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Inhalt

- 1 GEORGIOS RETHEMIOTAKIS
The ›Divine Couple‹ ring from Poros and the origins of the Minoan calendar
- 31 MELISSA VETTERS – JÖRG WEILHARTNER
A nude man is hard to find. Tracing the development of Mycenaean late palatial iconography for a male deity
- 79 HERMANN J. KIENAST
Eine monumentale Terrasse im Heraion von Samos
- 99 COSTAS ZAMBAS
More light in the tunnel of Eupalinos
- 147 SOI AGELIDIS
Das Ploutoneion von Eleusis: Baugeschichte und Kult
- 169 ELENA WALTER-KARYDI
Sterbende Amazonen. Die eigenartige Weihung im ephesischen Artemision
- 193 KATJA SPORN
Forschungen zur Anlage, Ausdehnung und Infrastruktur des Heiligtums von Kalapodi. Die Kampagnen 2014–2016
mit Beiträgen von Mila Andonova – Stefan Biernath – Themistoklis Bilis – Wolfgang Czysz – Ioanna Dogani – Alicia Ferretti – Anne Fohgrub – Johanna Fuchs – Amerimni Galanou – Dimitris Grigoropoulos – Nils Hellner – Thomas Hintermann – Hristina Ivanova – Eric Laufer – Alexandra Livarda – Maria Magnisali – Wolfgang Rabbel – Katharina Rusch – Harald Stümpel – Sandra Zipprich
- 279 JOHANNES FOUQUET
Zwei Häfen in Troizen? Eine topographische Miszelle
- 287 KLAUS FITTSCHEN
Zum ›Schatzhaus des Minyas‹ in Orchomenos römischer Zeit
- 297 MICHAELA FUCHS
Das hadrianische Bogentor und ›Neuathen‹

- 323 ERICH GOSE – FRIEDRICH SCHOBER
Ergebnisse einer topographischen Reise durch Phokis
herausgegeben von Katja Sporn, mit einem Appendix, herausgege-
ben von Klaus Hallof
- 371 KATJA SPORN – ERIC LAUFER – PETER FUNKE
»Mit Maßband und Bussole«. Geschichte und Würdigung des Ma-
nuscripts über eine Phokisreise im Jahr 1926 von Friedrich Schober
und Erich Gose
- 427 Hinweise für Autoren

Contents

- 1 GEORGIOS RETHEMIOTAKIS
The ›Divine Couple‹ ring from Poros and the origins of the Minoan calendar
- 31 MELISSA VETTERS – JÖRG WEILHARTNER
A nude man is hard to find. Tracing the development of Mycenaean late palatial iconography for a male deity
- 79 HERMANN J. KIENAST
A monumental terrace in the Heraion of Samos
- 99 COSTAS ZAMBAS
More light in the tunnel of Eupalinos
- 147 SOI AGELIDIS
The Ploutonion of Eleusis: building history and cult
- 169 ELENA WALTER-KARYDI
Dying Amazons. A peculiar dedication in the Ephesian Artemision
- 193 KATJA SPORN
Research on the layout, expansion and infrastructure of the sanctuary of Kalapodi. The 2014–2016 seasons
with contributions by Mila Andonova – Stefan Biernath – Themistoklis Bilis – Wolfgang Czysz – Ioanna Dogani – Alicia Ferretti – Anne Fohgrub – Johanna Fuchs – Amerimni Galanou – Dimitris Grigoropoulos – Nils Hellner – Thomas Hintermann – Hristina Ivanova – Eric Laufer – Alexandra Livarda – Maria Magnisali – Wolfgang Rabbel – Katharina Rusch – Harald Stümpel – Sandra Zipprich
- 279 JOHANNES FOUQUET
Two harbours in Troezen? A topographical miscellany
- 287 KLAUS FITTSCHEN
On the ›Treasury of Minyas‹ in Roman Orchomenos
- 297 MICHAELA FUCHS
Hadrian's Gate and ›New Athens‹

- 323 ERICH GOSE – FRIEDRICH SCHOBER
The results of a topographic trip through Phokis
edited by Katja Sporn, with an appendix, edited by Klaus Hallof
- 371 KATJA SPORN – ERIC LAUFER – PETER FUNKE
»With tape measure and compass«. A history and critique
of a manuscript about a trip to Phokis in 1926 by Friedrich Schober
and Erich Gose
- 427 Information for authors

The ›Divine Couple‹ ring from Poros and the origins of the Minoan calendar

GIORGOS RETHEMIOTAKIS

Der ›Ring des heiligen Paares‹ aus Poros und die Ursprünge des minoischen Kalenders

ZUSAMMENFASSUNG Der hier vorgestellte minoische Goldring wurde in einem großen Felskammergrab in Poros, Herakleion, gefunden und datiert in die Phase SM I B. Der Darstellungsgegenstand, das ›heilige Paar‹, ist auch aus anderen religiösen Darstellungen bekannt, besonders auf Ringen und in Form der ›heiligen Unterhaltung‹. Völlig neuartig ist hingegen in der minoischen Ikonographie die Wiedergabe einer Konstellation von fünf Himmelskörpern oberhalb der Gottheiten. In präziser ideographischer Form wird hier nicht weniger als die Funktionsweise des minoischen Lunisolarkalenders illustriert, wobei die Sonne die Sonnenwende oder Tag-undnachtgleiche als Standardbezugspunkt der Zeitrechnung und die Mondphasen die Dauer des Mondmonats repräsentieren. Der Vollmond verweist wahrscheinlich auf das konkrete Datum, auf das das bedeutende religiöse Fest der Begegnung der beiden Gottheiten fiel. Weitere ikonographische Indizien von zwei steinernen Gussformen aus Palaikastro legt nahe, dass die Minoer neben dem Lunisolarkalender auch die Grundlagen eines Astralkalenders entwickelt hatten, der in Bezug zum Vegetationszyklus und entsprechender religiöser Semiotik stand.

Schlagwörter Minoischer Goldring; heiliges Paar; Himmelskörper; Lunisolarkalender; Gussformen aus Palaikastro.

ABSTRACT The Minoan gold ring presented here was found in a large rock-cut tomb at Poros, Herakleion and dates to the LM I B period. The subject of the depiction, the ›divine couple‹, is also known from other religious representations, specifically on rings and in the form of the ›Sacred Conversation‹. Altogether novel in Minoan iconography, however, is the rendering of a group of five celestial bodies above the gods. In a concise ideographic way, this represents nothing less than the way the Minoan lunisolar calendar operated: the sun represents the solstice or equinox as a standard point of reference for reckoning time, and the phases of the moon illustrate the duration of the lunar month. The full moon most likely indicates the specific date on which the great ceremonial event of the two gods' encounter took place. Additional iconographic evidence from two stone moulds from Palaikastro suggests that, besides a lunisolar calendar, the Minoans had probably worked out the principles of an astral calendar, with reference to the vegetation cycle and the corresponding religious semiotics.

Keywords Minoan gold ring; divine couple; celestial bodies; lunisolar calendar; Palaikastro moulds.

