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A cura di C. Galeazzi & P. Madonia









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The underground shelters of Kanlısivri Mevkii in Göreme (Cappadocia, Turkey)

I rifugi sotterranei di Kanlısivri Mevkii in Göreme (Cappadocia, Turchia)

Pierre Lucas[1], *Roberto Bixio*[2, 3, 4]

Abstract

In the extraordinary rock site of Göreme, in Cappadocia (Central Turkey), known throughout the world for the countless Byzantine rock-cut churches, numerous underground shelters, previously unknown, have recently been discovered thanks to speleological techniques. In this work three are described, identifiable by schemes and elements that are usual in Cappadocian shelters. These defensive works are located in a circumscribed area of a rocky spur called Kanlısivri and are adjacent to churches and refectories. One in particular, today only partly accessible owing to conspicuous landfills, but equipped with a large-sized millstone-door, suggests the existence of a more complex system.

Keywords: Turkey, Cappadocia, Göreme, Kanlısivri Mevkii, underground shelters, rock-cut works.

Riassunto

Nello straordinario sito rupestre di Göreme, in Cappadocia (Turchia centrale), noto in tutto il mondo per le innumerevoli chiese bizantine scavate nella roccia, studiate sin dal 1907 da molti ricercatori, a seguito di nuove indagini condotte con tecniche speleologiche sono stati recentemente scoperti numerosi rifugi sotterranei, prima sconosciuti. In questo lavoro ne descriviamo soltanto tre, identificabili grazie a schemi ed elementi comuni a tutti i rifugi cappadoci. Questi fanno parte di un contesto rupestre che, fino a poco tempo fa, era stato preso in considerazione esclusivamente per le opere di culto. Le tre opere difensive sono collocate nell'area circoscritta di uno sperone roccioso denominato Kanlısivri e sono adiacenti a chiese e refettori. In particolare viene analizzato il Complesso della Chiesa n. 2. Infine, il terzo rifugio, oggi solo parzialmente accessibile a causa di un cospicuo riempimento, ma dotato di una massiccia porta-macina, suggerisce l'esistenza di un più complesso sistema. È verosimile che i rifugi abbiano relazione con le incursioni arabe, tra VII e XI secolo, o con la successiva conquista selgiuchide.

Parole chiave: Turchia, Cappadocia, Göreme, Kanlısivri Mevkii, rifugi sotterranei, opere rupestri.

De Jerphanion and the churches of Göreme

"*Un éperon rocheux, que prolonge une ligne de cônes réguliers, reste du plateau débité par l'érosion, sépare Matchan des ravins d'El Nazar, Gueurémé, Qeledjlar. C'est là que se trouve le groupe le plus important des églises rupestres de Cappadoce. Bien qu'il s'étende, en réalité, à trois ravins différents, nous le désignerons par le seul nom de Gueurémé. Les églises son tallement rapprochées qu'elles ne forment qu'un même ensemble et c'est à Gueurémé qu'on en trouve le plus grand nombre*" (De Jerphanion, 1925: 22).

Thus argued the French Jesuit and Byzantinist Guillaume De Jerphanion who, from 1907 to 1912 conducted a series of campaigns in Cappadocia, central Turkey (fig. 1). His goal was the study of religious rock-cut structures in the area of Nevşehir, whose fulcrum is still today *Gueurémé*, i.e. Göreme, the ancient Byzantine *Korama*, worldwide know for the remains of the innumerable churches carved into the rock.

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Fig. 1 – The dotted area corresponds to volcanic rocks of Cappadocia (drawing R. Bixio).

Fig. 1 – Area punteggiata corrispondente alle rocce vulcaniche della Cappadocia (grafica R. Bixio).

Matchan is today the prosperous village of Avcılar, whose name has recently been changed once again to Göreme, differentiating the ancient site of the churches, 1 km far, with the toponym *Açık Hava Müzesi*, i.e. Open Air Museum. De Jerphanion, a hundred years ago, made known for the first time with a scientific viewpoint the rock-cut structures of this region, described in four volumes published between 1925 and 1942. After him many other scholars have succeeded up to the present day, documenting in the limited area of Göreme, just 4 sq.km[1], more than 80 underground worship buildings and 50 refectories (see, for example: Restle, 1967; Thierry, 2002; Rodley, 2010; Andaloro, 2014; Jolivet-Lévy, 2015; Ousterhout, 2017). However, from the most recent researches, conducted with specific speleological techniques, it is emerging that the settlement of Göreme consists not only of churches and refectories, but there are also water systems dug at the bottom of the valleys, as well as innumerable defence works, almost completely ignored before. At the beginning of the last century De Jerphanion (1925: 45) quotes very briefly only 3 defensive devices to which, much later, another is added (Lucas, 2003: 36-37). Only after 1991 the water systems were taken into consideration (Castellani, 1994; Bixio R. & Castellani, 1996; Bukarenko *et al.*, 2011; Bixio A. *et al.*, 2017) and very recently, after 2012, other underground shelters were identified and partly documented[2]. With the three described here they reach a total of 18, but it would not be surprising if they were even more. This new urban layout is therefore modifying the original idea of a rock-cut settlement exclusively devoted to worship (Bobrovskyy *et al.*, 2013; 2015a; 2015b; 2016; Bixio A. *et al.*, 2018b).

