

# The Rupestral Crypt at Fornello. An Axis for a Sustainable Conservation in Apulia

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**Abstract:** In this paper I put forward the claim that, Sant Angelo, the rupestral crypt at the site called Fornello, represents one of the very remarkable examples of that kind in the Apulia region, emphasizing furthermore its particular potential as a sustainable conservation pylon in the context of a larger ensemble of surrounding caves. The frescoed crypt designates the referential axis for such a project which should reconnect in a sustainable way, the church, the caves, the rural agrarian area and the people, in a favorable cycle of mutual benefit for tangible and intangible heritage. Our research becomes a pioneer to support an in-depth, on-site study of the three superimposed layers of frescos decorating the crypt. The study reveals new aspects of the Liturgical meaning of the frescos, as it also exhibits further relevant information describing the use of the caves through the ages, envisaging hereby a sustainable conservation perspective for the site.

**Key words:** conservation, rupestral paintings, caves, calcarenite, medieval, frescos, sustainability.

## La Cripta Rupestre de Fornello. Un eje para un modelo de conservación sostenible en Apulia

**Resumen:** En este trabajo se reivindica que, Sant Angelo, la cripta rupestre en el lugar llamado Fornello, representa uno de los ejemplos más notables de su clase en la región de Apulia, acentuando todavía más su particular potencial como pilón de conservación sostenible en el contexto de un conjunto más grande de cuevas circundantes. El fresco de la cripta designa el eje referencial para tal proyecto el cual debería reconectar de nuevo de un modo sostenible, la iglesia, las cuevas, la zona rural y la gente, en un círculo favorable de beneficio mutuo para la herencia tangible e intangible. Nuestra investigación se hace pionera para apoyar un estudio a fondo, en el lugar de las tres capas superpuestas de frescos decorando la cripta. El estudio revela los nuevos aspectos del significado Litúrgico de los frescos, como también exhibe más información relevante describiendo el uso de las cuevas durante el paso de los años, previendo por la presente una perspectiva de conservación sostenible para el lugar.

**Palabras clave:** conservación, pinturas rupestres, cuevas, calcarenitas, medieval, frescos, sostenibilidad.

### Introduction

The data yielded by this study provides convincing evidence that there is a need to focus on two major aspects regarding the site of Fornello, a rupestral settlement in the Apulia region. First of all, the particularity of this site in a regional context needs to be emphasized. The importance of the Archangel's crypt at Fornello is also shown by means of exposing its very unique iconographic program of wall paintings, which has not been published and researched until present. Secondly, the imminent need for a sustainable conservation plan for the

church is presented in detail, while potentially advancing degradation phenomena are thought to be signaled about in this way. The local community of shepherds is encouraged to involve in the process of a long-term preservation of the site. According to Messors strategic plan one of the caves would be restored with the purpose of cheese-aging. The shepherds will be provided with a socio-economic benefit and will be able to sell their products on the international market worldwide. This could guarantee a permanent maintenance of this ensemble in a context of mutual benefit for the sake of the tangible and intangible heritage of Apulia.

## Methods & methodology

### *The Preliminary framework*

A primary research for relevant references shows that the frescoed cave-church at Fornello is known with two appellatives, *Cripta di Sant Angelo* or *Cripta di Sant Nicola* (Medea 2014: 47). Several sacred sites in Apulia are dedicated to these two patron saints. Archangel Michael is very common due to the miraculous apparition of the Archangel in 493 at the place called Monte Sant'Angelo at Gargano in northern Apulia. Saint Nicholas is preferred due to the veneration of his Holy Relics at the Basilica in Bari. The relics were transferred in 1087, from the Eastern city of Myra in Lycia (a province on the Southern coast of Turkey) to the West (on the Adriatic coast of Apulia). Most of the sources record it as Crypt of the Archangel. It might be possible also that the dedication of the crypt may have changed in the course of time.

The funeral crypt of the Archangel represents for several reasons one of the most noteworthy rupestral examples of that kind – not only in the area of the city Altamura, but also in the province of Bari, in the context of the entire Apulia region. Being located in a remote place, at about 6 km east from Altamura, in direction of Santeramo, at the site called Fornello, the crypt is positioned in the middle of an agricultural field. The cave church at Fornello is not particularly close to the Via Appia Antica which runs rather more South nearby the city of Altamura, as we know that there are two other important sites recalled by Ponzetti, *Masseria Jesce* and the nearby *Masseria San Giorgio at Carpentino* (Ponzetti 1934:6). This fact assigns it to a rather more retreated area, which could have suited the exigencies of a monastic community.

