



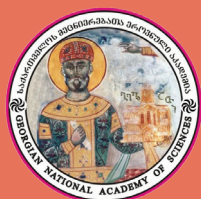
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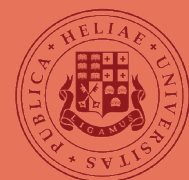
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NATIONAL AGENCY FOR
CULTURAL HERITAGE
PRESERVATION OF GEORGIA



PROCEEDINGS OF 5TH INTERNATIONAL CONGRESS OF SPELEOLOGY IN ARTIFICIAL CAVITIES

22-26 SEPTEMBER
TBILISI • GEORGIA

Edited by

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HYPOGEA 2026

Georgian National Museum

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Georgian National Museum Publishing

ISBN 978-9941-7901-7-1

Losing the Past: *Maps and Inventories of Cappadocia (Turkey)*

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Abstract

Cappadocia, undoubtedly one of Turkey's most important cultural and historical treasures, is gradually vanishing and, regrettably, is going to continue in its deterioration over time. Two primary factors contribute to this extinction, or more accurately, two significant enemies of Cappadocia exist. The first of these natural forces. Erosion and rock disintegration are gradually deteriorating several stone-cut structures in Cappadocia. The degradation of nature, while potentially unavoidable, occurs gradually over an extended timeframe. In contrast, the devastation inflicted by Cappadocia's alternative enemy is far more intense and occurs at an expedited rate. This second enemy is humanity. The uncontrolled acceleration of touristic investments and mass tourism in the region over the last 20-30 years is undermining both the ecosystem and the structure of Cappadocia. This destruction is causing irreparable damage to the region's cultural legacy, as various structures, including those that are some centuries old, are progressively disappearing. The principal objective for dealing with this extinction, which is unlikely to be wholly averted despite the possibility of managing its advancement, is to properly transmit all these historical values to future generations before it is too late. Nevertheless, this undertaking, feasible only with a comprehensive inventory and precise mapping of all of Cappadocia, remains unfulfilled. In this presentation, many different examples of natural and anthropogenic destruction will be presented, and inadequate mapping will be demonstrated, emphasizing the importance of detailed mapping and inventory.

Keywords: Cappadocia, rock-cut structure, rock-cut church, inventory, database

Introduction

There are two major enemies of Cappadocia (Fig. 1). The first is nature, which also created it. Erosion, which has spent millions of years wearing away the soft volcanic rock to form valleys and fairy chimneys, continues to wear away this rock over time, ultimately destructing all the structures carved into it.

The facade of a rock-cut structure depicted in a 1839 engraving by Texier does not exist today (Fig. 2). The powerful monumentality expressed by Texier's facade seems to manifest capabilities beyond the grasp of Cappadocia's carvers. Various aspects of its design and decoration, however, strongly resemble features found in a combination of other surviving facades in Cappadocia. The drawing, therefore, probably documented an actual structure that by now has disappeared. Texier's elusive facade may well belong to the Bezirhane courtyard complex at Avcılar, near Ürgüp in eastern Cappadocia. The original courtyard facade of this complex has collapsed, so that the interior wall of the hall that rested directly behind it is visible as the complex's exterior. Much like Texier's facade, this surviving wall at Bezirhane exhibits three equally spaced bays framed by engaged piers and horizontal mouldings. In addition, the three horseshoe arches at Bezirhane are articulated in the same manner as those on Texier's facade (Texier

1839; Kalas 2004).

Aqueduct remains excavated in valleys and lost their function over time due to erosion are another example (Gilli & Yamaç 2015). In Güvercinlik Valley there are several water tunnels portions, dug in the valley at different times, can be seen together. Despite many processes of maintenance and restoration, it is certain that ignimbrites are sensitive to erosion, thus the tunnels become unusable after a period of time (Bicchi et al. 1995). On the north part of the valley, another water tunnel is located on the opposite wall of main water tunnel. Remainings of that other tunnel which can be observed in places, have almost been vanishing completely because of erosion. A small part of it, which is older than the main tunnel and where there are subsidiaries of previous water tunnel located also on the east wall, has been explored and surveyed. South of this area, it is mostly certain that the holes observed on the completely eroded east walls of the valley belong to another water tunnel (Fig. 3). Similar eroded holes also exist in Meskendir Valley (Castellani 2002).

