

THE MAVRUCAN VALLEY: DOCUMENTATION OF A BYZANTINE AGRICULTURAL SETTLEMENT

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ABSTRACT

In the past few decades, settlement analysis became a well-known component of new research approaches to Byzantine Cappadocia. The nature of the existing material evidence indeed requires a perspective focusing on the social environment in which the monuments, along with their adornments, are situated. A particular challenge in doing this is the difficulty of the irregularities of the Cappadocian landscape and the extraordinarily large scale of the sites in general—in other words, the lack of locational precision via an accurate topographical map, which is critical to understanding the spatial relationships of human intervention across the large valleys. Our paper seeks to present preliminary results of exhaustive fieldwork in a remote valley of Cappadocia. The survey shows that previous scholarship focusing separately on the single monuments of the valley lacks crucial data for any sort of detailed analysis to determine the nature of the site. Our intention was therefore to implement, in a harsh and erosive area, an integrated methodology to produce as complete a record as possible of an entire settlement. The only way to do this appears to be through the combination of high-tech and traditional survey methods. As the settlement stretches throughout a large cultivated river valley, aerial documentation and georeferencing were the best choices to make sense of the massive amount of physical evidence for the life of a medieval agrarian and religious community.

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KEYWORDS

Byzantine Cappadocia, settlement archaeology, digital mapping, Byzantine wall painting, medieval agrarian communities

INTRODUCTION

Some 85 kilometers to the southwest of Kayseri, the locality known in the Late Modern era under various Greek and Turkish names as Potamia, Mavrucan Dere, or Dere Köy and comprising the present day villages of Güzelöz and Başköy, extends along the streambed of the so-called Mavrucan Dere and Güzel Dere for approximately nine and a half kilometers (Fig. 1).^{*} The area first became known to western scholars around the beginning of the twentieth century, and its monuments have been the subject of several publications up to the mid-2000s, with a primary focus on the wall paintings.¹ Regardless of the significance of the previous research, the exhaustive fieldwork we conducted in the area between 2009 and 2015 showed that the material, architectural, epigraphic, and art historical data had not been systematically documented but also that the nature of the settlement and its social context remains remarkably understudied.² For example, the only existing topographical map of the area, published by Nicole Thierry, is incomplete and inaccurate, thus lacking crucial data for any sort of detailed analysis to determine the nature of the site.

Our intention was, therefore, despite the limited budget, small field team, and often-underestimated problematics of working in a harsh, erosive area, to implement an integrated methodology to produce as complete a record as possible of an entire settlement. In a first phase, directed by Peker, we began with traditional surveying methods, employing an old-fashioned Total Station, a laser measurer, cracked AutoCAD software, and “a couple of pairs of knowledgeable eyes.”³ Nevertheless, the investigation we carried out augmented the number of documented churches from 11 to 36 and revealed significant hitherto unknown material which may sum up to more than 600 burials in relation with funerary churches, 35 large winemaking facilities, two mills, the rock-carved channels of a large irrigation system, several utilitarian spaces, epigraphic data, and surface ceramic finds. A particular challenge was presented by the difficulty of the irregularities of the landscape and the extraordinarily large scale of the site. In other words, locational precision, by means of an accurate topographical map, was

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¹ Hans Rott, *Kleinasiatische Denkmäler aus Pisidien, Pamphylien, Kappadokien und Lykien* (Leipzig: Dieterich, 1908), 149–51; Henri Grégoire, “Rapport sur un voyage d’exploration dans le Pont et en Cappadoce,” *Bulletin de Correspondance Hellénique* 33 (1909): 112–15; Guillaume de Jerphanion, *Une nouvelle province de l’art byzantin. Les églises rupestres de Cappadoce* (Paris: Paul Geuthner, 1925–42), 240–45; Jacqueline Lafontaine-Dosogne, “Nouvelles notes cappadociennes,” *Byzantion* 33 (1963): 134–36; Nicole Thierry, “Monuments inédits des régions de Göreme et Mavrucan. Notion de centres ruraux et monastiques en Cappadoce rupestre” (Thèse du IIIe Cycle dactylographiée, Paris, 1969), 141–54; Friedrich Hild and Marcell Restle, *Kappadokien* (Kappadokia, Charsianon, Sebasteia und Lykandos), *Tabula Imperii Byzantini* 2 (Vienna: Austrian Academy of Sciences Press, 1981), 232; Nicole Thierry, “La peinture de Cappadoce au XIIIe siècle. Archaïsme et contemporanéité,” *Studenica et l’art byzantin autour de l’année 1200* (1988): 370–72; Catherine Jolivet-Lévy, *Les églises byzantines de Cappadoce. Le programme iconographique de l’abside et de ses abords* (Paris: Éditions du Centre national de la recherche scientifique, 1991), 251–53; Catherine Jolivet-Lévy, “Églises retrouvées de Başköy (Cappadoce),” *ΔΧΑΕ* 26 (2005): 93–103; Catherine Jolivet-Lévy, *Un siècle après Guillaume de Jerphanion* (Paris: Éditions Geuthner, 2015), 237–57.