The shelters, in particular, reveal very similar structures in their conception to the hundreds of underground defence works identified everywhere on the vast territory of Cappadocia (Bixio R., 2012; Yamaç *et al.*, 2015), probably realized by the Byzantine population during the period of frequent Arab raids (De Jerphanion, 1925: 45-46), between the 7th and the beginning of the 11th century (Mc Geer, 1991: 133), but probably also linked to subsequent episodes of Seljuk Turks incursions. They are all characterized by the presence of heavy circular monoliths (millstone-doors), placed in special operations chambers: they were moved in case of aggression to "lock" the internal chambers. The millstones are often coupled and supplemented by additional devices, such as trap-shafts, loopholes, bended tunnels, and emergency routes. In some cases, despite the collapses and erosion, the configuration of interconnected systems, organized for mutual defence, is guessed, as widely described in various publications (Bixio R. *et al.*, 2015; Bixio A. *et al.*, 2018a; 2018b). In this work 3 underground shelters identified in the Kalınsivri locality (*Mevkii*) will be considered, with particular attention to a specific shelter belonging to the rock-cut complex connected to the church no. [2].

The promontory of Kanlısivri

Kanlısivri, i.e. "the Promontory", is the toponym used to identify the northern spur of the long Kızılhöyük plateau, oriented N-S, which separates the Göreme Valley from the Zemi Valley (fig. 2). Here the ridge (*sırtı*) protrudes over the plain, sloping down from a height of 1150 m on the top, to the confluence of the two riverbeds, at about 1100 m. The looming tuff mass is decomposed by the meteoric action into a tangle of gullies and pinnacles in which it is difficult to position the numerous cavities that face both sides (fig. 3).

The Zemi Vadisi corresponds to the *ravin d'El Nazar*, before mentioned. This toponym more precisely refers to an area between the right bank of the valley and the western slopes of the plateau, where, in an isolated pinnacle, is located the homonymous rock-cut church (*kilise*): it is the first church described and catalogued with the number [1] by De Jerphanion (1925: 177-198). Further downstream, on the northern extremity of the promontory, the French scholar signals the presence of other churches, but only two were indicated in his map with the numbers [2] and [3] (De Jerphanion, 1925: 23 *et pl.* 3). While the church [3] is

[1] Meanwhile, the research has been extended to a territory of more than 20,000 sq.km, consisting mainly of tuff and other volcanic rocks, with the discovery of more than 1,000 rock-cut churches (Ousterhout, 2017: 5) and hundreds of underground sites (see, for example Bixio R., 2012).

[2] In addition to the investigations conducted personally by Lucas, further elements were acquired in the course of surveys conducted from 2012 to 2014 by the Centro Studi Sotterranei as a partner of the "Rock painting in Cappadocia" mission, of the University of Tuscia (Viterbo-Italy), and of the PRIN project 2010-2011 "Rupestrian art and habitat in Cappadocia", directed by Prof. Maria Andaloro, under the authority of the Turkish Ministry of Culture (Andaloro *et al.*, 2015).