Similarly, in 1950, a large part of the 60-meter-high front wall of Çavuşin collapsed and only a few photographs remain of this wall in its original state (Pekin 2014) (Fig. 4).



Fig. 1. Location map showing the Cappadocia region (after Google Maps - elaboration A. Yamaç)

Because no previous research has been conducted in Çavuşin, we have no information about the formation of this wall settlement before its collapse. On the other hand, it is incredible that a survey covering the entire wall has not yet been done.

A few months ago, two major collapses occurred in Göreme and Ürgüp, destroying dozens of dwellings that had not yet been explored or surveyed (Fig. 5).

There are countless examples of this kind; the erosion that created Cappadocia is also destroying it. Rockfalls and erosion are one of Cappadocia's most serious problems, and there have been countless studies and articles written on this subject. While it is impossible to prevent this, researches are being conducted to at least delay it. The deterioration of nature, although it may be inevitable, takes place over an extended period. Conversely, the destruction caused by Cappadocia's other enemy is notably more severe and occurs at an accelerated pace. This enemy is humanity.

In 1985, UNESCO designated the distinctive region of Göreme-Cappadocia as a cultural and natural World Heritage Site. In recent decades, urbanization and mass tourism have significantly altered Cappadocia's ecosystem. The region, which had sustained a subsistence-based traditional agricultural economy for centuries, saw tremendous transformations. The expansion of tourism and contemporary innovations has prompted many young individuals to abandon the arduous traditional lifestyle in favor of a future grounded in modern inf-

rastructure and the burgeoning tourism sector. In 1983, Göreme had approximately three pensions, in stark contrast to nearly eighty today, resulting in significant transformations in the village's traditional lifestyle and extensive unregulated construction operations.

When we compare old photographs of Cappadocia with those of today, this destruction is clearly visible (Fig. 6). The authorities seem to favor the short-term economic gains of mass tourism over the long-term cultural advantages linked to historic preservation. The building of roads, car parks, hotels, balloon areas, all-terrain vehicle activities, motocross, and horseback riding, is significantly harming this fragile nature.

Currently, it is exceedingly difficult to locate a traditional cave housing that has not been converted into a guesthouse or renovated residence. Most of these newly constructed dwellings scarcely adhere to the traditional traits of local architecture. Architectural styles, which varied from village to village in Cappadocia, are now supplanted by uniform structure and decorative components, lacking any sub-regional distinction.

Despite protection from UNESCO and the Turkish Ministry of Culture and Tourism, no sustainable master plan has been established that addresses the needs and requirements of the region and its local populace. Disorganized construction efforts related to tourism and urbanization resulting from overall development are largely untenable for the region's sustainable future. Moreover, even structurally sound cave dwellings have



Fig. 2. Engraving by Texier showing the facade of a rock-cut structure (Texier 1839)

been demolished by local municipalities using bulldozers. To date, there are no regular meetings convened by the official protection board, which is primarily tasked with granting building and restoration permits. The official local decision-making bodies lack training in recognizing the significance of details and the complexities of the rapidly evolving region, rendering them incapable of providing sound recommendations. The various working groups in the Cappadocia region lack collaboration and intercommunication, hindering the formation of effective professional teams.

In Cappadocia, where such natural and human destruction took place, we believe that the most important task should be to ensure that the existing historical and cultural values be fully transferred to the future. The two important elements in this approach are mapping and inventory, which have been the most neglected aspects of Cappadocia research thus far.

Maps

There are hundreds of articles and books about the region, and countless new ones are published every year. Academics debate the frescoes of that Byzantine rock-cut church, or the architectural similarities between this church and another. Detailed plans and surveys of most of these churches are also being drawn up. However, just as we saw in Texier's engraving above, when they are destroyed by erosion or rock falls, we can only guess where they were located because, with a few exceptions, detailed maps of almost none of the areas have been prepared. Most researchers continue to use maps that were prepared years ago and are only sketches.

Quoting Robert G. Ousterhout:

"The open-air museum is the most visited area of the region, but it has never been properly mapped, we still rely on a simplified and incorrect map drawn half a century ago" (Ousterhout 2024).



