

IX. THE ZORATS' COMPLEX

An Archaeological Stratigraphic Description

Abstract / The fortified monastic complex of Zorats', located on a hill east of Yeghegis, stands as a significant architectural and historical landmark. This study analyses its evolution over time, focusing on masonry stratigraphy and structural development. The research identifies the church's five major construction phases from the late ninth century through its fourteenth-century construction, later modifications, collapse, and restoration in 1971–1972. Stratigraphic analysis of the Zorats' Church – an exceptional structure built under the patronage of Prince Burt'el Ōrbēlean and Bishop Step'anos-Tarsayich – reveals distinct construction techniques, including methods to achieve stability. This analytic approach, while shedding light on medieval Armenian architectural practices, regional socio-economic dynamics, and the importance of this monastic complex, expands discourse on the conservation of medieval ecclesiastical architecture and heritage.

Keywords / archaeological analysis, building archaeology, masonry types, medieval Armenia, Ōrbēleans, Yeghegis, Zorats' Church

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DESCRIPTION OF THE ARCHITECTURAL COMPLEX

The fortified monastic complex of Zorats' is located on a hill on the eastern side of Yeghegis and is probably the most famous ecclesiastical building of the village. This *Architectural Complex* (henceforth AC₁) is composed of several *Buildings* (B) with different functions and chronologies.

The most important structure on top of the hill is the Zorats' Church (henceforth B₁). According to the inscriptions preserved on the eastern wall, it was probably built within the first thirty years of the fourteenth century under the rule of Prince Burt'el Ōrbēlean (r. 1300–1348) and commissioned by his cousin, the Bishop of Syunik' Step'anos-Tarsayich (1324–1331): a joint initiative by the secular and spiritual leaders of Vayots' Dzor during the golden age of Yeghegis.¹ After a collapse that damaged the building, it was restored in 1971–1972.²

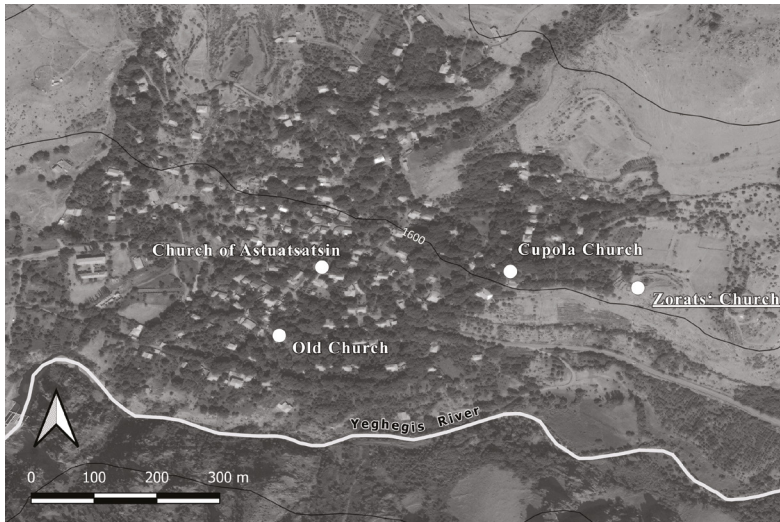
Even if, according to the Step'anos' inscription, the church was dedicated to the Mother of God,³ since the nineteenth century, the nomenclature conventionally became “Zorats' Church,” which suggests the meaning “Church of the Army” or “Military Church.” This hypothesis is based on the idea proposed by the ethnographer Eruand Lalayean, who suggested that the open space in front of the church was occupied by military troops attending religious services from outside the main sanctuary. However, given the current state of research, there is no direct evidence in the sources to support this practice, and the assumption should therefore be treated with due caution.⁴ Nevertheless, the denomination “Zorats' Church” is, by now, part of the oral cultural heritage of this site. It should not and cannot be discarded.

The Zorats' Church is a unique structure in Armenia, with a rectangular plan, consisting of a main hall opened on the western side and two lateral chapels to the north and south.⁵ The surrounding area

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- 1 The foundation inscriptions are located on the eastern exterior wall: around the lunette of the southern niche there are two lines referring to Burt'el; around the lunette of the northern niche there are two lines referring to Step'anos (Sedrak Barkhudaryan, *Divan hay vimagrut'yan. Prak iii. Vayots' Dzor: Yeghegnadzori ev Azizbekovi Shrijanner* [Corpus Inscriptionum Armenicarum. Vol. iii. Vayots' Dzor: Districts of Yeghegnadzor and Azizbekov], Yerevan 1967 [Henceforth, Barkhudaryan, CIA, vol. iii], p. 108). For the new reading of the foundation inscriptions of the church, see Hamlet Petrosyan, Zaroui Pogossian, “Armenian Inscriptions From and Around Yeghegis”, inscriptions 1 in this volume, and Zaroui Pogossian's arguments in “The Golden Age of Yeghegis in the 13th and 14th Centuries” in this volume, pp. 68–80. On the Ōrbēlean family tree, see Grigor Grigoryan, *Syunik'ā Ōrbēlyan-neri ōrok' (xiii–xiv darrer)* [Syunik' under the Ōrbēleans (13th–14th Centuries)], Yerevan 1981 and p. 42 in the present volume. Regarding Step'anos-Tarsayich, see Grigor Grigoryan, “Syunyats' episkoposneri shinarakan gortsuneut'yuna” [The Building Activity of the Bishops of Syunik'], *Patmabanasirakan handes* [Historical-Philological Journal], 166/2–3 (1999), pp. 166–174. According to Goshgarian, the church was consecrated in 1303 by Step'anos Orbelian (1250–1305), the son of Tarsayich Orbelian (d. 1290) and Aruz Khat'un, a Muslim noblewoman from Syunik' who converted to Christianity, but there is no reference to them in the sources and this information contrasts the inscription cited above. It is possible that there was a confusion between Step'anos Ōrbēlean, the half-brother of Jalal and the family chronicler, with Step'anos-Tarsayich, the son of Jalal. Rachel Goshgarian, “Greater Armenia and the Medieval World”, in *Armenia. Art, Religion and Trade*, Helen C. Evans ed., New York 2018, p. 86.
- 2 Paolo Cuneo, *Architettura armena dal quarto al diciannovesimo secolo*, Rome 1988, vol. 1, sheet no 193, p. 381. For photographs before the restoration, see Hovsep' Yeghiazaryan, *Azizbekovi shrjani kulturayi hushardzannerā* [Cultural Monuments of the Azizbekov Region], Yerevan 1955, figs 29–30. Regarding the restoration of the church of Zorats', see Yulius T'amanyan, “Zorats' ekeghets'u veranorogum ” [The Restoration of the Church of Zorats'], *Ejmiatsin*, 12 (1974), pp. 43–46.
- 3 See Petrosyan/Pogossian, “Armenian Inscriptions”, inscription 1.2 in this volume.
- 4 In this regard and on the dedication of the church to St Stephen based on a misreading of the inscription, see Eruand Lalayean, “Vayots' Dzor. Nshanavor vank'er” [Vayots' Dzor. Noteworthy Monasteries], *Azgagrakan handes* [Ethnographic Journal], 26 (1916), pp. 63–66. This is repeated in Cuneo, *Architettura armena* (n. 2), sheet no 193, p. 381. See Pogossian, “The Golden Age” (n. 1). Today we can see that the open space in front of the church is delimited by a perimetral wall added later to the building of the church (B₄, see infra). It was probably covered by a wooden structure supposed by the presence of some shelves (thick ashlar) on the façade. For a more in-depth archaeological description of the building, see infra “*The archaeological analysis of the architectural complex*”.
- 5 There is another building with a similar plan – the church of Bgheno-Noravank' located in the Goris region. It was part of a monastery that was founded in the tenth century and finished in the eleventh, see Cuneo, *Architettura armena* (n. 2), sheet no 216, p. 413. For the architectural analysis of the building, see Cecilia Luschi, Francesco Trovatielli, Alessandra Vezzi, “The Zorats' Church: An Architectural Description”, Appendix to chapter 9 in this volume, as well as a recent article by David Nahatakyan “Yeghegisi Zorats' yekeghets'in. Chartarapetakan nor hetazotut'yunner” [The

* Field research for this project was carried out with the support of the Italian Ministry of Foreign Affairs and International Cooperation (MAECI) for the project “The Making of the Silk Roads in Vayots' Dzor,” as well as a European Research Council (ERC) Consolidator Grant, *Jews and Christians in the East: Strategies of Interaction between the Mediterranean and the Indian Ocean*, (grant agreement no 647467). The article was written and published with the support of the ERC Consolidator Grant, *Armenia Entangled: Connectivity and Cultural Encounters in Medieval Eurasia 9th–14th Centuries (ArmEn)*, (grant agreement no 865067). Both ERC projects were



[fig. 1] Left: the localization of the Zorats' Church in Yeghegis; right: an overall view of the complex (photo by drone, 2018)

was used as a cemetery. [fig. 1] Some gravestones are preserved in an open area on the eastern side of the church (TU1), others, with *khach'k'ars*, are on the western side, near the rectangular courtyard in front of the church (TU2). All the gravestones date to between the fourteenth and sixteenth centuries.⁶ On a lower level, the entire area is surrounded by enclosure walls (B3 on [fig. 2]), which are probably the most ancient structures of the architectural complex. They have a maximum height of 2–2.5 meters to the south, on the edge of the slope towards the Yeghegis River, and to the north, and include a monumental gateway with monolithic jambs and a lintel (B5 on [fig. 2]).

On the northern and western sides of the church, several structures are visible (B2, B6–11 on [fig. 2]),⁷ whose function is not completely clear. Some of them were excavated in 2006–2007 by the Institute of Archaeology and Ethnography of the National Academy of Sciences of Armenia. Based on these excavations, Melkonyan and Hakobyan hypothesized that B9 was the repository of codices, i.e., it was the library of the monastic complex.⁸ The recognition of the repository of codices is quite important if we look at the written sources. From a colophon, we know that in 1331 Momik – one of

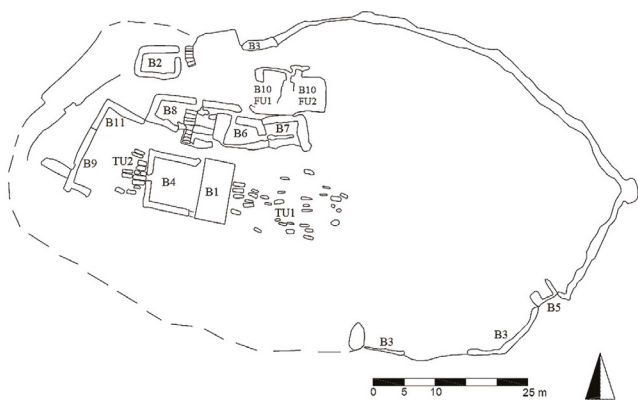
the most noteworthy artists of the fourteenth century in Vayots' Dzor – copied and embellished a Gospel for Step'anos-Tarsayich in Yeghegis, in the “new monastery,” where Burt'el built a new church

Zorats' Church in Yeghegis. New Architectural Researches], in *Yeritasard Hay Arvestabanneri Gitakan Innerord Nstashrjan* [The Ninth Conference of Young Art Historian Scholars in Armenia], Yerevan 2015, pp. 64–71. For an archaeological analysis see infra “The archaeological analysis of the architectural complex.”

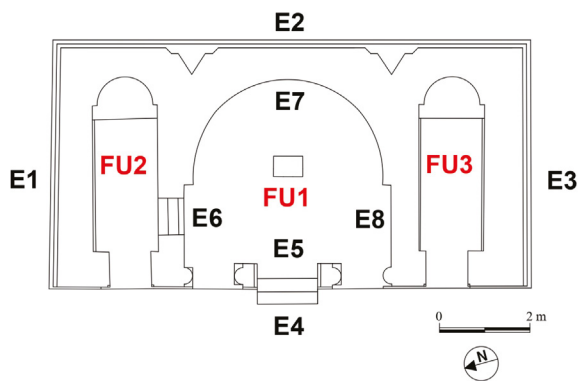
6 For the epigraphic evidence on the gravestones, see Petrosyan/Pogossian, “Armenian Inscriptions” (n. 1). It can be noted that there are three tombstones on the eastern side of the church that, due to the shape of the cross and stone itself, seem to be older and similar to those of the seventh century, see Barkhudaryan, *ՀԱ*, vol. III (n. 2), p. 107.

7 B10 is located on the north side of the Zorats' Church, in front of B6 and B7. The structure is in ruins and largely covered by spontaneously grown vegetation. It is impossible to describe it in detail and understand the exact chronology based on the masonry types because it is not visible, but we can suggest an internal division in two rooms (r1 and 2, see fig. 2 in this chapter). Due to its precarious conditions, the structure has only been identified topographically and will not be discussed in the chrono-typological development of the architectural complex.

8 Husik Melkonyan, Nyura Hakobyan, “Peghumner Eghegisi Zorats' Tachari Shurja” [Excavations around the Zorats' Sanctuary in Yeghegis], *Ējmiatsin*, 75/8 (2016), pp. 144–166, sp. p. 145. The excavations also continued for a few following years, but the results have not been published.



[fig. 2] Plan of the architectural complex of the Zorats' Church: digital elaboration of aerial orthorectified view by a drone



[fig. 3] The plan of the Zorats' Church (B1) with all the elevations analyzed and the three functional units identified

dedicated to “the Mother of God and St Nicholas and St Cristopher.” One may speculate that the text refers to the Zorats' Church, which, according to the inscription, was dedicated to the Mother of God. It is certain that Yeghegis was an intellectual and artistic center in the first half of the century.⁹ The Zorats' Church was analyzed with the methodologies of “Building Archaeology” for the first time by the University of Florence team. The aim of the archaeological analysis was to reconstruct the topographical development of the site, identifying not only the single buildings and their relationships but also the constructive typologies.

F.C.

THE ARCHAEOLOGICAL ANALYSES

Research with the application of the methodology of historical building archaeology allows us to establish a hierarchical data recording system. The process began with the identification and cataloguing of the various features of the architectural complex and each individual building within it. This analytical approach is useful for recognizing the stratigraphic relationships between the structures and

for establishing a relative chronology of the area's development. According to the visibility conditions and the conservation status of each structure, a different level of detail was used.

