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# THE MEGALITHIC TEMPLE OF DIANA ON THE CEFALÙ ROCK (SICILY)

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## ABSTRACT

The megalithic temple on the Rock of Cefalù, known as the name of the Temple of Diana, is a structure of which up to now has not been able to understand the real function. The megalithic temple has a main entrance direct to the west, through which starts a corridor leading to the rocky cistern characterized by a dolmenic coverage. After the first drawings and reliefs between '700 and '800, respectively of Jean Houel and George Nott, the first official archaeological excavations were made by Pirro Marconi in the first half of the twentieth century. These excavations allowed to acquire more informations about the age of the temple and the cistern. The authors have developed the first complete archaeoastronomical study of the building, allowing to find out how the facility would serve as vestibule to the cistern of proto-historic age, and in particular how the megalithic architecture is a real sun temple. The front door of the temple is indeed oriented to the point where the sun sets at the equinoxes. This finding suggests that in these periods of the year the solar hierophany most likely invited to come inside the temple to reach the cistern, where they carried cults and rituals related to water. This study allows the identification of the temple as a Artemision.

**KEYWORDS:** Cefalù Rock, Temple of Diana, Pirro Marconi, Jean Houel, dolmenic cistern, George Nott, water cult.

## 1. INTRODUCTION

The megalithic building called Temple of Diana is located about 150 meters above sea level, on the imposing Cefalù Rock, the rocky hill about 300 meters high that dominates the namesake village and that stands on the Tyrrhenian coast to the eastern borders of the province of Palermo, in northern Sicily. The rocks that outcrop belong to Panormide Tectonic Unit (Unit Maghrebids external), being a sequence of Mesozoic carbonate platform with a siliciclastic and tertiary coverage. In particular there is the formation of Cefalù (CEU), Upper Jurassic - Early Cretaceous age, characterized by reef carbonate limestone gray-bluish sometimes pseudoolithics; there are levels of reddish or yellow-ocher intraformational breccias also.

These limestones are fossiliferous and contain rudiste, gastropods, corals, algae and bryozoans. Structurally the area is characterized by the presence of dislocation lines (normal faults) mainly in the north-east of the Rock; moreover there are a series of karst discontinuities (pans, ruts, holes, etc.) along stratification joints and fault planes that are very interesting.

## 2. THE MEGALITHIC TEMPLE OF DIANA

There are some reliefs and descriptions about the megalithic temple and the dolmenic tank in the works of Houel (1785), Hittorf & Zanth (1828) and Nott (1831).

One of the first representations of the megalithic temple of Diana is that of the famous french painter and architect Jean Houel, one of the greatest travelers of the Grand Tour. During his trip to Sicily Houel realized over 200 drawings, which will be collected in the four volumes of the *Voyage pittoresque des isles de Sicile, Malta et de Lipari* (1785). This collection is considered one of the most important works of the eighteenth century. From the drawing of the temple on the Cefalù Rock (Figure 1) we note in particular the three rows of stones above the main door.

***Figure 1. The temple of Diana in the Jean Houel's drawing.***

The first reliefs of the temple of Diana was performed by George Nott, an anglican clergyman, scholar and lover of Italian culture, that lived in between '700 and '800.

The general plan of the building (Figure 2) shows the original megalithic structure (dark lines) and adding medieval church (light lines). We see three doors from the plant (H, L, J), the corridor (I), the main chamber (M) and the smaller secondary room (K). With the letter Y Nott indicates the cistern carved into the rock. Reliefs of the elevation of the west facade is to emphasize the presence of the gargoyle gutter that was used to drain the water from the terrace or roof that covered the large room. Even from Nott's reliefs it can still be seen three rows of stones above the front door.

