

Urban and Extra-Urban Cult Buildings in the Aegean World

From the Excavation to the 3D Reconstruction

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Abstract: This work deals with sacred areas in the Minoan and Mycenaean world. The identification of cult sites is an open issue, since archaeology has not always provided with peculiar architectural forms for these places. In the Minoan period areas outside the urban settlement with ritual destination can be recognized mainly through appropriate finding of cult indicators (objects, benches, animal bones, altars) and on the basis of the same findings urban and palace shrines have been recognized. In the Mycenaean period cult sites belong almost exclusively to urban and palatial contexts with rather simple dimensions, not much different from domestic architecture and frequently confining with craftsman workshops.

We have focused on some of the above typologies with the purpose to show how 3-dimensional reconstructions can be of great help in identifying the cult sites with confidence. With the contemporary digital solutions it's possible to show the image of the past, creating realistic environments aimed to virtual or static image creation. This process allows a better approach to the learning of the past and at the same time, when combined with the tools for investigation and analysis, creates the conditions for a step forward in the knowledge of a historical period. The purpose remains to find the best learning pathway using various tools, in the pure spirit of multimedia, which means the total interaction between multiple media in a single environment. The approach proposed here will not be limited to the simple use of digital graphic tools, but will include the traditional drawing techniques enhanced in the computer graphic environment to create more lively, suggestive and communicative representations.

The novelty of our approach resides in the application of the 3-D modelling to sites that are mostly considered marginal compared to the most famous buildings but that are able to largely contribute to enlighten features that are still badly defined and quite promising.

Keywords: Aegean archaeology, peak sanctuaries, cult buildings, 3D reconstruction, digital drawing.

Introduction:

This paper focuses on a section of a wider research project on Minoan religion and cults, that the *Laboratory of Aegean Civilisations* (aegean.sns.it) is carrying out at the *University of Florence*.

The whole project – which is inserted in a series of researches in collaboration with the collaboration of the *DREAMS Laboratory of the Scuola Normale Superiore of Pisa*, which can offer a valid technological (and not only!) support – has the aim to investigate some peculiar aspects of the Minoan religion organized around the palaces, as an important part of the Minoan bureaucratic administration, with the ambition to offer a sort of virtual/interactive museum about this subject. We are aware that it would be very difficult for such a work to be exhaustive – but this is not our purpose either. In fact, our idea is to offer a starting point, created using both our scientific experience and the most actual technological instruments, to make many data accessible

about important aspects of the Minoan civilisation, that are not easy to be found all together without a good deal of experience.

We present the scheme and the development of the project (Fig. 1). First of all we consider the cult places, which are characterized by a series of elements (from an often similar common structure to the inside recovered objects). From one side, we go to examine both the open-air sites, in particular the so-called peak and spring sanctuaries, and the caves, located outside the palaces; from the other, the built-areas, especially the small shrines within or next to the palatial complexes. As a simultaneous step, we will turn towards the objects found in these structures, in particular libation vessels, ritual figurines of various kind, and seals, which will be supplied with single explicative schedules, accompanying the object image. We are elaborating at least a number of these objects also in a three-dimensional presentation. Among these materials, the inscribed objects turn out to be of particular interest: we are constructing a database within our DBAS portal (dbas.sciant.unifi.it), with the whole corpus of such inscriptions.

In conclusion, we propose to create a sort of interactive museum concerning Minoan “state” religion, with emphasis on the difference between Proto and Neopalatial period, as much as possible. It will be organized starting from a geographical itinerary, which allows to identify visually and immediately the location of the various cult buildings and underline their strategic position. The reconstruction of the single structures is the next step in our museum. Subsequently we plan to enter in the buildings and to admire the most important objects characterized by their sacral functions. The analysis of the script messages appearing on some of these objects completes our reconstruction.

**URBAN AND EXTRA-URBAN CULT BUILDINGS
IN THE AEGEAN WORLD**

FROM THE EXCAVATION TO THE 3D RECONSTRUCTION

- Geographical itinerary**
location of the various cult buildings and their strategic position
- The single structure**
Eventual reconstruction in 3 dimensions
- Analysis of the objects found inside the cult centers**
Original placing, drawing and 3 dimensional reconstruction of the single objects
- The inscribed objects**
a data base of the script messages

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Fig. 1 – Presentation of the Project.