All the structures (except for the Zorats' Church), now damaged and in ruins, were analyzed in a preliminary way, identifying single buildings and recording their main features and *Masonry Types* (MT). The Zorats' Church (B1), instead, a unique structure in the Armenian architecture, was archaeologically analyzed in detail in order to understand the stratigraphic sequence of the constructive process and its relative chronology.

It was first divided into three *Functional Units* (FU) [fig. 3]:

- FU1, the main hall (the central apse)
- FU2, the northern chapel (access from the western side, connected with the central apse on the south)
- FU3, the southern chapel (access from the western side)

9 See Pogossian, “The Golden Age” (n. 1).

Then, each *Elevation* (E) analyzed [fig. 3] was numbered:

- E1, external northern side
- E2, external eastern side
- E3, external southern side
- E4, external western side (façade)
- E5, internal western side of the main hall (counter-façade)
- E6, internal northern side of the main hall
- E7, internal eastern side of the main hall (apse)
- E8, internal southern side of the main hall

The archaeological analysis was carried out on each elevation, resulting in the identification of single *Masonry Stratigraphic Units* (MSU) and the mutual relationship between them to thoroughly understand the stratigraphic sequence and the constructive process. The *in situ* study of the architectural complex also allowed for the sampling of four dressing types, three of them in the Zorats' Church (YGV1–3) and one in the monumental gateway of the enclosure walls (YGV5).

D.B.

THE ARCHAEOLOGICAL ANALYSIS OF THE ARCHITECTURAL COMPLEX

The stratigraphic analysis of the architectural complex of the Zorats' Church has allowed the identification of five architectural macro-phases, sometimes divided into different sub-phases. In this article, we will propose a preliminary dating of the phases, based on archaeological evidence, although it has not always been possible to refer with certainty to an absolute chronology.

PHASE 1 (END 9th–10th CENTURIES)

The earliest construction phase of the Zorats' complex (Phase 1) appears to include the enclosure walls (B3) and the monumental gateway with monolithic jambs and a lintel (B5). The annexes on the north side of the complex (B2, 6, and 7) are probably the result of this first construction phase as well, because their masonry type is similar to that of the enclosure walls, although their function remains unknown.

The enclosure walls (B3) are located on a lower level than the other buildings. They are mostly preserved on the southern and south-eastern side,

with a small portion on the north. No evidence on the western side is extant, and on the eastern and north-eastern sides, there remain only erratic blocks. These structures are now in ruins, and the maximum height they reach is 2.5 meters. The masonry is made of split and roughly squared basalt blocks, medium and very large in size, without a regular arrangement (see MT3a on the south-eastern and MT3b on the southern and northern sides)¹⁰ and mostly abutting against the bedrock. It is not unusual to find some evidence of the wedges used to extract the blocks from the quarry [fig. 4].

The monumental gateway (B5), located on the south-eastern side of the complex, is characterized by very large basalt ashlar squared and regularized using a pointed tool (YGV5) with irregular orientation. The wall of B3 leans against the gateway, but it is mostly coeval. The gateway preserves only the huge jambs and the monolithic lintel; everything else, such as the inner part and the coverings, has collapsed [fig. 4].

Building 2, located on the north-western side of the Zorats' Church, is a rectangular structure, presently in ruins, preserved up to 2–2.5 meters maximum height. It has an entrance on the northern side and has recently been excavated. Nevertheless, its function remains unclear. Inside, there is an opening, about 70 centimeters wide, close to the internal south-eastern edge, about 110 centimeters high from the ground. The jambs are made of split and roughly squared stones, rectangular in shape, and placed in order to form aligned joints. The masonry of the internal walls is characterized by very large and medium-sized split polygonal basalt blocks (similar to the MT3b).¹¹ The arrangement is irregular and without courses. Over it, there is a portion of a wall characterized by medium and small-sized split polygonal stones, not arranged in courses (MT5a).¹² In this building, we can notice that the MT5a is later than the MT3b. The upper part of the western and northern sides was probably rebuilt during phase 3.

¹⁰ See Michele Nucciotti, Lapo Somigli, Elisa Pruno, "Yeghegis Atlas of Masonry Types" in this volume, pp. 238–248.

¹¹ *Ibidem*.

¹² *Ibidem*. MT5a probably belongs to the reconstruction Phase 3 (see below).

Building 6 is located north of the Zorats' Church and is a rectangular structure now in ruins. Its northern elevation is the only one visible from the outside and the inside, whereas the others are visible only from the inside because they are partially underground. On the northern side, there is an entrance, about one meter wide, and inside, there is another one on the eastern side that leads to B7. This latter leans against B6, as B8 does. Thus, they are both later than B6. The masonry is characterized by basalt split blocks of very large dimensions in the lower part, with medium-sized stones (with small wedges) placed on them (MT3b).¹³

The last building belonging to this construction phase is B7, closely connected to the previous one (B6). Its shape and dimensions are almost identical to B6. Presently, it is in ruins and only the internal area is visible because the exterior is completely underground. The interior is divided into two parts by an alignment of large-sized split blocks, oriented west-east. The northern part seems to have a floor that is absent in the southern part. On the eastern side, there is a collapsed structure that probably covers a floor. There were possibly two openings on this side: the presence of some aligned joints in the wall leads to this hypothesis, but the whole building is in rather poor condition. The masonry type is very similar to that of B6, and its arrangement is without courses and mortar (MT3b).¹⁴ These masonry types are among the oldest structures catalogued in Yeghegis by the Italian archaeological mission.

At our current state of knowledge, it is not possible to make a precise comparison of these masonry types with others in the analyzed area, but it must be noted that the use of non-squared basalt blocks very large in size was observed in north-western Armenia before the tenth century.¹⁵ With particular reference to the wall circuit (B3 and B5) preserved in the Zorats' complex, it cannot be excluded that these fortified structures may be dated back to the period of rule of the Syuni nobility. Therefore, together with Smbataberd,



[fig. 4] Above: a detail of the stratigraphic relation between B3 and B5; below: a detail of the surface dressing (vgv5)

¹³ See Nucciotti/Somigli/Pruno, "Atlas of Masonry" (n. 10).

¹⁴ *Ibidem*.

¹⁵ In this regard, see Jean-Claude Bessac, "Observations sur la construction monumentale dans le nord-ouest de la République d'Arménie", *Syria*, 88 (2011), pp. 379–415, sp. p. 384. The wider chronological range of this phase is due to the dating of the second one to which it precedes.

the settlement could have been one of the possible locations of the royal residence of Smbat I in Yeghegis.¹⁶

D.B.

PHASE 2 (12TH – 14TH CENTURY)¹⁷

The second phase involved the construction activities of the Zorats' Church and some annexes of the complex, which may have been in use even before the building of the church was completed.¹⁸

The Zorats' Church (B1) is a rectangular-shaped building, oriented west-east, with the apse on the eastern side. Its typology is unique in Armenia: standing on two steps (*crepidoma*), it is opened on the western side and is composed of a main hall (FU1) and two smaller chapels (FU2 on the northern side and FU3 on the southern one). The entrance is on the western side, and it is characterized by the presence of three arches on a bema that lead into the central hall with the biggest apse. The eastern façade has two dihedral niches, corresponding to the greater thickness of the wall, between the central apse and the lateral chapels. Inside the main hall, there is a smaller door with a molded lintel, which connects it to the north chapel. The roof is double-pitched on the main hall and single-pitched on the two lateral chapels and abuts against the upper part of the main hall. The three units have an apse on the eastern side, covered by a half-dome on which leans against a barrel vault [fig. 5].

The church seems to be built in one single construction phase characterized by perfectly squared and smoothed basalt ashlar of medium and large size, worked with a chisel, arranged in horizontal and parallel courses (see MT1a,¹⁹ surface dressing YGV1,²⁰ [fig. 5]). Within this main phase two it is possible to identify some sub-phases, mostly coeval and related to the construction process of the Zorats' Church.

Sub-phase 2a, the first construction sub-phase of the church, includes the base composed of two steps (*crepidoma*, MSUS 100 in E1; 207 in E2; 301 and 315 in E3; 410, 413, 430, 431, and 432 in E4), and a single row of ashlar above the *crepidoma* (MSUS 101, 120 in E1; 208 in E2; 302 in E3; 469, 448 in E4). The *crepidoma* and the first row of ashlar outline the general dimensions of the church and, in E4, establish the exact positions of the bema (MSUS 429, 427, and 428 in E4) and the entrances to the two lateral chapels (MSUS 466 and 475 for the north entrance, 467 and 476 for the southern one).

In sub-phase 2b, then, the construction seems to have proceeded starting from the central apse, and this is visible especially in the internal E7 and in a

portion of the external eastern side, E2. Inside, the builders started from the lower part of the semicircle, proceeding in parallel bands (MSUS 611, 612, 614, and 615 in E7).²¹ On the external wall, they define the position of the two dihedral recesses (MSUS 206, 216, and 217 in E2), at the greater thickness of the wall between the central apse (FU1) and the two lateral chapels (FU2 and 3). They complete the construction of the two recesses (MSUS 214 and 215 in E2) together with the molded single-light window on the apse (MSUS 201 and 211 in E2), as well as the two crowning carved elements (MSUS 213 and 212 in E2).

During sub-phase 2c, builders linked the masonry of the apse with the two lateral chapels and the central span, building the northern and southern walls and the lower part of the western side. It is mainly visible on the external east side (E2) where they built the two molded corners (MSUS 209 and 210) – in order to connect it with the northern and southern elevations, E1 and E3 [fig. 5] – and a portion of the wall near the central part (MSUS 218 and 219). This latter is characterized also by the presence of two single-light windows of the FU2 and 3, with a molded lintel (MSUS 221 and 220).

16 For the dating and the hypothesis of its identification with the royal residence of Smbat I, see Michele Nuccioti, "Light Archaeologies and Territorial Histories of Medieval Yeghegis" in this volume, pp. 82–108. Concerning the Syuni princes, see Zaroui Pogossian, "Vayots Dzor, Syunik", and the World. Global Transformations and Local Dynamics between the 9th and 14th Centuries" in this volume, pp. 24–66.

17 Even if the Zorats' Church was built during the first thirty years of the fourteenth century, this wider chronological range is based on the results and the pottery assemblages found during the archaeological investigations carried out by the Institute of Archaeology and Ethnography of the National Academy of Science of the Republic of Armenia on the site of Yeghegis during 2006–2007. See Melkonyan/Hakobyan, "Excavations around the Zorats' Sanctuary" (n. 8).

18 We refer especially to B9 on the western side of the church which was recently excavated. The 2006–2007 investigations brought to light archaeological finds such as handmade, glazed and simple ceramics, metal objects – all of local origin, but also glazed pottery imported probably from Tabriz. These testify to the modest lifestyle of the common people and monks during the twelfth to fourteenth centuries. Melkonyan/Hakobyan, "Excavations around the Zorats' Sanctuary" (n. 8), pp. 144–166.

19 See Nuccioti/Somigli/Pruno, "Atlas of Masonry" (n. 10).

20 The chisel is 1.65 centimeters wide; the mark is approximately 2.3 millimeters wide and 1.4 millimeters deep. The orientation of the tool is generally parallel to the horizontal side, rarely to the vertical one, and never at 45°. The margins are overworked by flattening.

21 In these portions of the wall a splayed single-light window was placed, now completely restored (MSU 613, see *infra* Phase 5).

At the same time, the construction of the two lateral chapels with a small apse (northern side of FU2 and southern side of FU3) started. The external northern side (E1) collapsed and has been almost entirely restored. Here, the sub-phase 2c is visible only in the two corners (MSUs 113, 115, 118, and 119) and in a very small portion of the wall (MSUs 112, 114, 116, and 117).²² The external southern side (E3) is much better preserved, and the masonry appears more homogeneous. The stratigraphic units until the molded cornice under the roof (MSUs 304, 305, 306, and 317) belong to the construction sub-phase 2c.²³ The wall MSU 305 is characterized by the presence of a single-light window (MSU 306) which has the same typology and a molded lintel as the two windows of the lateral chapels on the east side (E2).²⁴ Besides, it has several ashlar with carved crosses and a solar sundial [fig. 6]. MSU 305 is also linked to the east and west corners (MSUs 303, 304, and 317).

On the façade (E4) the sub-phase 2c is visible in the lower part of the elevation until the springing line of the arches. In this elevation, the stratigraphy is more complicated due to the presence of many architectural elements. Firstly, the builders started from the southern side linking the right jamb of the entrance to the chapel (MSU 417) with the corner (MSU 411). Then they built the left jamb (MSU 418) and the carved lintel (MSU 412), which leans against part of the masonry and of the corner (MSU 414). Probably at the same time, they proceeded building the entrance to the northern chapel and the corner that leans against it (entrance: MSUs 433, 435, and a carved lintel MSU 436; corner: MSUs 434, 439, 447,²⁵ 438, and 446). The two doors were built on the *crepidoma*.

In the central part of E4, the construction proceeded until the springing line of the three arches, of which nowadays, due to the collapse (phase 3), only the external pillars and their capitals remain (on the

22 The preserved masonry paucity is due to the collapse during Phase 4 (see *infra*).

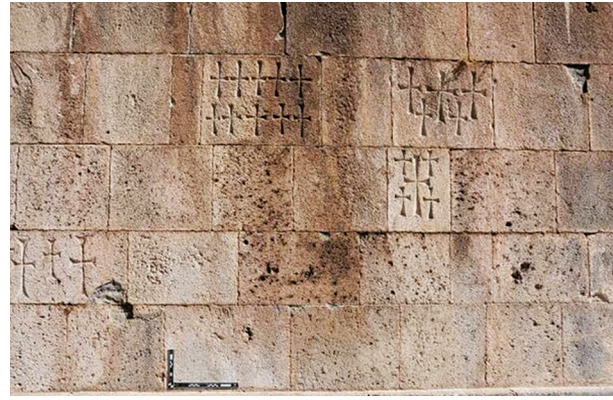
23 The ashlar of the upper part of the left corner (MSU 316) belongs to the construction sub-phase 2c because it continues with the construction of the façade (E4) and connects the western and southern side in that sub-phase.

24 A similar window must have been on the E1, now rebuilt (MSU 104) with the wall nearby (MSU 103).

25 MSU 447 consists of a single ashlar, a corbel, probably. At the present stage of the investigation, we suppose that this element, together with other two corbels (MSUs 443 and 423) placed near the arches during phase 2c, were used to support a wooden roof covering the area in front of the church.