The crypt is part of an ensemble of about 25 various shaped caves disposed around a larger area, neighboring two 17<sup>th</sup> century built structures. A shepherd's house and a larger Masseria building show specific features of this type of farm house architecture. The Masseria is positioned in a strategic position, on the top of the higher hill, on the western part of the property. The current building may have been built upon an older preexistent structure.

### *The historical context*

Apulia is located in Southern Italy – a confluential cultural area, an essential crossroad for various civilizations and cultures along millennia. For many centuries a great deal of conquering entities exploited its rich agricultural and pastoral resources. They expanded their political authority by consolidating their strategic position within the Mediterranean Basin, through access to the Adriatic and Ionian seas. Oriental and Western civilizations superimposed gradually over the indigenous cultures. Medieval Apulian rupestral art indicates Middle Byzantine models of reference, evoking distinctive, rare, ancient

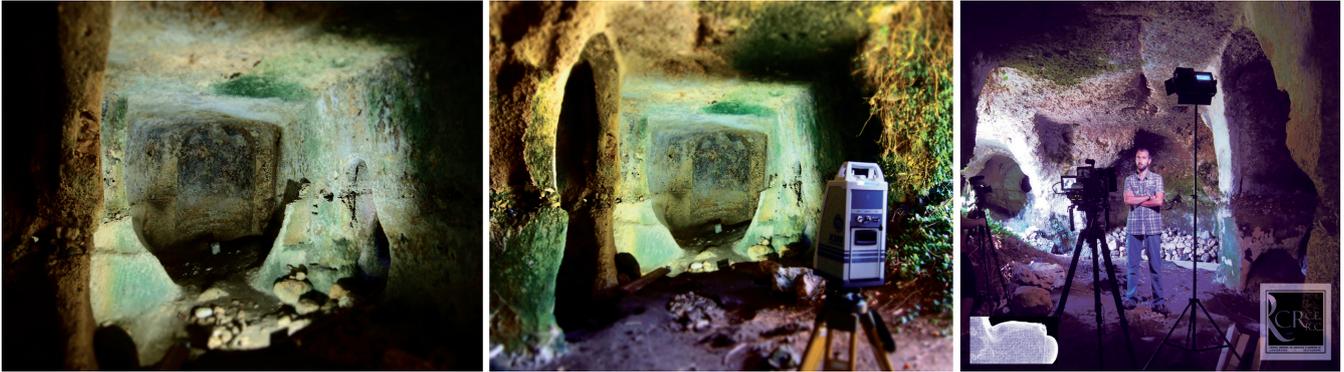
Syro-Palestinian archetypes, which still reverberate in the surviving art from the similar timeframe or even earlier. References can be traced to art of Asia Minor, Syria, Lebanon, Egypt, examples of mural paintings from the region of Mani in Peloponnes, Cappadocia and Caucasus Georgia (Petcu 2014).

The Southern Italy particularly preserved its orientaling character due to the connections to Constantinople and the Middle Eastern ethnics, which used to be present in governing positions and administration, too (Lavermicocca 2012: 14). Therefore, after the massive invasion of Eastern Asia Minor, many monastics and fleeing Christians migrated towards Southern Italy, with the purpose of finding refuge, protection and liberal practice of their faith.

### *The materials*

Several of the preexisting carved caves became inhabited by monastics, which extended sometimes the ancient spaces and occasionally even previously carved graves. In most of the cases they created new ones, following elaborate architectural plans, excavating and carving the available mass of soft limestone, which was available in the region and had extraordinary properties due to its sedimentary origin and its particularly soft structural consistency. The excavation of the tufo layer for dwellings has definitely not emerged as an innovation of the medieval era, but had already been a recurrent practice since prehistoric times in Apulia.

The soft limestone called *Calcarenite di Gravina* is supposed to have formed during the interval between the Superior Pliocene and the Inferior Pleistocene, being a particular type of porous sedimentary limestone with granular structure, essentially based on calcium carbonate. The layer of *calcarenite* varied in its thickness and was formed in a marine environment during the progressive compaction of disaggregated shells, algae, marine animals and fossils. They all accumulated on the surface of the lower preexistent limestone bedrock, particularly along the so-called *lame*, disposed around the area of the local ravines. These ravines were created through the progressive erosion of the limestone bedrock with the action of water; the calcium carbonate was dissolved and shaped by the effect of the carbonic acid in contact with rainwater. The process induced interesting complex karst phenomena. The *calcarenite* formed inside the *lame* of the Murcian Plateau, after the disappearance of an assumptive sea that may have covered these lands. The rock is appreciated to be a softer, very workable material which allows quick shaping by easy manual carving comparing to the hard limestone and is called locally *tufo*, although it is not a volcanic tuff. A great workability of this material allowed the amazing excavation and embellishment of various architectural spaces – many of the rupestral churches and crypts, spectacular masterpieces analogously to the Cappadocian or Georgian examples.