² Our survey aimed to map the settlement and to systematically document its paintings, architecture, and surface findings. We are now preparing a comprehensive book based on the large amount of evidence collected during the fieldwork. Nilüfer Peker and Tolga Uyar, “Güzelöz-Başköy ve Çevresi Bizans Dönemi Yerleşimleri 2009,” 28. *Araştırma Sonuçları Toplantısı* 1. cilt (2010): 283–302; Nilüfer Peker and Tolga Uyar, “Güzelöz-Başköy Bizans Yerleşimleri 2010,” 29. *Araştırma Sonuçları Toplantısı* 2. cilt (2011): 251–66; Nilüfer Peker and Tolga Uyar, “Güzelöz-Başköy Bizans Yerleşimleri 2011,” 30. *Araştırma Sonuçları Toplantısı* 2. cilt (2012): 147–56; Nilüfer Peker and Tolga Uyar, “Güzelöz-Başköy Bizans Yerleşimleri 2012,” 31. *Araştırma Sonuçları Toplantısı* 2. cilt (2013): 110–19; Nilüfer Peker, “Agricultural Production and Installations in Byzantine Cappadocia: A Case Study Focusing on Mavrucandere,” *BMGS* 44 (2020): 40–61.

³ Our most valuable tool, as our colleague Robert Ousterhout insists.



FIG. 1

General view, looking east toward Başköy, from the church of St. George (photo: Peker-Uyar). NB: All illustrations are from the Mavrucan Valley.



FIG. 2

Detailed plan of the valley, showing the locations of features identified in the survey (plan: Peker-Uyar).

lacking—critical to understanding the spatial relationships of human intervention across a sprawling valley.

In a second phase, directed by Uyar in 2018, we turned to the more sophisticated digital mapping prospects that appeared to be faster and more accurate for obtaining the outcomes we desired.⁴ We finally opted for digital 3D acquisition of low-altitude, high-resolution imagery provided by drone photography, performed by means of passive, image-based methods, namely photogrammetry. This consisted of georeferencing (Global Navigation Satellite System), aerial documentation (drone), orthophotography, and 3D land modeling (ArcGIS software) of a large area containing extensive artistic, architectural, archaeological, and epigraphical evidence (Fig. 2).

In the following essay, we summarize the results of our survey and offer some of its highlights. We then turn to the potential of the new surveying methods for interpreting a large settlement characterized by its lack of density. We are in the process of preparing a comprehensive, book-length study that will present the site in full detail.

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RESIDENTIAL ARCHITECTURE

In Mavrucan Dere, domestic dwellings are irregular in plan, rock-cut, and loosely organized along the northeastern slopes of the valley in the areas of Ortaköy and Basköy. They do not have any decorated facades such as at Açıksaray, the Çanlı Kilise settlement, or Selime in Cappadocia. Therefore, these halls and rooms do not belong to the well-defined courtyard complexes identified as the residences for rural elites like elsewhere in Cappadocia. Based on archaeological and contextual evidence, the settlement was a Medieval agrarian one, the archaeological remains of which offer very little evidence regarding social hierarchization.

⁴ Tolga Uyar, “Digital Modeling and Interpreting Settlement Patterns in Byzantine Cappadocia,” unpublished paper delivered at the Fifth International Sevgi Gönül Byzantine Studies Conference (Istanbul, 2019).

RELIGIOUS ARCHITECTURE AND PAINTING

Among the 36 churches were examples dating from the sixth (?) through thirteenth centuries, both of masonry construction and rock-cut, as well as a combination of the two. Several preserved significant examples of painting and inscriptions, as well as burials, as the following examples illustrate. Many are located in the residential areas along the northeastern slopes, with the notable exception of St. George, discussed below, set above the northwestern end of the valley. We present here a selection of examples, grounded on typological, chronological, iconographic and stylistic features, to represent the architecture and wall painting.

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Başköy 3

Undoubtedly one of the most important discoveries of our research is Church No. 3 in Başköy. Its unique wall paintings include a cycle of Creation (Fig. 3).⁵ The rock-cut church has two longitudinal naves, each of which ends with an apse; it is entered from the south, with an arcosolium tomb immediately outside (Fig. 4). Fragmentary evidence indicates the entrance area was painted. Both naves were carved at the same time and are covered by low barrel vaults; that of the southern nave is asymmetrical, and its apse is largely destroyed. The two naves are connected by two wide arches resting on a rectangular pier. There is a deep arcosolium at the eastern end of the northern wall. The apse of the northern nave is separated by a rock-cut templon. In addition, there are traces for the insertion of a (later?) wooden epistyle. The two apses are connected by a wide passage with a small niche in the eastern wall.

⁵ Peker and Uyar, “Güzelöz-Başköy 2009,” plans 4–5, pls. 7–9; B. Tolga Uyar and Nilüfer Peker, “Picturing Creation and Fall in Medieval Byzantium: An Unpublished Cycle of Genesis from the Late 9th–Early 10th Century Cappadocia,” in *Abstracts of the Byzantine Studies Conference* (New Haven: Yale University, 2013), s.p.