Το δακτυλίδι του ›Ιερού Ζεύγους‹ από τον Πόρο και οι απαρχές του μινωικού ημερολογίου

ΠΕΡΙΛΗΨΗ Το χρυσό μινωικό δακτυλίδι που παρουσιάζεται εδώ βρέθηκε σε μεγάλο λαξευτό τάφο στον Πόρο Ηρακλείου και χρονολογείται στην ΥΜ I B περίοδο. Εικονίζεται το θέμα του Ιερού Ζεύγους, γνωστό και από άλλες παραστάσεις, κυρίως σε δακτυλίδια, στον τύπο της ›Ιεράς Συνομιλίας‹. Καινοφανής στην μινωική εικονογραφία είναι ο τρόπος απόδοσης των πέντε ουράνιων σωμάτων πάνω από τους θεούς. Με συνοπτικό-ιδεογραφικό τρόπο αποδίδεται εδώ ο μηχανισμός λειτουργίας του μινωικού σεληνοηλιακού ημερολογίου με τον ήλιο να συμβολίζει ηλιοστάσιο ή ισημερία, δηλαδή ένα σταθερό σημείο μέτρησης χρόνου στην διάρκεια του ηλιακού έτους. Οι φάσεις της σελήνης εικονίζουν συνοπτικά τον σεληνιακό μήνα, με την πανσέληνο να χρονοθετεί πιθανόν την ημερομηνία της μεγάλης θρησκευτικής γιορτής, στην οποία η συνάντηση του Ιερού Ζεύγους είναι το κύριο γεγονός. Επιπροσθέτως, ορισμένα εικονογραφικά στοιχεία από δυο λίθινες μήτρες με προέλευση το Παλαϊκάστρο υποδηλώνουν ότι, εκτός από το σεληνοηλιακό ημερολόγιο, οι Μινωίτες ίσως είχαν παράλληλα καθορίσει το πλαίσιο λειτουργίας μιας εκδοχής αστρικού ημερολογίου, σε συνάφεια με τον κύκλο της βλάστησης και την αντίστοιχη θρησκευτική σημειολογία.

Λέξεις κλειδιά Μινωικό χρυσό δακτυλίδι. Ιερό Ζεύγος. Αστρικά σώματα. Σεληνοηλιακό ημερολόγιο. Μήτρες Παλαϊκάστρου.

EXCAVATION CONTEXT

The gold ring presented here (*fig. 1*) was found in a rock-cut chamber tomb of the Minoan cemetery at Poros in Herakleion, the ›harbour-town‹ of Knossos. The tomb was discovered by chance in 2002 during the digging of a ditch by the Herakleion Municipality in Laonikou Street and subsequently excavated by N. Dimopoulou, excavator in the area of Poros-Katsambas since 1986, who granted me permission to publish the ring. She also provided the following brief report of the excavation¹.

»The rock-cut tomb, which is the tenth so far excavated at Poros, had two adjoining chambers, one rectangular and the other roughly circular in shape, measuring 60 m² in total. Access from the east was provided by an inclined stepped way and an entrance originally blocked by a rubble wall which had collapsed. The rectangular chamber was found almost empty, containing only a few remains of looted or removed burials. The second chamber, however, had served as an ossuary and depository of grave offerings in the last phase of the tomb's use and contained many bones from disintegrated burials and some grave goods from the cleaning of the main chamber.

As attested in other tombs of the Poros cemetery, the tomb had been looted, probably in ancient and modern times. Nevertheless, in addition to the gold ring presented here it yielded a few other artefacts of exceptional quality: another gold ring bearing a scene of the epiphany of a male god, the fourth signet ring so far discovered at Poros, a signet amulet in the shape of a minute golden pyxis with a lion engraved on its base, fragments of an partly preserved ivory plaque with the representation of two boxers in relief and a haematite cylinder seal².

Most of the pottery dates to LM I A. However, some LM I B vases and sherds show that the tomb was used down to the end of the Neopalatial period, just like the others so far excavated in the necropolis of Poros.«

DESCRIPTION – TECHNIQUE

The gold signet ring (HM number 1710) comprises a bezel and a hoop. The bezel's external dimensions are 1.86 cm long, and internally 1.66 cm; the hoop itself is 1.69 cm across in diameter, 1.54 cm with the bezel, its width is 0.32 cm, with a thickness of 0.08 cm. Its weight is 3.88 g.

I express my warmest thanks to N. Dimopoulou who gave me the opportunity to publish or co-publish with her, three significant gold rings uncovered in the excavations of the Poros cemetery. My colleague K. Athanasaki helped me in the search through biblical texts and E. Apostolaki assisted with the English translation of the Greek text. The final text was checked and corrected by the specialist translator R. Tzanaki. The drawings of the rings are by the Ephorate illustrator K. Astrinaki and the photographs by photographer I. Iliadis. The respective drawings of the mould from Palaikastro are by M. Chatzaki and the photographs by Y. Papadakis. Text, drawings and photographs were adapted in digital form by the illustrator and computer specialist of Herakleion Museum, P. Stephanaki. To all of them I owe my sincerest thanks.

¹ A similar report with photographs of the tomb and bibliography appeared as an introduction to the publication of a cylinder seal from the same tomb (G. Rethemiotakis, *A Syro-Minoan Cylinder Seal from Poros, Herakleion*, AM 122, 2007, 2–4 pls. 2. 3). In that report the ring presented here was referred to as »one decorated with a representation of a ›Sacred Conversation‹«, which is certainly the case. However, since there is another ›Sacred Conversation‹, ring published under this title (see n. 4), I choose here another term equivalent as regards its meaning, since the notion of the divine couple implies the participation of the two gods engaged in the so-called sacred conversation.

² Rethemiotakis loc. cit. (n. 1) 1–16.

The ring bears a representation of the genre known as the ›Sacred Conversation‹ (figs. 2. 3 a–d). On the left is a female figure in a seated posture, bending slightly towards the front, with her skirt detailed by incisions and her hands on top of the thighs (fig. 4 a. b). On the right is a standing male with his right arm extended towards the seated figure and left arm hanging loosely bent towards the back; he is dressed in a belted loincloth (fig. 5). Between the two figures are dotted arcs and tufts piled up into a craggy mass (fig. 6). Above the female figure are two large flying birds in symmetrical disposition with open wings perpendicular to the body (fig. 7). Between and above the birds is a many-rayed star-like motif framed by small dots. Above the male figure is first a roughly horizontal line, and above two symmetrical and opposed crescents with a circle in the middle and a fringed symbol to the right.

The bezel is elliptical in shape, while the hoop is irregularly elliptical and deformed on its upper part, owing to repeated use for sealing. The hoop is decorated with S-shaped incisions, worn out by use on its upper external side. Intense traces of tools, hand-burin and hammer-burin, employed for incising fine lines and deep engravings respectively, are clearly visible. There are shallow depressions on the back of the bezel. Slight traces of soldering along the joining edges of the two foils are detectable and at the joints of hoop and bezel. No visible traces of wear exist, except the deformation and the worn surface of the hoop.

Technically the ring belongs to Type IV in A. Sakellariou's classification³ which includes rings made of two gold sheets: the front one is folded down over the oval edge of the bezel and consequently soldered along the join with the rear concave sheet of the bezel. The latter is so fashioned in order to adapt the ring's reverse to the convex upper side of the inserted finger. At the narrow ends of the bezel, where the two sheets make contact, the two ends of the hoop are also soldered in place. In order to be fastened securely, they partly penetrate into the inner hollow space of the ring.