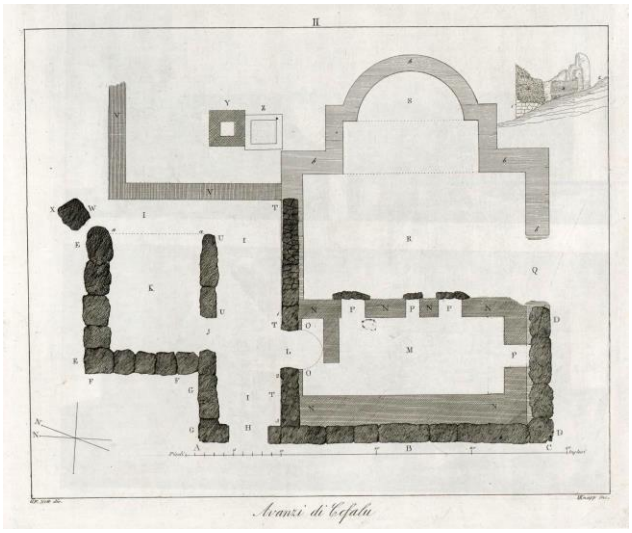

***Figure 2. The temple of Diana's plan (Nott, 1831).***

Today the most evident part of the temple's ruins consists of a building leaning against the rocky slope of the mountain, in the western part of the Cefalù Rock, where is the only route access to the structures present on it. The floor plan of the temple is irregularly rectangular: the longer side of the building, facing west, is not continuous, in fact in its southern part it has a greater rectum stretch (11.45 meters), while proceeding towards the north it pronounces a recess, and continues for 7.75 meters, backward of 2.10 meters from the remaining front. The temple is preserved to a considerable height, and therefore constitutes a ruin of important dimensions; on the south-west corner the greater height amounts at 5.07 meters. Also the corners of the temple, except the north one's, have a rudimentary decorative work in a kind of pilaster.

The front door is not at the center of the building, but near the north-west corner. The door is composed of a monolithic lintel, 2.58 meters long and 0.69 meters high, placed on two jambs of 0.65 meters wide, composed of various segments, connected to

the walls of the building. The door is 2.68 meters high and has a light of 1.19 meters at the bottom and 1.16 meters on the top. Entering through the door starts the corridor, approximately 7 meter long, which leads to the dolmenic cistern, whose coverage is set to a higher share of about 4-5 meters above the megalithic temple's floor. Each of the walls that surround the corridor has a door that leads into the two side compartments of the building (the north room has dimensions of 3.05 x 5.00 meters, while the south room 7.85 x 4.14 meters). In the largest room was built a church dedicated to Santa Venera in high medieval age (Brunazzi, 1997).

While the front and side walls are remarkable elements, as regards the eastern rearward part the elements are still very poor. All the walls are formed of blocks placed in situ, as they had been plucked from the mountain, and they were assembled to dry, in fact the mortar present in some part of them is of recent times. The size and shape of the blocks are very different, there are colossal stones and other rather small. These blocks should be to form three rows of blocks in height.

The first area's archaeological excavations were conducted by Pirro Marconi in the first half of the twentieth century. The two structures, even today, provide rare examples of architecture from prehistoric and archaic times in Sicily (Figure 3). The megalithic temple seems to date back to the VI-V century BC while the dolmenic cistern incorporated on it is considered of proto-historic period by many scholars (Marconi, 1929; Bovio Marconi, 1956; Tusa, 1959; Tullio, 1994).

## 3. THE DOLMENIC CISTERN

The cistern is located on a deep pit of the rock, a veritable sinkhole, which has a small pool of water used since ancient times as a reservoir of water. The tank has a surface area of 19 $m^2$ with an elliptic shape.

The maximum depth of the tank is about 4 meters, while the bottom, flat, occupies an area of just 6 $m^2$. The tank was then closed with a dolmenic type cover. A series of large slabs of limestone in fact rest on the edges of the cavity and on two rectangular monoliths that act as lintels, which in turn are imposed on a central pillar formed by 4 stones suitably machined and overlapped, three of which are of cylindrical form while one is rectangular. The pier is located at the center of the cavity and thus sustains the entire dolmenic roof, formed by seven irregular slabs: 4 monoliths depart from the midline (lintels) to the west, while the others 3 are directed from the opposite side to the east. The greatest segments measured 2.60 meters in length, others arrive at 2.30 or 2.40 meters, while the width varies between 1÷1.75 meters. The heads of the slabs rest directly on the edge of the rocky cavities, without any recess housing had been practiced to accommodate them.