FIG. 3

Başköy, Church 3, Detail of an angel from the Naming of the Animals (photo: Peker-Uyar).

It is clear that both naves were fully painted, but today only the murals of the northern nave can be made out (Fig. 5). The northern apse has a three-zone painting program. At the top, on the crown of the apse vault semi-dome, the painting is poorly preserved but was probably a medallion with a large cross. In the middle zone, Christ appears seated on

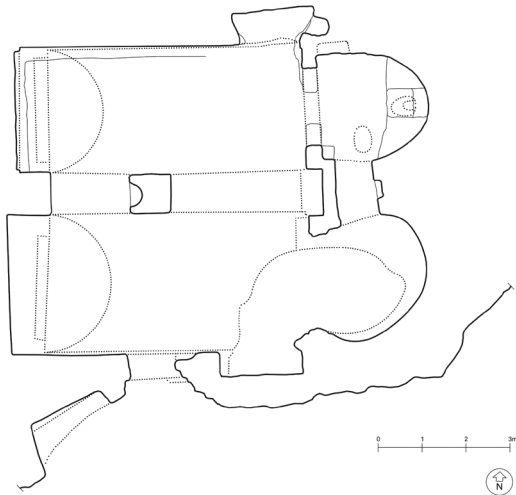


FIG. 4

Başköy, Church 3, plan (plan: Fenerci).

the throne and holding the Gospels, and to his right is a series of barely distinguishable standing figures: John the Baptist carrying a scroll, and next to him an apostle or bishop holding a book, followed by two bishops and probably a deacon. On the other side is the image of Mary flanked by angels and an unidentified figure. Below is an interlace motif, which we frequently see in the examples of the so-called “archaic” group in Cappadocian wall paintings. Similar roundels are again encountered on the intrados of the arch and at the cown of the of the vault.⁶

The ornamental band on the vault includes busts of the Old Testament Prophets. On the walls of the passage connecting the northern and southern apses, there is a decorative cross accompanied by two deacons, a bishop, and an unidentified saint. Anoth-



FIG. 5

Başköy, Church 3, interior of northern nave, looking east (photo: Peker-Uyar).

er motif common to the “archaic group” is the dog-tooth band at the springing of the vault. Much of the painting program of the northern nave is reserved for the cycle of Creation, which is unique in Cappadocia and in Eastern Christian art; indeed, examples from the Early Middle Ages are very rare.⁷ This detailed cycle starts from the eastern end of the southern half of the vault, in continuous narration, as is common in the “archaic group” examples. The cycle extends westward, continuing to the center of the northern half of the vault and includes the Creation of the Universe, the Creation of Adam, the Creation of Eve, the Creation and Naming of the Animals (Fig. 3), the Original Sin and the Expulsion from Paradise, and Adam giving the Sickle to Eve. The cycle is completed by three New Testament miracle scenes depicted in the northern half of the vault: Christ Calming the Storm at Sea, Christ Healing the Blind, and the

⁶ For the “archaic” group, see *Jerphanion, Une nouvelle province de l'art byzantin*, 1, 67–94.

⁷ Perhaps the oldest post-Iconoclastic example, dated to 879–892, is the Homilies of Gregory Nazianzos (BN cod. gr. 510) with a cycle of seven scenes: the Creation of Adam, Creation of Eve, Adam Eve and the Serpent, Expulsion from Paradise, Gate of Paradise with Tree and Cherubim, Angel Giving the Sickle to Adam, and Adam and Eve's Complaint; see Leslie Brubaker, *Vision and Meaning in Ninth-Century Byzantium*, (Cambridge: Cambridge University Press, 1999), folio 52v, 221–25, 309–16, fig. 10. For other early examples, see Kurt Weitzmann and Herbert L. Kessler, *The Cotton Genesis in British Library, Codex Cotton Otho B VI* (Princeton: Princeton University Press, 1986); Thomas M. Mathews, “The Genesis Frescoes of Aghtamar,” *Revue des Études Arméniennes* 16 (1982): 245–57; Nicole Thierry, “Le cycle de la création et de la faute d'Adam à Aght'amar,” *Revue des Études Arméniennes* 17 (1983): 289–329; John Lowden, “Concerning the Cotton Genesis and Other Illustrated Manuscripts of Genesis,” *Gesta* 31 (1992): 40–53; Anthony Eastmond, “Narratives of the Fall: Structure and Meaning in the Genesis Frieze at Hagia Sophia, Trebizond,” *Dumbarton Oaks Papers* 53 (1999): 219–36.