The workmanship in general is of good quality, yet not as refined as that of the ›Sacred Conversation‹ ring from Poros⁴, which is so perfect that it gives the impression of being solid rather than assembled from gold sheets. On the contrary the ›Sacred Mansion‹ ring, from Poros as well⁵, is of rather poorer quality, compared to the other two rings from Poros, as shown by deformations and flaws along the soldering and at the juncture of hoop and bezel, as well as in many rough scratches on the back sheet which were not polished away. These divergences in terms of manufacturing quality are probably due to varying levels of competence of different craftsmen or even workshops active in the area of Knossos and Poros in the LM I B period.

ICONOGRAPHY AND STYLE

The new signet ring from Poros presented here, henceforth the ›Divine Couple‹ ring, depicts the principal incident in Minoan epiphany representations, namely the encounter of the divine couple. The same incident, in a different and enriched iconographic context also comprising a tree-cult scene and a hovering female figure, is attested on the above mentioned signet ring from a rock-cut tomb on Ikarou Street at Poros, the ›Sacred Conversation‹ ring (fig. 8). This very fact makes the two rings complementary in terms of their ›Sacred

³ A. Sakellariou, *Technique et évolution de la bague-cachet dans l'art Crétomycénien*, in: W. Müller (ed.), *Fragen und Probleme der bronzezeitlichen ägäischen Glyptik*, CMS Beih. 3 (Berlin 1989) 326 f.

⁴ N. Dimopoulou – G. Rethemiotakis, *The ›Sacred Conversation‹ Ring from Poros*, in: W. Müller (ed.),

Minoisch-mykenische Glyptik. Stil, Ikonographie, Funktion, CMS Beih. 6 (Berlin 2000) 39–56.

⁵ G. Rethemiotakis N. Dimopoulou, *The ›Sacred Mansion‹ Ring from Poros Herakleion*, AM 118, 2003, 1–22.



fig. 1 The ›Divine Couple‹ ring, photograph (scale approx. 8 : 1)

Conversation‹ scenes and dictates they be examined in parallel within a broader cognitive and iconographic framework.

On both rings the position of the two deities in the ›Conversation‹ scenes is similar; the female figure, in a seated posture, inclines slightly towards the standing male on her right, while the male extends his right hand to her in the ›commanding gesture‹. In close contextual relation are two flying birds, heraldically positioned with regard to the female deity, a composition so far attested only on these two rings from Poros. On the ›Sacred Conversation‹ ring the birds are shown flying left and right away from each other below the body of the female deity, towards whom they turn their heads in a symmetrical arrangement. In contrast, the birds on the ›Divine Couple‹ ring fly towards each other and are set above the head of the female deity, so converging towards the centre of the composition. The one on the left is close to the shoulder of the deity and the one on the right to a bush.

The background of the composition differs between the two rings: a meadow with blooming flowers in the first case and a rocky, mountainous landscape in the second. Of particular interest is the rendering of the mountainous landscape that reveals the influence of large-scale wall-painting. It is composed of many wedge-shaped engravings along the lower and left side of the bezel representing rock formations, with superimposed arcs, apparently indicating rocks or hills and finally tufts which apparently render bushy plants. Albeit condensed and abbreviated due to the limited space, this picture recalls landscape

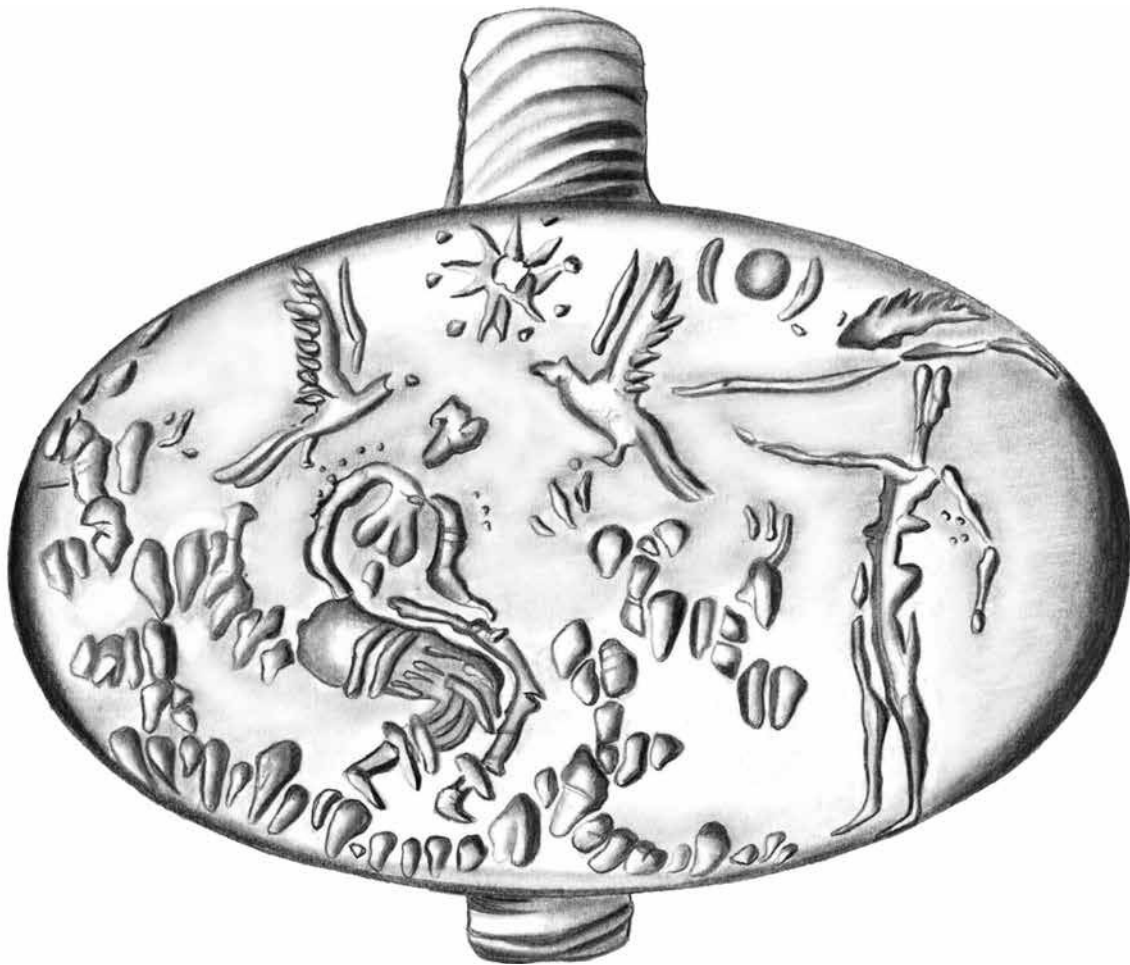


fig. 2 The ›Divine Couple‹ ring, drawing (scale approx. 8 : 1)