Reconstructions of two cult buildings

The purpose of this paper is to present some aspects concerning only one built sanctuary and a related peak sanctuary, focusing on the structures themselves. They may be considered in addition as containers of specific objects. Our reconstructions are based on some preliminary observations.

In new excavations the archeometric studies and the 3D reconstructions are normally carried out. In consequence, we consider of primary importance to try using these techniques referring to old and already completed excavations. The attempt to restore ancient structures has been made since the first excavations have been undertaken: in our field, the reconstructions offered by Evans regarding the Knossos palace are the most famous example. However, at the time (we are at the beginning of the 20th century!) there were not enough technical instruments to reach results in which the imagination did not play the major role. In spite of this, when we study Knossos we have immediately in mind the palace of Minos according to Evans' idea, and the impact of his reconstructions, both in the negative and in the positive sense, has been basic in further Cretan studies. Thanks to the experience it is possible to talk about an "archaeological image", developed starting from the information coming from the knowledge of the ancient times.

Further hypotheses of reconstruction are already well-known and familiar. We remind here two examples which are important in the cultic sphere: the first is the famous reconstruction of a (peak) sanctuary on the basis of a picture represented on a stone rhyton from Zakro (SHAW 1978: 436, Fig. 9); the second is the graphic reconstruction of the Anemospilia sanctuary, based on the foundations of the walls of the building (SAKELLARAKIS, SAPOUNA-SAKELLARAKIS 1981). These two traditional drawing techniques (Fig. 2) make lively and suggestive the environment and more communicative the images. At the same time, this type of representation plays a role between the language of archaeology and architecture.

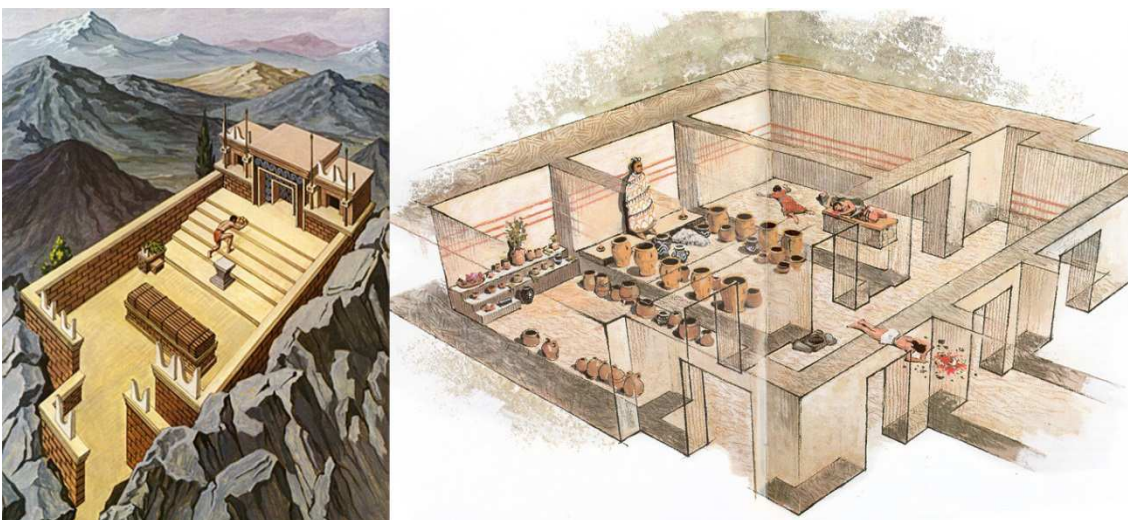


Fig. 2 – Reconstruction from the rhyton from Zakro and the Anemospilia Sanctuary (copyright SHAW and SAKELLARAKIS).

These last two reconstructions are surely based on good assumptions. Our aim, starting from analogous bases, is to furnish new images which may accompany our itinerary into the field of Minoan religion: new drawings and reconstructions of cult complexes and the whole of the objects found therein may give to the

visitor an impressive impact, underlining how an image can evoke the “sense of sublime” and inspire the observer, even if starting from an almost scientific exactness.