Resurrection of Lazarus. On the western lunette are the Three Hebrews in the Fiery Furnace. The walls of the nave are filled with four or five unidentified scenes that may have been taken from or inspired by miscellaneous apocryphal sources. We propose to date the paintings to the end of the ninth century to the beginning of the tenth century, due their stylistic and iconographic features and the repertoire of floral and geometric ornaments.⁸

Başköy 12

This was one of the rare masonry structures of the valley, documented in our study for the first time (Fig. 6).⁹ The church has a rectangular plan, a single nave, and a seven-faceted apse in the east (Fig. 7). A house and barn adjacent to most of the southern and eastern facades of the church caused difficulties in the architectural recording. The barrel-vaulted nave is reinforced by two arches that relate to piers on the northern and southern walls. The entrance was from the south; a western entrance was added later. We hypothesize the church was constructed in three phases. The first of these is the eastern part of the building. The apse originally belonged to a larger church, perhaps with three aisles. As a result of the alteration of the nave for structural reasons, the nave was rearranged on a smaller scale by adding piers and triple arcades to the north and south. The overlap of the decorations on the apse wall piers and the data we observed in the wall seams in the north and south support this argument. In the third phase, the arches were probably closed with an outer wall, and

the building was reduced as a single nave. Similar structural changes in masonry churches in the region highlight these as usual practices.

In the apse of the church, some of the remains of paintings survive. Although in bad condition, they are in line with the wall paintings of the late ninth or early tenth centuries elsewhere in the valley. This suggests a *terminus ante quem* for the first building phase. However, similar architectural examples are found throughout Cappadocia, such as the St. Andrew Church in Tilköy (no longer standing), as well as churches at Gereme, Anatepe, and Viranşehir.¹⁰ These are the early Byzantine examples dated to the fifth or sixth century. Therefore, in our opinion, these date ranges can be suggested for the first building phase of church number 12 in Başköy—an important chronological indicator for our survey. Nevertheless, our arguments about the structure are only a preliminary assessment for now.

Başköy 14

Among the new finds was a roughly carved space tentatively identified as a monk's cell.¹¹ Building 14 was found on the northern slope of the valley and was dedicated to (or under the protection of) the Theotokos, according to the liturgical inscription and the depiction of the Virgin Mary found in the room (Fig. 8). The difficult entrance, discrete and isolated position, as well as the functional arrangement of the interior and some features of the painting program, encourage the identification as a monk's cell. How-

⁸ The ornamental repertoire, as well as the stylistic features in church number 3 in Başköy, offer striking similarities with those of the Haç Kilise in Güzelöz (church number 6 in Mavrucan, according to Jolivet-Lévy), the Church of Saint Basil in Başköy (church number 10 in Güzelöz, according to Jolivet-Lévy), and the previous layer of paintings of Karabaş Kilise in Soğanlı. For Haç Kilise, see Jolivet-Lévy, *Guillaume de Jerphanion*, 237–41; for the Church of Saint Basil in Başköy, see Jolivet-Lévy, “Eglises retrouvées de Başköy,” 93–94.

⁹ Peker and Uyar, “Güzelöz-Başköy Bizans Yerleşimleri 2010,” pls. 1–4.

¹⁰ For comparanda, see Gereme Dağ kilise (Marcell Restle, *Studien zur frühbyzantinischen Architektur Kappadokiens* [Vienna: Austrian Academy of Sciences Press, 1979], 29–30, fig. 11; Nilay Çorağan Karakaya, “Yeni Bulgular Işığında Gereme'deki Panagia Kilisesi ve Çevresi,” *Anadolu ve Çevresinde Ortaçağ* 5 [2011]: 6–7, fig. 12), Anatepe kilisesi (Restle, *Architektur Kappadokiens*, fig. 3; Pia Cuneo, *Arts of Cappadocia*, ed. Luciano. Giovannini [Geneva: Hippocrene Books, 1971], 86–87, fig. 33), and the churches in Viranşehir (Restle, *Architektur Kappadokiens*, 46–48, figs. 24–24; Cuneo, *Arts of Cappadocia*, 86, fig. 34).

¹¹ Peker and Uyar, “Güzelöz-Başköy 2009,” plan 1, pls. 1–2.



FIG. 6

*Başköy, Church 12. Exterior from west
(photo: Peker-Uyar).*



FIG. 8

*Başköy, Monk's Cell. Detail of the
Theotokos and Archangels
(photo: Peker-Uyar).*

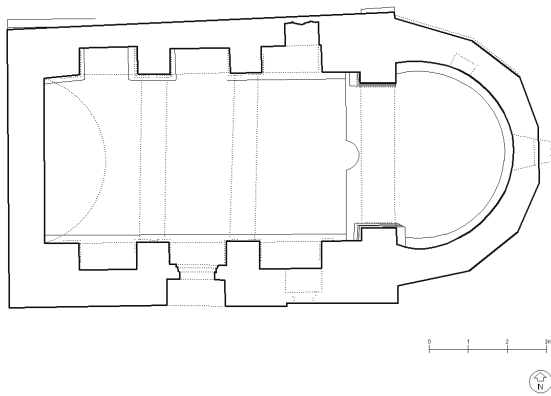


FIG. 7

*Başköy, Church 12, plan
(plan: Fenerci).*

ever, it is difficult to define the functional relationships of this retreat with the structures in its immediate vicinity, due to the collapses in the space and possibly the changes in later periods.