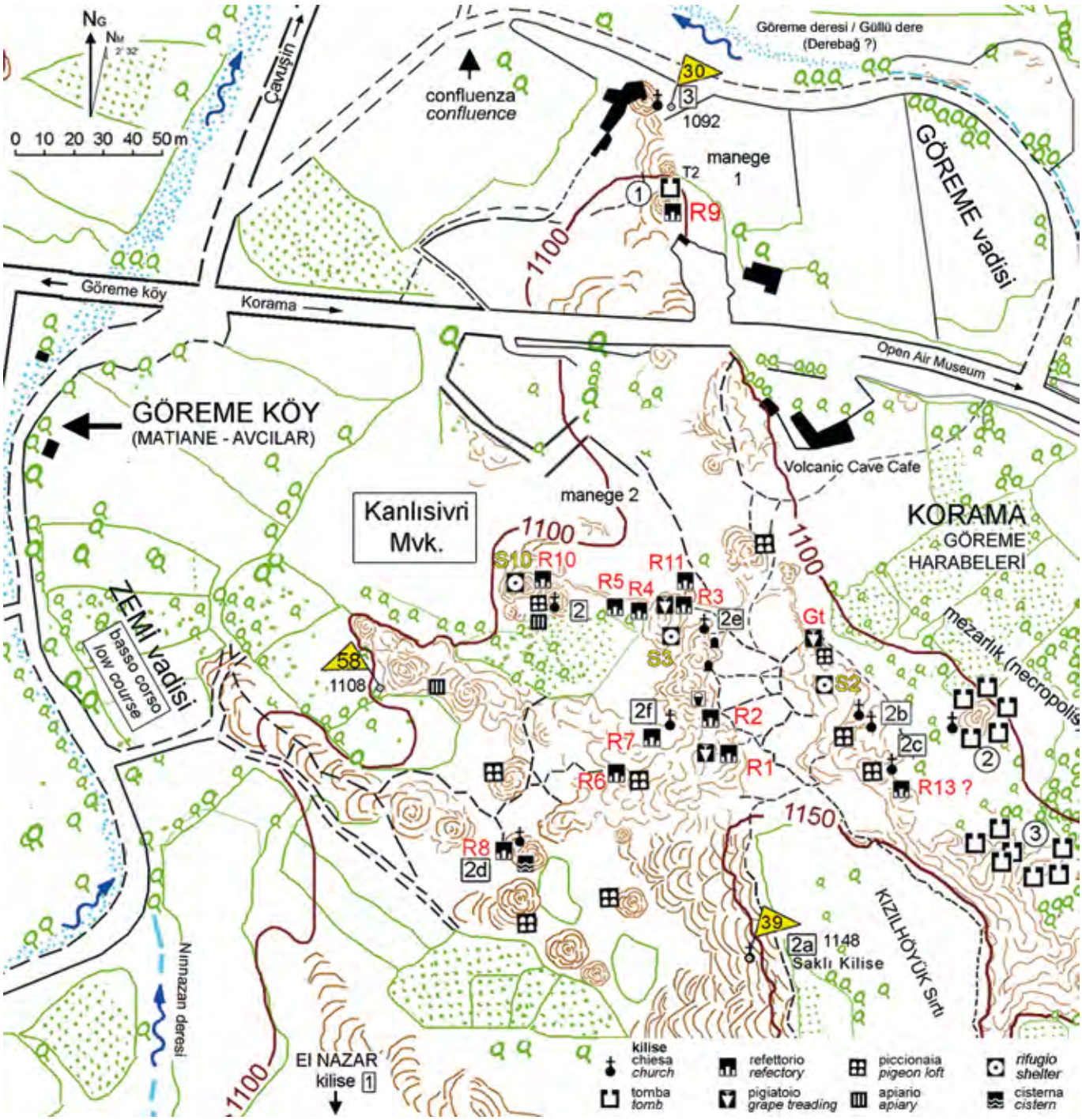

Fig. 2 – The Kanlısivri promontory area, between the Göreme valley eastward, and the Zemi valley westward (drawing R. Bixio).
Fig. 2 – L'area del promontorio di Kanlısivri, tra la valle di Göreme, ad est, e la valle di Zemi, ad ovest (grafica R. Bixio).

then widely described (De Jerphanion, 1925: 140-144), about the church [2] he only reports that it could be the largest of the whole group without further details. Following the subsequent investigations (Lucas, 2003; Jolivet-Levy, 2015; Ousterhout, 2017), today the rock-cut churches of the "group 2", located around the rocky spur, are seven, and 11 are the underground refectories, reported in the map of figure 2 with the letter R. Groups of chamber tombs (necropolis) and other facility rooms such as pigeon houses, wineries, apiaries and at least one cistern are also indicated.

The complex of the church [2]

Some clarifications are necessary on the identification of the church [2]. Without any description by De Jerphanion and being his map too generic to provide a secure position, the question remains which churches could coincide with. In the "Arte della Cappadocia" repertoire, the church is listed, but it is reported as not found (Giovannini, 1971: 202-203, plan 4/2). Thierry (1992: 585) proposes to identify it with the church [2d]. Catherine Jolivet

Fig. 3 – The Kanlısivri promontory, looking westwards (photo A. Bixio).
Fig. 3 – Il promontorio di Kanlısivri, vista verso ovest (foto A. Bixio).

(2015: 50), although she considers its position uncertain, believes more probable that the church in question is the one she photographed in planche 42.1 (tome II), to which she attributes the number [2]. In this case, the point would correspond to that indicated by Ousterhout (2017: 414, map 4.48) that we have identified in one of the two pinnacles above the refectory R10 (figs. 2, 3, 4).