[fig. 5] Above: an overall view of the western side of the Zorats' Church (E4), and of the eastern side (E2); below: a detail of the stone dressing of the main construction phase of the Zorats' Church (YGV1)



[fig. 6] Left: the solar sundial in E3; right: a detail of the crosses carved on the ashlar

left side MSUs 441, 472; on the right MSUs 420 and 471). Contemporary with that, the portions of the wall between the arches and the doors were built (on the left side MSUs 440, 437; on the right side MSUs 419, 421 and 422). The counter-façade (E5) has evidence of this construction sub-phase 2c as well. Indeed, here the external pillars and the capitals (on the left side MSUs 501 and 531; on the right side MSUs 503 and 534) are visible.

The building process continued in the main hall, visible in the two lateral elevations E6 and E8, which lean against the apse. In particular, in E6, in the sub-phase 2c, the door between the main hall and the north chapel (MSUs 602, 647, and the trefoil carved lintel MSU 646) was built together with the wall nearby in order to link it to the west side (MSUs 601 and 603) and the apse (MSU 648). This is also very well visible in the southern internal elevation of the north chapel, where the wall of the main apse (eastern side) is connected to the façade (western side): they built the internal masonry of the chapel, leaving space for the construction of the lateral access door and the masonry above it as a connection point.

In the lower part of E8, during the sub-phase 2c, a portion of the wall was built in order to connect the apse with the counter-façade (MSUs 621, 622, 623, 624). A small niche with a monolithic lintel decorated with a six-pointed star and a *muqarnas* inside (MSU 625) was also placed [fig. 7].

After reaching the springing line of the arches, in sub-phase 2d, a jutting relieving arch in the counter-façade (MSUs 518 and 519 in E5) and a small portion of masonry above it for static reasons (MSUs 529 and 530 in E5) was built. This was a structural solution

for discharging the static load of the west internal wall, otherwise resting on the three arches of the entrance [fig. 8].

In this sub-phase, the construction of the two lateral chapels, covering them with a semi-dome on the apses and barrel vaults leaning against it, was complete. In order to connect the west and the east sides and for static stability reasons, the inner lateral walls were built until the capitals of the arches (MSUs 604, 605 in E6, MSUs 626, 627 in E8).

During sub-phase 2e, in the counter-façade (E5), the team of workers proceeded “loading” the relieving arch, reaching the bottom half of the single-light splayed window (MSUs 521, 520, 513, 522, and 523). The three access arches, together with the portion of the wall above them, were built as “a filling” without any load-bearing function (MSUs 502, 504, 516, 517).²⁶ The elevation of the counter-façade and the façade were raised together, reaching almost the same height.²⁷ The wall of the façade leans against the coverings of the two lateral chapels.

26 The construction of three arches on the façade does not seem to reflect a modification of the original project, but rather appears to serve a decorative purpose. The actual structural function was carried out by the relieving arch visible on the interior. This solution reduced the amount of construction material required; however, the lack of structural integration between the relieving arch and the three entrance arches rendered the latter less stable, as evidenced by their collapse during phase 4 (see *infra* fig. 16).

27 In E4: MSUs 473, 474 (arches), 443, 423 (corbels), 444, 445, 470, 424, 426, 425, 449. The corbels MSUs 443 and 423 probably together with the other one (MSU 447) placed during sub-phase 2c, were used to support a wooden roof covering the area in front of the church (see *supra* n. 24).



[fig. 7] The small niche in €8



[fig. 8] The jutting relieving arch in ε5



[fig. 9] The semi-dome and the barrel vault of the main apse in fu1



[fig. 10] Example of L-shaped notches and thinner ashlars used for the connection with the architectural elements (a segment of the right and left side of ε4)



In this sub-phase, the construction of the main apse proceeded at the same time on the outside (MSU 202 in E2) and on the inside, up to the semi-dome springer (MSUs 616, 633, 617, and 634 in E7). Inside, the construction of the lateral elevations was also completed in order to connect the west and the east sides (MSUs 606 and 607 in E6, MSUs 628, 629, and 630 in E8), reaching the same level on which the ceilings were built. The northern and southern external elevations were mostly completed during the previous sub-phase 2c, but in this sub-phase 2e, an ashlar in E3 (MSU 316) was put to connect the south-western corner with the façade (MSU 425 in E4).

The sub-phase 2f involved the construction of the upper part of the church before the top covering. Firstly, the structure of the apse was completed, realizing its semi-dome on a molded cornice (MSUs 618, 635, and 619 in E7). Then the barrel vault and the cornice (MSUs 608 and 609 in E6, MSUs 631 and 632 in E8) were built leaning against the semi-dome [fig. 9]. After that, the elevations were raised: i.e., the masonry of the upper parts of the counter-façade (MSUs 514 and 527 in E5) and outside (MSUs 452, 453, 455, and the single light window MSU 468 in E4; MSUs 203 and 204 in E2). This sub-phase is also visible on the northern (MSU 109 in E1) and southern (MSU 311 in E3) elevations.

The last sub-phase, sub-phase 2g, involved the construction of the top covering of the whole B1. The tympanum (MSUs 458, 457, 459, 460, 456, 461 in E4; MSUs 205, 239, 240 in E2)²⁸ and the molded cornices under the roofs (MSUs 462, 451, 477, and 463 in E4; MSUs 228, 222, 223, and 233 in E2) were built. Now mostly restored, the original molded cornices are visible also in E1 (MSUs 105, 106, and 110) and E3 (MSUs 309, 307, and 312). The upper part of the façade (MSUs 449, 452, 453, 455, 458, 457, 459, 460, 456, and 461) is characterized by a masonry type similar to the rest of the church, but the dimensions of the ashlars are smaller (medium), and the shape is basically squared with occasional rectangular ashlars (see MT1b). This could be a construction solution to lighten the structure in the upper part.²⁹ This macro-phase 2 of the B1 presents some architectural-executive solutions both for the assembly of the architectural elements and for the masonry, which can provide useful information on the construction process and skilled masons' working procedures.

First of all, it is possible to notice, close to the architectural elements such as doors or windows,

some L-shaped notches³⁰ and the frequent use of smaller or thinner ashlars, with the same height of the course, arranged vertically as wedges.³¹ This solution is probably due to the fact that the blocks that constituted the architectural elements were delivered to the building site of the Zorats' Church already molded by skilled workers for the assembly, so the builders had to adapt the masonry to the previously worked ashlars in *loco* [fig. 10]. These kinds of construction techniques were also used in the church walls themselves. It is possible to notice, mostly in E4, the frequent use of L-shaped notches that interrupt the lines of beds with the purpose of giving greater static stability³² or occasional thinner ashlars, with the same height of the course, arranged vertically.³³ Despite the use of these techniques, there are sporadic aligned joints in the walls that weaken the static stability of the structure.³⁴ Oblique joints are rare: only one is identified in E4

28 MSUs 39 and 240 are two ashlars decorated with swirl motifs.

29 Bessac noted that this solution could be due to the lifting of the ashlars instead of a different material supply. See Jean-Claude Bessac, "Observations sur la construction de la basilique d'Ererouk en République d'Arménie", *Syria*, 89 (2012), pp. 331–366.

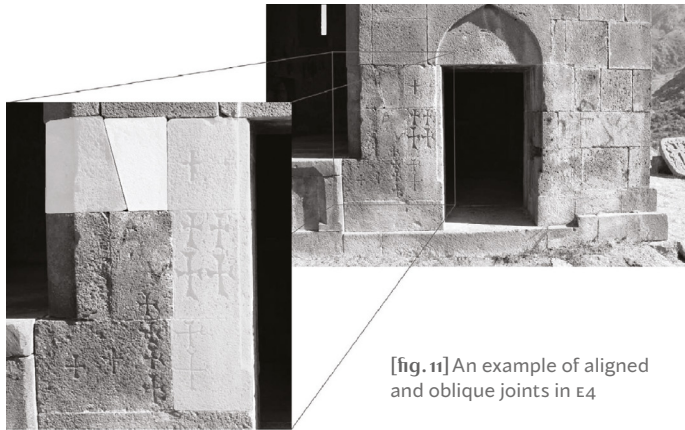
30 L-shaped notches are visible in several elevations: in E2, between MSU 205 and the two blocks decorated with a swirl decoration motif (MSUs 239 and 240), and between MSU 202 and the crowning element of the north recess (MSU 212); in E4, between MSU 439 and the lintel of the north chapel (MSU 436) and between MSU 448 and the jamb of the door of the same chapel (MSU 475); in E6 and E8: between MSU 603 and MSU 624 with a portion of masonry (respectively MSUs 601 and 622).

31 E.g., E2: in MSU 201 for the assembly of the window (MSU 211), in MSU 202 for the crowning element (MSU 212) or in MSU 219 for the recess (MSU 215) and the small single-light window (MSU 220); E3: in MSU 305 for the small single-light window (MSU 306). Several examples are visible in E4: ashlars in MSUs 421 and 437 for the capitals (MSUs 471 and 472), in MSU 458 for the *khach'k'ar*, in MSU 434 for the jamb of the door (MSU 433), in MSUs 453 and 455 for the window (MSU 468) or in MSUs 424 and 444 for the corbels (MSUs 423 and 443). E6: in MSU 648 for the connection between the lintel (MSU 646) and a portion of the wall of the apse (MSU 614).

32 E.g., nearby the left corner, MSUs 446 with 438, 445 with 446, 438 with 439; nearby the right corner, MSUs 417 with 413, 470 with 414, 425 with 424; MSUs 627 for the connection with 626, in E8. In this regard, see also Patrick Donabédian, "Les architectes de l'Arménie médiévale usaient-ils de dispositifs parasismiques?", *Revue des études arméniennes*, 34 (2012), pp. 169–242, sp. pp. 202–203.

33 E.g. one row in MSU 205 in E2, rare ashlars in MSU 305 in E3, some ashlars in MSU 449 in E4 and MSU 605 in E6 where ashlars are arranged horizontally.

34 Especially in MSUs 202, 203, and 205 in E2; in MSU 305 in E3; in MSUs 439, 449, 453, 455, 461 and between the MSUs 422, 424, and 470 in E4; rare in E6 MSU 607; occasional in E7, MSUs 611, 612, 614, 615, 616, and 633; absents in E8.



[fig. 11] An example of aligned and oblique joints in E4

(between MSUs 419 and 420), [fig. 11] and another one in E6 (MSU 647).

Related to Phase 2 and probably connected with the use of the monastic complex are also two buildings (B8 and B9) on the western and north-western side of B1. Furthermore, as attested by some engravings on the tombstone dated to the fourteenth century, it is probably during Phase 2 that the western (TU2) and eastern (TU1) courtyards of the church were used as cemetery areas.³⁵

Building 8, on the north-western side, is a ruined rectangular structure, visible only on the inside because the exterior is underground. It is difficult to understand its exact ground plan. Furthermore, due to the presence of different masonry types, it is not clear if the structure is made up of several walls that now define this area, or if it was a unitary building. On the north side, there is a wall built on the bedrock. It is around 100–110 centimeters thick and has an opening of 130 centimeters in width, which gives access to steps that are of a later date and lead to the church area. The masonry is composed of small and medium-sized, polygonal, and rarely sub-squared blocks with frequent vertical and occasional knife-shaped elements. The arrangement seems to be quite regular (sub-horizontal) except near the bedrock, where the stones are smaller and arranged in an irregular way (see MT6a).³⁶

On the southern side, there is a similar regular masonry with sub-horizontal courses, polygonal stones, rare sub-squared and rectangular blocks of medium and large size, with rare elements placed obliquely (see MT6a). On the south-western corner, a portion of the wall is made up of polygonal, rare

sub-squared/rectangular stones placed irregularly or obliquely (similar to MT5a).³⁷ Based on this stratigraphic relationship, we can say that MT5a is later than MT6a, and we can probably ascribe it to a restoration effort (Phase 3, see *infra*). On the eastern side, constituted by the external wall of B6 (see MT6a), there is a rectangular niche [fig. 12].

Building 9, located on the west side of B1, is a large rectangular ruined structure divided into rooms. Recent archaeological excavations have found two shelves, on the eastern and southern side, interpreted by the authors as a repository of codices of the monastic complex's scriptorium [fig. 13].³⁸ The identification of the scriptorium is remarkable because in 1331, in a colophon, Momik says that he copied and illustrated a gospel in Yeghegis, where Burt'el built a new church dedicated to "the Mother of God and St Nicholas and St Cristopher." It is not clear if it could be identified with the room found in the complex of the Zorats'

35 On the western courtyard of the complex there are some gravestones near the courtyard B4, with dates that indicate the years 1303, 1331, and 1348; whereas on the eastern sides there are gravestones dated to 1329, 1347, and 1343. At the current state of our knowledge, it is not clear if the gravestones of the 40 of the fourteenth century could belong to Phase 3 of this present archaeological analysis of the complex. For the translation of the inscriptions, see Petrosyan/Pogossian, "Armenian Inscriptions" (n. 1), in this volume (inscriptions nos 1.14, 1.15, and 1.16 for the western side, and inscriptions nos 1.9, 1.10 and 1.11 for the eastern side).

36 See Nucciotti/Somigli/Pruno, "Atlas of Masonry" (n. 10).

37 Probably this masonry belongs to a restoration activity (Phase 3, see *infra*).

38 The expedition of the Institute of Archaeology and Ethnography of the National Academy of Sciences of the Republic of Armenia was carried out at the archaeological site of Yeghegis during 2006–2007. The excavation began with the investigation on the western side of the sanctuary (numbered in this chapter as B9) identified as the library of the complex because of the presence of shelves and cabinets. Then, in 2007, the field research focused on clearing the wall which surrounded the fortress enclosing the monument on the north-east side and excavating the destroyed rooms next to the walls. During the excavation of B9 it was discovered that it was composed of three rooms, in the centre of each there was a *tonir* that, according to the authors, was used for heating the rooms. According to our archaeological analysis, the northern building is probably a later addition judging from the masonry type (B11, see *infra* Phase 3). Archaeological materials found during 2006–2007 excavations (handmade, glazed, and simple ceramics, metal objects – all of local origin, but the glazed pottery probably imported from Tabriz) display the modest lifestyle of the common people and monks during the twelfth to fourteenth centuries. Melkonyan/Hakobyan, "Excavations around the Zorats' Sanctuary" (n. 8), pp. 144–166.