The irregular interior was arranged in two parts, one for living and the other for worship. Most significant was the space to the east of the entrance, carved with seats and niches, with surviving wall paintings. Although the paintings are in poor condition, their stylistic and iconographic features, the color scale used (red, yellow, and green on a white background) show close similarities with a group of paintings in Cappadocia that we can date to the period immediately post-Iconoclasm. In the north, the Archangels Gabriel, Γαυρι(ή)λ, and Michael, Μηχαή[λ], are depicted slightly bent, their hands extended forward and stepping towards the central figure of Mary on the throne carrying the Child Jesus in her arms (Fig. 8). Above the head of the Virgin Mary is a rare inscription: the title *Agia Theotokos*, (ή) [ά] για Θεοτόκος. This epithet appears in the ninth and

tenth centuries but not later.¹² Among the other figures on the wall, the depiction of Daniel the Stylite can be distinguished, albeit with difficulty. The individual, framed figures and cross depictions adorning the walls undoubtedly functioned as great icons for the users of the space. Among these, long graffiti on the western wall under the cross arms, which can be dated to the Middle Ages, the typology of which is very common around Güzelöz and Başköy, indicates that the place was frequently visited by non-clerical “pilgrims” and was used for a long period of time by people other than ascetic monks. Another short text in the building is the hymnological inscription written in red ocher on a white background on the eastern wall of the western living room, just below the narrow console: ὑψηλότερα τῶν οὐρανῶν -v- καὶ ἀγ/ ηωτέρα τῶν χειρου[βίμ] (ὡς τεκοῦσαν τῶν ὄλων δεσπότην, μεγαλύνομεν): “Highest of the heavens, holiest of cherubs (for we give birth to the lord of all things) we praise you.” This short text belongs to the ninth and final ode of the 27th canon, a type of hymn that emerged in the Church of the East after the eighth century.¹³ Although the hymn, from which our inscription is quoted, was composed for the feast of St. Hilarion of Gaza on November 21, the ode at the end is dedicated to Mary and is known as the “Theotokion.”

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Başköy 15¹⁴

The twin-naved Church of St. Theodore was briefly mentioned in previous publications (Fig. 9).¹⁵ Before our 2009 season, illegal excavations revealed the

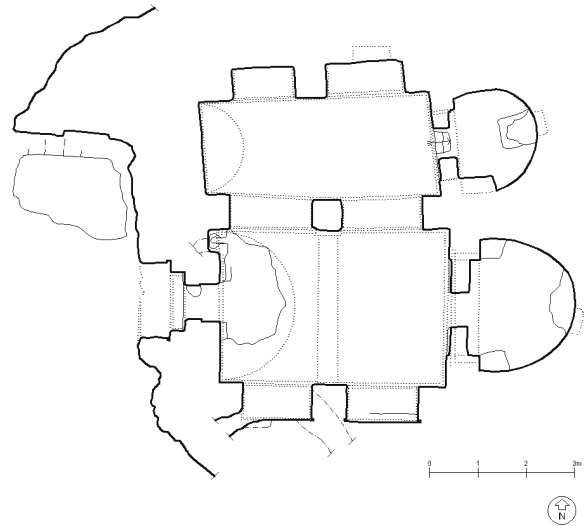


FIG. 9

Başköy, Church 15 (St. Theodore),
plan, with rock-cut space to the south
(plan: Fenerci).

remains of a masonry wall at the western entrance of the southern nave, as well as the beginning of a masonry tunnel extending from the south wall. The church must have belonged to a larger building complex, probably a monastery. Numerous medieval graffiti on the walls indicate that the building was an important local pilgrimage center. In 2011–2012, we documented additional rock-cut rooms, including a refectory with a rock-cut table, farther to the south, connected by the tunnel just mentioned. Similar ashlar masonry appears at the western entrance to the refectory, suggesting these were part of the same complex.

12 See Brigitte Pitarakis, *Les croix-reliquaires pectorales byzantines en bronze*, Bibliothèque des Cahiers Archéologiques 16 (Paris: Parution, 2006), 57–60; for the epithet in Cappadocia, see Jolivet-Lévy, *Les églises byzantines de Cappadoce*, 29, n. 29.

13 Joseph Schiro and Ada Debiazi Gonzato, *Analecta Hymnica Graeca* (Rome: Istituto di studi bizantini e neoellenici, Università di Roma, 1979), vol. 2.

14 Peker and Uyar, “Güzelöz-Başköy 2009,” plan 2, pls. 3–4; Peker and Uyar, “Güzelöz-Başköy Bizans Yerleşimleri 2010,” pl. 6.

15 Catherine Jolivet-Lévy, “La Cappadoce aux VIIe-IXe s.: quelques nouveaux témoignages archéologiques,” in *Medioevo Mediterraneo: l'Occidente, Bisanzio e l'Islam*, Atti del Convegno internazionale di studi Parma 2004, ed. Arturo Carlo Quintavalle (Parma: Mondadori Electa, 2007), 240–41.

