

## The Comparison of Rock-Cut Architecture Sites in Turkey and Italy Withspecial Emphasis on Cappadocia

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**Abstract:** Understanding the reasons that lead to a specific type of architecture is indispensable for conservation of that architecture. Rock-cut architecture is a phenomenon which is found in numerous historical sites around the Mediterranean area. Among them, Turkey and Italy constitute the largest region where unique rock-cut monuments and sites are found. In this article, the rock-cut architecture in Turkey and Italy are compared in order to search for a common ground for dwelling inside rock-carved spaces and to develop an appropriate conservation approach. The socio-cultural, economical, defensive and climatic dimensions examined and presented as a base to understand the phenomenon of the rock-cut architecture. The study reveals that the formation of similar vernacular architectures in different locations might be resulted from similar physical, historical and socio-economic conditions. The study might constitute a basis in developing a proper methodology to compare different rock-carved architectures in the world, although there are not concrete proofs showing that the populations created them have had contacts or information exchanges.

**Key words:** Rock-cut architecture • Troglodytism • Cappadocia • Italy • Integrated conservation

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### INTRODUCTION

Rock-cut architecture is a phenomenon seen in various parts of the world, in very different regions and under very different climatic conditions. In other words, the physical and cultural conditions under which rock-carved architecture has emerged differ a lot.

When the rock-carved architecture in the Mediterranean region is considered, it is seen that, besides locations in Italy and Turkey, there are many others. Tunisia, Libya, Malta, Israel, Jordan [1], Algeria, Macedonia, Serbia, Cyprus [2] and numerous sites in France [3] constitute important nodes of rock-cut architecture around Mediterranean region (Figs. 2. 1). Since each of the rock-cut sites have different characteristics and date back to different periods, it is difficult to compare these ‘architecture’s with that of Cappadocia.

However, the rock-cut architecture in Turkey and Italy which mostly dates back to Byzantine era might reveal common characteristics due to the fact that it might be mainly resulted from the tension between Arab and Byzantine dominions and the insecurity that this duality created on the coastal settlements (Fig 2.2).

In Cappadocia, according to the archeological findings inside a natural cave as a result of the studies in 1992, the history of the use of rock-hewn spaces is considered to go back to 7000 BC [4]. Similarly, among the findings there were pieces which were dated to 2000 BC. In Kostof’s [5] words, “there is no reason to disbelieve that the practice was more ancient”. Stea and Turan [6] draw our attention to the numerous settlements in central Anatolia which date back to 7000 BC and comment that it might be possible that troglodytism used to be an older phenomenon than Byzantine Era in Cappadocia. However, Cappadocia is mainly known for richly decorated Byzantine rock-cut church interiors from 6th to 14th centuries AD.

**Phrygia and Cappadocia:** In Middle Anatolia, Cappadocia is not the only region where the examples of rock-cut architecture exist. If the rock-cut architecture of Byzantine culture is most intensively seen in Cappadocia, that of Phrygian culture is seen in west of central Anatolia, between the cities Eskişehir, Kütahya and Afyon. The Phrygians lived in Iron Age in the central Anatolia known as Phrygia.

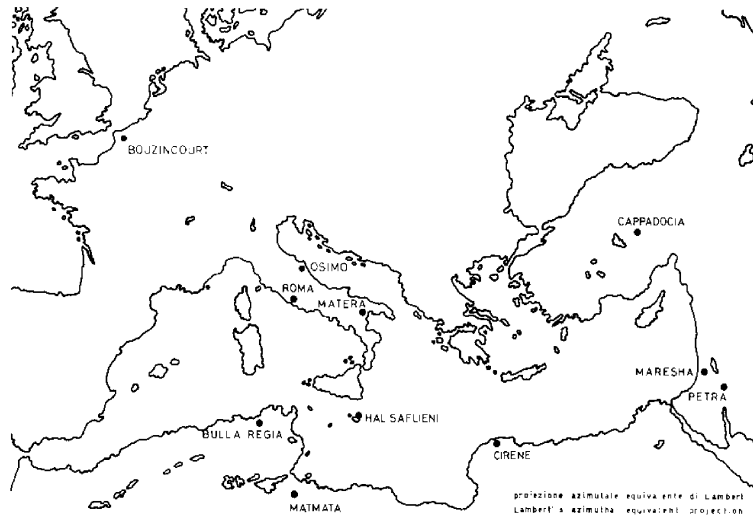


Fig. 2.1: Some important centers of rock-carved architecture around Mediterranean Sea (Bixio, Origini del costruirenelsottosuolo, 24).