**Figure 1.**- Photographic views of the cave at Fornello, north-south axis; credits: ©Filip A. Petcu.

If compared to the majority of cave churches in Apulia excavated in soft limestone, the particularity of the geological structure of Fornello is revealed in a vertical structure of the wall appearance and shows a superimposition of three distinctive layers. [illustration 1] The sedimentary *calcarenite*, on top is separated from the underlying layer of limestone at the bottom by an intermediate thin layer of scattered angular stones of medium size, which are spread almost regularly over the bottom limestone bedrock.

#### *A bibliographic incursion*

According to several prospectations, in the Bari region there is evidence of 18 crypts, 19 crypts in Brindisi, 33 crypts in Lecce region, 50 around Taranto and another extra 14 crypts mentioned beside the previous ones in the appendix chapter of Medea's study (Medea 2014). That makes a total of minimum 134 crypts in the area, only in the Apulia, without counting the numerous rupestal churches that can also be found in the Basilicata region. Only in Matera there is evidence of 115 rupestal churches, but we must mention the fact that Matera is originally part of the historical Apulia region and was annexed to Basilicata in 1663. In the preface of Medea's publication, Antonio Ventura lists a chronology of bibliographical references to the rupestal churches of Apulia. French authors of the second half of the 19th century (Charles Diehl, Emile Bertaux, Francois Lenormant and Jules Gay) are mentioned together with the names of two pioneer Italian researchers from Lecce (Luigi De Simone, Cosimo de Giorgi, working between 1868 and 1875). Alba Medea, who started her activity in the 1920s and published her results in 1939 (Medea 2014: 3-4), is also listed. Ventura gives account on the work of Giuseppe Gabrieli. In 1936, this orientalist and librarian printed in Rome the topographic and bibliographic inventory of the Basilian crypts of Apulia (Medea 2014). He then presented it during the 5th International Congress of Byzantine Studies, held in Rome. During his research he encountered Medea's study from 1934 on the churches of the area of Taranto and acknowledged the quality of her work. In 1936 Francesco Maria Ponzetti published an article (Ponzetti 1936) related to a cave church from Altamura

which Medea refers in her book when discussing the crypts around Bari. Five years later than Medea, in 1941, Ponzetti, originating from Altamura, published an extent article in *Japigia XII* about the medieval hermitic crypts of Altamura (Ponzetti 1936: 79). Noteworthy are the later studies on the rupestal churches of Apulia by A. Prandi, C. D. Fonseca, N. Lavermicocca, F. dell'Aquila, A. Messina and M. F. Castelfranchi, Giovanni Miglionico a.o. They all reveal series of lesser known aspects, but do not really bring forward information on the paintings at Fornello. Certain historical information about the Fornello crypt became available through their studies, but the hermeneutical picture of the Liturgical space of church, and certain details of the iconographic program have not been studied in depth so far. However, minor restoration works have recently revealed more evidence in that sense.

Ponzetti records an important Latin document describing certain communal territorial determinations. The document dates from 12 february 1243 and refers in his opinion to the site of Fornello, called with the appellative 'Pecia de la Graeca' and 'Cripta Campanina' (Ponzetti 1936), probably referring to 'pezza' (eng. piece) of land. This statement is supported with a set of arguments by Ponzetti, who excluded any other possibility, and concluded that the reference was strong enough to be identified and associated to the settlement of Basilian monastics living at the site of Fornello. It is notable that the areas of Altilia and Lupatia were seriously damaged during the Saracene raids and Altamura was not properly rebuilt as a city until Federico II di Svevia. That is why the lands around Altilia became deserted around the year 1000, so that people tried to find remoter places to carry on their living and occupied some of the available large prehistoric caves of the area. This fact is documented by Ponzetti in his study referring to about 50 caves, including the site of Fornello (Ponzetti 1936: 77).