Başköy 11

The masonry church of St. George has an unusual triconch plan. Its architectural history is difficult to determine. It may have been founded in the tenth or eleventh century but was substantially rebuilt and decorated in the thirteenth century.¹⁶ Three phases of painting can be identified, all of them attributable to the thirteenth century based on iconography, style, epigraphy, historical graffiti, and the architectural analysis. The apse windows interrupt the course of the second painting layer and, at the same time, they do not disturb the paintings of the third layer. Both second and third layers continued into the northern and southern conches. The second layer of plaster continued behind the northern nave piers, which were most likely added due to the static problems that occurred after the execution of the first layer. The similar stylistic features and comparable colors in the second and third layers indicate that the consecutive second and third phases of the decoration occurred in close chronological proximity. They also correspond stylistically to other thirteenth-century wall paintings in Cappadocia. After the first painting layer, the second layer must have been added in the mid-thirteenth century. Probably for structural reasons, the piers were rebuilt in the same period; the apse windows were opened, and then the third painting layer was added.

AGRICULTURAL INSTALLATIONS

The intense deterioration rate of the rock on almost all of the slopes in Old Başköy makes it difficult to follow the traces of the Byzantine settlement. Among the identifiable spaces, a partially preserved rock-hewn stable is located on the south of the same slope and at a lower level. The interior is covered with a barrel vault with a supporting arch (Fig. 10). There are ten mangers surviving: five on the northern wall, three on the eastern wall, and two on the western wall. Later interventions indicate that the space was used, most likely, up to pre-modern times, as well. We encounter examples of barns from the Byzantine period in settlements such as Açıksaray, Çanlı Kilise, the Yusuf Koç Church complex, and Selime.¹⁷

Winemaking facilities

During our survey, we identified 35 wineries, with concentrations in the areas called Çörtarı and Ağaçlık on the southeastern slope.¹⁸ Apart from a few recent studies, agricultural installations in Cappadocia have not been investigated in terms of their chronology, architecture, location, their production process, or their relationship with consumption and trade.¹⁹ Consequently, the winemaking facilities we have investigated in and around Mavrucan Valley offer some original data on medieval wine production in Cappadocia. Clearly, wine production spread over a wide region of the valley. There is no evidence of

16 Peker and Uyar, "Güzelöz-Başköy 2009," plan 1, pl. 6; Peker and Uyar, "Güzelöz-Başköy 2010," drawings 5–6; Robert G. Ousterhout, *Visualizing Community: Art, Material Culture, and Settlement in Byzantine Cappadocia*, Dumbarton Oaks Studies 46 (Washington, DC: Harvard University Press, 2017), 96–97.

17 For examples at Açıksaray, see Lyn Rodley, *Cave Monasteries of Byzantine Cappadocia* (Cambridge: Cambridge University Press, 1985), 140, figs. 20, 22, pl. 136. For Çanlı kilise, see Robert G. Ousterhout, *A Byzantine Settlement in Cappadocia* (Washington D.C.: Dumbarton Oaks Research Library and Collection, 2011), 178, fig. 155. For Yusuf Koç, see Rodley, *Cave Monasteries*, 152, fig. 28, pl. 147. For Selime, see Veronica Kalas, "The 2004 Survey of the Byzantine Settlement at Selime-Yaprakhisar in The Peristrema Valley, Cappadocia," *DOP* 60 (2006): 271–93, figs. 3, 7. A survey of stables is provided by Filiz Tütüncü, "The Land of Beautiful Horses: Stables in Middle Byzantine Cappadocia" (MA thesis, Bilkent University, 2008).

18 See Peker, "Agricultural Production," 43–56.

19 Nilay Karakaya, "Erdemli'de Ekmek ve Şarap," *Anadolu ve Çevresinde Ortaçağ* 2 (2008): 33–52; J. Eric Cooper and Michael Decker, *Life and Society in Byzantine Cappadocia* (London: Palgrave Macmillan, 2012); Evangelina Balta, "The Underground Rock-Cut Wine-presses of Cappadocia," *Journal of Turkish Studies* 32, no. 1 (2008): 61–88.



FIG.10

Başköy, stables, interior view (photo: Peker-Uyar).

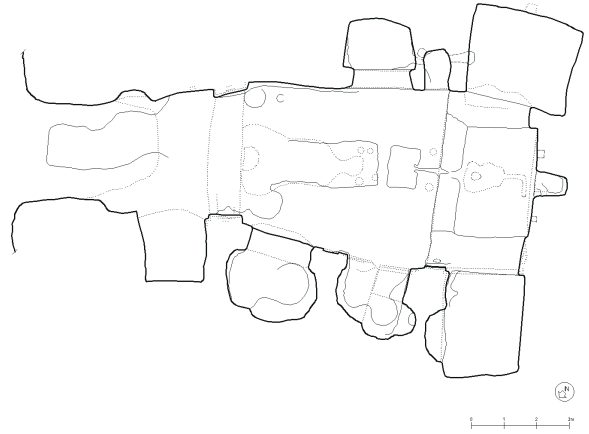


FIG.13

Ağaçlık, Winepress 2, plan (plan: Fenerci).