Fig. 3. Remains of an eroded water tunnel on the east wall of Güvercinlik Valley (photo E. Gilli)

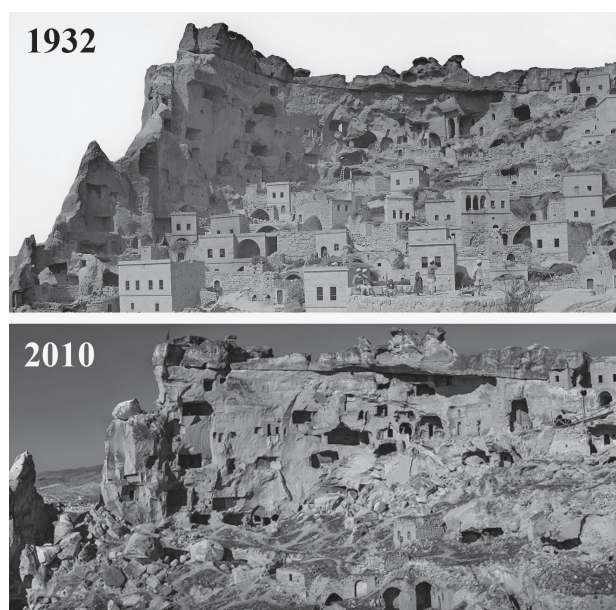


Fig. 4. Çavuşin (up Jerphanion 1932; below A. Yamaç 2010)

He was referring to Luciano Giovannini's work 'Arts of Cappadocia', and indeed, the Göreme map in his book, which is only a sketch, has been copied and used in many works since that day (Giovannini 1971) (Fig. 7). Indeed, it is tragic that Göreme National Park, the most important attraction point in all of Cappadocia, visited by hundreds of thousands of tourists every year, still lacks a detailed and up-to-date map.

Similarly, numerous experts, from Michel and Nicole Thierry to Yıldız Ötüken, from Hild and Restle to Veronica Kalas have been working in the rock-cut churches of the Peristrema Valley for 62 years (Thierry & Thierry 1963; Hild & Restle 1981; Ötüken 1989; Kalas 2000) and, just like Giovannini's Göreme National Park sketch, Thierry's 62 years old rough sketch of Peristrema Valley is still used as the basic map of this valley in all publications (Fig. 8).



Fig. 5. Göreme, collapse of a fairy chimney at Sept. 20, 2025 (photo Anadolu Ajansı)

These examples can be multiplied; in the Yeşilhisar – Erdemli Valley 16 rock-cut churches, studied to date. The first survey on these churches is an article written by Nicole Thierry (Thierry 1989). The article had the plans for eight churches and a monastery structure. Subsequently, the results of Nilay Karakaya's research, which began in the Erdemli Valley in 2002 and continued until 2010, were presented in five symposiums and three articles. In all of Karakaya's works, the sketch map found in Nicole Thierry's 1989 article was used (Fig. 9). Although this unscaled sketch was sufficient to a certain extent for determining the locations of the first eight churches Thierry researched, it is extremely inadequate for subsequent studies. Nilay Karakaya's article, in which she discovered and researched seven more churches in the valley, does not include a map showing the locations of these churches, and today the locations of Church No. 1, Church No. 2, Church No. 3, Church No. 4, Haralam Monastery Church, Bezirhane 1 Church, Bezirhane Monastery Church mentioned in this article are unclear (Karakaya 2003; Karakaya 2004; Karakaya 2005; Karakaya 2006).

Another problem caused by the lack of detailed maps is that, since their exact locations are unknown, some of the structures in Thierry's sketches may be the same structures later researched by Karakaya and given different names.

The most tragicomic example of this matter is the continued use of the map drawn by Jerphanion one hundred years ago in all publications and brochures depicting Soğanlı Valley, as no additional research has been conducted (Fig. 10) (Jerphanion 1925–1942).

In finalizing, we think it's useful to demonstrate the need of documenting and preservation with a tragic example. The front facade of the Yüksek Kilise (High Church) in Ürgüp, researched by Sacit Pekak in 2014, completely collapsed in 2021. Therefore, Pekak's article is the only source of information about this church, which no longer exists. This article has only a plan of the church without any measurements and does not include any photographs (Pekak 2014). On the other hand, the measurements we took and the plans we drew of the parts of the church which are still standing today are very different from the sketch plan published in Pekak's article (Yamaç et al. 2025) (Fig. 11). Therefore, we can assume that the part of the same plan that has now been destroyed is also quite incomplete and inaccurate. This situation is yet another proof of how important it is to be meticulous in the work carried out on these structures, which are vulnerable to all kinds of damage.