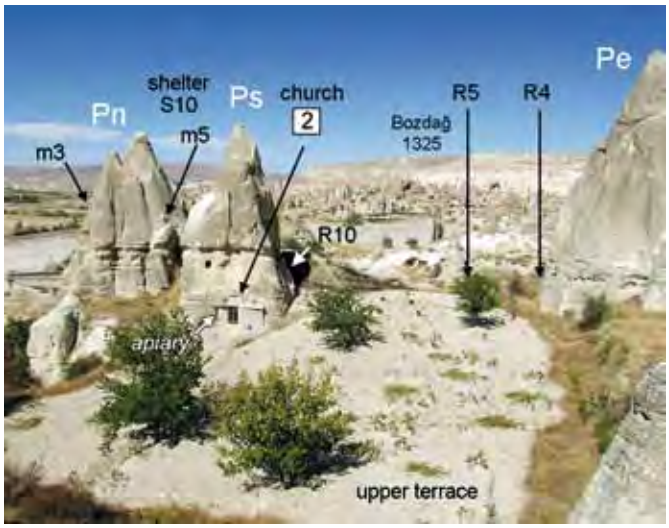

Fig. 4 – Kanlısivri Mevkıi: looking northwards. The pinnacles of Church [2] and S10 shelter (photo T. Bobrovskyy).
Fig. 4 – Kanlısivri Mevkii: vista verso nord. I pinnacoli della Chiesa [2] e del rifugio S10 (foto T. Bobrovskyy).

Church and refectory are part of a more composite complex, which also includes a shelter, carved on three levels below and inside the two pinnacles (fig. 5). The compound is located at the end of a long rocky bank, oriented E-W, creeping between a terraced cultivation, to the south, and a wide open space, to the north, used as manège. The premises are not currently accessible as occupied by the land's owner.

Level 2: the church [2]

Even the church is inaccessible, so we do not know if the interior has been altered. The entrance is on the southern slope of the south pinnacle (Ps). The *naos* (n) and the narthex (n1), are excavated at the level of the upper terrace, at an intermediate level (level 2) between the refectory below (f) and the overlying redoubt (m) of the shelter S10. The church, oriented SW-NE, has a total length of 11 m for a width of about five metres.
From our findings, and from the description of Catherine Jolivet (2015: 50), the narthex contains at one end an arcosolium with two tombs. Relevant is the presence under the left apse of a tunnel that we will see in the following description of the underlying refectory (f). The decoration, painted in red directly on the rock, composed of simple geometric patterns, stylized birds and two crosses, is attributed to the 11th century. The entry of the narthex was subsequently expanded to create a small apiary (Jolivet-Levy 2015:

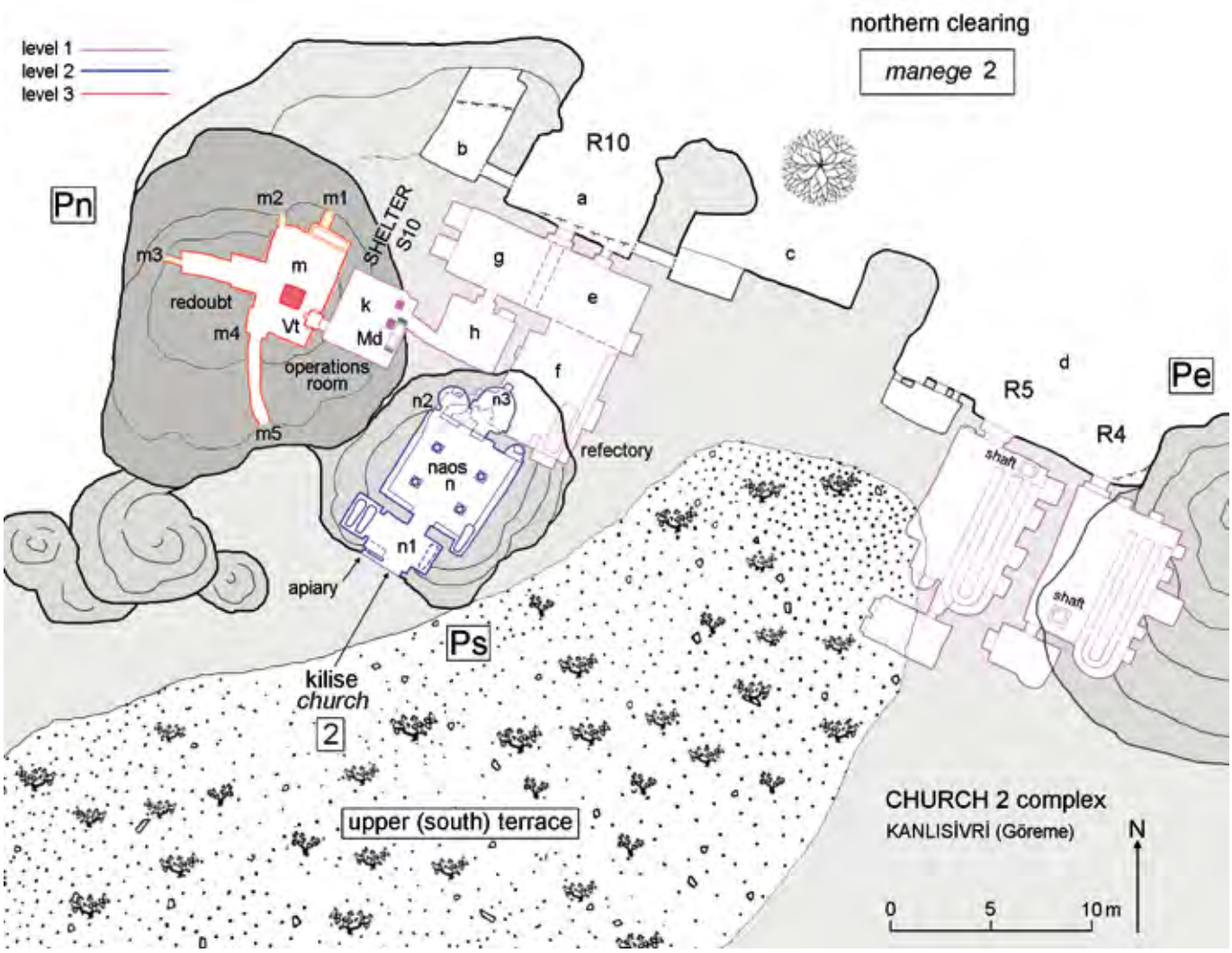

Fig. 5 – Plan of the "church 2" complex (survey P. Lucas, drawing R. Bixio).

Fig. 5 – Planimetria del complesso della "chiesa 2" (rilievo P. Lucas; grafica R. Bixio).

50), consisting of a single vertical slit. Inside, probably, there was a lateral support to place a series of horizontal hives, as documented, for example, in the nearby Kızılçukur site (Bixio R. & De Pascale, 2013).

Level 1: the refectory R10

In the bank, on the opposite side of the entrance to the church, there are the entrances of some rooms used as refectories. In the plan of figure 5 the refectories R4, R5, and R10 are represented, but in the adjacency there are others. Each is characterized by the presence of remains of a long table (*trapeza*), benches on both sides and of a head niche. All the elements are made directly in the rock saved by the excavation. According to research conducted by Robert Ousterhout (2017) throughout the area of Göreme and Kanlısivri, their quantity and their location, not always directly corresponding to the churches, and the abundance of burials nearby, leads one to think that they could have the function of *"refrigeria"*, i.e. places to offer refreshments during funeral ceremonies by families to whom the nearby rooms or chapels belonged "[…] as a late, distant relatives of the Early Christian *triclina*, used for *refrigeria* meals at the Roman catacombs." (Ousterhout, 2010: 97).

We are interested, in particular, in the refectory under the church [2], carved into the rocky bank on which the two pinnacles Pn and Ps stand, with two entrances to the northern part, facing the clearing, now used as a manège (level 1). We note that the real refectory (f) is located in the innermost part of a series of rooms (e, g, h) which also includes, as we shall see, the room (k) of the shelter S10. In the southwestern corner of the refectory R10, room (f), we find the entrance (n3) of the passage that reaches the church above (n2). It is a narrow tunnel, about 3.50 m long, which, starting from the ceiling of a niche, emerges with a sharp curve in the thickness of the step below the left apse (fig. 6). It is clear that the passage was realized in subsequent times; in fact, its opening required the cutting of the

Fig. 6 – Entrance of the tunnel "n2" under the left apse of the church (photo P. Lucas).

Fig. 6 – Imbocco del cunicolo "n2" sotto l'absidiola sinistra della chiesa (foto P. Lucas).

step itself, as well as the destruction of a part of the side bench, very evident in the photo. Its function is not clear: certainly, given the very small size (100 cm wide and about 60 cm high at the outlet) that make the passage quite difficult, it could not be a normal transit way to reach the refectory directly from the church without going outside. It seems more likely that this is a route dug in emergency, or a sort of window for the passage of objects or food from the refectory, however very unhandy, or other reason, which today we ignore, perhaps even dating back to recent times.

Levels 1-3: the shelter S10

The shelter is composed of two superimposed chambers (fig. 7). The first one (k) is excavated in the lower level. It is accessible from the north side by means of the antechamber (a) which leads into the long transverse space (e-g) parallel to the rocky bank (fig. 5). From the side (e) we reach the refectory (f), previously described. On the other side (g) a door leads into a small square room (h), adjacent, but not directly communicating with the refectory. From the southwest corner of the room (h) a short and narrow corridor finally enters the room (k), of modest size (3.5x4 m), which served as a guard post and first defence. The entrance was in fact protected by a massive millstone-door, still present today in a semi-closed position (fig. 8). The stone door, circular in shape and weighing more than a ton, could be moved, only from the inside, in the special operations chamber (Md). Two or three people were needed to move it: certainly was not for the every day use.

The manoeuvring housing is of the two-pillar type which, supporting the millstone, would have avoided the overturning in case of attack coming from the outside. It is possible that under the earthy deposit there is also a trench-runner dug on the floor. This arrangement, common to several other refuges in the Göreme district, would also have allowed, in the reopening phase, an easier push of the monolith compared to the "single pillar and groove" type, which is however very frequent in Cappadocian shelters, perhaps because more simple and quick to be realized (Bixio R. & De Pascale, 2015). The millstone is equipped with a central hole, in the photo covered by the pillar, which probably, in its closed position, served both as peephole and loophole, aligned with the corridor, to hit any attackers who, however, could approach the door only in single file.