Our first reconstructions concern two “sanctuaries” located on the slopes and the top of the Juktas mountain, respectively: the Anemospilia shrine and the peak sanctuary of Juktas.

According to the words of Krzysztof Nowicki:

“...the Cretan peak sanctuaries are amongst the most interesting phenomena of the Minoan civilization...” but “...it seems that theoretical approaches have dominated over the fieldwork and these two groups of research have not always communicated with each other. Field investigations concerning the chronological range, geographical pattern and topographical characteristics of peak sanctuaries have been undertaken only by a very few scholars...”

(NOWICKI 2001)

These words were written in 2001 and, fortunately, some novel studies have been undertaken about Minoan sanctuaries. We hope our research may give some interesting results to be compared with other different approaches.

Anemospilia

The Anemospilia sanctuary was excavated in 1979 by Yannis Sakellarakis and dated to the transitional period between MM IIB and MM IIIA. We are going to propose some new interpretations about the architectural structure of this complex. It is somehow connected with the peak sanctuary of Juktas which will be dealt with in the following. The two complexes were likely joined by means of a well built road. It is possible the whole complex of Anemospilia, even if being characterized as a ritual site in connection with Juktas, could be interpreted as a “site auxiliary to the Juktas peak and its rituals” (KYRIAKIDIS 2005:56)¹. Unfortunately an earthquake probably caused the fire that destroyed the sanctuary and the area north of the corridor was completely eroded; only few traces of walls remained and absolutely no object (Fig. 3 elaborated from SAKELLARAKIS, SAPOUNA-SAKELLARAKIS 1983: Fig. 67). In spite of this recognized condition, well stressed by the excavators², the traditionally proposed reconstructions are based on the available elements, which do not explain details of the few northern remains of the building, whose actual structure is probably not complete but concerns only the area protected by the bedrock.

¹ The same consideration has been made for the so-called Building B, closer to the same sanctuary (Karetsou, forthcoming).

² Three more rooms may have existed to the north (SAKELLARAKIS, SAPOUNA-SAKELLARAKIS 1997: 271).