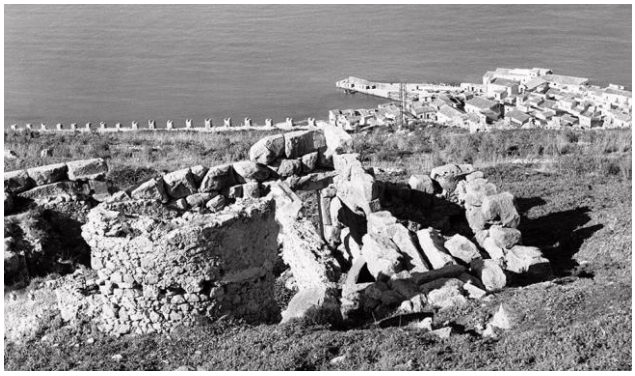

*Figure 3. The temple of Diana in the 60's of the last century; note the absence of the pine forest in front of the structure the (courtesy of Photo-archive and Photo Library by Varzì and Brunetti - Cefalù).*

## 4. THE CULT OF WATER

The study of the Temple of Diana and the dolmenic tank is really very interesting, as it still is not well understood what was their real function. As already highlighted by Marconi seems certain, however, that the larger building is closely linked to the tank: in fact the axis of the building, passing through the main door and the hall tip directly on the tank.

Thereby the temple acts as pronaos: to access on the tank you have to go through the building. So the function of the complex not can be that sacred. The worship of water is among the most frequent and widespread in prehistoric times, in all regions, and in certain (remember Sardinia, for example: Melis, 2008) assumes the demonstrations also of great architectural importance (Portale, 2012; Collin Bouffier, 2013). By the cult of a pool of water being formed in a natural cavity was born the construction of the sacred place, initially limited to simple protection, while later during the Greek period, access to the holy site has been barred from the building that has the value of pronaos and service.

In this regard we consider the dolmenic tank as a true indigenous sanctuary, and the temple would be identified with an Artemision. It is to remember also that in the Middle Ages on the ruins of the Temple of Diana, in particular on the area to the right of the main entrance, it was built a church dedicated to Santa Venera. It is interesting at this point to consider other possible sites and facilities related to the water's cult in Sicily. The first of these is the Temple of Diana Facellina in Milazzo. Today there are no more traces of this temple, however it has identified a thermal building in the land of Santa Venera near Milazzo (Saporetti, 2008).

In this regard we quote an interesting passage from his book: <<We are likely to see an origin of the sa-

credness of the place in a rich source of healing water, perhaps even worshiped before coming of the Greeks and the consecration of the goddess Artemis/Diana>>.

We must also emphasize the fact that the presence of a church dedicated to Santa Venera, built on a sacred pagan site, is not meaningless and not a unique case. In the province of Catania in fact, in the territory of Acireale, we find the archaeological area of *Santa Venera al Pozzo*.

The presence at the place of enormous quantities of water has led over the centuries the location of structures that could contribute to its exploitation: the baths, the well, the mills, the ducts, the hospital and the buildings dedicated to religion. Even long before the cult of Santa Venera, under the "Timpa", in front of the main facade of the church dedicated to the Saint, it was to be already a center of worship attested by the discovery of clay figurines related to the cult of Demeter and Kore, protective deities of the land and agriculture (Branciforti, 2006; Amari 2006).

And finally we must certainly remember the rocky sanctuary in Agrigento, a place that already from Marconi was identified as a sanctuary of the period before the Greek colonization. A place intended for worship of natural forces, perhaps dedicated to nymphal deities (Bellavia, 2012; Portale 2012; Fino, 2014). The sanctuary is characterized by two natural caves from which water flows, and which is then collected through a system of tanks. Today the rocky sanctuary is under study yet and is not visible to public.

## 5. THE ARCHAEOASTRONOMICAL ANALYSIS AND 3D RECONSTRUCTION

Initially we measured the orientation of the megalithic temple using satellite data (tool of GE). From this verification it showed that the azimuth of the entrance of the Temple of Diana is about 270°.