The redoubt. An opening in the wall opposite the millstone leads to an ascending shaft (Vt), equipped with supports for hands and feet (footholds), carved along the pipe with a square section, about 70/80 cm wide. The shaft, three metres high, emerges in the floor of an upper room (m), entirely dug inside the body of the northern pinnacle [Pn]. This second floor, resulting higher than the church (level 2) dug into the southern pinnacle (Ps), corresponds to the third level of the complex. The structure consists of a single slightly trapezoidal chamber, 3.5x5 m, in which, almost in the middle, a large stone pillar has been saved. Along the walls a series of small niches has been excavated, aligned on one or more rows. Although unusually large (more than 40 cm in height), they seem to correspond to the niches for the nesting of pigeons that

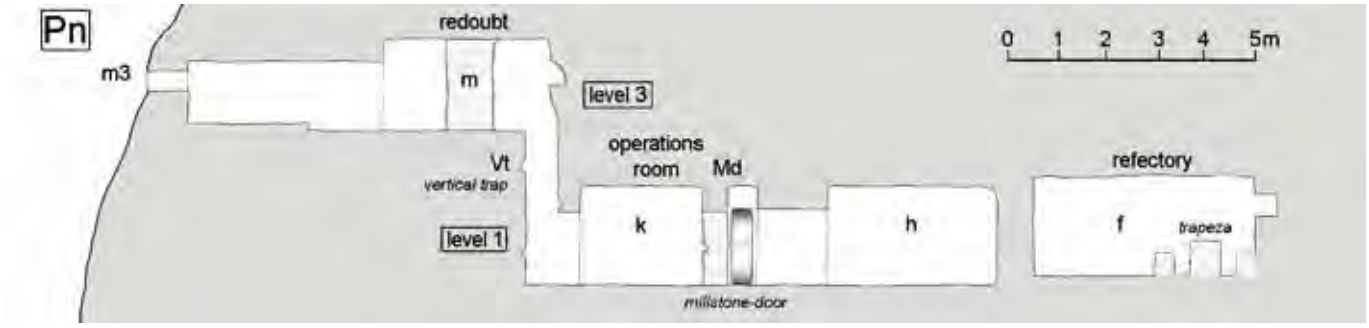

Fig. 7 – Schematic west-east section of shelter S10 and refectory R10 (survey P. Lucas, drawing R. Bixio).

Fig. 7 – Sezione schematica ovest-est del rifugio S10 e del refettorio R10 (rilievo P. Lucas; grafica R. Bixio).

Fig. 8 – Millstone-door Md in the room (k) (photo P. Lucas).
Fig. 8 – Porta-macina Md nella camera (k) (foto P. Lucas).

are very numerous in the cavities of the area. They keep traces of the dejections of the birds that probably still frequent the dovecote, although no longer used to collect guano. The pigeons' access is allowed by three narrow openings (flight windows m1, m2 and m3) that face the north and west sides of the pinnacle [Pn].
However, since these openings are different for position and morphology from the normal flight windows of the other pigeon houses, we believe it is likely that, originally, they were designed, in addition to aerating the room, as lookout points to control the evolution of the raids. In fact, It is clear that the room (m) was used by the residents as "redoubt" to take refuge in the event of an attack, leaving only two/three people below, in the operations room. The shaft (Vt) would then served as a further deterrent in the event that the millstone-door had succumbed to the assault, forcing the manoeuvres to retreat. In fact, the attackers could only attempt to ascend one at a time, with their hands engaged in climbing, in a very restricted space and exactly below the vertical. The shaft would have become a very effective trap exposing the attackers to the easy shots of the defenders, dealt from top to bottom. The vocation of the room (m) as the last defence (redoubt) is confirmed by the presence of an escape route, typical in the scheme of Cappadocian underground shelters: it is represented by the tunnel (m4-m5) which goes down for five metres in slight descent, on the south side. It is a passage, no more than one metre wide and about 1.50 m high, which leads to the steep southern wall of the pinnacle (Pn), three metres above the ground, in the gorge formed by the contiguous pinnacle (Ps) where the church is located (fig. 4). Being on the opposite side of the attack and out of sight, in case of extreme necessity it would have allowed, with the help of a rope, the escape of refugees, but also the arrival of any aid[3].

[3] The usual use of ropes is attested, for example, in an Armenian rock-cut village by a 1930 photo of the ethnologist Stepan Lisictyan, published in Davtyan (2017).

The neighbouring shelters

The shelter S10 of the church [2] complex is not the only one identified in the area: in the immediate vicinity at least two others have been located.