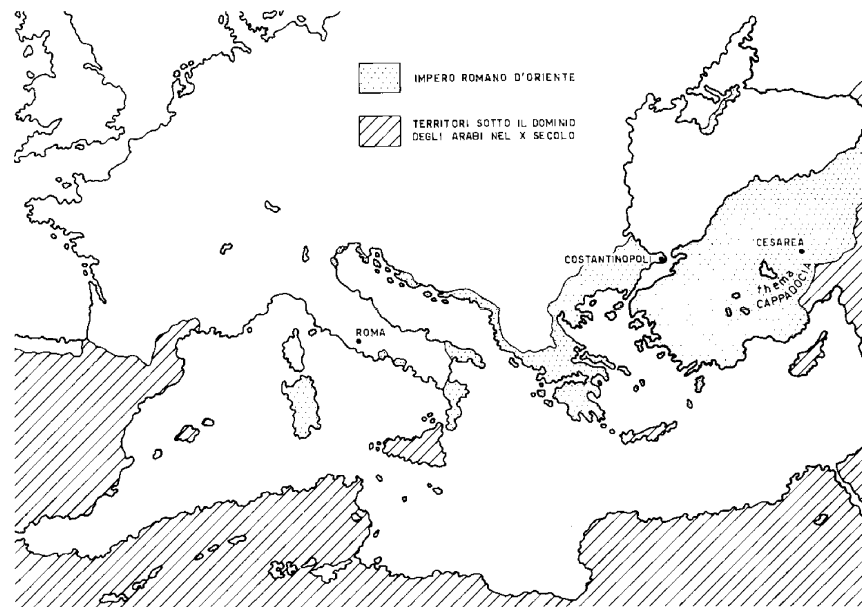


Fig. 2.2: The territory under the Arab dominion in the 10th century. The dotted area shows the territory of Byzantine Empire (Bixio, La datazione degli insediamenti sotterranei, 112). The map reveals the tension between Byzantine and Arab dominion around the Mediterranean in the 10th century.

The Phrygian culture is supposed to affect an area from the east of Halys (Kızılırmak), to the highlands between Afyon, Eskişehir and Kütahya, approximately in the period between 950 - 330 BC.

The rock-cut architecture of Phrygian Culture is different from that of Byzantine culture, since the rock-cut monuments of Phrygian culture is either ornamented façades carved out from rock surface, step monuments, tombs or niches with -mostly- religious functions, while in

Byzantine culture the rock-cut spaces were composed of not only tombs and churches but also monasteries and residential complexes [7]. In Phrygian monuments, the exterior image of the monument seems to be more important than its interior, if an interior exists at all. Most of them are only ornamented façades without interiors. However in Byzantine rock-cut monuments, are, in general, surprisingly elaborated and complex, while exteriors were left in their natural topographical forms.

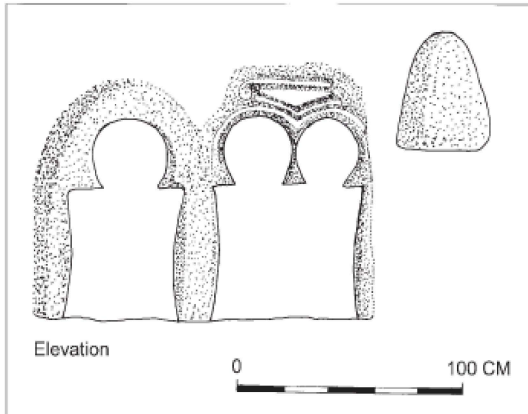


Fig. 81. Idol No. 71 to left, double idol No. 72 to right. Midas City (after Sivas 1999a, pl. 135b).

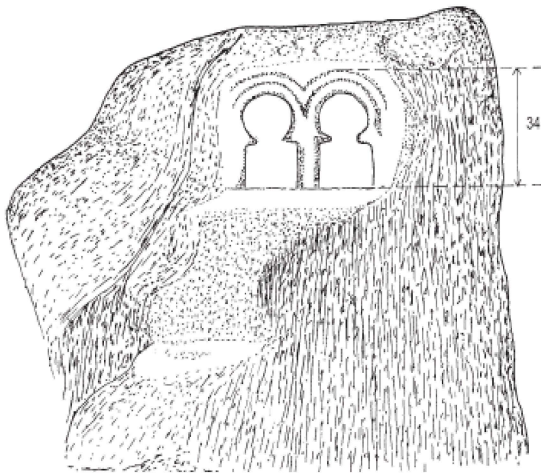


Fig. 82. Step monument with idols (No. 80) at Midas City.