We stated that mapping and inventory are the two most important tools for ensuring that structures of historical and cultural value facing the threat of disappearance can be passed on to the future. As indicated by the examples above, with the exception of a few areas such as Çanlı Kilise and its surroundings, or Güzelöz and Mavrucan valleys, almost none of the important parts of Cappadocia have been mapped in detail.

Inventories

A similar situation applies to the inventories. We know it's hard to believe, but there is still no detailed inventory of the artificial cavities found in Cappadocia. Even

the number of rock-cut churches is still controversial since there are different numbers listed in many different references. For instance, there are only 118 rock-cut churches in Guillaume de Jerphanion's comprehensive work (Jerphanion 1925–1942). Considering the churches around Peristrema, which are not included in Jerphanion's book, and all the other rock-cut churches that have been discovered and published in the region over the past 100 years, the total number of churches could be as high as 300.

For example, Lyn Rodley wrote that "My estimate of the number of churches, based on published lists and field observation, used to be around 300" (Rodley 1985).

Indeed, according to the TAY-Türkiye Arkeolojik Yerleşmeleri (Archaeological Settlements of Turkey, www.tayproject.org), which is one of the most comprehensive inventories ever made on this subject, there are 359 rock-cut churches in Cappadocia (Akyürek et al. 2015).

Finally, the results of the inventory conducted by us in recent years, which involved scanning all known sources, are also around this number (Bixio et al. 2021; Yamaç et al. 2024). Even if we acknowledge that there may be some deficiencies in all these inventories, we suppose that the number of the rock-cut churches in the territory will not exceed the foregoing number much.

On the other hand, Prof. Yıldız Ötüken's 'Kappadokya Bölgesi Bizans Mimarisi Araştırmaları' (Research on Byzantine Architecture in the Cappadocia Region), a 373-page unpublished associate professor thesis lists 687 Byzantine churches in Cappadocia (Ötüken 1981).

Similarly; Jolivet-Levy and Ousterhout wrote in their works, respectively, that in Cappadocia there are 600 and 700 religious structures carved into the rocks (Jolivet-Lévy 1997; Ousterhout 2010).

Seven years later, in his last book Ousterhout wrote;

"Cappadocia preserves an abundance of physical remains: at least a thousand rock-cut churches or chapels, of which more than one-third retain significant elements of their painted decoration" (Ousterhout 2017).

About a century before these two researchers, Josef Strzygowski gave the same number, but he also brought a logical explanation.

"Das Tal Göreme bei Ürgüb, von dem die Berichte melden, dass es ursprünglich eine Stätte des Todes, später von christlichen Mönchen besiedelt worden sei. Die Zahl der Kirchen wird mit 'bin' (tausend) geschätzt, was in der Sprache des Orients 'binbir', tausend und eins, d. h. viel, unzählig" heissen will" (Strzygowski 1903).

(The Göreme Valley near Ürgüb, which reports say was originally a place of death, later settled by Christian monks. The number of churches is estimated at 'bin' (a thousand), which in the language of the Orient means 'binbir', (a thousand and one), i.e., "many, innumerable").