[fig. 12] A detail of the eastern side with a niche

[fig. 13] An overall view of the western side of B9

Church, but surely both testify to an intellectual and artistic activity in Yeghegis during the first half of the fourteenth century.³⁹ Nowadays, the inside of the building is covered up by vegetation, and the eastern wall is not visible due to collapsed portions. It has a monumental access with a lintel near the south-western corner (about 120 centimeters high) and a ruined one to the south. Its masonry features large basalt blocks in the lower part and smaller ones above it; the corner is made of squared and rectangular blocks (see MT6b).⁴⁰ This building, on the northern side, is supported by another one, probably an extension built in a later period (B11, Phase 3, see *infra*).

F.C.

PHASE 3

(14TH CENTURY – BEFORE THE COLLAPSE)

To the third architectural phase (Phase 3) belongs the construction of B4 – a courtyard on the western side of the church – the expansion of B9 towards the north (construction of B11) and the restoration of some previous buildings (B2 and B8). During this phase, the two cemetery areas (TU1 on the western side of the church, and TU2 on the eastern) were used as well, according to the inscriptions on the tombstones dated to the fourteenth century.⁴¹

Building 4 is located in the open area to the west of the Zorats' Church. It consists of a squared courtyard enclosed by stone walls, and no evidence exists regarding its internal organization. The entrance is on the western side, near TU2.⁴² Given the presence of monolithic jambs, the building probably had a monumental entry. Moreover, there are a few large squared smoothed ashlar and some mortar in the vicinity, which strengthens this hypothesis [fig. 14].

It is difficult to understand what the original relationship of B4 with B1 was, but thanks to some almost buried stones preserved on the southern side, it is possible to hypothesize that B4 was added later to the western side of the Zorats' Church (B1). Thus, according to the archaeological analysis, B4 is later than B1, even if it is impossible to refer to a precise chronology. Nevertheless, it could be dated to the fourteenth century too, according to the masonry type.⁴³ It should also be noted that on the façade of Zorats' Church, there are three corbels (MSUs 423, 443, and 447), which may have supported a wooden roof covering the area in front of the church.⁴⁴

The courtyard is badly preserved, and only two or three rows are extant. They feature split and roughly squared stones, arranged obliquely or in courses that tend to be horizontal, although not always parallel to each other (see MT2a and MT2b).⁴⁵ On the four corners, there are huge bedrocks that define the area.

The northward extension of B9, i.e., the construction of B11, is likely related to this construction phase. It is characterized by a masonry with oblique and vertical elements arranged obliquely and, on top of it, a regular wall with quadrangular blocks and vertical elements (see MT2a and MT2b)⁴⁶ [fig. 15]. During recent archaeological excavations, a series of niches were found inside this building, perhaps used as chicken coops (now buried).⁴⁷

During this same phase, B2 and B8 were probably restored. Indeed, the masonry with small and medium-sized stones arranged in an irregular way (MT5a)⁴⁸ seems to belong to this period. At this time, the area around the church continued to be used as a burial space, as evidenced by the tombstones preserved in TU1 and TU2.⁴⁹

39 See Pogossian's arguments in "The Golden Age of Yeghegis" (n. 1).

40 See Nucciotti/Somigli/Pruno, "Atlas of Masonry" (n. 10).

41 See Petrosyan/Pogossian, "Armenian Inscriptions" (n. 1).

42 It seems that B4 cannot be identified with a *gawit'* because it is not covering already existing gravestones. On the definition and use of the term *gawit'*, see Edda Vardanyan, "The Žamatun of Horomos and the Žamatun/Gawit' Structures in Armenian Architecture", in *Horomos Monastery: Art and History*, Edda Vardanyan ed., Paris 2015, pp. 207–236, sp. pp. 207–224.

43 At the current state of research, it is possible to affirm only posteriority based on stratigraphic relationships. A continuation of the investigations could provide further elements for a more precise dating.

44 See *infra* nos 24 and 26. Contemporary with B1, this wooden roof appears to be earlier than the construction of B4, although it cannot be excluded that B4 also had a covering, now lost without leaving any trace.

45 See Nucciotti/Somigli/Pruno, "Atlas of Masonry" (n. 10).

46 *Ibidem*.

47 Melkonyan/Hakobyan, "Excavations around the Zorats' Sanctuary" (n. 8), p. 148. A similar structure with this function is preserved also in the buildings near the Jewish cemetery in Yeghegis. Michele Nucciotti, "Light Archaeology at Yeghegis Jewish Cemetery. Analysis and Interpretation", in *Material Encounters between Jews and Christians. From the Silk and Spice Routes to the Highlands of Ethiopia*, Bar Kribus, Zaroui Pogossian, Alexandra Cuffel eds., Leeds 2024, pp. 50–51.

48 See Nucciotti/Somigli/Pruno, "Atlas of Masonry" (n. 10).

49 On the western side there is a gravestone dated to 1348 and a *khach'kar* fallen inside the courtyard with the date 1571; on the eastern side there are two gravestones dated to 1343 and 1347, and another one with the date 1566. See Petrosyan/Pogossian, "Armenian Inscriptions" (n. 1), inscriptions nos 1.16, 1.17 and 1.11, 1.10, 1.13.



[fig. 14] Monolithic jambs of the monumental door in B4 (courtyard)



[fig. 15] An overall view of the western side of B11

PHASE 4

The fourth construction phase (Phase 4) is characterized by a huge collapse⁵⁰ that affected the façade of the Zorats' Church (E4), its roof, much of the northern side (E1), and the inner part of the western and eastern windows of B1 (visible in E5 and E7).

As we can see from the historical photos [fig. 16], on the outside (in E4), this collapse destroyed the main access with the three arches (MSUs 404, 406, and 408), the gable roof (MSU 478), and the single-pitched roof of the lateral chapels with part of the masonry and the molded cornice (on the north side MSU 400 and MSU 402 on the south side).

On the eastern side (E2), the top of the gable roof (MSU 229) and the single-pitched roof of the two lateral chapels, with part of the molded cornice (MSU 226 on the south, and MSU 227 on the north), collapsed. In this elevation, there are also two missing ashlar, in the lower part, which were restored (MSUs 234 and 236). Inside, the hypothesis of a huge collapse is corroborated by the evidence on the masonry of the counter-façade (MSU 505 in E5) and on the main apse (MSU 636 in E7).

On the southern side (E3), the two pitches of the roof collapsed (MSUs 308 and 318). During Phase 4, on the northern elevation (E1), the pitch of the gable roof had collapsed (MSU 121), as the masonry (almost entirely rebuilt) and the single-pitched roof of the northern chapel (MSU 102).

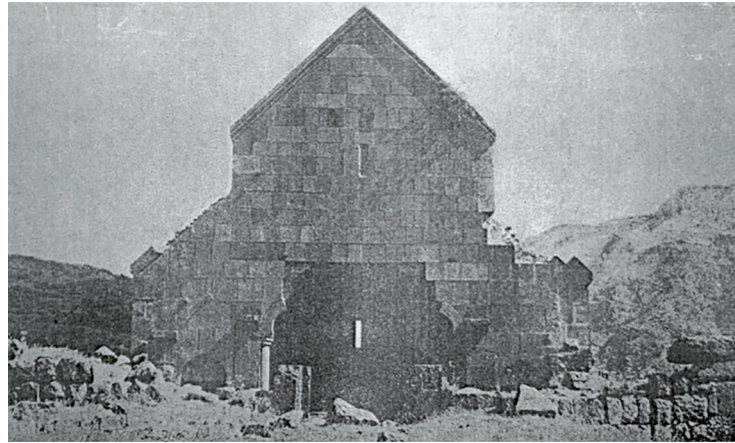
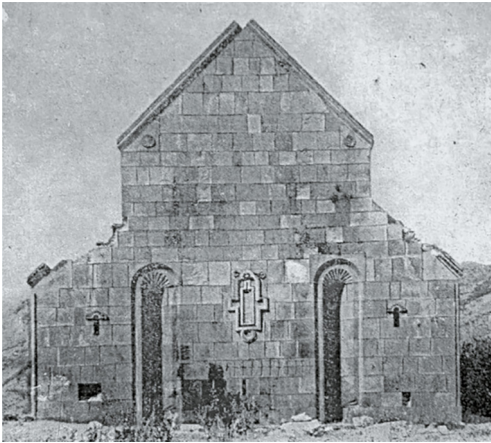
PHASE 5 (1971–1972)

The restoration of B1, dated around 1971–1972,⁵¹ after the collapse in Phase 4, represents the last construction phase (Phase 5). The whole roof and part of the

“Evidence of Historical Seismicity and Volcanism in the Armenian Highland (from Armenian and Other Sources)”, *Annals of Geophysics*, 47/2–3 (2004), pp. 793–810; Mourad Hasrat'yan, “The Medieval Earthquakes of the Armenian Plateau and the Historic Towns of Ayrarat and Shirak (Dvin, Ani, Erevan)”, *Annali di Geofisica*, 38/5–6 (1995), pp. 719–722.

51 Cuneo, *Architettura Armena* (n. 2), p. 381. According to Yeghiazaryan some restorations of the church of Zorats' can be attributed to the seventeenth and eighteenth centuries, Yeghiazaryan, *Cultural Monuments* (n. 2), p. 57. Since the great construction site of the church of St Astuatsatsin dates back to the eighteenth century, built to replace a previous thirteenth to fourteenth century church whose portal is reused (Cuneo, *Architettura armena* (n. 2), p. 381), it is possible that during these works the other churches were also restored. However, the restoration of the twentieth century probably obliterated the previous ones.

50 At our state of knowledge, it is not possible to give a precise date to the event based on written sources, but it should be noted that the area may have been affected by several earthquakes recorded in Armenia also between the fourteenth and twentieth centuries. In this regard, see Arkady Karakhanian, Vladimir Trifonov, Herve Philip *et al.*, “Active Faulting and Natural Hazards in Armenia, Eastern Turkey and North-Western Iran”, *Tectonophysics*, 353/3–4 (2004), pp. 189–219; Arkady Karakhanian, Yelena Abgaryan,



[fig. 16] Left: the eastern side (E2); right: the western side (E4) after the collapse, and before the restoration of 1971–1972

molded cornice were rebuilt in this phase (MSUs 107, 108, and 111 in E1; MSUs 224, 225, and 230 in E2; roofs MSUs 310 and 313 in E3; MSUs 401, 450, 479, and the MSU 403 in E4). The evidence of this restoration on masonry is clearly visible on the outside and the inside. Especially, in E1 [fig. 17] almost the entire wall was restored (MSUs 103, 104, and 107), whereas in E2 the restoration filled two holes in the masonry where single ashlar were missing (MSUs 235 and 237).

The façade of B1 (E4) was extensively restored, whose main evidence is the three arches and part of the masonry that were rebuilt (MSUs 442, 405, 407, and 409). Inside, evidence of the restoration is visible in the counter-façade (E5, fig. 17), where it involved the masonry of the entrance and the rebuilding of the columns, the arches, the top of the discharging arch and the upper part of the wall with the splayed single-light window (MSUs 506, 507, 532, 533, 508, 509, 510, 511, 512, 515, 524 and 535 in E5). The splayed single-light window and a portion of masonry above it on the apse of the main hall (MSUs 613, 637, 638, 639, and 640 in E7) were rebuilt at that time as well.

The masonry type of the restoration is characterized by basalt ashlar, black or lighter ashlar compared to the original ones, with medium-large dimensions, mostly rectangular shaped, perfectly squared and smoothed, arranged in horizontal and parallel courses with a different tool mark (MT1c,⁵² surface dressings YGV2 and YGV3) [fig. 17].⁵³

D.B.

CONCLUSIONS

In this article, for the first time, the Zorats' Church complex was analyzed by using the methodologies of historical building archaeology.⁵⁴ This research, focused on masonries, provided information about the different construction phases of the entire site. Regarding the church, the investigation also involved the recognition of each single sub-phase up to the masonry stratigraphic units. The other buildings, instead, have been investigated in order to understand, where possible, their function

52 See Nucciotti/Somigli/Pruno, "Atlas of Masonry" (n. 10).

53 Both YGV2 and YGV3 are associated with the restoration of the 1970s. YGV2 is a surface dressing primarily visible on E1, the presbytery, and the north chapel floor. It was executed with a chisel 3.5 centimeters wide, leaving marks approximately 4.6 millimeters wide and 1.3 millimeters deep. The tool's orientation follows circular segments, with the chord of the arc generally parallel to the vertical side, occasionally parallel to the horizontal side, and rarely intersecting at 90°. The margins have been reworked. This surface dressing is the same as the one found in the restorations of the Cupola Church. YGV3 is visible on some elements of the reconstructed columns. It is characterized by the use of a bush hammer (5×5 teeth; distance between teeth: 2.7 millimeters) and a toothed blade (*gradina*) with 9 teeth (distance between teeth: 3.1 millimeters).

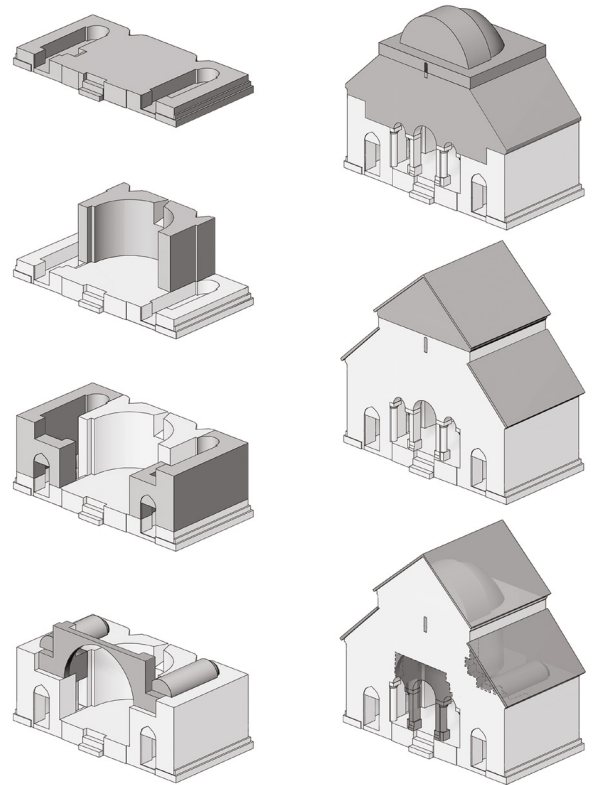
54 It is worth to note that the only other complex analyzed with the methodologies of building archaeology is the basilica of Yereruyk'. Nadia Montevicchi, Cristina Tonghini, Gaiané Casnati, "Lo sviluppo costruttivo della basilica di Ererouk (Armenia), secoli vi–x: una ri-lettura archeologica", *Arqueologia de la arquitectura*, 9 (2012), pp. 29–56.