Fig. 2.3: The idols of Phrygian rock-cut architecture, around 6th century BC (Berndt-Ersöz, Phrygian Rock-cut Shrines, 373).

The fact that the west of the Phrygian lands coincide with Cappadocia is a remarkable issue, which might mean that in Cappadocia[8], long before the Byzantine Era, a different form of rock-cut architecture might have existed.

One of the remarkable formal similarity between Phrygian and Byzantine rock-cut architecture is that the form of the 'idols' in Phrygian rock-cut architecture is very similar to a very common façade decoration in Byzantine rock-cut architecture in Cappadocia (Fig 2.3, Fig 2.4, Fig 2.5).

**Cappadocia and Rock-Cut Architecture Sites in Italy:**

In order to compare rock-cut architecture in Cappadocia with similar examples, the cases in Italy were taken as a priority, since many scholars pointed out the flow of



Fig. 2.4: A façade of Keşlik monastery near Mustafapaşa.



Fig. 2.5: Detail of a façade in Keşlik Monastery near Cemilköy and Mustafapaşa.

information and peoples through the Mediterranean, carrying the tradition of rock-cut architecture from Anatolia (Cappadocia) to Italy.

In Italy, rock-cut architecture is seen mostly in the central and southern Italy, most of which are found in Lazio, Campania, Molise, Basilicata, Calabria, Puglia, Sardinia and Sicily regions [9].

According to YorgoSeferis [10], living in the caves must be a very deep instinct in Cappadocian Region. He suggests that the majority of Christian monks, who were following Saint Basil's order and who ran away from the Iconoclastic, moved to South Italy and continued to carve churches into the rocks and to covering the inner surfaces of churches with religious paintings. However, according to him, in Cappadocia, cave-life was made obligatory by the ever-continuing incursions, raids and frequent changing of dominant forces. He thinks that the huge round stones for closing the door openings against the enemies are among the strongest proofs that the action of carving into rocks was done mostly for security purposes (Fig 2.6).



Fig. 2.6: The huge round stone in Keşlik Monastery near CemilKöy in Cappadocia (August 2009).

According to Blake [11], monastic communities in the west (e.g. in Italy) are usually depicted as foreigners from the east. There are several ideas on the motives of the movement of the monastic communities from east to west: fleeing Vandals from Africa in the early-sixth century; Arab invasions in the mid seventh century or escaping from the persecutions of the iconoclastic period in the eighth century. In addition, there is another belief that some 50.000 monks fled Greece for southern Italy around 1000 AD, which was first stated by a historian of the last century, Lènormant and was unfounded [12].

The referred motives of fleeing are valid also for taking refuge into the rocky landscape of Cappadocian region. Giovannini [13] points out that "Rocky Cappadocia was the region offering most scope for eluding the control or the direct influence of government authority and the ruling classes".

On the other hand, Blake [14] believes that the flow of information around the Mediterranean was enough for the spread of eastern monastic practices. As a result, although there is no concrete evidence of the movement of the monastic communities or the means for the flow of information, the consideration that rock-cut rural settlements and churches of Cappadocia affected those of Italia in the Byzantine period is widely confirmed by the scholars.

**Sicily and Cappadocia:** In her work on the reuse of the Middle Neolithic and Bronze Age rock-cut tombs in Sicily, Emma Blake [15] points out that geological conditions were among the most important determinants of the existence of the rock-cut tombs: they are situated where soft, porous and easy-to-carve limestone is found. According to Blake, in the Middle Neolithic and Bronze Age, the rock-cut spaces were all tombs and there is no evidence that they were used as residences.

The megalithic tombs of prehistoric periods are found also in Sardinia and southern Italy and they reached their apogee in the Bronze Age (2500-900 BC) in terms of their size, elaboration and variety. They continued to be used up to the sixth century BC. After many centuries of abandonment, during Byzantine period, a part of them were transformed into 'modest dwellings and Christian chapels' [16]. In this period, the interior spaces were reshaped and the tomb walls were frescoed with Christian imagery and some of the facades were carved.

Due to the interaction of Greek colonies with local populations since late eighth century BC, Greek remained the dominant language in Byzantine Era in Sicily, constituting an important motive for the openness to eastern effects. Among the characteristics derived by the Sicilian church from the East is Monasticism.