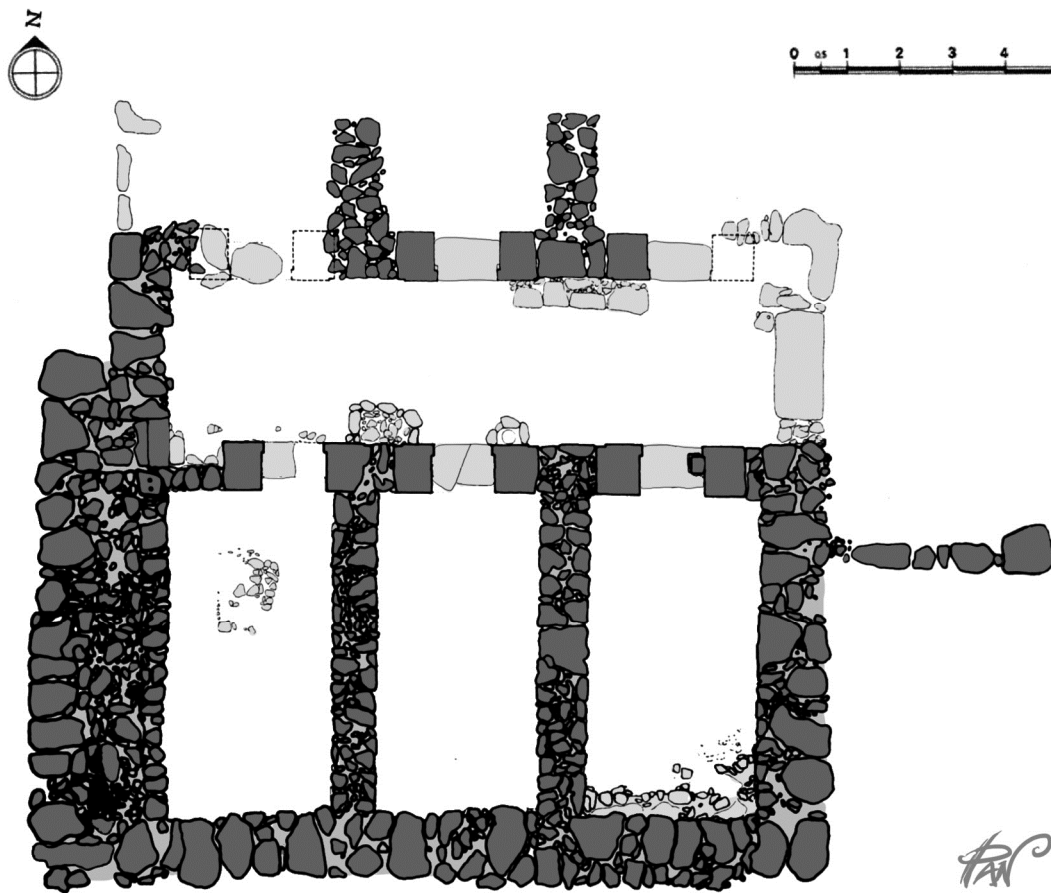


Fig. 3 – Elaborated plan of Anemospilia Sanctuary (copyright Panaiotis Kruklidis).

The elements for our discussion concern mainly:

- 1) the starting points of the two small walls (and a smaller mark of wall on the western side) on the prosecution of the corridor/antechamber in the northern direction, that haven't clear explanation with the traditional reconstruction;
- 2) the visible wall on the eastern side of the building, perpendicular to the chambers;
- 3) the wall on the western side of the building, much larger than the eastern wall, wich doesn't present any doorway while, on the contrary, a wide threshold is attested along the eastern side of the corridor³;
- 4) the strange feature represented by the wings of the doors. The remains of the building show six symmetrical openings of the doors toward the antechamber⁴.

³ This latter is in fact the biggest entrance of the whole complex.

⁴ We don't dwell here on the question of the asymmetry of the door of the "western room" which is not in the middle of the wall and that allows the existence of a thin wall dividing the antechamber and this room forming a sort of recess (as it may be seen in the reconstruction plan on Fig. 7), since we perfectly agree with the interpretations of the excavators on this part of the building and the role of the west room for blood (human) sacrifices (SAKELLARAKIS, SAPOUNA-SAKELLARAKIS 1997: 278-79, 294).