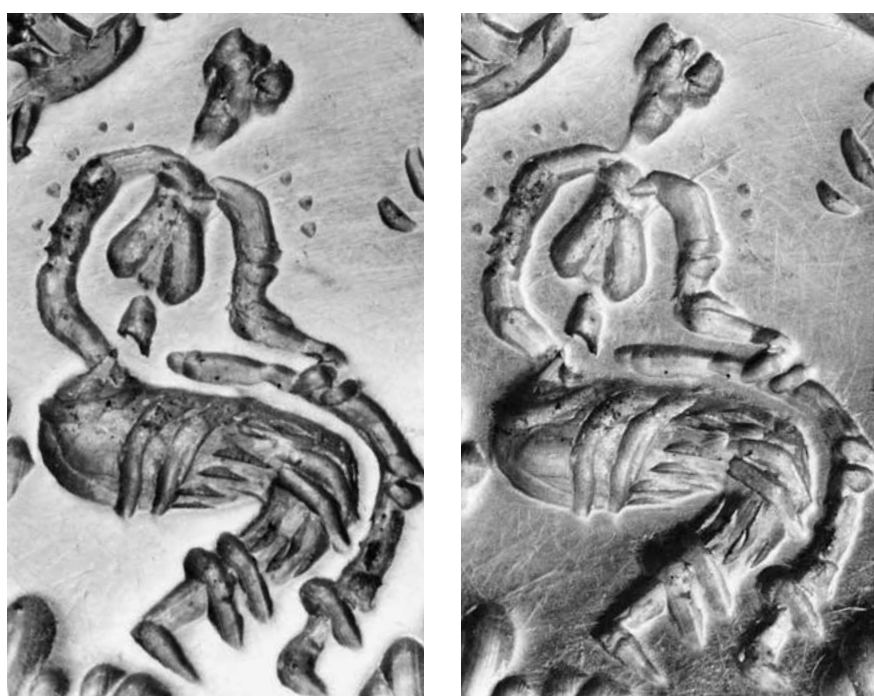
frescoes, such as those of Hagia Triada, the ›House of the Frescoes‹ at Knossos and the ›Spring Fresco‹ of the Theran ›Delta-East House‹⁶. The mountainous landscape on the ›Sacred Mansion‹ ring from Poros, as also on the silver ring from Katsambas⁷, are both similarly depicted. Thus the iconographic and symbolic content of wall-painting programmes once possibly decorating the Knossian palace are being summarised in a semiotic way.

In contrast to this clear iconographic closeness, the two rings bearing the divine couple representations are quite different stylistically. The figures of the ›Sacred Conversation‹ ring are executed in a rather painterly style by means of sharp strokes of the burin that resemble brushwork. This impression is increased by the lengthening and the minimalist rendering of the bodies, which bring the divine figures close to the point of disintegration; it is the product of the artistic mannerism of the advanced Neopalatial period, which marks the maturity of the naturalistic style of the previous peak years.

The figures of the ›Divine Couple‹ ring on the contrary are stiff and rigid, rendered in a linear-graphic way and in more detail. The breast of the female deity is clearly shown here,

⁶ P. Militello, *Haghia Triada I: Gli affreschi* (Padua 1998) esp. 6; M. Cameron, *Unpublished Paintings from the ›House of the Frescoes‹ at Knossos*, BSA 63, 1968, 1–31 fig. 13; Ch. Doumas, *Οι τοιχογραφίες της Θήρας* (Athens 1992) 99–107.

⁷ N. Dimopoulou-Rethemiotakis, *Ασημένιο σφραγιστικό δακτυλίδι από τον Κατσαμπά*, in: L. Tzedaki-Apostolaki (ed.), *Honorary volume for S. Alexiou*, KretChron 34, 2014, 191–199.



△ fig. 3 Bezel of the
»Divine Couple« ring
(scale approx. 4 : 1)
a. General view. –
b. Impression. –
c. Side view. –
d. Back

◁ fig. 4 The seated
goddess, under different
lighting conditions



fig. 5 The male god



fig. 6 The sun and the three moons

fig. 7 The birds and the sun





fig. 8 The ›Sacred Conversation‹ ring

while omitted on her counterpart of the ›Sacred Conversation‹ ring, long curls are denoted with dots and incisions and so are the sleeves of the bodice and the flounces of the skirt. The male deity is dressed in a belted loincloth. The rendition here appears poorer stylistically, especially when compared to the elegant, slim male figure of the ›Sacred Conversation‹ ring. The muscular legs, disproportionately long in relation to the upper body, and the long and fleshless arms create a sense of imbalance in the composition. The heads of both figures lack faces; they are essentially aniconic, rendered with two and three vertical engravings respectively, thus recalling the flower-shaped heads of the worshippers on a ring from Archanes and on the Ring of Minos⁸. The hip-long curls formed of a few dots reveal the social status of the male figure. Such long curls are attested on male deities in ›Sacred Conversation‹ scenes and on worshippers engaged in tree-cult activities⁹, apparently indicating their divinity, high status or even the stage of initiation of those participating in ecstatic visions and the religious ceremonies accompanying them.

The large birds flying above the female deity on the ›Divine Couple‹ ring seem to be of the same species as those of the ›Sacred Conversation‹ ring, probably eagles or falcons, although with shorter wings and smaller bodies. In their symmetrically arranged flight above the head of the deity they frame a nine-rayed and dotted star.

This last is, of course, the day star, the sun, that shines above the deity in the assumed sky of the composition. The dots around the beams are possibly meant to indicate the solar halo, a wider emission of sunrays. The mode of signifying the sun as a star inscribed in a circle has parallels in relevant representations in Babylonian iconography¹⁰, as well as in a

⁸ Y. Sakellarakis – E. Sakellarakis, *Αρχάνες. Μια νέα ματιά στη μινωική Κρήτη* (Athens 1997) 654–660; N. Dimopoulou – G. Rethemiotakis, *Το Δακτυλίδι του Μίνωα* (Athens 2004) figs. 10. 11.

⁹ The rings in the Benaki (CMS V no. 199) and Berlin Museum (CMS XI no. 28), the Ring of Minos (Dimopoulou – Rethemiotakis loc. cit. [n. 8] fig. 10), the ring

with cultic scene from Archanes (Sakellarakis – Sakellarakis loc. cit. [n. 8]) and the Vapheio ring (CMS I no. 219).

¹⁰ J. Black – A. Green, *Gods, Demons and Symbols of Ancient Mesopotamia. An Illustrated Dictionary* (London 1992) 168 fig. 76.



fig. 9 Ring from Tiryns

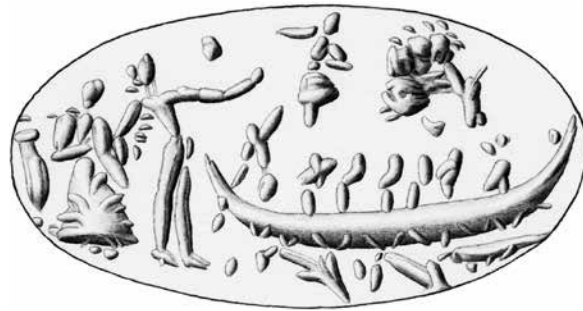


fig. 10 Ring in the Ashmolean Museum

ring from Tiryns (*fig. 9*)¹¹, where the sun is depicted as a six-rayed wheel. The sun is also pictured on a clay sealing from Knossos¹² between symmetrically positioned lions and on the impression of a signet ring also from Knossos¹³, between symmetrical birds, exactly as on the ›Divine Couple‹ ring. The heraldically positioned theme of the sealing was possibly sourced from wall paintings, now lost, in the Knossian palace.

