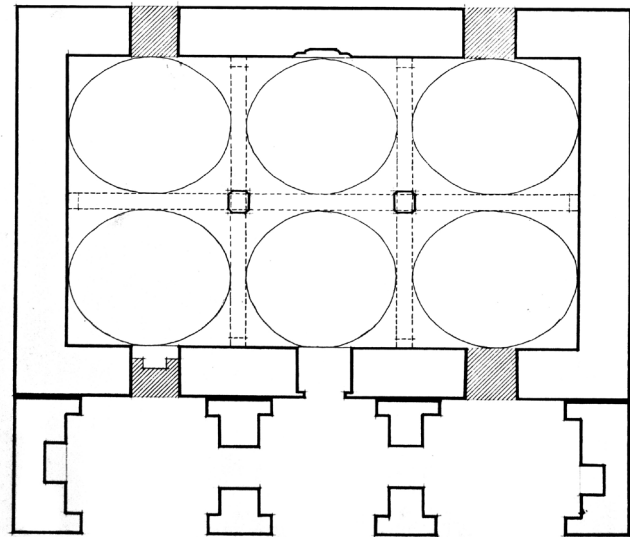
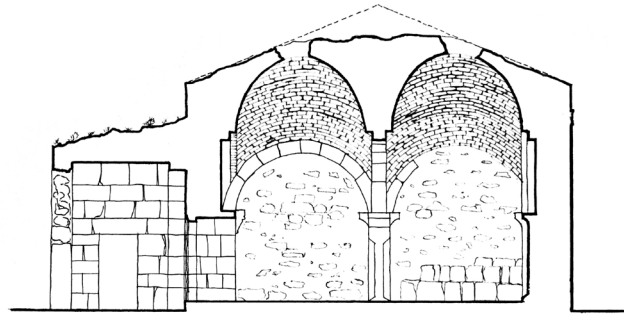
Interior of the Second bathhouse



Part of the clay pipe entering the bathroom of the Second bathhouse

THE CIVIC HOUSE OF LORE FORTRESS*

This is the only standing construction in the territory of the fortress. The building is located 80meters south-east of the fence wall. Conventionally, it is called "Civic House/Building." This stigma was partly rooted by fact that some authors (N. Mar, V. Harutyunyan, S. Eprikyan, I. Gharibyan) while describing the Lore Fortress and its monuments in the late 19th and early 20th centuries, expressed the opinion that it was originally a public building. In the 14th-15th centuries, Islamic dynasties renovated the building into a mosque (this can be proven by the mihrab characteristic of the mosques preserved in the center of the south wall, as well as the information from the Venice merchants that the Lore guards were Ak-Koonlu Turkmens). Later in the 18th century, by the initiative of the Armenian refugees, the whole building was transformed into a church.



* The term "civic building/house" that is commonly used in literature is not correct. Prof. Gharibyan proved that the construction is a 15th-century mosque.



The Civic House

According to I. Gharibyan, in the place of the civic house originally there was a church, after the destruction of which the remaining stones were used for constructing yet another building (I. Gharibyan excavated an Armenian inscription consisting of 5 sentences the only visible one from which reads "Jesus Christ." The building mentioned was constructed as a mosque. This may be evidenced by the mihrab (Muslim prayer-room) in the south wall, the edges of which are then graced with ornaments. The construction with this rectangular layout (6.5x11.8m in interior), the two-roof structure with two arches is supported by arches with two powerful pillars. Inside, the arches were divided into six equal domes, two of which are now collapsed. Some parts of the building walls and roof are still damaged today. Previously the building had five entrances, three in the north, two in the south walls. Only one of the entrances is preserved today, the rest were closed.



Internal quarters of the Civic House



Column capital of the Civic House with an Armenian inscription



Unique sequence of the dome

The arch stones are of black color and are well designed. Their bases are two basalt columns erected in the center. There are four arches on each pillar, which rest on the chargers on which the walls stand. Four of these guards are angular and two are with ruled up stones. This suggests that the cornices of another structure were used for building the pillars. Two of the cornices contain an Armenian inscription. One has a small cross on it, which is probably the beginning of the record.

The domes resting on spherical sails are made of fibrous stone, which, thanks to their special treatment, gives the impression of a brick. The basis of domes are rectangular (3, 5-3, 7x3,05 m inside), which are not very suitable for the dome cover. This may be partly explained by a thorough rebuilding of the roof when it has been adapted to a mosque. The weight of the domes is transferred to the pillars by means of six arches.



The Muslim Mihrab

The dome centers, unlike other buildings preserved in the city of Lore (in particular bathhouses), do not have light shades. The building was lit by torches (traces of torch bolts are visible in the center of the standing dome).