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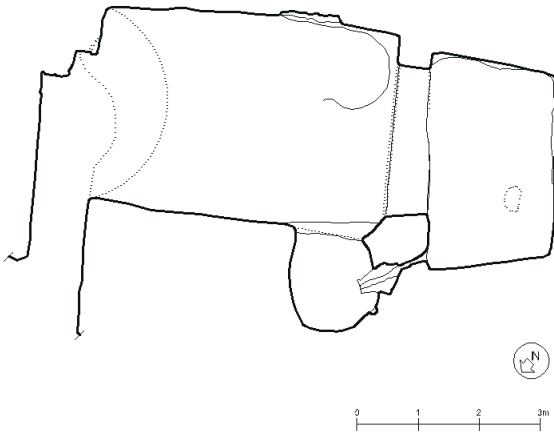


FIG.11

Ağaçlık, Winepress 4, plan (plan: Fenerci).



FIG.14

Ağaçlık, Winepress 2, interior view, with the storage area on the right (photo: Peker-Uyar).



FIG.12

Ağaçlık, Winepress 4, interior view, looking toward the treading floor, with the collecting vat on the right (photo: Peker-Uyar).

religious and residential architectural investment on the hillside, indicating that the production area was planned separately from the settlement. Wine production was best in areas of limited sunlight; similarly, the entrances of installations may have been intentionally designed with a long entrance hall to preserve a stable temperature.²⁰ These winepresses can be divided into two groups, each of which can be classified by the number of vats and the existence of other components such as pipes, fermentation vats, and storage.

Examples of Group I have one treading floor and one collecting vat which is relatively simple in its conception and structure; they are smaller than Group II. Although the majority have a rectangular treading floor, the shape of the collecting vats is different in each example. Some of them are carved as a rectangular space, and others are close to round in shape. Surfaces of the treading and storages areas were plastered, and there is evidence that the collecting vats could be covered. Holes for ventilation appear in the ceilings. A good example is Ağaçlık 4, with a barrel-vaulted room connecting to a treading floor (lenos) and a round collecting vat joined by a gutter, which allows the pressed juice to flow into the vat (Fig. 11). There is simple decoration with red paint. Medallions with crosses flank the arch; a short text on the arch itself is indecipherable (Fig. 12).

Examples of Group II are more sophisticated, with larger proportions. These installations consist of one or two treading floors and collecting vats, as well as storage units and fermentation vats. The treading floors are rectangular, while most of the collecting

vats are round in shape. A good example of this type is Ağaçlık 2, one of the most complex, which has multiple treading floors, including two on the southern side that drain into the same collecting vat (Fig. 13). Storage areas for pithoi appear along the northern wall with indentations in the floor to rest the pithoi in (Fig. 14). The carved decoration included crosses. There is also evidence for a variety of additional production equipment. A shallow rectangular vat connects to another, bigger vat with a channel on the floor. Immediately above the shallow vat, six holes are placed for affixing a screw press on the ceiling. However, these vats are too shallow to collect grape juice, and they may have been used for linseed oil production. In antiquity, the same installation was often used for both wine and oil production.²¹ Linseed oil was one of the most important products in central Anatolia. It was used in wall-painting decoration, culinary culture, and folk medicine. More importantly, it was also widely used in oil lamps. In Cappadocia, a number of linseed oil installations, the so-called bezirhane, cannot be easily dated. One of the well-known examples is in Belisırma, but the date of the installation is unclear.²²

ROUTES OF COMMUNICATION

We continued our 2012 studies with surveys on the southwestern plateau of the valley, popularly known as Ivriz. Our aim was to clarify the connections and location of the settlement and to reach the archaeological remains described by H. Grégoire in his article published in 1909.²³ That researcher talks about the rock-carved stairs in a “secret” passageway from

20 See Peker, “Agricultural Production,” 56 and n. 33.

21 Jean Pierre Brun, *Le vin et l'huile dans la Méditerranée antique: viticulture, oléiculture et procédés de transformation* (Paris: Éditions Errance, 2003). We are also grateful to J. P. Brun for his valuable critiques about these vats and the production process.

22 Kalas indicates that two rectangular rooms appear to have been carved contemporary with the church; however, it is difficult to ascertain their original function. These rooms are known as bezirhane on account of the grain presses that have been installed in the rooms, a reuse of existing spaces likely to have occurred sometime during the nineteenth or twentieth centuries (Veronica Kalas, “Middle Byzantine Art and Architecture in Cappadocia, The Ala Kilise in Belisırma in the Peristrema Valley,” in *Studies in Honor of Thomas F. Mathews*, eds. Joseph D. Alchermes, Helen C. Evans, and Thelma K. Thomas [Mainz: Philipp von Zabern, 2009], 187).

23 Peker and Uyar, “Güzelöz-Basköy Bizans Yerleşimleri 2010,” pls. 10–11; Grégoire, “Rapport sur un voyage,” 111.

Soğanlı to Ortaköy that can be easily reached and a small castle structure at the end of the stairs. During our research, we found a rock-cut checkpoint and associated stairs connecting to the western end of the Soğanlı Valley to the southwest of the plateau. An approximately rectangular hall is connected to the floor of the valley by a staircase consisting of regular steps and window openings overlooking the Soğanlı Valley, but today the end of the staircase has been demolished.