This way of representing the solar disc justifies an LM I B date for the ring, since the element under discussion is identical to the so-called star-fish of the Marine style ceramic repertoire¹⁴. It appears now that this motif does duty as the image of the sun as depicted in the above sphragistic representations, as used for the purposes of decoration among sea flora and fauna in the case of pottery, and as an ornament bare of symbolic meaning in the frames of frescoes¹⁵.

The rest of the sky, above the wavy line, is occupied by four heavenly bodies: three representations of the moon in three successive phases, waxing, full and waning, a set so far unparalleled in the Minoan iconography, are analytically discussed in the following pages. The fourth motif is the so-called shooting star, or more probably the Milky Way, as suggested in the publication of the ›Sacred Conversation‹ ring.

CONTEXTUAL APPROACH: PARALLEL CASES FOR ›DIVINE ENCOUNTERS‹ AND ›SACRED CONVERSATIONS‹

Apart from the two rings analysed above, two further signet rings with relevant representations of epiphany on their bezels have been discovered at the ›harbour-town‹ of Poros. The first, not yet published, was uncovered in the same rock-cut tomb as the ›Divine Couple‹ ring and, as mentioned before, pictures the epiphany of a male deity, a female figure and some other pictorial elements. The second ring was bought from A. Evans and stated to have originated from the ›harbour-town‹ i.e. Poros (*fig. 10*)¹⁶, which might be corroborated

¹¹ CMS I no. 179.

¹² CMS II 8 no. 326.

¹³ CMS II 8 no. 192.

¹⁴ W. Müller, *Kretische Tongefässe mit Meeresdekor* (Berlin 1997) 243–246 fig. 143 (›Stern‹, Müller believes that it is possibly a religious symbol).

¹⁵ A. Evans, *The Palace of Minos I. The Neolithic and Early and Middle Minoan Ages* (London 1921)

479 f. fig 343 (Evans interprets it as a ›rayed solar symbol‹).

¹⁶ A. Evans, *The Palace of Minos II 1. Fresh Lights on Origins and External Relations: The Restoration in Town and Palace after Seismic Catastrophe towards Close of MM III and the Beginnings of the New Era* (London 1928) 250 fig. 147 b; CMS VI 2 no. 280.

by its iconographic content: the representation of a divine couple, similar to the three excavated and so securely provenanced signet rings mentioned above. The divine couple in this particular case is shown close to a seafaring boat, seemingly associating the two deities with the protection of the harbour and of sailing in general. The association of the scene with the cycle of visualised epiphany and tree-cult, which is analytically displayed on the ›Sacred Conversation‹ ring¹⁷, is implied here by a hovering female figure and a tree.

The representations of these four rings make up an iconographic group of particular importance and, as yet, one with little documentation in the field of Minoan religious iconography: it illustrates the Minoan version of the revelatory appearance of the two ruling deities. It is however noteworthy that, with the exception of the Poros examples, such an important cognitive aspect of the Minoan religion has left few traces in the iconography of the period. There exist only two more signet rings, one »from the site of Knossos«, according to Evans, now in Oxford¹⁸, and another of unknown provenance in Berlin¹⁹, which bear representations of the ›Sacred Conversation‹ cycle with the male figure in the typical commanding gesture, hovering and standing on the ground respectively, and the female standing and adoring in both cases. Corresponding contextual and iconographic elements, to be further developed in the forthcoming publication of the fourth ring from Poros that bears a male god's epiphany, suggest a close iconographic background, perhaps the wall-painting programmes of the Knossian palace, and imply that the above two rings, in Oxford and Berlin, may also come from looted tombs in the area of Knossos or its harbour, Poros.

Regarding the epiphany of the divine couple, another representation is pertinent: that of a signet ring sealing from Knossos, which combines a goddess appearing on a mountain with the figure of a male adorant, or more probably a god²⁰. Scenes of conversation are also attested on two more ring sealings from Knossos and Chania²¹, which however lack the appropriate linking elements and thus cannot be directly linked to the visualised epiphany under discussion. Associated representations further include two multi-figured compositions of Minoan technique and style attested on a ring from Elateia²² and another from Kalapodi²³, the former with a female figure in the attitude of adoration, a hovering male and two more figures on the right and the latter with a gesturing couple and two more figures, on the left. The accompanying figures on these two last rings are likely to represent priests or worshippers of the deities in conversation²⁴.

The iconographic type, namely a seated female and a standing male figure, is attested in two more cases other than the Poros rings, on a ring from Mycenae²⁵ and a ring in the Benaki Museum²⁶. The female figure, however, does not appear in a seated posture on or close to the ground, as on the two Poros rings, but seated on a throne in the first case, and on a

¹⁷ For a detailed account of the composition and its contextual correlations with the cycle of epiphany: Dimopoulou – Rethemiotakis loc. cit. (n. 4) 44–56.

¹⁸ Evans loc. cit. (n. 15) 159 f. fig. 115; CMS VI 2 no. 281.

¹⁹ CMS XI no. 28.

²⁰ CMS II 8 no. 256.

²¹ CMS II 8 no. 269; I. Papapostolou, *Τα σφραγίσματα των Χανίων. Συμβολή στη μελέτη της μινωικής σφραγιδογραφίας* (Athens 1977) 80–85 pls. 44 α; 45 β.

²² CMS V Suppl. 2 no. 106.

²³ CMS V Suppl. 3 no. 68.

²⁴ See the comments on the ring from Elateia compared to the representation of the Runner's Ring from Syme: A. Lebesse – P. Muhly – G. Papasavvas, *The Runner's*

Ring. A Minoan Athlete's Dedication at the Syme Sanctuary, Crete, AM 119, 2004, 19–21, where it is claimed with reasonable arguments that the gesturing female figure, the priest with the snake frame and the male figure in the loincloth are identical in both cases, the latter being in fact the runner as on the ring from Syme. Quite likely the representations are complementary, parts of an iconographical sequence, sourced from a large-scale wall painting original with the epiphany and the procession leading the scene (Elateia ring) and the foot race with the presence of the deity and the priest (ring from Syme) following.

²⁵ CMS I no. 101.

²⁶ CMS V no. 199.

wooden structure in the second, while there is no sign of the visualised epiphany that in the Poros examples is chosen to precede and introduce the main event of the divine encounter.

The representation therefore of the ›Sacred Conversation‹ appears by no means uniform or standardised, implying the existence of more than one iconographic prototypes, perhaps even of variable factual and symbolic content.

The ›Divine Couple‹ ring finds its closest parallel on a seal in Geneva²⁷. There the female deity is shown seated on a rock or a mountain peak, just like on its Poros equivalent, while the male god extends his right arm towards her from a lower level. The triangular element in the background might be interpreted as a hill peak or a rock, similar to the mountainous arrangements between the two deities on the ›Divine Couple‹ ring. The depiction of the Milky Way in the sky of both compositions is further evidence of a link between the two. It is likely that the seal-engraver's iconographic choice was based on the same prototype as the ›Divine Couple‹ ring, although the limited physical space for iconographic development in the case of the seal led to its more simplified portrayal.