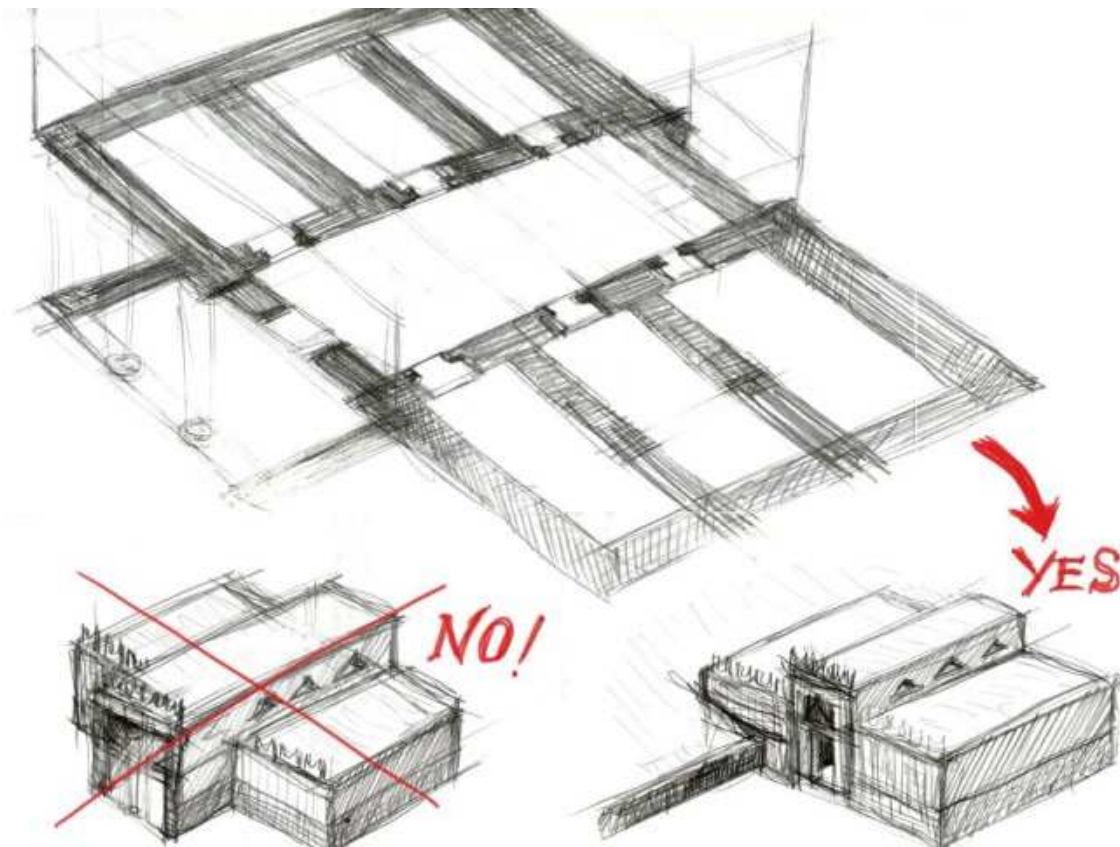


Fig. 4 – Preliminar Sketch of Anemospilia Sanctuary (copyright Panaiotis Kruklidis).

On these preliminary considerations we have based our proposal for a somehow different reconstruction of this sanctuary, according to the following series of drawings:

- a. A sketch on paper (Fig. 4) represents our first approach to the building's structure and is a preliminary view of the next reconstruction elaborated by computer.
- b. A first image (Fig. 5) is obtained by the render of the 3D software.
- c. The following figure (Fig. 6) represents our retouch of the image, with many more details added in post-production with another image-editing software.
- d. The corridor could represent the central part of the building, the main entrance being located in its eastern side. This corridor, which is the narrowest area of the building, might be the highest area of the shrine: in this way the similarity with the examples of Minoan tripartite shrines collected by Shaw (SHAW 1978), especially the famous detailed representation on the Zakros rhyton (above mentioned, see Fig. 2) are respected⁵. What remains a problem, is the use of the rooms which have disappeared after the earthquake: a sacrale purpose may be dubious and they could represent simply ancillary quarters (KYRIAKIDIS 2005:55).

⁵ We could, alternatively, interpret the "tripartition" as referred only to the three southern chambers, since the central room seems higher with respect to the lateral ones, being divided from the corridor by a threshold slightly higher. It is possible that this difference may be connected with the presence of the pair of out-size clay feet, which could represent the extremities of a large wooden acrolithic idol, standing next to the natural rock along the south wall.



Fig. 5 – First Render of Anemospilia Sanctuary (copyright Panaiotis Kruklidis).



Fig. 6 – Final Image of Anemospilia Sanctuary (copyright Panaiotis Kruklidis).

- e. Six rooms open towards this central corridor (Fig. 7), while the western wall becomes the back part of the building, without any opening. It is possible to hypothesize some openings on both sides of the central corridor in the higher part with respect to the lateral rooms, to give light to the whole building.
- f. A sight of the inside of the complex is represented through an axionometric cross-section (Fig. 8). We selected a section with a degrading area to be able to see part of the content in the remaining three rooms. Both the various objects and the human figure reconstructed outside the sanctuary give an idea of the dimensions and the proportions of the sanctuary.
- g. The illustration (Fig. 9) gives an idea of the “human sacrifice” to which three persons (a priest, a priestess and the victim) participate. The drawing emphasizes the presence of three objects which were found in the scene: the bronze dagger/spear found on top of the “victim”, which could have been the ritual weapon used for the sacrifice, the iron-coated silver ring, found on the little finger of the left hand of the “priest”, and the agate seal-stone, found – tied with a vanished thong, as the two



Fig. 7 – Restored plan of Anemospilia Sanctuary (copyright Panaiotis Kruklidis).