Unfortunately, traces of the castle that Grégoire mentioned are not found today. However, having a small castle in the region would have been expected for security reasons. It is known that there were signal communication networks between the castles to ensure security in Anatolia during the Byzantine period, especially in the area stretching from the Taurus Mountains to the capital.²⁴ In addition, in the Cappadocia region, apart from the well-known important castles such as Sivrihisar and Kyzistra, there are numerous castles and small military fortification points, most of which are not mentioned in the literature, and which complement the general security network between the large castles. Undoubtedly, the castle in Ivriz was one of the important strategic points on the trade and road network connecting the major military centers in the region. Another similar *kastron* (small castle) is located in the south of Soğanlı, just above the current dam lake. It is clear that the settlements in the Soğanlı and Mavrucan Dere Valleys offer important new clues about the settlement patterns and road routes and the organization of the commercial/military transportation network in Medieval Cappadocia.

COORDINATING THE DATA

To bring together the preliminary results we gathered on the Mavrucan survey in Cappadocia, we are in the process of setting them into a digital land-

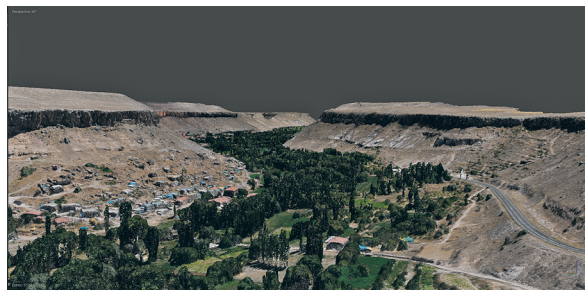


FIG. 15

Preliminary three-dimensional modeling of the valley (model: Uyar).

scape visualization project. This consists of georeferencing (Global Navigation Satellite System), aerial documentation (drone), orthophotography, and 3D land modeling (ArcGIS software) of a large area containing extensive artistic, architectural (both rock-carved and masonry), archaeological, and epigraphical evidence (Fig. 15). The digital mapping phase of the fieldwork offers some new perspectives on the interdependent relationships that people maintained with the physical, social, and cultural dimensions of their surroundings across space and over time during the Byzantine and post-Byzantine periods. As we continue to “connect the dots,” our intention is to show that computer visualization should not be seen solely as a vehicle for archaeological reconstruction (nowadays synonymous with “entertaining archaeology,” as in the high-budget animated sequences of television documentaries) but rather can be viewed as an integral part of the process of interpretation. In sum, in our ongoing studies in the Mavrucan Valley, we hope that the coordination of many different types of evidence from across a vast landscape and extended period of habitation can offer new and nuanced insights into the social, economic, and cultural lives of a Medieval agrarian village.

24 Philip Pattenden, “The Byzantine Early Warning System,” *Byzantion* 53 (1983): 258–99.

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ÖZET

Yerleşimlerde mekân analizi, son yıllarda Bizans Kapadokyası'na yönelik yeni araştırmaların ayrılmaz bir parçası hâline gelmiştir. Gerçekten de elimizdeki maddi verilerin niteliği, yapıların ve bunları donatan öğelerin buldukları sosyal çevreye odaklanan bir bakış açısını gerektirmektedir. Ancak Kapadokya peyzajındaki düzensizlikler ve alanların genel olarak olağanüstü ölçekte olması, bir başka deyişle geniş vadilere yayılan insan müdahalesinin mekânsal ilişkilerinin anlaşılmasında kritik olan konumun isabetli bir harita aracılığıyla tam olarak belirlenememesi, bu bakış açısını benimsemeyi zorlaştırmaktadır. Çalışmamız, Kapadokya'nın dışında kalan bir vadede yürütülen kapsamlı saha çalışmasının ön sonuçlarını sunmayı hedefler. Bu yüzey araştırması, vadedeki yapıları münferit olarak ele alan daha önceki araştırmaların, alanın niteliğinin tespit edilmesinde önemli bir rol oynayan detaylı analiz verilerinden yoksun olduğunu ortaya koymuştur. Bu nedenle bu zor ve kayalık arazide yerleşmenin tümünü mümkün olduğunca eksiksiz bir şekilde belgeleyebilmek için bütüncül bir metodoloji uygulanması hedeflenmiştir. Yüksek teknoloji ve geleneksel yüzey araştırması yöntemlerinin bir arada kullanılması bunu mümkün kılmanın tek yolu gibi görünmektedir. Yerleşim, toprağı işlenmiş bir akarsu vadisi boyunca uzandığından, tarımla geçinen bir Ortaçağ dini topluluğunun yaşamına ilişkin devasa veri yığınına anlamlandırabilmenin en iyi yolu havadan belgeleme ve coğrafi referanslama yöntemleridir.

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ANAHTAR KELİMELER

Bizans Kapadokyası, yerleşim arkeolojisi, sayısal haritalama, Bizans duvar resmi, Ortaçağ tarım toplulukları