The rarity of such representations, especially those directly associated with the Minoan version of the visualised epiphany, i.e. with one figure hovering or with flying birds accompanying the goddess, demonstrates the importance of the four rings from Poros, especially given, in addition to their common origin, their contemporary dating in LM I B: the ›Sacred Conversation‹ ring on the grounds of its excavation context²⁸, the ›Divine Couple‹ ring from the so-called star-fish decorative motif of the Marine style, the as-yet-unpublished ring with the male god's epiphany as an associated find (in the same tomb chamber) of the ›Divine Couple‹ ring, and finally the Oxford ring, possibly the product of looting in Evans' times, due to its iconographic similarities to the other rings from Poros, which are derived from burials of the final phase of use of the cemetery in LM I B.

There is therefore sufficient evidence that the most sacred of all elements in Minoan religious iconography, that of the visualised epiphany and the encounter of the two deities, depicted in four iconographically and symbolically related versions on the rings from Poros, must have been of particular semiotic value for an ideologically distinct social group residing in the Minoan harbour of Knossos. As mentioned above, the manufacturers of those rings may have sourced their themes from an extended iconographic programme of the Knossos palace, where the several stages of epiphany, from the meeting on the mountains as on the ›Divine Couple‹ ring to the union by the sea as on the Oxford ring, must have been narrated in detail. The symbolic ›journey‹ of the two deities from the mountains and the meadows (›Divine Couple‹ ring, ›Sacred Conversation‹ ring) to the seaside port (Oxford ring), perhaps the very same harbour of Knossos where all four rings were found, seems to designate divine protection over sea and nature in its entirety. Thus, depicted as travelling under the protective hand of the god, the boat of the Oxford ring might reflect in reality a request for protection on the sea and trade routes for those departing from the large Minoan harbour of Poros. This could in the long run have been the one and only aim: to demonstrate forcefully through a well-constructed and complex religious formula the vital role of the land and the sea in maintaining and expanding the Minoan maritime state.

²⁷ CMS X no. 261.

²⁸ Dimopoulou – Rethemiotakis loc. cit. (n. 4) 39–41.

THE CELESTIAL WORLD AND THE SPACE-TIME DESIGNATION OF THE ›SACRED CONVERSATION‹

On the ›Sacred Conversation‹ ring, the closest iconographic parallel of the ›Divine Couple‹ ring, the attributes of the two deities and the surrounding elements leave little doubt as to their divine nature. The centrally projected incident of the divine encounter is directly associated with the visualised version of the epiphany by the addition of a small-scale figure in the background of the composition in a conventional rendering of the vision of the hovering deity. The composition expands to include a tree-cult scene, a corresponding event linked conceptually with the version of the visualised epiphany. This picture of the two-fold world of the divine and the humans is enriched with symbols that interpret the content of the scene, namely the symbol of a starry sky perhaps summarising the dense galactic nebula on the axis of the celestial sphere, blooming flowers that symbolise the flourishing land and the season of blossoming, as well as seeds or fruits, symbolically bespeaking the cycle of fertilisation.

Apart from the parallel actions and symbolisms, the ›Divine Couple‹ ring offers a clear version of the divine encounter in a different space-time, a biblical conception of the image of a glorifying epiphany on the mountain, positioned thus on the borders of the terrestrial and celestial landscapes²⁹. The latter is denoted by the sun, the waxing, full and waning moons and the symbol of the Milky Way. This strong cosmological symbolism, not yet attested on any other relevant representation, suggests that herein lies the meaning of the divine encounter. Moreover, the very form of the mountain and, at another level, the cathartic walk up to its peak together embody in a metaphysical sense the notion of rising into the sky, an idea perhaps inferred and reinforced by the use of the Milky Way symbol, i.e. the ›path of light‹ between the earth and the heavens that the gods cross to be conveyed from one world to the other³⁰.

It is between the two worlds that the epiphany takes place here. The rocks and hill ranges surrounding the two figures serve to fill the vacuum existing among the deities and the celestial bodies. By their location on the borderline of the two worlds, the two gods signify the unity and entirety of the cosmic landscape. The head of the male deity on the right seems to be reaching into the sky, up to the wavy line seen in the composition, while the two birds, attributes of the female deity, are depicted as if balancing the sun disk between their wings, similar to the manner the goddess herself appears to be supported by these self-same creatures on the bezel of the ›Sacred Conversation‹ ring.

The doubtless strong semiotic correlation of the two gods and the heavens and, in the case of the composition under discussion, of the female goddess with the sun and the male

²⁹ The narrations of God's epiphany on the biblical Mounts Sinai and Horeb are quite telling: Exodus 24, 15, 16; Kings III, 19, 7–9. In Ezechiel 11, 22, 23 God appears on the wings of the cherubim, an image resembling the epiphany of the goddess on the wings of the two birds on the ›Sacred Conversation‹ ring. The biblical text (edition and translation: Elpenor's Bilingual (Greek / English) Old Testament. Greek Original According to the Text used by the Church of Greece, English Translation by L. C. L. Brenton, Published Side by Side, <<https://www.ellopos.net/elpenor/greek-texts/septuagint/Default.asp>> [15/09/2017]) is as follows: Καὶ ἐξῆραν τὰ Χερουβὶμ τὰς πτέρυγας αὐτῶν, καὶ οἱ τροχοὶ ἐχόμενοι αὐτῶν, καὶ ἡ δόξα Θεοῦ Ἰσραὴλ ἐπ' αὐτὰ ὑπεράνω αὐτῶν. Καὶ ἀνέβη

ἡ δόξα Κυρίου ἐκ μέσης τῆς πόλεως καὶ ἔστη ἐπὶ τοῦ ὄρους, ὃ ἦν ἀπέναντι τῆς πόλεως. (»Then the cherubs lifted up their wings, and the wheels beside them; and the glory of the God of Israel was over them above. And the glory of the Lord went up from the midst of the city, and stood on the mountain which was in front of the city.«). For its comparison with the Minoan theognostic concept it is interesting to note that the epiphany on the mountains seems to continue an epiphany begun in the centre of a town, a perception apparently based on the relevance of urban and open-air worship focusing on the convictions and the ceremonies of epiphany: see Rethemiotakis – Dimopoulou loc. cit. (n. 5) 13–22.

³⁰ Pind. fr. 30; cf. discussion below, p. 18.



fig. 11 Ring from Mycenae

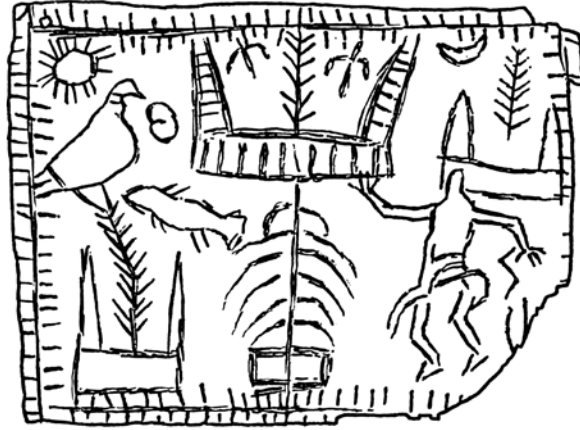


fig. 12 Representation on a bronze sheet from Psychro Cave

god with the moon, brings to mind the existence of two sky deities, a solar and a lunar god, Utu-Shamash and Nanna-Sin respectively, in ancient Mesopotamian theology³¹. Unlike the Mesopotamian iconography, however, where those symbols are always attributes of the gods, in Minoan religious iconography there exists no other epiphany representation implying a link between the two principal celestial bodies, the sun and moon, and the two deities, nor are they attested as gods' symbols on any other Minoan signet ring so far. On two Mycenaean rings from Mycenae³² and Tiryns³³ (figs. 9. 11), where sun and moon coexist, the religious incidents depicted involve cult scenes and offerings to a female deity, while the figure of the male god essential to the Minoan version of the epiphany, the companion or lover of the goddess, is absent.