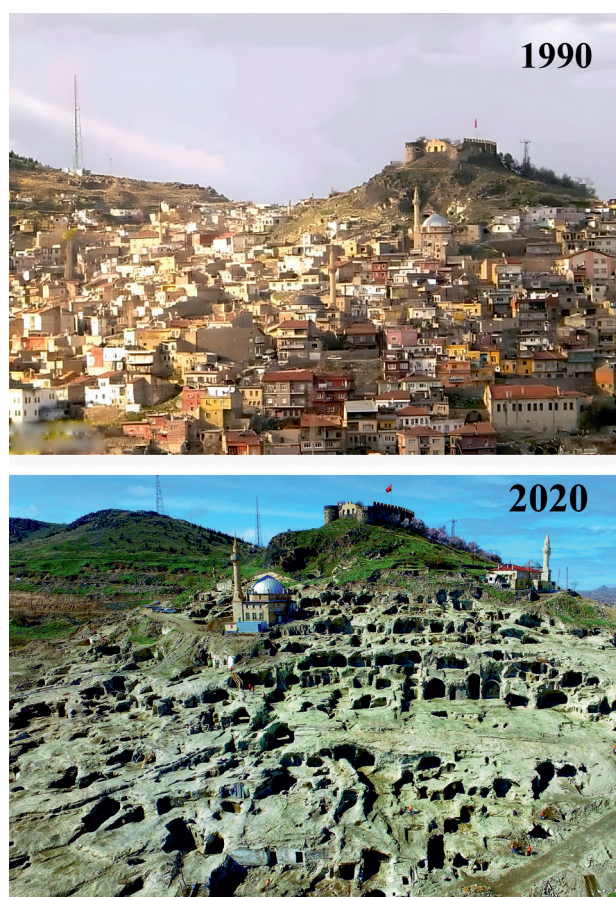


Fig. 6. A few years ago, the Nevşehir Municipality, without authorization, demolished all the structures around Nevşehir Castle, resulting in this scene (up anonymous postcard 1990; below photo M. Gülyaz 2020)

Jolivet-Levy and Ousterhout did not provide any sources for the numbers 600, 700, and 1000. On the other hand, Prof. Yıldız Ötüken's thesis is likely the most comprehensive inventory prepared to date and is based on extensive source research. There are basically three reasons why the number of churches in this inventory is much more, a total of 687, than in the other inventories mentioned above. First of all, Ötüken's inventory includes provinces outside Cappadocia, such as Elazığ, Malatya, and Erzincan. Secondly, it also includes churches mentioned in old travelogues that no longer exist today and finally, there are several masonry churches in the list. With all these additions, it is natural that the number of churches of Cappadocia, which is around 300 in other inventories, is 687 in Ötüken's inventory.

Given the extensive inadequacies in Cappadocia's church inventories, expecting a comprehensive database of other rock-cut structures in the region to be compiled is a dream. However, the region boasts hundreds of rock-cut structures, from shelters and apiaries to hydric tunnels and dwellings, the vast majority of which date to the Byzantine period.

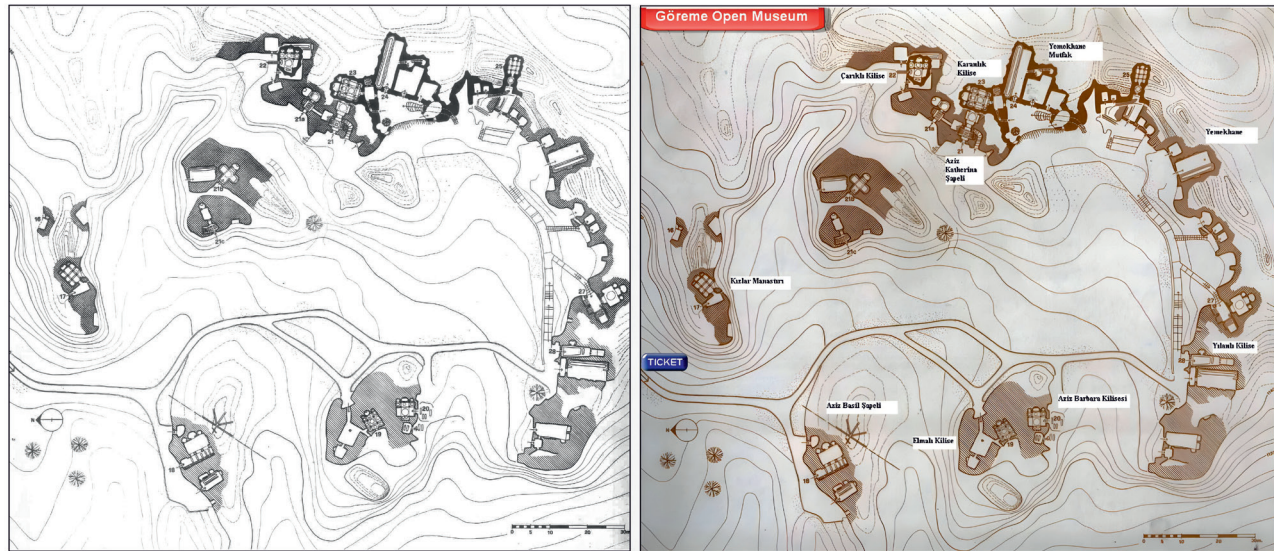


Fig. 7. Göreme National Park plans; left Giovanni, right brochure of Ministry of Culture and Tourism (Giovanni 1971)