When the examples of rock-cut architecture in Sicily are compared with those in Cappadocia, many points in common are observed. Not only in Cappadocia but also in Sicily rock-cut spaces are created or reused in Byzantine period for religious or residential purposes. The existence of frescoes, the limited dimensions of the spaces, the integration with the landscape are among the most remarkable common points. It might be concluded that not only physically but also culturally rock-cut architecture constituted a phenomenon in Byzantine rural civil and religious life.

**Basilicata, Puglia, Central Italy and Cappadocia:**

Although examples of rock-cut architecture are seen extensively in southern and central Italy, the most well-known and 'intense' historical rock-carved site of Italy is Sassi di Matera in Basilicata (Fig 2.7). In Italy, most of the examples of rock-cut architecture are isolated



Fig. 2.7: Sassi di Matera, Italy (accessed December 9, 2010, [http://commons.wikimedia.org/wiki/File:Matera\\_boenisch\\_nov\\_2005.jpg](http://commons.wikimedia.org/wiki/File:Matera_boenisch_nov_2005.jpg)).



Fig. 2.8: The rock-cut church *Lama d'antico*, Fasano Rock-cut Architecture Park, Italy (November 2009).



Fig. 2.10: Water well near the entrance of the church *Lama d'antico*, Fasano Rock-cut Architecture Park, Italy (November 2009).



Fig. 2.9: The rock-cut church *Lama d'antico*, Fasano Rock-cut Architecture Park, Italy (November 2009).



Fig. 2.11: Interior of the church *Lama d'antico*, Fasano Rock-cut Architecture Park, Italy (November 2009).

from the settlements and they are not self-sufficient, multi-functional settlements, but stops for pilgrims (like many rock-carved churches in Lazio) or, in some cases like Sassi di Matera, they are parts of the partially constructed, partially carved settlements. In this respect, there is a difference between Cappadocia Region, where, along with the isolated churches and monastery complexes, many self-sufficient and rock-carved settlements can be observed (like Mustafapaşa).

Another example, the Fasano Rock-cut Architecture Park in Puglia Region (*Parco Rupestre di Fasano*) consists of a valley with rock-cut spaces on both sides, like many valleys in Cappadocia. Among them, there is a church (*Lama d'Antico*) with wall paintings (Fig 2.8, Fig 2.9, Fig 2.10, Fig 2.11). The other rock-hewn spaces in the valley might have other functions like cisterns and residences. The valley might be considered a small rock-carved settlement with different functions



Fig. 2.12: Fasano Rock-cut Architecture Park, Italy (November 2009).



Fig. 2.13: Fasano Rock-cut Architecture Park, Italy (November 2009).



Fig. 2.14: The Necropolis of Sant'Andrea Priu, Sardinia, Italia (Photo by Prof. Tancredi Carunchio, August 2010)

(Fig 2.12, Fig 2.13). Although there are a lot of rock-cut spaces near the church, it is hard to say that they had residential functions [17]. Instead, there is an advanced water management system with cisterns and rain water collecting channels. Moreover, there is a rock piece with many holes that is considered to be a bee hive carved into the rock, which is an element that is not found in Cappadocia according to studies up to date.

**Sardinia and Cappadocia:** Another important area, where examples of rock-cut architecture are seen in Italy, is Sardinia. However, the rock-hewn spaces in Sardinia are mostly tombs. As an example, in the Necropolis of Sant'Andrea Priu (*La Necropoli di Sant'Andrea Priu*), the tombs are hardly identified from outside, there are hardly any surface or façade elaboration of the exterior surfaces.



Fig. 2.15: The Necropolis of Sant'Andrea Priu, Sardinia, Italia (Photo by Prof. Tancredi Carunchio, August 2010)



Fig. 2.16: The Necropolis of Sant'Andrea Priu, Sardinia, Italia (Photo by Prof. Tancredi Carunchio, August 2010)



Fig. 2.17: The interior spaces of rock-carved tombs, imitating the form of a timber upper-structure, the Necropolis of Sant'Andrea Priu, Sardinia, Italia (Photo by Prof. Tancredi Carunchio, August 2010)

On the other hand, the interiors of some of the tombs are elaborated imitating a timber-construction system upper structure. Moreover, niches are also observed (Fig 2.14, Fig 2.15, Fig 2.16, Fig 2.17). The Necropolis of Sant' Andrea Priu is dated to Ozieri Culture (*Cultura di Ozieri*), which took place from 3200 BC to 2800 BC [18]. In this sense, they might constitute the earliest examples of the rock-carved architecture in Italy. The studies on the tombs revealed that additional spaces are carved on the successive periods. The rock-cut architecture in Sardinia is hardly similar to that of Cappadocia, since it generally imitated wooden architecture, in contrast to Cappadocian examples which are mostly inspired from stone monumental architecture.