Fig. 8 – Cross-Section of Anemospilia Sanctuary (copyright Panaiotis Kruklidis).

suspension holes show - on the left wrist of the same “priest”. Just this latter object attract our attention, because we are dealing with a cushion seal, a new type of Minoan seals which is making its appearance in the Cretan island just little before this period. This seal has been analyzed

recently⁶ (even if first images and an accurate description may be found already in SAKELLARAKIS, SAPOUNA-SAKELLARAKIS 1997: 692-694) and depicts a ship with a man rowing vigorously. The style seems very different from the other cushions of the same period (MM II-III), which usually represent “architectonic” or geometric motifs – only two examples of Hieroglyphic seals have been found – and only slightly later cushions will constitute a big part of the “talismanic” seals (MM III-LM I).



Fig. 9 – Human Sacrifice (copyright Panaiotis Kruklidis).

- h. The eastern entrance delimited by the big threshold could represent the end of a long road (Fig. 10) that from one side brings down to the Arkhanes village and from the other is directed to the peak sanctuary of Mount Juktas: of this road we may see the initial retaining wall (according to our

⁶ DIONISIO, JASINK, WEINGARTEN 2013, Appendix I. The seal is kept in the Heraklion Museum (inventory number, HMS 2752), but it is not yet inserted in the CMS Corpus.

interpretation) and the whole street which winds along the mountain, the same that we may see today from the satellite images.

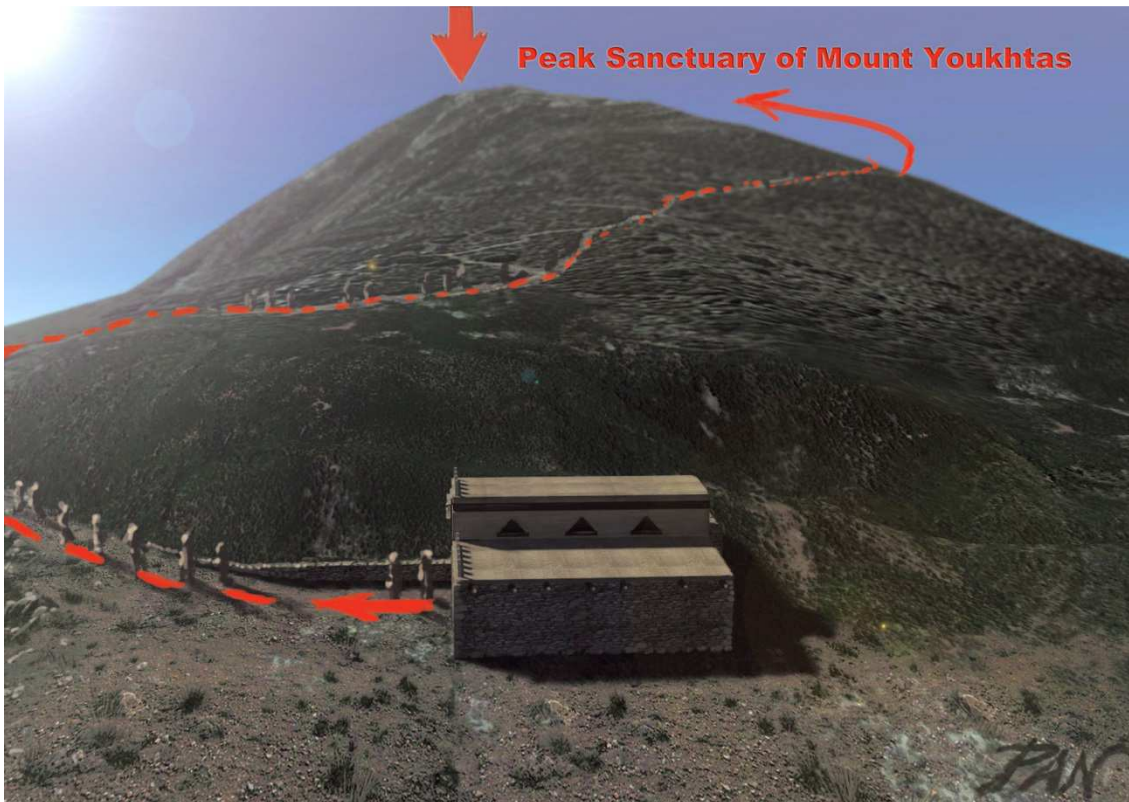


Fig. 10 – Long road from the Anemospilia Sanctuary to the Peak Sanctuary (copyright Panaiotis Kruklidis).