[fig. 17] Left: restoration visible in elevations 1 and 5 (counter-façade); right: the surface dressing of the phase 5: ygv2 (on the left) and ygv3 (on the right)

and the relationship with the church itself and the others. Masonry types have been recorded in every single building of the whole area.

According to the archaeological analysis, five construction phases have been identified. At our current state of knowledge, phase 1 is the most ancient and belongs to a period before the twelfth century. No further specification of its timeframe is possible to establish at this point. It includes the huge enclosure walls and the entrance (B3 and B5), characterized by big basalt blocks. Likewise, B2, B6, and B7 belong to this phase, featuring a similar masonry type, even if their function is still unknown. Phase 2 is mainly related to the construction of the Zorats' Church carried out during the fourteenth century, and is divided into seven sub-phases according to the constructive project of the monument. Some other structures connected to the monastery complex (e.g., B9) were probably built during this second phase, but in a wider chronological range (twelfth–fourteenth centuries). The other buildings, such as the courtyard (B4) in front of the church, B11, and the two cemetery areas with engraved tombstones, were realized later than the previous structures. They belong to phase 3, dated after the fourteenth century. The archaeological investigation highlighted a huge collapse event that affected the church (Phase 4), which mostly damaged the façade and its northern side, where some traces are still visible. The last phase includes restoration after this collapse, and it is chronologically referred to 1971–1972.

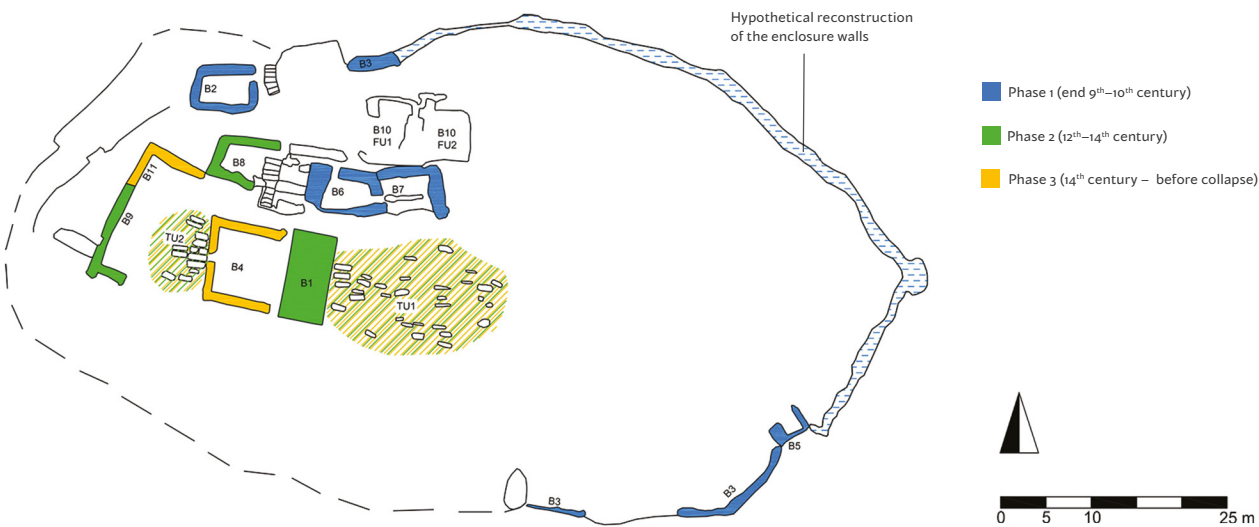


[fig. 18] A schematic 3D model of the construction phases of the Zorats' Church according to the archaeological analysis

It is important to note that according to archaeological investigations and evidence, the Zorats' Church was built in one main constructive phase. The builders adopted some specific techniques and stability features for this structure, which is unique in the area. The archaeological approach adopted

here allows us to generate new data by analyzing and comparing the constructive techniques of different buildings. It contributes to our understanding of their chronology and, eventually, the economy of the region and the society that commissioned these buildings.

F.C. & D.B.



[fig. 19] Plan with the archaeological phases of the complex of the Zorats' Church

AN ARCHAEOLOGICAL CATALOGUE OF THE ZORATS' CHURCH (YGV4, AC1)

E1: ARCHAEOLOGICAL ANALYSIS



Stratigraphic analysis legend

AC	Architectural Complex	↓ ↓ ↓	abuts against	—	negative MSUs limits
B	Building	~	cut by	---	cracks
E	Elevation	~	linked to	---	not visible
102	Positive MSUs Id. Number	---	MSUs limits		
111	Negative MSUs Id. Number				

Constructive phases legend

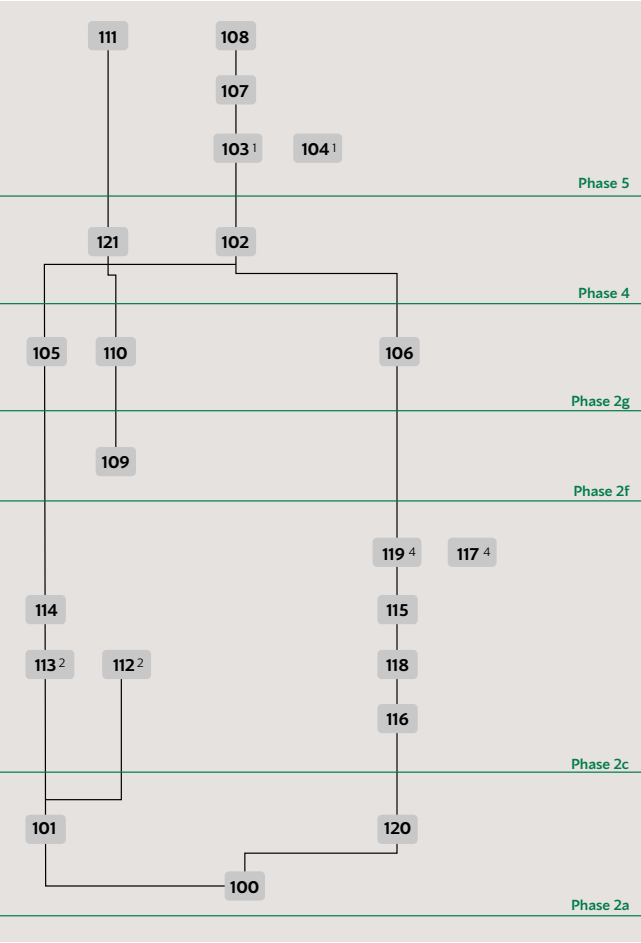
Phase 2a	Phase 2d	Phase 4
Phase 2b	Phase 2e	Phase 5
Phase 2c	Phase 2f	
	Phase 2g	

E1: LIST OF MSUS

ID MSU	Definition	Later than	Earlier than	Contemporary with	Equal to
100	First and second steps of the platform in E1		101, 120	207 (E2), 431 (E4), 432 (E4)	
101	First row of ashlars in the right part of the lower elevation in E1	100	112	208 (E2)	
102	Collapse of the central part of E1	105, 106	103		227 (E2), 400 (E4)
103	Filling (reconstruction) of the central part of E1	102	107	104	
104	Single-light window in E1			103	
105	First cornice under the first roof (left part)	113	102	233 (E2)	
106	First cornice under the first roof (right part)	119	102	451 (E4)	
107	First (reconstructed) cornice under the first roof in the central part of E1	103	108		

108	First roof in E1	107, 109			224 (E2), 401 (E4)
109	Masonry upon the first roof MSU 108 in E1		108, 110	203 (E2), 204 (E2), 455 (E4)	
110	Second molded cornice under the second roof in E1	109	121	228 (E2), 462 (E4)	
111	Second roof in E1	121			230 (E2), 479 (E4)
112	One ashlar upon MSU 101 near the left quoin in E1	101	102	113	
113	Left corner of E1	101	105	112, 114	209 (E2)
114	Two ashlars in the left part of E1 under the first cornice		105	113	
115	Two ashlars of the right corner of E1	118	119	116	439 (E4)
116	Masonry near the lower part of the right corner	120	102	115, 118	
117	Two ashlars near the upper part of the right corner in E1		106	119	
118	Two ashlars in the lower part of the right corner in E1	120	115	116	434 (E4)
119	Upper part of the right corner in E1	115	106	117	446 (E4)
120	Right part of the first row of ashlars in E1	100	116	448 (E4)	
121	Collapse of the upper part of the pitched roof in E1	110	111		229 (E2), 478 (E4)

E1: MATRIX

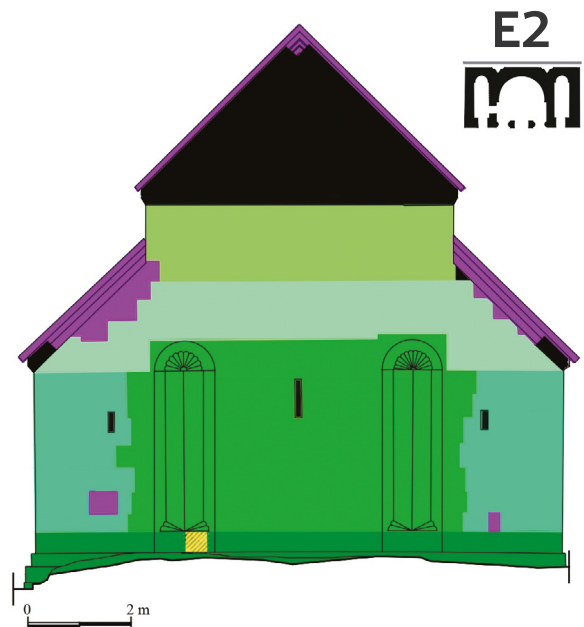


E2: ARCHAEOLOGICAL ANALYSIS



Stratigraphic analysis legend

AC	Architectural Complex	↓↓↓	abuts against	---	negative MSUs limits
B	Building	∩	cut by	---	cracks
E	Elevation	∪	linked to	---	not visible
102	Positive MSUs Id. Number	---	MSUs limits		
111	Negative MSUs Id. Number				



Constructive phases legend

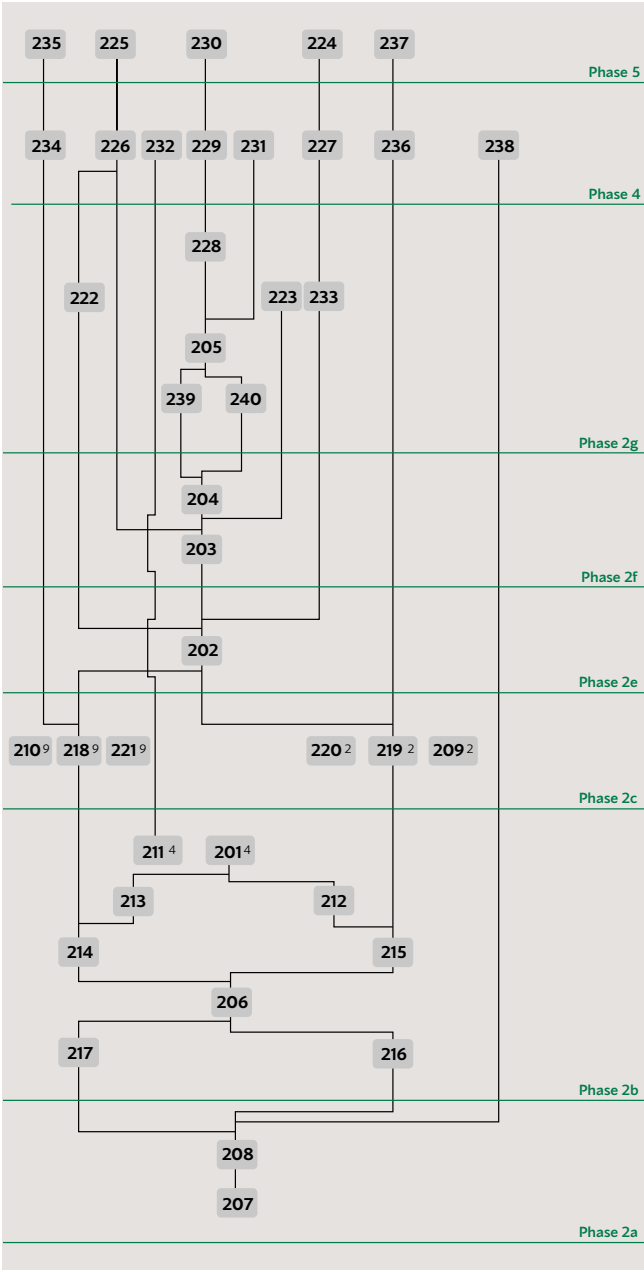
Phase 2a	Phase 2d	Phase 4
Phase 2b	Phase 2e	Phase 5
Phase 2c	Phase 2f	
	Phase 2g	

E2: LIST OF MSUS

ID MSU	Definition	Later than	Earlier than	Contemporary with	Equal to
201	Middle part of the elevation (connected to window MSU 211)	214, 215	202	211, 212, 213	
202	Three courses of masonry above the central window + two ashlar on ext. side	201	203		
203	Three courses of masonry above MSU 202, in E2	202	204	109(E1), 311(E3)	
204	One course above MSU 203 (smaller pieces creating horizontal level), in E2	203	239, 240	109 (E1), 311 (E3)	
205	Top of the elevation under the roof	239, 240	228, 231		
206	Middle part of the lower masonry, in E2	216, 217	214, 215		
207	Two steps overhanging in the podium		208	100 (E1), 315 (E3)	
208	One course above MSU 207 (base of masonries) in E2	207	216, 217	101 (E1), 302 (E3)	
209	Right corner (above MSU 208 and under the lower roof)	215	202	219, 220	113 (E1)
210	Left corner (above MSU 208 and under the lower roof)	214	202	218, 221	303 (E3)
211	Single-light window in the center of E2			201	
212	Lunette on top of the right recess	215	202	201	