#### *The field work*

The work on site was based on observation, assisted by measurements, digital photography, 3D Laser-Scanning



**Figure 2.-** Photographic details from preliminary observational studies on-site and during the first cleaning of the cave floor; credits: ©Filip A. Petcu.

of the crypt's space and minor cleaning tests carried on several areas with prominent salt crystallizations and surface efflorescence [illustration 2]. An updated plan of the cave has been drawn and the existent painted scenes have been partially decrypted and assigned to the plan. The sequence of the fresco layers was preliminary studied in order to develop a mapping process, and a subsequent understanding of the preserved pictures. One Greek inscription has been identified in the original layer, while other six Latin inscriptions have been traced and partially deciphered in more recent layers, revealing additional information on donors and the painted scenes. The floor has been cleaned on the very surface, gathering a large quantity of stone blocks scattered all over the crypt's floor. These have been carefully piled in a side-niche, outside of the perimeter of the painted area of the crypt. The aim was to reuse them in a sustainable way for any necessary consolidation works at walls and the entrance. A large quantity of soot and soil has been gradually removed from the floor surface, when a potential cistern became apparent, as well as stairs at the original entrance of the cave. Several *loculi*, carved rectangular recessions, with sepulchral value, excavated in the bedrock of the cave floor.

The special orientation of the church, in the context of the rupestral ensemble, just as its remarkable spatial division, make it one of the most refined examples of its type, worth to become subject of further scientific research. Most of the cited authors record it as a 'Basilian crypt', pointing out that the church belonged to a monastic community of Eastern Christian Orthodox monks which lived after the monastic code of rules developed in the 4th century by Saint Basil the Great, Bishop from Caesarea Capadocia. The Medieval use of the cave is certified by carving marks and particularly by multiple layers of painted plaster, distributed on several of the cave's architectural elements. These marks give the impression that the cave was used as a church and as a crypt for several centuries. There are several arguments in favor of the initial use of the church – its iconography and a Greek inscription belonging to the first layer of mural decoration.

Despite the fact that not much is particularly known about the history of church, the past three editions of the Fornello project have revealed some understanding on the plan of the cave church ensemble as well as a new perception of the number of pictorial layers on each wall. Some descriptive elements for this ecclesiastic space would define a semicircular apse carving in the Altar area, two suggestive fragments of the former *cancellum (recinzione)*, a dividing intermediate wall (carved into the tufo, in between the bema and the *naos*, as a rudimentary form of an early *iconostasis*), several niches of various shapes and depths, and a few arches with built-in elements (in some passage areas between communicating spaces and a more or less flat ceiling). It is worth mentioning some interventions from different timeframes which have damaged the painting through utilitarian carving of new niches in the frescoed areas. They show traces of tools which indicate the removal of the *calcarenite*, possibly by looters. Other areas exhibit drilling holes which might have been used to create a supporting system for a curtain. A particular area on a western pillar points on the closing of an early niche, which was filled in with mortar and stones, prior to the carving of the arch and plastering of the surface of the pillar.

The present overall appearance of the painting is of a palimpsest, due to the discontinuity of the fragmentary pictorial layers, showing extent random losses reflected both on the original and on the superimposed layers of lime plaster. [illustration 3] The conservation issues on the wall paintings are mostly developed by the degrading action of water, bio deterioration with mold-growth on the surface, the effects of the osmosis phenomenon, major losses of plaster and consistent salt crust formation on the surface. Salt recrystallization on top of the painted surface obscures major pictorial details and acts as a visual barrier on the global perception of the ensemble. Spiral grooves indicate the route of the water inside the porous rock, leaving traces of empty curved *lacunae*. Hammer picking marks caused by a tool called *bocciarda*, are particularly evident on the first layer, indicating a preliminary preparation of



**Figure 3.-** Photographic details showing the degraded superimposed layers of plaster and the massive crystallization of salts on the painted surface of the wallpaintings; credits: ©Filip A. Petcu.

the substrate by picking it in order to improve the grip of a new plaster layer.

### Results & discussion

The prominent length of the cave corresponds to the direction of the church's plan space. Since its length is considerable, at least one possible argument can be brought out to support the reason for which the direction of the church nave follows the longest available room of the original cave, on the south-north direction, rather detrimentally to the specific canonical Eastern orientation of a church. Consequently, we can only assume that this compromise occurred due to the preexistence of this carved space on the north-south axis of the cave, prior to consecration of the space as a church. Nevertheless, although the orientation of the church points towards North a *lucernaria* was carved out on the Eastern wall's ceiling. Thus, it permitted the directed light to stream from the East through the carved skylight and to descend over the 'Holy Sanctuary' at the appropriate moment of sunrise, at the Morning Liturgy. The sanctuary block of the Altar has regrettably not been preserved.