Juktas

The originally open air sanctuary of Juktas (Psili Korfi) seems the most ancient among the peak sanctuaries, with materials from Early Minoan II. In these first times it likely represented a cultic reference for the agro-pastoral communities of the zone. But we are here interested especially in its Protopalatial phase, when it is inserted in the complex religious world of the Minoan society connected to the palaces, in this case to the palace of Knossos. More directly it was connected to the nearer center of Arkhanes and, for a brief period, to the previously mentioned sanctuary of Anemospilia.

Two have been the periods of the excavations of this wide and varied sanctuary: the initial discovery by Sir Arthur Evans in 1909 and the new excavations from 1974 by Alexandra Karetsou, with the support of the Archaeological society of Athens, which, with the mass of new evidence, modified Evans' earlier views of the sanctuary. The excavations of the MM IA-II burnt level on bedrock has shown that the Protopalatial sanctuary already covered an area of at least ca. 200x100 m. Very interesting are the superimposed comparative plans of the two excavations elaborated in a new more explanatory image (Fig. 11 adapted from KARETSOU 1985). The shrine comprises a sacred precinct (temenos) and an area on three levels with rooms- whose number and size varied in time – used both for cultic practice and priests residence.

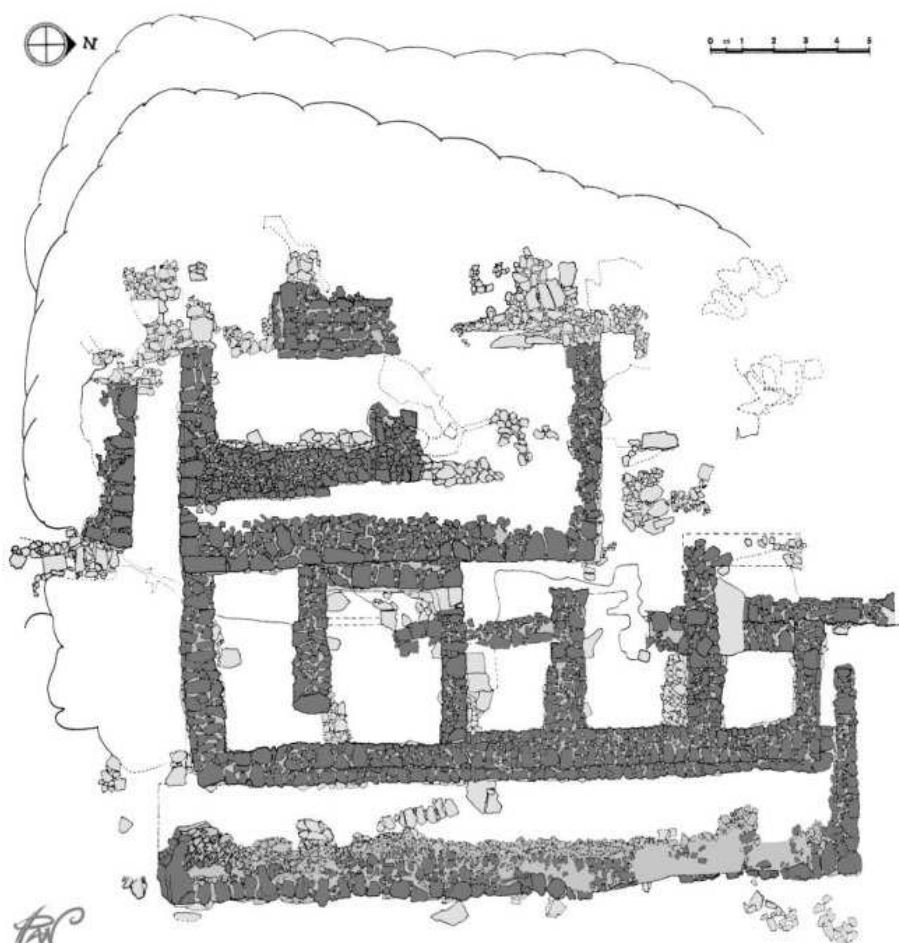


Fig. 11 – Elaborated plan of the Peak Sanctuary (copyright Panaiotis Kruklidis).