213	Lunette on top of the left recess	214	202	201	
214	Left dihedral recess in E2 (central part)	206	201, 213, 218, 221		
215	Right dihedral recess in E2 (central part)	206	201, 212, 219, 220		
216	Lower part of the right recess in E2	208	206		
217	Lower part of the left recess in E2	208	206		
218	Portion of masonry on the left side of E2, between MSUs 210 and 214	214	234	210, 221	
219	Portion of masonry on the left side of E2, between MSUs 209 and 215	215	236	209, 220	
220	Small apsidal window on the right side of E2	215		209, 219	
221	Small apsidal window on the left side of E2	214		210, 218	
222	Original part of the lower left roof	202	226	307 (E3)	
223	One triangular ashlar on the right side of E2, between MSUs 203 and 224	203	227		
224	Reconstruction of the lower right part of the pitched roof	227			108 (E1)
225	Reconstruction of the lower left part of the pitched roof	226			310 (E3)
226	Collapse of the left lower pitched roof	203, 222	225		308 (E3)
227	Collapse of the right lower pitched roof	223, 233	224		102 (E1)
228	Original upper pitched roof	205	229	110 (E1), 312 (E3)	
229	Collapse of the vertex of the roof	228	230		121 (E1), 318 (E3)
230	Filling of the collapse MSU 229	229			111 (E1), 313 (E3)
231	Damaged surface in the upper part of E2	205			
232	Cut for the opening of the single-light window MSU 211	211			
233	Original part of the right lower roof	202	227	105 (E1)	
234	Cut for the replacement of one ashlar in the left part of E2	218	235		
235	Filling of the cut MSU 234 (one ashlar)	234			
236	Cut for the replacement of one ashlar in the left part of E2	219	237		
237	Filling of the cut MSU 236 (one ashlar)	236			
238	Damaged surface in the lower left part of E2	208			
239	One triangular carved ashlar (rosette) on the left of MSU 205	204	205		
240	One triangular carved ashlar (rosette) on the right of MSU 205	204	205		

E2: MATRIX



E3: ARCHAEOLOGICAL ANALYSIS



Stratigraphic analysis legend

AC	Architectural Complex	↓↓↓	abuts against	---	negative MSUs limits
B	Building	~	cut by	---	cracks
E	Elevation	~	linked to	---	MSUs limits
102	Positive MSUs Id. Number	---	MSUs limits	---	not visible
111	Negative MSUs Id. Number	---	MSUs limits	---	not visible

Constructive phases legend

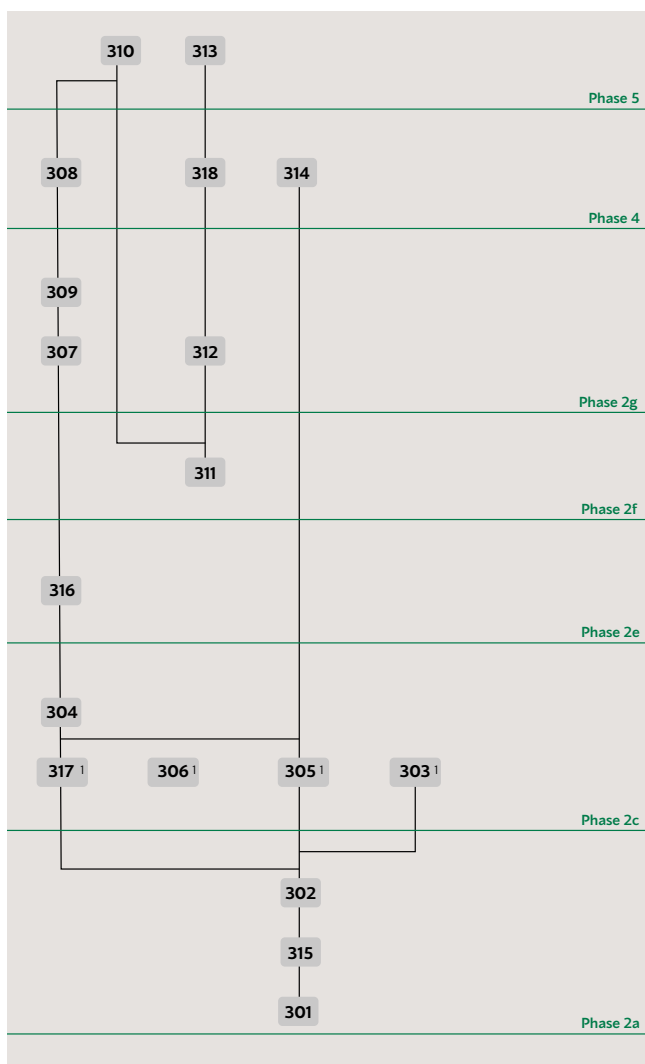
■	Phase 2a	■	Phase 2d	■	Phase 4
■	Phase 2b	■	Phase 2e	■	Phase 5
■	Phase 2c	■	Phase 2f		
■	Phase 2g				

E3: LIST OF MSUS

ID MSU	Definition	Later than	Earlier than	Contemporary with	Equal to
301	Second and third step of the platform of E3		315	207 (E2), 410 (E4)	
302	First course of ashlar of E3	315	305	208 (E2), 469 (E4)	
303	Right corner of E3	302	307	305	210 (E2)
304	Portion of the left corner between MSU 317 and MSU 316 in E3	305, 317	316		414 (E4)
305	Main elevation of E3	302	304	303, 306, 317	
306	Single light-window in E3			305	
307	First cornice under the first roof of E3	303, 305	309	222 (E2)	
308	Collapse of the lower pitched roof in E3	309	310		226 (E2), 402 (E4)
309	One ashlar of the molded cornice on the left corner of E3	307	308		463 (E4)
310	First roof of E3	309, 311			225 (E2), 450 (E4)

311	Masonry upon MSU 310 in E3		310, 312	203 (E2), 204 (E2), 453 (E4)	
312	Molded cornice under the second roof of E3	311	318	228 (E2), 462 (E4)	
313	Second roof of E3	318			230 (E2), 479 (E4)
314	Detachment of small corners of ashlar in E3	305			
315	First step of the platform in E3	301		207 (E2), 413 (E4)	
316	Upper ashlar of the left corner in E3	304	307		425 (E4)
317	Two lowest ashlars in the left corner of E3	302	304	305	411 (E4)
318	Collapse of the upper pitched roof in E3	312	313		229 (E2), 478 (E4)

E3: MATRIX



E4: ARCHAEOLOGICAL ANALYSIS



Stratigraphic analysis legend

- AC Architectural Complex ↓↓↓ abuts against --- negative MSUs limits
B Building ~ cut by
E Elevation ~ linked to --- cracks
102 Positive MSUs Id. Number --- MSUs limits ▨ not visible
111 Negative MSUs Id. Number

Constructive phases legend

- Phase 2a ■ Phase 2d ■ Phase 4
■ Phase 2b ■ Phase 2e ■ Phase 5
■ Phase 2c ■ Phase 2f ■ Phase 2g

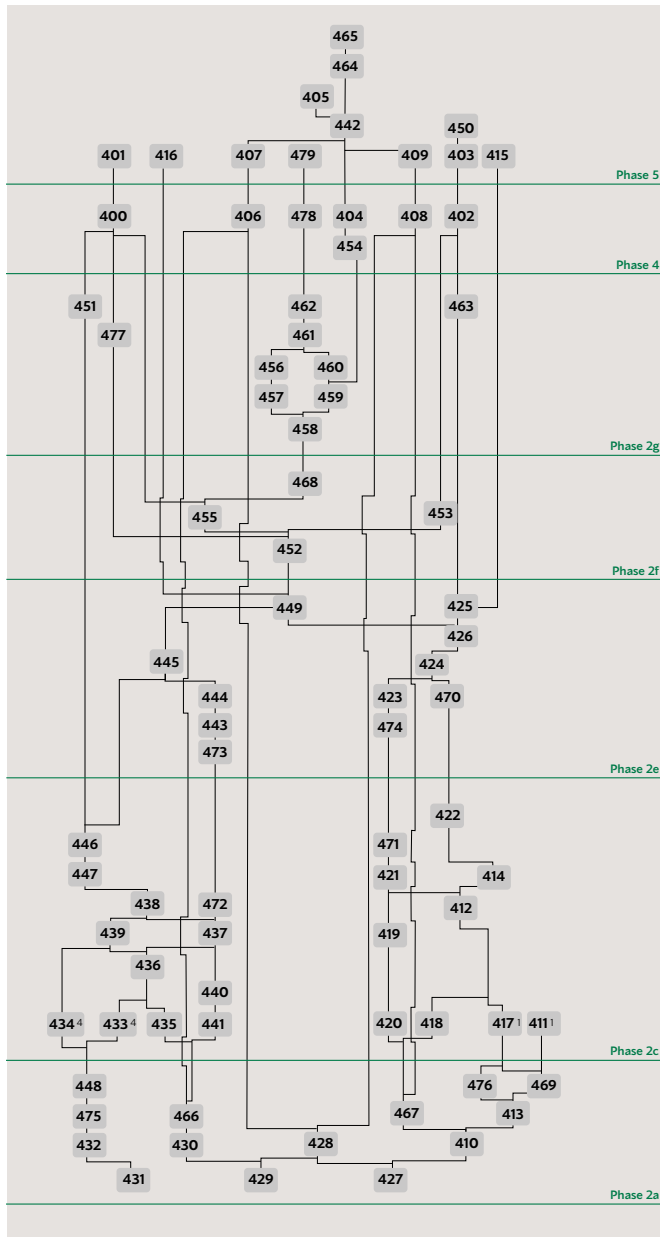
E4: LIST OF MSUS

ID MSU	Definition	Later than	Earlier than	Contemporary with	Equal to
400	Collapse of the left portion of the lower pitched roof	451, 455, 477	401		102 (E1)
401	Reconstruction of the left portion of the lower pitched roof	400			108 (E1)
402	Collapse of the right portion of the lower pitched roof	453, 463	403		308 (E3)
403	Reconstruction of the right portion of the lower pitched roof	402	450		
404	Collapse of the middle arch and the masonry above it in the middle of the elevation	449	442		
405	Reconstructed masonry above the arches (filling of MSU 404)	442	464		
406	Cut for the replacement of the threshold of the left arch and of the inner floor	428, 466	407		
407	Filling of MSU 406	406	442		
408	Cut for the replacement of the threshold of the right arch and of the inner floor	428, 467	409		

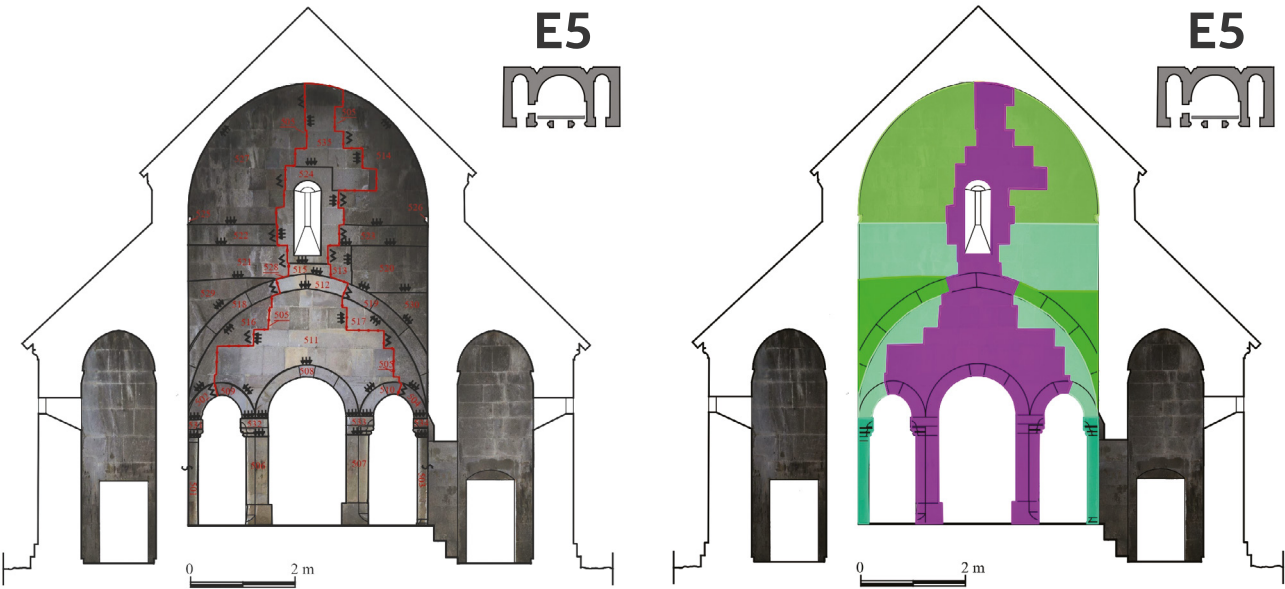
409	Filling of MSU 406	408	442		
410	Portion of platform in the right lower corner of E4	427	413, 418	301 (E3)	
411	Portion of masonry on the right side of the access to the right chapel	469	414	417	317 (E3)
412	Carved lintel of the access to the right chapel	417, 418	414, 421		
413	Right corner ashlar of the upper step of the platform	410	476	315 (E3)	
414	Portion of masonry on the right of the lintel MSU 412	412	422		304 (E3)
415	Beam hole above the right little arch	426			
416	Beam hole above the left little arch	449			
417	Right jamb of the access to the right chapel	469, 476	414	411	
418	Left jamb of the access to the right chapel	410	412, 467		
419	Two ashlar between MSU 418 and MSU 420	420	421		
420	Right jamb of the arch in E4, B1	467	419		
421	Portion of masonry between the lintel MSU 412 and MSU 420	412, 419	422, 471		
422	Portion of masonry above the lintel MSU 412	414, 421	470		
423	Corbel in the right portion of E4, B1	474	424		
424	Portion of masonry in the right part of the elevation	423, 470	426		
425	Two ashlar under the right portion of the lower pitched roof	426	463		316 (E3)
426	Portion of masonry above MSU 424 (right portion of E4, B1)	424	415, 449		
427	Portion of masonry under the right arch of E4, B1		410, 428		
428	Portion of masonry under the central arch of E4, B1	427, 429	406, 408		
429	Portion of masonry under the left arch of E4, B1		428, 430		
430	Portion of platform in the lower left part of the elevation (under the access to the left chapel)	429, 431	433, 435		
431	First visible step of the platform in the left corner of the elevation		430, 432	100 (E1)	
432	Second visible step of the platform in the left corner of the elevation	431	475	100 (E1)	
433	Left jamb of the access to the left chapel		432	436, 448	
434	Portion of the left corner	448	439		118 (E1)
435	Right jamb of the access to the left chapel	430	436, 466		
436	Lintel of the access to the left chapel	433, 435	437, 439		
437	Portion of masonry between the lintel MSU 436 and the left arch of E4, B1	438, 440	472		
438	Portion of masonry above the lintel MSU 436	439	437, 447		
439	Portion of the left corner beside the lintel MSU 436	436, 434	438		115 (E1)
440	Two ashlar between the access to the left chapel and the left arch of E4, B1	435, 441	437		
441	Left jamb of the left arch in E4, B1	466	440		
442	Reconstruction of the arches of E4, B1	407, 409	405		
443	Corbel beside the left arch of E4, B1	473	444		
444	Portion of masonry on the left of the left arch in E4, B1	443	445		
445	Portion of masonry on the left part of the elevation	444, 446	449		
446	Upper part of the left corner	447	445, 451		119 (E1)