## DISCUSSION

Rock-cut architecture in Byzantine Era around the Mediterranean is a phenomenon that needs further attention. One of the key questions to clarify the widely-seen rock-cut architecture during this specific period is the one concerning the reasons of use/reuse of rock-cut environments. Six main tendencies that leads to the Byzantine culture of rock-cut architecture and troglodytism might be:

**Security Purposes:** The most common explanation of troglodytism in Byzantine period is “the wholesale abandonment of the coastal cities, a retreat to defended high points of the hinterlands, in reaction to general insecurity and specifically to a fear of seaborne raiders” [19]. Similarly, Stea and Turan [20] point out the fact that Cappadocia region was always subjected to changes in dominant powers and cultures, which might well be resulted in the escape of the people of Cappadocia to the landscape-integrated dwellings, burrows or underground cities.

Probably, the oppression of the Byzantine ecclesiastical authorities during the iconoclastic period (726-843 AD) was an important determinant for the wide-use of rock-cut architecture in Byzantine Era. As a supporting fact, an early ninth-century document mentions the escape of people to the mountains during the period of iconoclast persecution [21].

In the case of Cappadocia, the situation displays more variety, since it is almost certain that the underground cities, were used temporarily only during the emergency situations, whereas it is hardly possible to state that other rock-cut settlements, like the ones situated in the valleys or around the monoliths were used temporarily: it is also probable that the latter form of

settlements were used continuously, also when there is no threat of raids. As a result, defensive motives can hardly be the only reason for Byzantine rock-cut architecture.

**Economical Component:** Another interpretation of Blake [22] on how and why rock-cut architecture is widely seen in Byzantine Period is the fact that the bad economical conditions of the era in Italy obliged poor people use/reuse the rock-cut environments.

With relation to Cappadocia, it might be suggested that, since carving is the best method of dwelling with respect to local conditions, it is also the most economical one. Stea and Turan [23] discuss that, in the extension of rock-cut architecture in Cappadocia Region, the economical concerns played an important role.

**Time Factor:** The time component could be important in preferring rock-cut architecture. The fact that carving a space takes less time than constructing the same space is thought to be one of the important reasons why carving was preferred instead of constructing [24]. Moreover, when the reuse of existing rock-cut environments is concerned, the energy required to adapt the space to the reuse is even less. In other words, the theory of poor conditions leading to the use/reuse of rock-cut architecture is another theory pointing out an obligation or a necessity rather than a preference in utilizing rock-cut environments.

**Cultural Component:** When the reuse of the rock-cut environments is considered, Blake [25] discusses that ‘the standard functionalist explanations cannot account for the specific choice’ to reuse rock-cut environments. In her work, she refers to Cosimo Damiano Fonseca’s [26] confirmation that rock-cut architecture constitute a key component of Byzantine culture. Moreover, she stated that, during Byzantine Era, many ecclesiastical documents mentioned rock-cut churches, among which Messina [27] points out a manual of procedures for consecrating a rock-cut church.

**Climatical Factor:** In addition to all the possible reasons of preferring hewing into rock instead of constructing there are climatic conditions and material availability in the region. The continental climate characterized by big temperature differences between day and night and winter and summer; together with the absence of the other building materials like timber, might constitute another principal reason of preference of troglodytism in Cappadocia.

**Social Factor:** Stea and Turan [28] suggest that the social structure of the region, which, according to them, had always been a feudal structure, where the owners of the land were very rich and the laborers were really poor, affected the preference of rock-cut architecture for dwellings. They stated that “in a stratified society, especially in one where slavery is a way of life, it is not very difficult to deduce, nor is it an idle speculation to surmise, that some of the ‘underprivileged’ must have escaped from urban captivity into the countryside”.

### CONCLUSION

Among the numerous sites in Italy and in Turkey, where landscape and rock-cut architecture are integrated, undoubtedly there are more common points than it is presented here. The author believes that further studies on the comparison and the relationship of the rock-cut architecture in Italy and in Turkey would lead to many findings.

In addition, since the conservation problems of the sites in Italy and Turkey are similar, the exchange of information and ideas in this discipline would be extremely efficient.

In order to accomplish a proper comparison between rock-cut architectures, a detailed study on the historical periods is also needed.

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15. *Ibid.* pp: 204-205.
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