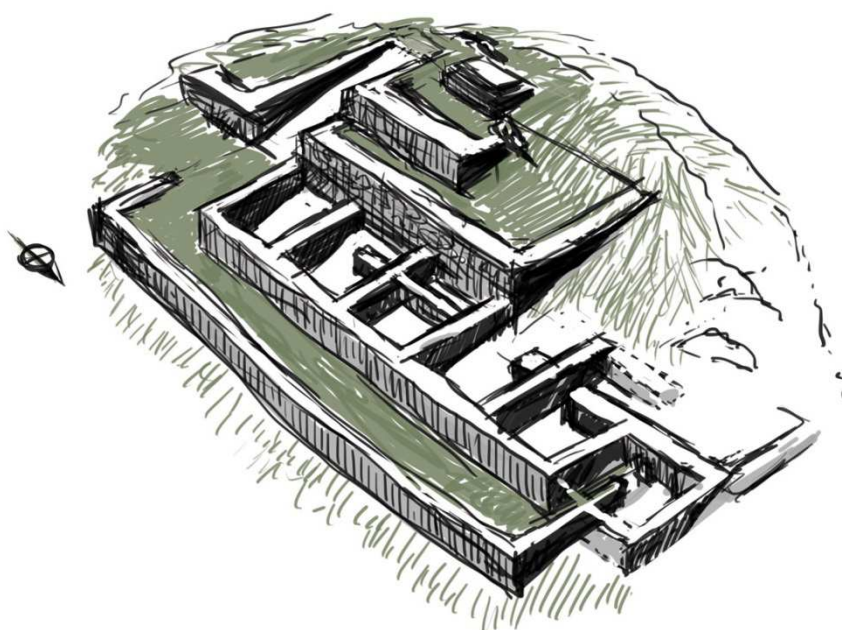


Fig. 12 – Sketch of the area of the Peak Sanctuary (copyright Panaiotis Kruklidis).



Fig. 13 – Elaborated drawing in computer graphic of the Peak Sanctuary (copyright Panaiotis Kruklidis).



Fig. 14 – Detail of Ashlar and Chasm (copyright Panaiotis Kruklidis).

We propose here a revised sketch of the area (Fig. 12), underlining however how many superimposed structures – including also those belonging to the Neopalatial period - have changed their aspect in time and how different interpretations have been given of the whole complex. Initially composed by three/four rooms, during the Middle Minoan IIIA-B phase the sanctuary was extended to five/six rooms, which were

constructed with large impressive boulders. The sketch outlined together with the elaborated drawing in computer graphic (Fig. 13) are based on this last plan.



Fig. 15 – Ritual in the sacred area of Ashlar and Chasm (copyright Panaiotis Kruklidis).

Anyway, the rooms forming the complex to the east of terrace II, running south to north, were not central to the worship that was mostly played at the shrine. The core of the open air sanctuary remains always this upper part, consisting of two stepped terraces, active from the first phase of the life of this sacred area till the last Minoan period. Here the majority of the objects were recovered, in particular around the “ash altar”, a stepped structure, built on the edge of one of a number of fissures on the top of the mountain (Fig. 14). The major chasm in the bedrock has a depth of over ten meters. The bronze double-axes and other figurines

found therein betray the sacred character of this crevice (Fig. 15), which has been supposed to be the entrance to the underworld (KARETSOU 1981:153).



Fig. 16 – Seal and Drawing (copyright Karetsou).

As a conclusion, we present for the first time a seal found in this peak sanctuary, which Alexandra Karetsou and one of the authors are finally publishing (KARETSOU, JASINK 2013 forthcoming): it is a Hieroglyphic seal (Fig. 16) with some symbols that we interpret as script signs, whose location in the *Heraklion Museum* is at the moment impossible to be found, and is visible only in the photos and drawings of the excavator, just Alexandra Karetsou.

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