The shelter S3

In the pinnacle (Pe), near the refectory R4, at an upper level there is another refectory R3 that probably referred to the small church [2e], placed at the top, in the body of another pinnacle adjacent to the previous one (figs. 3 and 4). In the gorge between the two pinnacles, at an intermediate level, on an elevated small terrace the entrance to the room S3 opens: once it was protected by a millstone-door, now disappeared. The presence of the defensive work is evidenced by an operations chamber consisting of a two-pillar system like that of the S10 shelter; in the case of the S3 shelter a runner dug on the floor is also clearly visible. The pillars have been destroyed, but there is no doubt about their ancient function. The chamber is then connected with shafts ascending to other rooms carved on two superimposed floors. These rooms, transformed into pigeon houses (now in disuse), probably had originally the function of "redoubt", as in the case described in the church [2] complex. Unlike the latter, however, the S3 shelter is completely independent both from the refectory R3 and the church [2e].

The shelter S2

We believe that the shelter S2 is particularly interesting for the development prospects that its configuration, even if currently very limited, suggests. The current access to the structure is located about forty metres southeast of the refectory R3, positioned opposite the refectories R1 and R2, on the eastern edge of the slope that goes up to the top of the Kızılhöyük plateau (fig. 2).
The entrance is made up of a low irregular opening, about only 60 cm high, at the base of a rock step that delimits a sort of natural trench (fig. 9). From here, crawling toward south, you enter a tunnel whose section immediately rises, but after six metres is occluded by a landslide (point d). On the left/eastward (point b) it crosses at right angle another slightly descending tunnel that, with a curve on the right, enters a short shaft (c), one metre deep. The passage goes down into the chamber (e) about four metres wide; the ceiling, flat, is two metres high from the ground, here consisting of a substantial earthy deposit estimated at 1.5 m. In the wall opposite the shaft, half sunk in the sediment and inside a two-pillar operations room (Md1), a massive millstone-door emerges (fig 10). It has a thickness of 40 cm and a diameter around two metres. A narrow gap allows, with difficulty, to penetrate in a tunnel (f), five metres long, which reaches another room (g), also invaded by earth. Here the structure seems to end. However, we must consider that the