Then in August 2015 we have achieved the campaign of measures on the Rock of Cefalù. To implement the measures we used a theodolite Kern DKM2 of Swiss manufacture. Although the nominal accuracy of the instrument is less than 1', it is estimated that the error of our measurements can reasonably be ± 15'. The results are shown in Table I.

***Table I. The table shows the azimuth (a) from inside looking out, the angular height of the horizon (h) in that direction, the corresponding declination (δ) and the altitude.***

| a | h | δ | altitude |
|---|---|---|---|
| 268° 30′ | 0° 13′ | -1° 30′ | 154 m.a.s.l. |

So it was found as the orientation of the front door of the megalithic temple, which leads directly to the corridor, has a clear direction: east-west. The azimuth of the entrance and the corridor of the temple is clearly equinoctial, and this indicates perfectly the direction in which the Sun sets at the equinoxes (Figure 4). Unfortunately, about 50 years ago in front of the temple several pine trees have been planted, so today it is not possible to observe the western horizon and thus the equinoctial hierophany.

To observe the Sun setting at the equinoxes in alignment with the front door it was realized a virtual 3D reconstruction video using the technique of architectural photogrammetry.

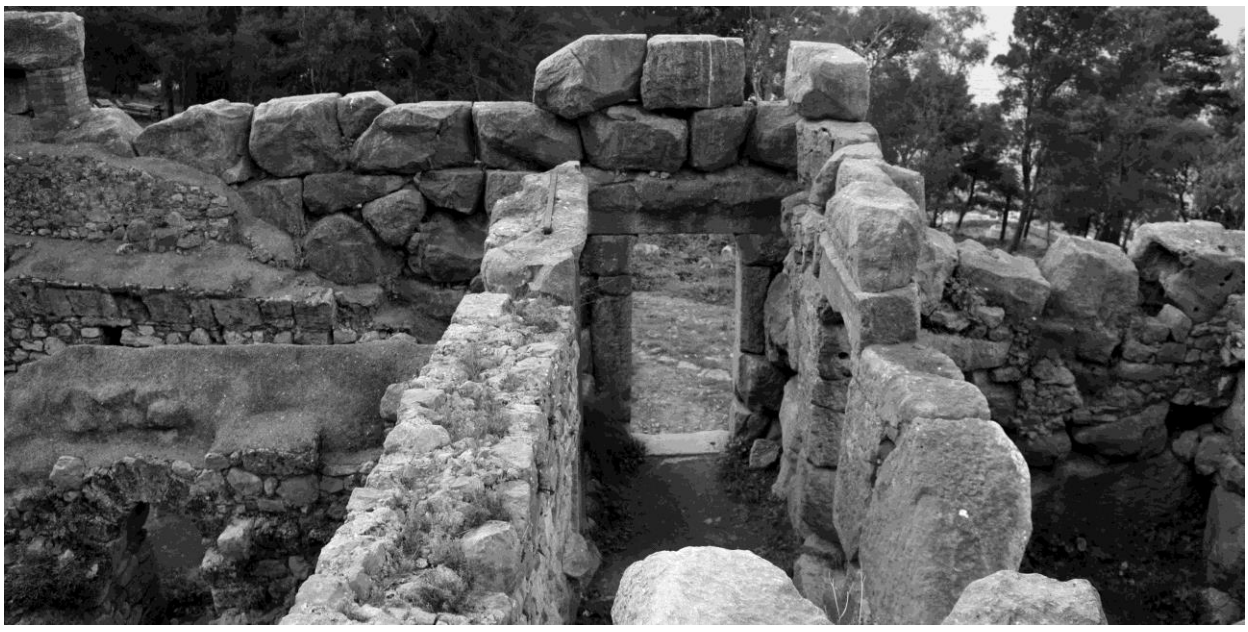

***Figure 4. The temple's corridor that leads to the cistern and that is aligned to the setting of the Sun at the equinoxes.***

## 6. CONCLUSIONS

The study of archaeoastronomy on the so-called Temple of Diana on the Cefalù Rock allowed to assert its cultic valence, so the megalithic structure is to be considered a real sun temple that owns the entrance oriented at the point where the Sun sets at the equinoxes. Moreover, considering the history of the building and the presence of a water source, we can consider the greek temple as an Artemision, a place where in antiquity were held rituals dedicated to the water.