The altogether unusual, narrative-paratactic rendition of the celestial bodies on the ring differs radically from the standardised schemes developing in oriental iconography, thus illustrating that the Minoan manufacturer wished to add more information pertaining to the intrinsic meaning of the scene.

The only Minoan representation of an indirectly epiphanic content presenting the co-existence of the two principal celestial bodies is found not on a ring, but on a bronze sheet from the Cave of Psychro (fig. 12)³⁴. The male figure here, although in a slack posture with knees bent, shows clear similarities to the male deity of the ›Sacred Conversation‹, as he too raises his right arm towards where the goddess should be standing; she, however, does not appear in this case, at least not as a plainly conceivable human figure. Her presence though is implied by the symbols of her worldwide realm, a bird and a fish, conceptually linked with the celestial and marine worlds respectively, while the symbol of the earth is also present in the form and content of the plant stems between horns of consecration that fill in the iconographic field, imparting a strong religious connotation to the scene. The symbolism is extended with the addition of a schematic tree that grows through / out of a rectangular ele-

³¹ D. Collon, *First Impressions. Cylinder Seals in the Ancient Near East* (Chicago 1987) 35. 167. In oriental iconography figures of ›solar goddesses‹ often appear, sometimes accompanied by a male god, a kingly figure, both, in composition, recalling the ›Divine Couple‹ scheme in the ›Sacred Conversation‹ incidents (N. Marinatos, *Minoan King-*

ship and the Solar Goddess [Chicago 2010] esp. 155–166).

³² CMS I no. 17.

³³ CMS I no. 179.

³⁴ J. Boardman, *The Cretan Collection in Oxford. The Dictaeon Cave and Iron Age Crete* (Oxford 1961) 46 no. 217; 47 fig. 21.

ment, an image recalling the tree enclosure of the tree-cult scenes, which on the grounds of the ›Sacred Conversation‹ ring's iconography, is interpreted as notionally relevant to epiphany³⁵. The sun and the moon at the upper corners of the composition, certainly indicating the celestial sphere, expand the limits of the divine domain towards the universe, while the simultaneous appearance of the two together in the celestial vault defines, as we shall see below, the notion of time, a time approachable and reckonable by the logic and measures of finite human existence.

DEFINING THE PRINCIPLES OF THE MINOAN CALENDAR

The measuring of time has diachronically been based on the observation of the changes in orbit and shape of the celestial bodies, the sun and the moon³⁶. In the case of the Poros ring, the scene seems to convey the notion of the bilateral nature of time, first the universal dimension of an infinite space-time that lies beyond human limits and signifies the eternity of divine existence, i.e. the concept of time related to the gods seen in the representation, and second the finite and eternally recycling one as reckoned by the phases of the moon, here encountered for the first time in a detailed accounting in Minoan iconography.

The lunar capacity for reckoning time is explicitly and literally declared on the ›Divine Couple‹ ring by the analytical representation of the moon phases, namely the waxing, full and waning moon, an ideogrammic picture that graphically renders the notion of a complete temporal measurement, that of the lunar month.

The earliest direct testimony of the existence of a religious calendar for the Aegean is found in the Linear B archives of Knossos and Pylos³⁷, where some of the entries with offerings to deities bear titles of the name of a month and the introductory *me-no*, transcribed as *μηνί* (in the month of). From the existence of the ideogrammic symbol of the lunar month, during which the divine encounter, the most important Minoan festival, takes place, it may be concluded that there must have existed a Minoan religious calendar prior to the Mycenaean one. In turn this would strengthen the possibility that the Minoan time reckoning system was later passed on to the Mycenaeans, together with the other measuring systems.

The lunar month ideogram of the ›Divine Couple‹ ring offers additional important information on the Minoan calendar. The way the month is depicted with two juxtaposed crescents in symmetrical arrangement with regard to a full moon implies that the duration of the lunar month for the Minoans is marked by the appearance and disappearance of the moon in the night sky, with the middle of the month falling exactly on the day of the full moon. Such a concept occurs in the Mesopotamian and ancient Greek calendars³⁸ and accords with the Homeric perception of the month, that is comprised of two successive half-months³⁹. The time-reckoning dates of the month, then, would have been its beginning at

³⁵ Dimopoulou – Rethemiotakis loc. cit. (n. 4).

³⁶ M. Nilsson, *Primitive Time-Reckoning* (Lund 1920) passim.

³⁷ Ch. Boulotis, *Σκέψεις για τα μυκηναϊκά μηνολόγια*, *Αρχαιολογία* 74, March 2002, 9–16.

³⁸ HAW I 7 (1972) 14. 140 s.v. Greek and Roman Chronology (A. Samuel); L. van der Waerden, *Greek Astronomical Calendars*, *JHS* 80, 1960, 169; R. Parker – W. Dubberstein, *Babylonian Chronology 626 B.C. – A.D. 75* (Providence 1956) 1–3; E. J. Bickerman, *Chronology of the Ancient World* (London 1968) 17.

³⁹ Hom. *Od.* 14, 162; 19, 307 (edition: G. R. Crane [ed.], *Perseus Digital Library*, <<http://www.perseus.tufts.edu/hopper/text?doc=Hom.+Od.+14.162&fromdoc=Perseus%3Atext%3A1999.01.0135>> [15/09/2017]): τοῦ μὲν φθίνοντος μηνός, τοῦ δ' ἵσταμένοιο; Hes. *Op.* 798 (translation: G. R.): »in the waning and standing [parts of the] month« (actually the two halves after and before the day of the full moon). For this reason, the day is also given the name *διχομηνία* i.e. the one that divides the month in two: Geminus, *Εἰσαγωγή εἰς τὰ Φαινόμενα* (= *Elementa astronomiae*) 8, 12.



fig. 13 Vases from Zakros with celestial symbols (Scale approx. 1 : 4)

the new moon, and its mid-point at the full moon, as those were the days of great religious festivals in both the Mesopotamian and the ancient Greek calendars⁴⁰.

A similar case may be made concerning the set of celestial symbols depicted in relief on some vases found in the Zakros ›pits deposit‹, namely a cup, a juglet and a jar, all with a relief moon crescent and the disc of the full moon, rather than the sun disc, as L. Platon concludes (*fig. 13*)⁴¹. On the first fragment of the jar, the two partly superposed relief crescents represent, according to the author, schematic agrimi horns. In the light, however, of the new evidence from the iconography of the Poros ring, and in accordance with the rest of the iconography of these vases, I believe that the two crescents mark the phases of the waxing and waning moon and therefore embrace the notion of the lunar month. The religious character of the deposit probably argues that the use of the vases was in offertory rituals coordinated with the phases of the moon, and set into the time frame of a certain ›religious‹ month.