447	Corbel in the left portion of the elevation (above MSU 439)	438	446		
448	Two ashlar of the left corner between MSU 432 and MSU 434	475	434	120 (E1)	
449	Portion of masonry in the central part of E4, B1	426, 445	416, 452		
450	Reconstructed right pitch of the lower roof	403			310 (E3)
451	One ashlar of the cornice of the left lower pitch of the roof	446	400	106 (E1)	
452	One course of ashlar above MSU 452 (springer of the inner vault)	449	453, 455, 477		
453	Portion of masonry on the right side of the window in E4, B1	452	459	311 (E3)	
454	Vertical crack in the middle of the elevation	459			
455	Portion of masonry on the left side of the window in E4, B1	452	400, 468	109 (E1)	
456	Triangular ashlar under the left pitch of the upper roof	457	462		
457	Portion of masonry in the upper left part of the elevation (with one carved <i>khach'k'ars</i>)	458	456		
458	Little portion of masonry above the window (MSU 468), with one carved ashlar	468	461		
459	Right portion of masonry in the upper part of the elevation	458	454, 460		
460	Triangular ashlar under the right pitch of the upper roof	459	462		
461	Upper portion of the elevation	458	462		
462	Upper pitched roof	461	478	110 (E1), 312 (E3)	
463	One ashlar of the cornice of the right pitch of the lower roof	425	402		309 (E3)
464	Cut of a corner of one ashlar of the central arch in E4, B1	405	465		
465	Filling of MSU 464	464			
466	One ashlar under the left jamb of the left arch in E4, B1	435	441		
467	One ashlar under the right jamb of the right arch in E4, B1	418	420		
468	Single-light window in the upper part of the elevation	455	458		
469	Two ashlar of the right corner, between MSU 413 and MSU 411	413	417	302 (E3)	
470	Portion of masonry on the right part of the elevation	422	424		
471	Capital of the right arch in E4, B1	421	474		
472	Capital of the left arch in E4, B1	437	473		
473	Part of the left arch in E4, B1	472	443		
474	Part of the right arch in E4, B1	471	423		
475	Bottom left jamb of the left entrance in E4, B1	432	448		
476	Bottom right jamb of the right entrance in E4, B1	413	417		
477	Triangular shaped ashlar on the left part of E4, B1 under the roof MSU 401	452	400		
478	Collapse of the upper pitched roof in E4	462	479		121 (E1), 318 (E3)
479	Restoration of the upper pitched roof in E4	478			111 (E1), 313 (E3)

E4: MATRIX



E5: ARCHAEOLOGICAL ANALYSIS



Stratigraphic analysis legend

AC	Architectural Complex	↕↕↕	abuts against	—	negative MSUs limits
B	Building	~	cut by	---	cracks
E	Elevation	~	linked to	—	MSUs limits
102	Positive MSUs Id. Number	—	MSUs limits	▨	not visible
111	Negative MSUs Id. Number				

Constructive phases legend

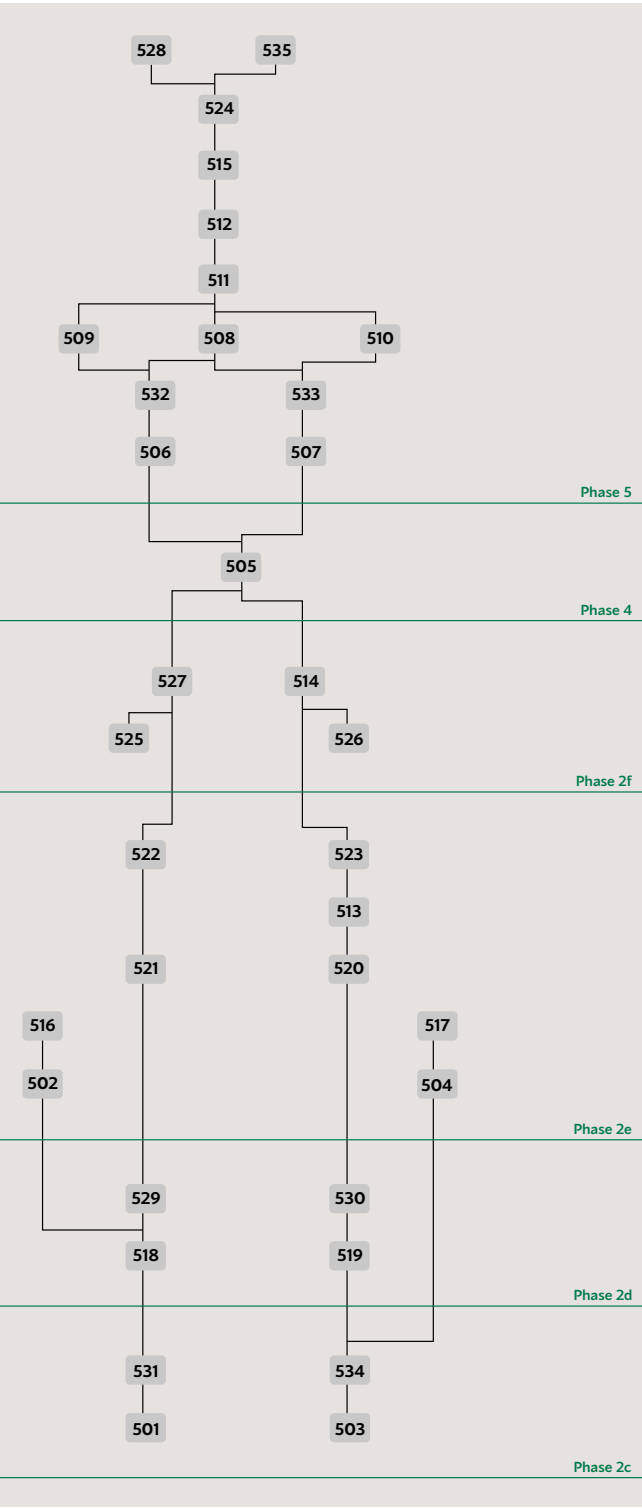
■	Phase 2a	■	Phase 2d	■	Phase 4
■	Phase 2b	■	Phase 2e	■	Phase 5
■	Phase 2c	■	Phase 2f		
■		■	Phase 2g		

E5: LIST OF MSUS

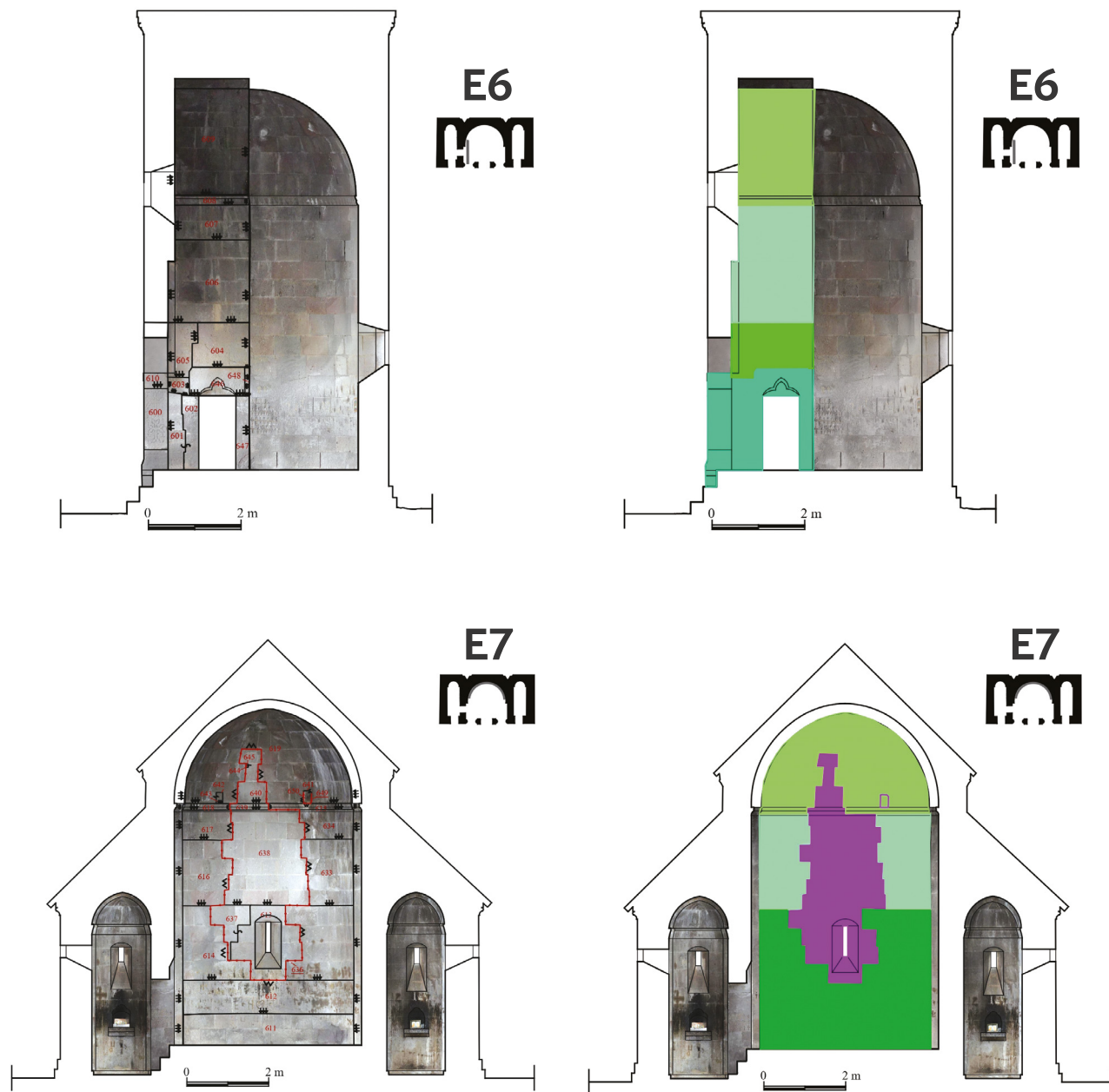
ID MSU	Definition	Later than	Earlier than	Contemporary with	Equal to
501	Left jamb of the left arch of the counter façade E5		531		620 (E8)
502	Left part of the left arch of E5	518	516		
503	Right jamb of the right arch of E5		534		600 (E6)
504	Right part of the right arch of E5	534	519		
505	Collapse of the central part of the façade and the counter façade E5	527, 537	506, 507		
506	Left jamb of the central arch of E5	505	532		
507	Right jamb on the central arch of E5	505	533		
508	Central arch of E5	532, 533	511		
509	Right portion of the left arch of E5	532	511		
510	Left portion of the right arch of E5	533	511		
511	Reconstructed central portion of E5	508, 509, 510	512		
512	Central reconstructed ashlar of the relieving arch of E5	511	515		

513	Little portion of masonry near the bottom right corner of the window MSU 524	520	523		
514	Right upper portion of masonry of E5	526	505		
515	Replaced ashlar between the relieving arch and the window MSU 524 in E5	512	524		
516	Portion of masonry under the right portion of the relieving (MSU 518) in E5	502	505		
517	Portion of masonry under the left portion of the relieving (MSU 519) in E5	504	505		
518	Left portion of the relieving arch of E5	531	502		
519	Right portion of the relieving arch of E5	534	504		
520	Portion of masonry on the right of the window MSU 524 in E5	530	513		
521	Portion of masonry on the left of the window MSU 524 in E5	529	522		
522	Course of ashlar upon MSU 521 in E5, on the left of the window in E5	521	527		
523	Course of ashlar upon MSU 520, on the right of the window in E5	513	514		
524	Reconstructed single light window of E5	515	535		
525	Springer of the vault MSU 632 of E6, visible also in E5		527		631 (E8)
526	Springer of the vault MSU 609 of E6, visible also in E5		514		608 (E6)
527	Upper left portion of masonry of E5	525	505		
528	Little crack under the left corner of the window MSU 524	505			
529	Portion of masonry upon the left portion of the relieving arch MSU 518	518	521		
530	Portion of masonry upon the right part of the relieving arch MSU 519	519	520		
531	Capital of the jamb MSU 501	501	518		
532	Capital of the reconstructed jamb MSU 506	506	508, 509		
533	Capital of the reconstructed jamb MSU 507	507	508, 510		
534	Capital of the right jamb MSU 503	503	519		610 (E6)