Lore Fortress, in the 16th-17th centuries, was abandoned as a result of repeated Turkish-Persian wars. In the second half of the 18th century, the Umma Khan armies of the Avars, for the last time, captured, destroyed, burned, and completely deprived the population of this ancient city, which once was a capital of a powerful kingdom. In the late decades of the 18th century, Armenian families from different parts of Armenia settled in the castle, and adapted the buildings to their needs. A letter from 1783, written to the Armenian Catholicos Ghukas by the Armenian refugees was preserved, which asked for a permission to build a church inside the territory of Lore Fortress. The letter of the Catholicos was also retained, giving the consent for the construction of the church and appointing Abraham as a senior priest. It is at this time



The Baptismal font



Civic House from the south side

that the third phase of the use of the "Muslim Mosque" begins. There were no resources to build a new church, and the Muslim mosque served as the church for the Armenian refugee population. Evidence of this is the Muslim mihrab covered with lime, a table built in the south-east corner, an open window in the east wall, and a baptismal basin at the south-eastern door, built of fragments of cross-stones. In addition, the exterior enclosures served as church tents.

The new "church" was repeatedly restored by the settlers, and later even paved. The former floor with brick and mortar remains under the new floor. On one of the slabs the date of the reconstruction was preserved: 1901.



Civic House before 2007 (with two cross-stones)







CROSS-STONES OF LORE FORTRESS

It has been known that Kyurikyans and Zakaryans, and their successors raised a number of cross-stones.

During the archaeological fieldwork in the fortress area of Lore both complete and broken cross-stones and their fragments were found. The cross-stones and found fragments are monuments mostly made of basalt.

The simplicity of some of the cross-stones found in the archeological site allows them to be dated from the mid-11th to the mid-12th centuries, since the structure and components of the early 12th century have been used for two main styles of sculpture. In one case, the individual components of the composition are sculpted quite apart from each other, being "overlaid" on the inferior backbone. In the second case, the whole plate is covered with sculptures, almost negating the idea of an inhospitable backdrop.

Until 2007, two khachkars (without pedestals) were placed near the entrance of the “civic building” of Lore fortress. These are basalt, sculptured large-scale cross-stones, unfortunately, without a lithograph. Most likely, khachkars were built in the 12-13th centuries, erected on a pedestal that is now missing. It is assumed that the inscriptions of those who erected the cross-stones were engraved on the pedestal stones, otherwise such khachkars are difficult to imagine without the proper inscription. These two cross-stones are similar in their structure. They are 182 cm high, both without sockets, without cornices, the original cross is made of an arched upper, inside a four-sided altar. The tabernacle with its contours tries to repeat the outline of the cross, more like the guardian of the cross.

The main difference between these two cross-stones is that below the cross of one of them there is a sculpture of four evangelists made in a rectangular section. It features pictures of a man, a lion, an eagle and a bull. They are distinguished by their exquisite depiction and mild accent. It is no accident that the above-mentioned cross-stone was chosen as a unique example of displaying Armenian cross-stones culture abroad.

In 2007, this cross-stone has been moved to the Louvre Museum for display at an exhibition of medieval Armenian culture. Since 2008, the cross-stone has been exhibited at the New York Metropolitan Museum in the hall representing all-Christian culture from the 10th-13th centuries, with an extensive explanation provided by the Museum of Armenian History. Its returning deadline has been extended several times since 2008. This cross-stone in the fortress of Lore has not yet returned to its homeland; something that must be done.

Some khachkars were preserved from the 12th-13th centuries, built near the ruins of a church below the craters of the Dzoraget and Miskhanas rivers, on the left bank of the gorge.

The cross-stones and most of their fragments preserved in the area of Lore fortress can be dated to the 12th-13th centuries, which coincides with the second and remarkable period of development of the city under the Zakarians.



Cross-stone fragments



Cross-stone in the wall

OIL MILLS OF LORE FORTRESS

Olive mills have also been found in the Lore site. One of them, in a very well designed and complete state, is located in the southwest corner of the citadel. It is a rough stone made of basalt, about 155 cm in diameter, with a rectangular hole in the center with a hole for the log. During the archaeological fieldwork, a similar large olive stone (150 cm in diameter and 40 cm in thickness) was also excavated near the western corner of the first tower entrance to the fort of Lore, in a half-buried state. Complete and broken olives can also be found in various parts of the current Lore settlement, near the modern cemetery in the village. These stones were taken by the inhabitants from the ancient site.