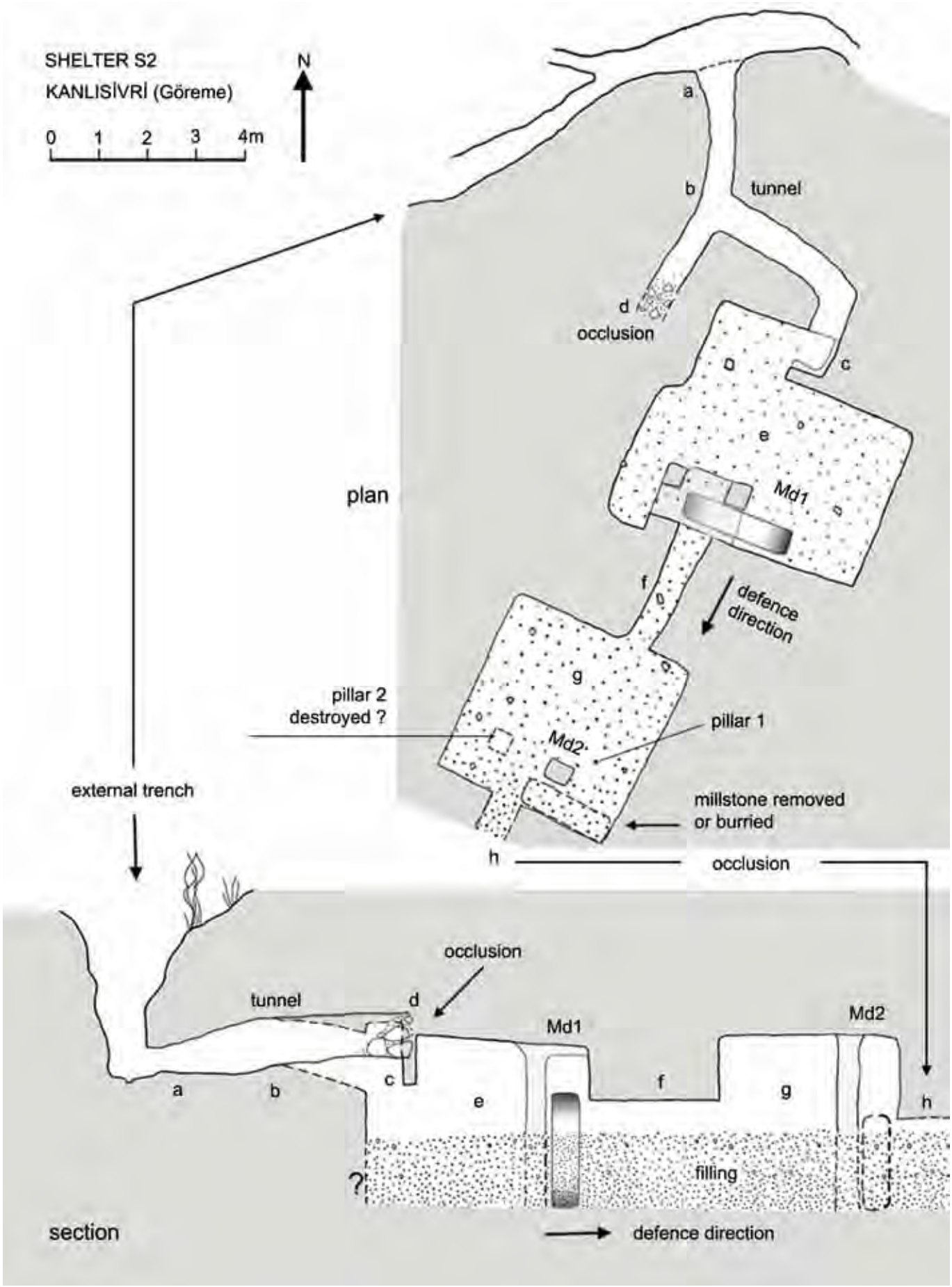

Fig. 9 – Sketch of the shelter S2 (survey P. Lucas, drawing R. Bixio).

Fig. 9 – Schizzo del rifugio S2 (rilievo P. Lucas, grafica R. Bixio).

Fig. 10 – The millstone-door of shelter S2 (photo P. Lucas).
Fig. 10 – La porta-macina del rifugio S2 (foto P. Lucas).

millstone defended the room (e) from possible attacks coming from the room (g): it is therefore evident that the latter had to be in communication with the outside and the pillar 1 could be the support (together with pillar 2, now destroyed) of another removed or buried millstone (Md2). We do not know how much the passage (h), now filled with earth, extends and in what direction, but it would not be surprising if it was somehow connected with rooms facing the side of the Göreme valley, if not, indeed, with the cliff facing the Zemi valley (figs. 2, 3). We must, in fact, take into account that the nearby refectory R1 "is joined to a series of rooms opening on the opposite side of the plateau" (Ousterhout, 2017: 470), i.e. on the west slope, passing under the ridge.
On the opposite side of room (g), the millstone-door, considering also its size and the necessary effort to move it (it certainly weighs more than two tons), had to defend a space much capacious than the current room (e). It is therefore likely that the powerful earth deposit has completely covered a passage to other more internal spaces. In this case the subsoil is likely to conceal other defence devices, or the tunnel (a-c-d) was used to reach another system or had the function of "escape route" whose exit, not surprisingly, is located in a defiladed point, almost invisible to any attackers.

Conclusions / Dating

As argued above, the excavation of the church [2] is attributed to the 11th century, therefore after the cessation of Arab raids in Cappadocia. At that long turbulent period followed a century of greater security and expansion in which, probably, the design of new defensive devices would no longer be considered necessary.
In this case, the preparation of the shelter S10, like the others in the surroundings (S2 and S3), may be carried out before the excavation of the church itself and date back to the period of the continuous incursions of Arabs coming from nearby Cilice, to which also refers De Jerphanion. The work would therefore have been functional to the Byzantine community already long-standing in the *Korama*/Göreme site, at least since the late Roman/early Christian era (Thierry, 1984). Or, on the contrary, the defensive works may have been added a few decades after the church, expanding the refectory with structures configured on the model of pre-existing shelters in Cappadocia. In this case, these new interventions would have been induced, for example, by the first signs of the invasion of the Seljuk Turks, towards the end of the 11th century, if not by subsequent internal struggles for the dominance of the Rum sultanate in which the Cappadocia was now firmly included.
In the case of the R10 refuge, not having found historical sources of detail, nor obvious markers, which indicate unambiguously the moment of intervention -as you can see for the entrance of the tunnel (n2-n3) where the cut of the step and the bench establish the *post-quem* term- the question remains on the actual timeline that produced the chambers (k-m) and the related active and passive defensive devices. In this perspective, the genesis of the double access door from the lobby (a) to the long space (e-g) would deserves a supplement of investigations. At the same time, works to empty the S2 shelter would be highly desirable.
Of course we know that, in view of the great quantity of shelters in the area of Göreme, as in all of Cappadocia, and bearing in mind the significant number of powerful monoliths in the form of millstone-doors and the variety of many other devices, as simple as ingenious and effective, the population here resident has been strongly urged by looming and prolonged war events such as to produce a non-trivial effort to create underground defence works, not very showy but of considerable commitment and complexity, at the same level as that lavished for the equally extraordinary and far more evident works of worship.
To justify this commitment, just think that the defence tactic preferred by Niceforo Foca, provided in the "Treaty on Guerrilla" (Skirmishing) attributed to the emperor himself, was to allow the raiders to devastate and loot the Byzantine territory and then ambush them only on the way back, when they were tired and loaded with prisoners and booty (Dennis, 1985: 138). We therefore can not be surprised, knowing what clues to look for, of the recent multiplication of findings of ancient structures designed to deal with such harsh and dramatic tactics for the local population (including the monks), until now little considered or totally ignored.

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