E5: MATRIX



E6-7-8: ARCHAEOLOGICAL ANALYSIS

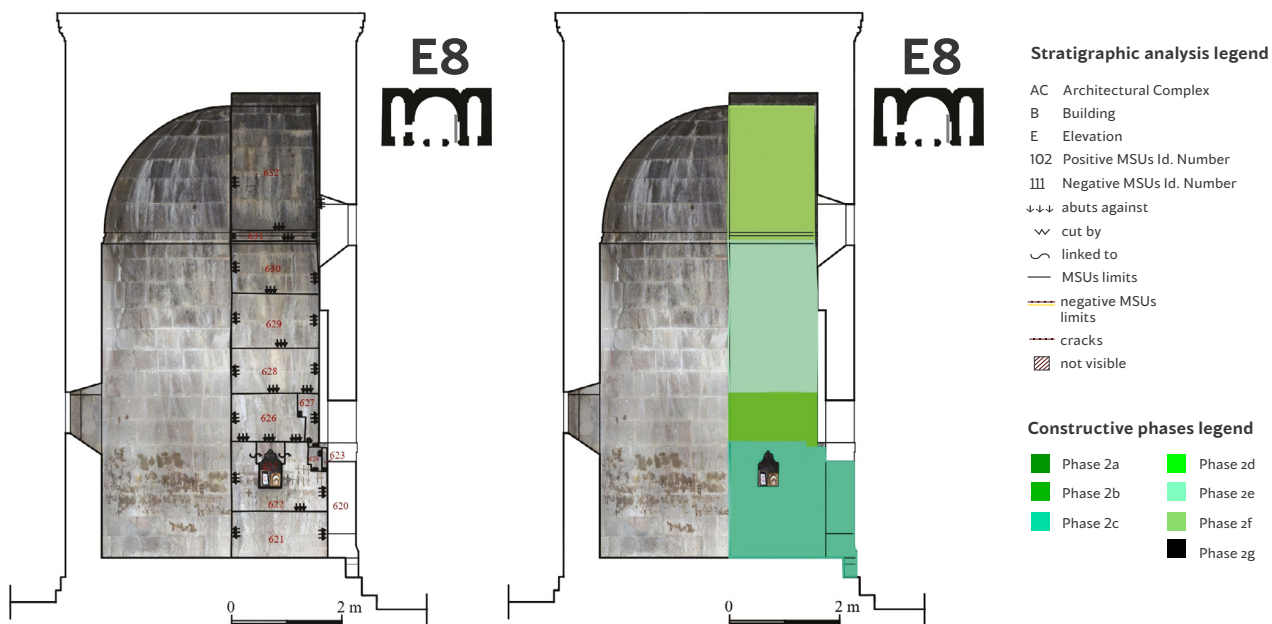


Stratigraphic analysis legend

AC	Architectural Complex	↕↕↕	abuts against	—	negative MSUs limits
B	Building	∩	cut by	---	cracks
E	Elevation	~	linked to	▨	not visible
102	Positive MSUs Id. Number	—	MSUs limits		
111	Negative MSUs Id. Number				

Constructive phases legend

■	Phase 2a	■	Phase 2d	■	Phase 4
■	Phase 2b	■	Phase 2e	■	Phase 5
■	Phase 2c	■	Phase 2f		
■		■	Phase 2g		



E6-7-8: LIST OF MSUS

E6

ID MSU	Definition	Later than	Earlier than	Contemporary with	Equal to
600	Left jamb of the left arch of the façade, visible in E6				503 (E5)
601	Portion of masonry between the left jamb (MSU 602) of the access to the northern chapel and the jamb (MSU 600) of the left arch of the façade, in E6	600		602	
603	Ashlar on the left of the lintel MSU 646, in E6	610, 646			
604	Portion of masonry upon the lintel MSU 646 in E6	648	605		
605	Portion of masonry on the left of MSU 604, in E6	604	606		
606	Portion of masonry in the central part of E6	605, 616	607		
607	Portion of masonry under the cornice MSU 608 in E6	606, 617	608		
608	Springer of the vault (MSU 609) in E6	607, 618	609		526 (E5)
609	Portion of the vault visible in E6	608, 619	514	632	
610	Capital of the jamb MSU 600	601	603		534 (E5)
646	Lintel of the access to the northern chapel in E6	602, 647	603, 648		
647	Right jamb of the access to the northern chapel in E6	614	646		
648	Two ashlar between the lintel MSU 646 and the apse, in E6	614, 646	604		

E7

ID MSU	Definition	Later than	Earlier than	Contemporary with	Equal to
611	First two courses of the masonry of the apse E7		612		
612	Two rows of ashlar upon MSU 611 in E7	611	614, 615, 621, 647		
613	Reconstructed window of the apse (E7)	636	637		

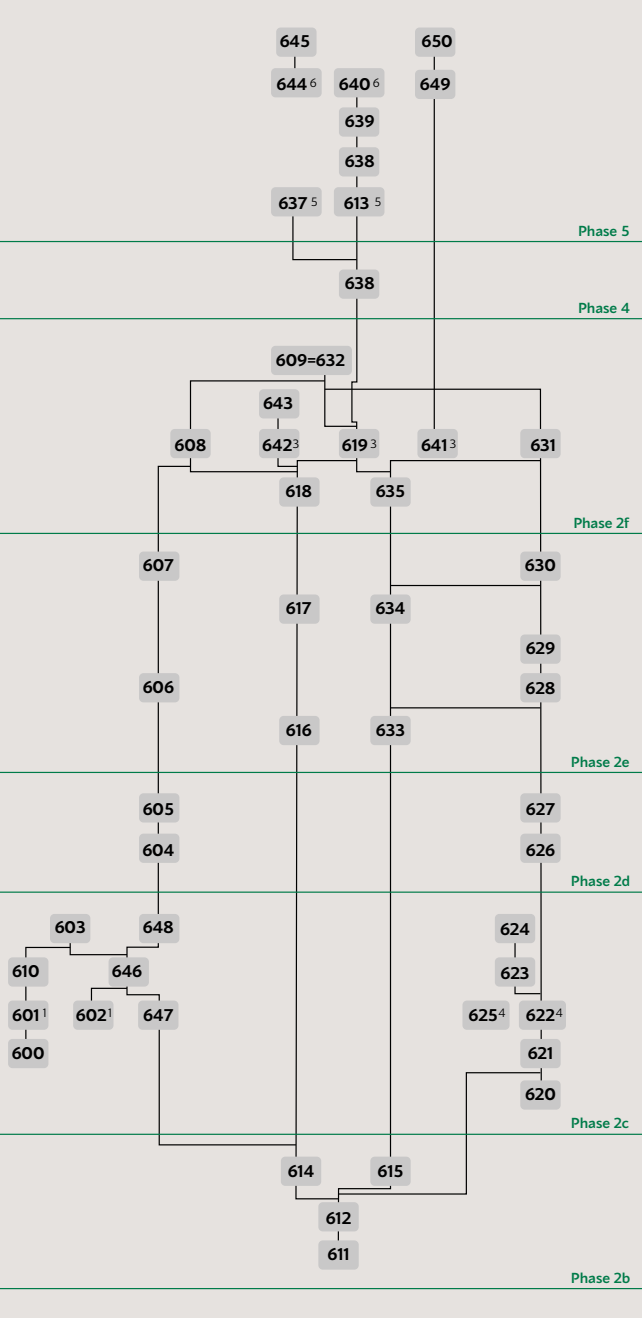
E7

ID MSU	Definition	Later than	Earlier than	Contemporary with	Equal to
614	Portion of masonry on the left of the window MSU 613 in E7	612	648, 616		
615	Portion of masonry on the right side of the window in E7	612	622, 633		
616	Portion of masonry upon MSU 614	614	606, 617		
617	Portion of masonry under the cornice MSU 618 in E7	616	607, 618		
618	Left portion of the springer of the half-dome of the apse (E7)	617	608, 619		
619	Half-dome of E7	618, 635	609, 632, 636, 649	642	
634	Portion of masonry under the left portion of the cornice MSU 635 in the apse E7	633	630, 635		
635	Left portion of the cornice in the apse E7	634	619, 631		
636	Collapse of the central portion of the apse	635	613		
637	Portion of the filling of MSU 636, on the left of the window, in E7	636	638	613	
633	Portion of masonry upon MSU 615	615	628, 634		
638	Portion of reconstructed masonry upon the window in E7	613	639		
639	Two replaced ashlar of the cornice in E7	638	640		
640	Upper portion of the reconstruction of the collapse MSU 636 in E7	639		644	
641	Putlog hole in in the right portion of the half-dome in E7, over the cornice MSU 635		649	619	
642	Putlog hole in the left portion of the half-dome, over the cornice MSU 618	618	643	619	
643	Filling of the putlog hole MSU 642	642			
644	Putlog hole in the upper portion of the filling of MSU 636		645	640	
645	Filling of the putlog hole MSU 644	644			
649	Cut putlog hole over the putlog hole MSU 641 (E7)	641	650		
650	Filling of the putlog hole MSU 649 in E7	650			

E8

ID MSU	Definition	Later than	Earlier than	Contemporary with	Equal to
620	Right jamb of the right arch of the façade, visible in E8, GE1		621		501 (E5)
621	First two rows of ashlar in E8	611, 620	622		
622	Portion of masonry around the niche MSU 625	621	626	625	
623	Capital of the jamb MSU 620	622	624		
624	Ashlar on the left of the capital MSU 623	623	627		
625	Niche in E8			625	
626	Portion of masonry upon the niche MSU 625	622	627		
627	Two ashlar between MSU 626 and the relieving arch of E5 (MSU 518)	626	628		
628	Portion of masonry upon MSU 628 in E8	627, 633	629		
629	Portion of masonry under MSU 630	628	630		
630	Masonry under the right portion of the cornice MSU 631	629, 634	631		
631	Springer of the vault MSU 632 in E8	630	632		525 (E5)
632	Left portion of the vault visible in E8	631, 632		609	

E6-7-8: MATRIX



APPENDIX

THE ZORATS' CHURCH: AN ARCHITECTURAL DESCRIPTION⁵⁵

Cecilia Luschi, Francesco Trovattelli, Alessandra Vezzi

On the highest slope of Yeghegis, located on the north-eastern edge of the town, stands the so-called Zorats' Church. Its name wishes to convey the meaning "Church of the Army," based on the assumption, first expressed by the early twentieth-century ethnographer Eruand Lalayean, that the open space in front of the church was occupied by army contingents during the liturgy. However, since there is no corroborative evidence of this usage in the coeval sources, this assumption should be taken with caution.⁵⁶

The church was founded in the first decade of the fourteenth century by the secular and spiritual leaders of Vayots' Dzor, i.e., the Prince Burt'el Örbëlean and the Bishop Step'anos Tarsayich Örbëlean. This information on the names of the founders is based on a new reading of the foundation inscription of the church and comes to challenge and correct the previous hypothesis that posited Step'anos Tarsayich as its sole founder.⁵⁷

There is a rectangular "courtyard" in front of the church. Since Lalayean, the function of this space has been interpreted in a rather unique way. It is thought that this open courtyard served as a place where soldiers on horseback received a blessing before leaving for battle or where military-religious celebrations took place. This interpretation has been repeated by subsequent scholars, although Pogossian in this volume calls for caution because such a practice in Zorats' Church is not attested in the sources to the best of our knowledge. Nor is there any evidence of the use of the name "Zorats' Church" prior to Lalayean's ethnographic work and description of the churches in Yeghegis.⁵⁸

Today, only the perimeter wall emerges from the ground up to about 90 centimeters in height. This space, now open, was probably covered by a wooden structure. Although no remains have been found, the existence of this light structure would explain the presence of the two thick ashlar of presumed support that still emerge from the façade.

The church rests on a rectangular base in basalt ashlar consisting of two steps on all sides except for the façade, where the first step is aligned with the upper masonry. The first step is 8.3 centimeters deep and 24.5 centimeters high, while the second has the measures of 9 centimeters and 34.6 centimeters. The ground plan is a large rectangle placed on the longest side. It consists of three rooms at two different levels; the two lateral ones with an elongated rectangular plan and apsidal terminals stand alongside the raised central hall occupied only by the presbytery.⁵⁹

The building faces west and is oriented about 35° to the north. The façade, covered with a double sloping system, consists of a vertical compact masonry that opens into three raised arches and two minor entrances on the side. The two entrances are surmounted by two large architraves in which inflected arches are carved.

55 The graphic representation of the architectural survey has been geometrically verified. However, the reader must be warned that photomaps of rounded surfaces do not have a high metric reliability and are, therefore, graphically differentiated. Architectural surveys and their representations included in this analysis – plans, façades, sections, photomaps, and 3D models – have been produced by the DIDA Research Group of the University of Florence, including: DIDA Mission Director Cecilia Luschi, and collaborators Laura Aiello, Beatrice Stefanini, Francesco Trovattelli, Alessandra Vezzi, Marta Zerbini, Sara Masi, Filippo Prodi, and Domenico Rivetti. Surveying operations were carried out according to an integrated method that combines direct and photogrammetric surveying, developing the 3D digital reworking of the object. Surveying operations were carried out according to an integrated method that combined direct surveying with photogrammetric surveying, with an eventual development of a 3D digital reproduction of the object. Cecilia Luschi, University of Florence (DIDA Department), cecilia.luschi@unifi.it; Francesco Trovattelli, University of Florence, francesco.trovattelli@unifi.it; Alessandra Vezzi, University of Florence, alessandra.vezzi@unifi.it.

56 For a discussion of the name, see Pogossian, "The Golden Age of Yeghegis".

57 See Hamlet Petrosyan's analysis in Petrosyan/Pogossian, "Armenian Inscriptions", inscription 1.1.

58 Pogossian, "The Golden Age of Yeghegis" (n. 1).

59 The survey operations conducted during the on-site campaigns were subject to specific external constraints, namely the limited time available on site, the challenging accessibility, and the ongoing development of the work on the laptop. Consequently, a direct three-dimensional photographic processing survey was deemed the optimal approach. This approach entailed a direct survey campaign that focused on restoring the external profiles and internal geometries in accordance with a fundamental architectural reading plan. In accordance with the protocol of the integrated survey, metrically reliable data were obtained, which formed the basis for the control and management of the models for a thematic analysis.

The eastern elevation is marked by two niches, a typical compositional solution of this building typology, and by three splayed openings that overlook the three internal rooms. A further splayed opening marks the center of the main façade, giving breath to the large vertical void of the central room. The north and south side elevations are also characterized by a small splayed opening each.

The connection to the exterior is, therefore, organized by three entrances, the two lateral ones on the external level and the central one by means of three steps embedded in the wall's thickness. The entire central body containing the altar is raised by about 80 centimeters with respect to the side sacristies and by almost one meter with respect to the external footfall level. This significant difference in the height of the central hall has been interpreted as due to the need to compensate for the height of the troops on horseback who stood in front of it during celebrations, an interpretation, however, that requires further research and corroborating evidence.

The external compactness is totally eluded by the different internal heights of the presbyterial

portion; in fact, the apsidal dome is lower than the barrel vault that defines the rest of the hall. The two side chapels, covered by a barrel vault, end with the same architectural solution adopted in the central room. Little light filters into these narrow, high rooms, especially the one on the right. The latter, not having a direct connection to the central part, receives lighting only from the entrance door and from the two small, splayed openings that face east and south.

During the inspections carried out on the building no worrying cracks were detected. However, in the course of its life, like most of the historical cultural buildings of the Armenian territory, this church too experienced seismic events of considerable intensity. These caused local but, fortunately, not global damage to the structure. Historical documents and photos portray the destroyed building in its most vulnerable parts to horizontal movement, such as the three arches on the façade and the elements on the roof. The church was renovated in the twentieth century with the goal of restoring it to its original appearance.