Existence of olive mills in the fortress of Lore is evidence that the cultivation of flax or other olive plants the technique of obtaining oil from them were common in the Middle Ages. Given the height of the rocks and the rifts of similar structures that have reached to us, and, of course, given the structure of the olive tree that was restored in the Tatev monastic complex, it can be assumed that the olive groves of the Lore Fortress had mainly three divisions:

1. Permanent room, where the barn-floor, the furnace, the flax, the sesame sieving place was situated, as well as the hearth for boiling water
2. The presser room with logs for pressing
3. The department of livestock working in the mill.

Medieval bibliographies and lithographic sources provide extensive information on olive cultivation. Preserved written reports indicate that flax was the most commonly used fragment for getting oil. The flax seeds were providing oil, and its stems were giving fiber. One source, for example, states that "Tashir is rich in wheat, barley, flax, oats and cattle ... they get oil from flax."



Olive mill soda



As an important source of income, olive trees in medieval Armenia were traded and donated. Treated olives were very common. Written sources often include expressions such as “olive price.” The olive groves gave the churches a certain tax to provide church lighting in the form of oil.

To summarize, olive cultivation has been widespread in medieval Armenia. With the development of socio-economic relations, olives became a profitable institution, so olive cultivation was also a subject of trade in Armenia. The olives were mostly owned by individuals, but the large monastic complexes also had their own parts. The individuals were paying taxes to the state, the authorities, as well as the church.

Olive stones have also been found in other cities and fortresses of medieval Armenia - Ani, Amberd, Khlat, Dvin, Tatev. The presence of these stones in Syunik, Gugark, Ayrarat and Shirak indicates that the flax fields were widely distributed in medieval Armenia, particularly in the foothill regions.



At the entrance of the olive mill

THE UNDERPASS OF LORE FORTRESS

In the defense system of the cities of medieval Armenia, despite the great difficulties and high costs, it was typical to have secrets subways and underpasses.

Lore Fortress, from three sides, is surrounded by deep gorges caused by the confluence of the Dzoraget and Miskana rivers, and the fortress has become inaccessible to enemies. At the same time a number of small fortifications prevented the enemy from penetrating the fortress gorges. Similar fortifications were built in places where slopes were more or less accessible to the enemy. There are such structures on the steep slope of the Miskana gorge below the creek, and also on the southeastern foot of the plateau, at the end of a triangular plateau, where the two canyons join. Their role was particularly important because it provided the underpass to the Miskana Gorge, which the locals called the "Road to Blight." In this regard, let's remember the testimony of Kirakos Gandzaketsi, who says that Shahنشah with his wife and children "... came out of the stealth valley into the siege of Lore during the invasion of Mongols." From the fortress the underpass goes down a slope, then down through an underground corridor.

The beginning of the corridor was firmly closed by a stone door (1.5x0.9m), which is still in its place. The facial side of it is carved and a round hole is left in the middle, most likely to see the one approaching the entrance, and to move it with the help of a log. The corridor was made of vertically placed stones, and was covered with large stone slabs from above. The width of the corridor is 1,0-1,2 m, partially preserved; its traces are well noticeable, with sloping and twisting down the difficult terrain reaching a slightly elongated, round tower plan, built in the Miskana gorge. This tower adheres to the cliffs and consists of two divisions: a rectangular room where the corridor reaches the dive, and a plan of a round room, in the outer wall of which, to the north, a small crack is left: a way out. The inner diameter of the round room is 4, 4 meters; the wall thickness is 2 meters. The preserved height of the tower is 9, 5 meters. Inside it, at two places, 1.5 m high, stone edges were made, above which tower guards watched through the small windows.

The underpass of the fortress Lore rises upwards by a steep, winding path, adapting to the local possibilities. Often, the rock is cut and paved the way, digging stairs in some places, tilting the rest. Much of the road is now destroyed, but it is possible to get an idea of its initial approximate dimensions - 120-130cm wide and 80-100cm high.

The main purpose of the underpass was to provide the castle with water during the siege and to communicate with the outside world.



Entrance to the underpass

During the siege, the fortress of Lore, most probably, was raising water to the fortress with scaffolding on its shoulders. Sometimes prudence was also used. Inside the castle, the underpass reached under a custom-made artificial bar, lacking any purpose-specific structure like one in Bjni Fortress. The exit was probably so far from the opposite slope, that it kept the territory safe from enemy strikes. Particularly important was the structure of the exit ways which were carefully laid out, covered with stones. Most probably, according to the testimonies of historians, Georgian crown prince Demetre was able to move from Ivane Orbeli to the side of Georgi III with the help of the Lore underpass.

It should also be noted that there were many underpasses in Ani, Kars, Ezrum, Mazasberd, Bjni, Amberd and many other fortresses and castles.

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