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## REFERENCES

Amari, S. (2006) *I materiali in esposizione nell'Antiquarium, Sale I-II-III*, Palermo.

Barra Bagnasco, M. (1999) Il culto delle acque in Magna Grecia dall'età arcaica alla romanizzazione: documenti archeologici e letterari, in *Archeologia dell'acqua*, Lavello, pp. 25-52.

Bellavia, M. et al. (2012) Nuovi dati sulla Chiesa di San Biagio ad Agrigento, *Archeologia Postmedievale*, Vol. 16, pp. 125-132.

Bovio Marconi, I. (1956) I monumenti megalitici di Cefalù e l'architettura protostorica mediterranea, in *Atti del VII Congresso Nazionale di Storia dell'Architettura, Palermo 1950*, Palermo, pp. 213-221.

Branciforti, M. G. (2006) *L'area archeologica di Santa Venera al Pozzo-Acium. Antiquarium*, Palermo.

Brunazzi, V. (1997) La chiesetta medievale sull'edificio megalitico della Rocca di Cefalù, in *Archeologia e territorio*, Palermo, pp. 361-374.

Collin Bouffier, S. (2013) Il culto delle acque nella Sicilia greca: mito o realtà?, in *Storia dell'acqua. Mondi materiali e universi simbolici*, Teti V. (eds.), Donzelli Editore, Roma.

Fino, A. (2014) La fontana arcaica di San Biagio ad Agrigento, in M. Livadiotti, M.C. Parello (a cura di), Il restauro dei monumenti antichi. Problemi strutturali: esperienze e prospettive, *Atti delle Giornate di Studio, Agrigento, 23-24 novembre 2012, Thiasos, 3.2, Convegni*, pp. 67-91.

Franco A. (2012) *Le Radici e le Pietre*, Lorenzo Misuraca Editore, Cefalù.

Hittorf, J.I. and Zanth, L. (1829) Architecture antique de la Sicile, *Annali dell'Instituto di Corrispondenza Archeologica*, pp. 362-370, Roma.

Houel, J. (1785) *Voyage pittorosque des iles de Sicilie, IV*, p. 92, tav. XLIX-LI, Parigi.

Marconi, P. (1926) Girgenti. Ricerche ed esplorazioni, *Notizie degli Scavi*, II, pp. 93-148.

Marconi, P. (1929) Cefalù (Palermo). Il cosiddetto «Tempio di Diana», *Notizie degli Scavi*, V, pp. 273-395.

Melis, M.G. (2008) Osservazioni sul ruolo dell'acqua nei rituali della Sardegna preistorica, *Rivista di Scienze Preistoriche*, LVIII, pp. 111–124.

Nott, G.F. (1831) Avanzi di Cefalù, *Monumenti Inediti dell'Instituto di Corrispondenza Archeologica*, pp. 270-287, tavv. XXVIII-XXIX.

Portale, E.C. (2012) Le nymphai e l'acqua in Sicilia: contesti rituali e morfologia dei votivi, in A. Calderone (a cura di), Cultura e religione delle acque. *Atti del Convegno Interdisciplinare «Qui fresca l'acqua mormora....» (S. Quasimodo, Sapph. fr. 2,5), Messina 29-30 marzo 2011*, pp. 169-191, Roma.

Saporetti, C. (2008) *Diana Facellina. Un mistero siciliano*, Pungitopo Editrice, Marina di Patti.

Tullio, A. (1974) Saggio sulla topografia e sulle antichità di Cefalù, *Kokalos*, Vol. 20, pp. 119-151, tavv. I-XVIIIV.

Tusa, V. (1959) *La Sicilia occidentale alla fine del V sec. ed agli inizi del IV sec. a.C.*, Palermo.

Van Essen, M.C.C. (1957) La date du sanctuarie mégalithique de Cefalù, *Mélanges d'Archéologie et d'Histoire*, Vol. 59, pp. 45-48, tavv. I-II.