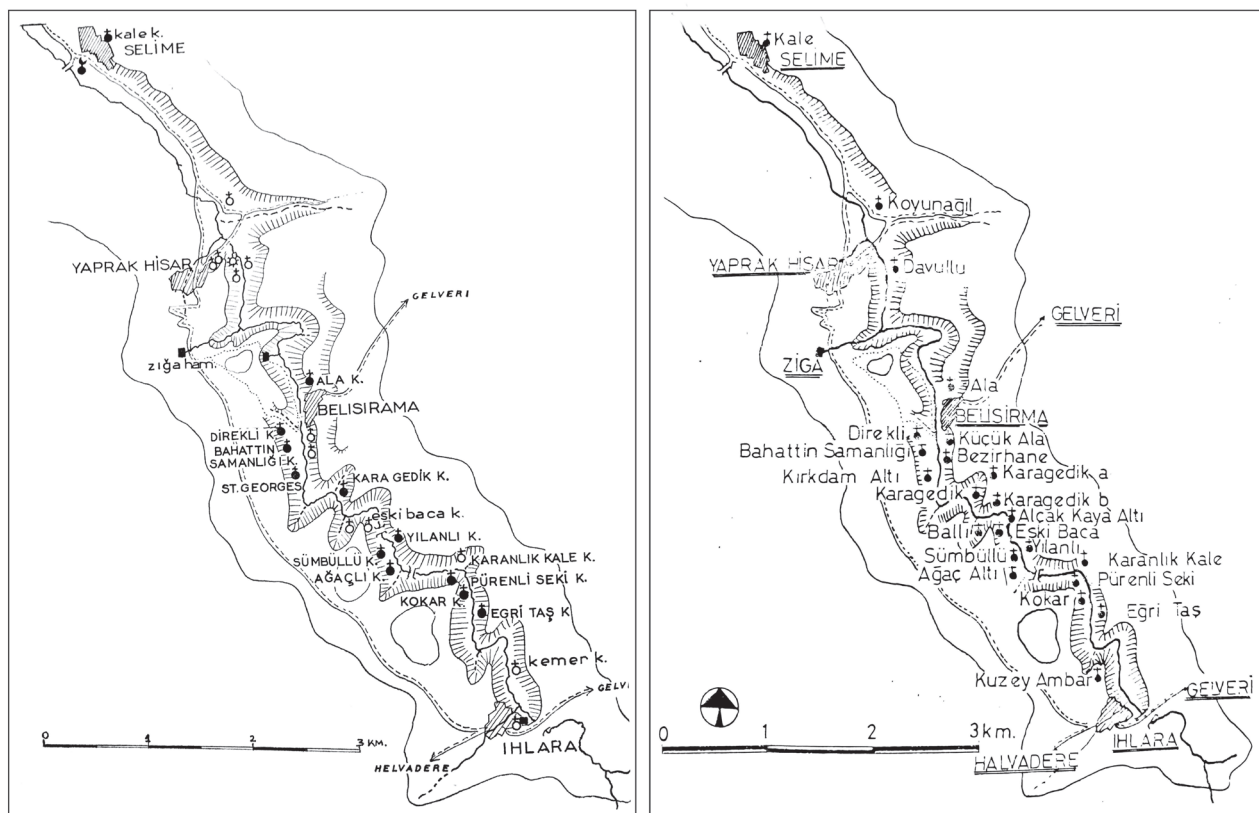


Fig. 8. Peristrema Valley plans (left Thierry & Thierry 1963; right Ötügen 1989)

Conclusion

Even today, Cappadocia still lacks detailed surveyed maps or a comprehensive database. Meanwhile, scholars are occupied composing articles on a detail in a specific church fresco. However, if that church collapses by a rockfall tomorrow, its position will become unknown. Just as we don't know the whereabouts of the churches mentioned by ancient travelers in Ötüken's inventory, now lost.

How can a structure be preserved without a map, plan, or even an inventory? How will Cappadocia be passed on to the future? Or, with the title of Ousterhout's article; "*What kind of Cappadocian future do we imagine?*"

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