The frescoed part of the cave corresponds to the single nave type, having a bema, a reminiscence of a *cancellum* (*recinzione*) and an aula opening to an additional space which could have functioned as a cistern or baptistery. Another secondary space located on the eastern part communicates through an arched entrance with the naos. It lies close to the *cancellum*, leading to a separate architectural unit which might have been a side chapel, *diakonikon* or *prothesis*.

Prior to cleaning the floor during the workshops the main church was unevenly and randomly covered with

various sizes of stone blocks, animal dirt and soil which obscured the original level of the floor.

Four empty *loculi* were to be found during removal of the soil, having been carved in the naos floor of the cave, attesting its use as a funerary chapel. The condition of the floor evidenced also a recent use of the cave as shelter for domestic animals.

Investigation on the sequence of fresco layers points to a maximum of three superimposed layers depicting at different timeframes the same iconographic scheme, as evidenced by the Northern Altar apse composition. In this case the *Deesis* scene represents the enthroned Pantokrator flanked by the two intercessors, the Theotokos and John the Baptist. The three layers of frescoes can be assigned to the 11-12<sup>th</sup>, 13<sup>th</sup> and 14<sup>th</sup> century. On the same wall with the *Deesis*, the apse appears framed on both sides by standing portraits of Saint Archangel Michael and Protomartyr Stephen. The western wall indicates the representation of the Pentecost, followed by four full portraits of Paul, Peter and two unidentified silhouettes. On the eastern wall we decrypted the symbolic representation of the 'Life-giving Tomb' of Christ with the cross and emerging vegetation painted just below the carved skylight. This depiction is further seconded by three standing portraits as palimpsest, a bishop saint, John the Apostle and a third unidentifiable figure.

The iconographic program of the aula can be characterized with reference to its western and the eastern sections. The eastern wall is very difficult to read, but what remains recognizable is a donor scene picturing a king offering a church-tabernacle in form of a *rotunda* to the Theotokos bearing the Christ child. Above the tabernacle, a winged figure with three faces can be distinguished as a symbolic representation of the Holy Trinity as 'one being in three persons'. On the opposite wall we can observe, from North

to South, the icon of the enthroned Hodeghitria depicted in two distinctive layers, a standing Saint Catherine from Alexandria, a palimpsest of three superimposed layers: The last layer depicts complex narrative hagiographic composition, a full portrait of an unidentifiable saint, possibly Panteleimon, and a last standing portrait of Saint Barbara. On two different pillars on both sides of the western arch we discover the icon of the Annunciation and the portrait of Mary Magdalene, both evidencing two superimposed layers. [illustration 4]



**Figure 4.-** Photographic details during the cleaning tests on the surface corresponding to the pillar of Saint Mary Magdalene; credits: ©Filip A. Petcu.

A Greek inscription connected to the icon of the Hodeghitria and six Latin inscriptions ascribed to the saints have been evidenced and translated during the past three workshops, exposing new information about possible donors and identity of some of the mentioned subjects. The hermeneutics of the iconographic program have been analyzed and discussed from the perspective of their highly important Liturgical significance.

## Conclusions

The aim of this project envisages a long-term goal: to preserve the historical socio-cultural identity and the



**Figure 5.-** Photographic views showing aspects of team work on the site of Fornello during the first edition of the workshop; credits: ©Filip A. Petcu.

features of the rupestral ensemble of Fornello, to conserve and exhibit the complex structure of the memory of the site, evidenced in such a complex mode by the current iconography and the spatial syntax of the crypt.

The site becomes itself an icon of Southern Italy, describing a surprising rich cultural stratification and a refined concept of space formed along centuries. Such a concept evolved through sedimentation of cultural and historical data, drawing the outlines of what we define as paradigm of the civilization of modern Europe.

Conserving the natural landscape, integrating renewable energy in the dynamics of the site, while consolidating and restoring the caves, the crypt and its frescoes in a sustainable way, are examples of good practice. This teaching tool involves volunteers and the local community through Messors Fornello project. All these actions converge to become financially supportive for the work of the shepherds, helping them to regain the dignity of their profession in a context of critical regulation changes on a global level, while reconnecting their vocational pastoring, as living heritage, to the ancient rupestral site, as a part of the tangible heritage and a prominent regional axis defining their belonging to a cultural landscape.

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