Nonetheless time measurement based exclusively on months is of only relative value. As with the stellar calendar centred on the movement of the stars, the lunar calendar is usually adopted by non-urbanised societies, which measure lunar months on the grounds of the occasionally calculable time⁴², i.e. from the present time back to events that have taken place in the past and survive in personal or collective memory or up to others expected to happen in the foreseeable future. Not surprisingly, time reckoning conducted in this way becomes relative, for it is not based on anything fixed and consistently repeated without time limits, nor does it use a generally accepted starting-point for measuring from. The month itself is a brief period, useless for long-term measurements⁴³. This is why developed urbanised societies adopted the lunisolar calendar, which combines reckoning in solar years from the movement of the sun, starting from solstices or equinoxes, with shorter terms of reckoning within this through the lunar months, subdivided further into weeks by the phases of the moon.

Responsive as they were to the developments of time-reckoning practices of Near-Eastern civilisations, the Minoans quite likely adopted or invented a similar calendrical system: the ›Divine Couple‹ ring offers a satisfying pictorialised version of it.

⁴⁰ Nilsson loc. cit. (n. 36) 329–346.

⁴¹ L. Platon, On the Dating and Character of the ›Zakros Pits Deposit‹, in: O. Krzyszkowska (ed.), *Cretan Offerings. Studies in Honour of Peter Warren*, BSA Studies 18 (London 2010) 241–257, esp. 252–255 figs. 24.14–24.16.

⁴² Nilsson loc. cit. (n. 36) 312. 355–362. Nilsson emphasises the cultural-anthropological dimensions of time reckoning. The invention of the solar calendar is at-

tributed to urban societies, as the observation of the sun's route from fixed points on the horizon requires permanent residence. Moving populations and nomads on the other hand mainly used the stellar calendar, as the stars and constellations rise and set in measurable time, following the same standard route in the sky, which is not dependent on the point of observation.

⁴³ Bickerman loc. cit. (n. 38) 19.

If the moon in the composition is conceived of as a symbol of the night sky, but also as representing a measurable span of time, namely that of the lunar month, then the sun depicted on the left of the three moons should be seen as the dominant symbol of the sky and light, as well as an image-ideogram of the solar year. Portrayed together on the ring, they indicate the existence of a Minoan lunisolar calendar, deducible here from hard evidence.

A solar year is defined by the real time that the sun takes on in its route across the celestial vault, from a specific starting point until the return to the same, a time that corresponds to a complete year of 365¼ days. The solar year is in practice conceived of as a ›transit‹ between these particular fixed points, which finds a distinct expression in the strongly semiotic, clearly prehellenic Homeric term for the year: the word *λυκάβας*⁴⁴, which literally means the ›passing of light‹, i.e. the sun, from one solstice to another. At the summer and winter solstice respectively, which divide the year into two halves, the sun stands still and then turns, as the word *τροπαί* mentioned by Homer and Hesiod⁴⁵ clearly denotes.

The first half of the year, beginning with the winter solstice, corresponds to the duration of the sun's ascending route towards the North until the summer solstice, while the second half corresponds to the descending route towards the South until the winter solstice, at which point an identical route to the North starts over again. The solstices, the only visible changes in the route of the sun, are easily noticeable by empirical observation of the sun's ascent and descent towards the North and South respectively, since at that time, namely at the highest and lowest points of rising or falling relative to the horizon, the sun seems to hold still for a few days, before commencing the reverse journey again; the Homeric word *τροπαί*, ›turns‹ of the sun⁴⁶, accurately describes this.

The cycle of the sun is of particular importance for the realisation and interpretation of the stages of fertility, as it is identical with the cycle of fruitfulness, conceptually equivalent in Homer's poetic speech to the cycle of human life itself from birth to death⁴⁷. Moreover, the passing of the sun from the equinoxes and the solstices divides the year into four quarters giving a precise calendrical dimension to the cycle of the four seasons, which in turn signify the stages of fertility: florescence (Spring), fruitfulness (Summer), sowing (Autumn) and rest (Winter)⁴⁸. For a religious system such as the Minoan one, where fertility-inducing worship was of primary importance, the cycle of the sun and the four seasons would have comprised an ideal cognitive framework for the Minoan religious calendar, whereas the respective liturgical *modus operandi* based on the lunar months and the phases of the moon would have aided the consolidation of a widely accepted calendar for the organisation of religious festivals on fixed dates.

From this perspective the scene on the ring seems to have been composed of two related parameters. First is the obvious one: the locale of the supreme event, the meeting of the two gods in a mountainous landscape. Then comes the time signification, the calendrical date in the form of a sort of pictographic inscription. It may be deciphered as follows: the event (the meeting on the – holy? – mountain) takes place on the day before the night of the full moon, that comes after one of the fixed dates determined by the course of the sun, namely the solstices or equinoxes. This is actually the only feasible way to establish standardised and easily apprehensible dates in the duration of a solar (tropical) year⁴⁹.

⁴⁴ Hom. Od. 19, 306; 14, 161 (composed of the roots **λυκ* and **βα*, which carry the meanings of ›light‹ and ›passage‹ respectively. See H. Ebeling, *Lexicon Homericum* (Leipzig 1885) 1000.

⁴⁵ Hom. Od. 15, 404; Hes. Op. 564, 663.

⁴⁶ C. Kahn, *On Early Greek Astronomy*, JHS 90, 1970, 111–114.

⁴⁷ Hom. Il. 6, 146–149.

⁴⁸ Bickerman loc. cit. (n. 38) 19.

⁴⁹ In the Greek calendar both solstices and equinoxes played a crucial part in time-reckoning processes. They were the starting points for establishing the New Year period to be further subdivided in lunar months. This is how the New Year began in the Attic

In the present case the problem in reading this code is that we do not have the means to determine when this time reckoning mechanism was activated, whether at a solstice or an equinox and which one. There is however some room for speculation on this issue, taking into account first the strong fertility aspect inherent in Minoan religion and second the corollary to the principal content, the periodicity of the ritual progressing from efflorescence to harvest. Accordingly, the most appropriate times for the enactment of the respective rituals of the epiphany cycle involving the meeting of the two gods in the wilderness and the flower-strewn meadows, are spring and summer. So the only possible dates from which to start counting time are the spring equinox and the summer solstice. In the first case, the feast day(s) would fall between the last days of March to the first of May; and in the second, they would range between the end of June and the beginning of August. The first option is close to how Pascha / Easter, the great spring festival of Orthodox Christianity, is conceived of and reckoned (i.e. on the Sunday of the week following the full moon after the spring equinox which is calculated according to the old, Julian calendar). On the other hand, the combination of epiphany ceremonies and the harvest season (between June and July) would directly and practically link the ritual of offering the first fruits and the cult in open-air sanctuaries and temples on mountain peaks, at the most appropriate period for cult practice when the warm weather is conducive to staying outdoors.

URANOGRAPHIES OF MINOAN RINGS

The representation of the sky on Minoan signet rings consists of the two main celestial bodies, the sun and the moon, and the conventionally rendered version of the starry night sky. A rayed star-like sun is attested on the ›Divine Couple‹ ring, on the rings now in Berlin⁵⁰ and the Benaki Museum⁵¹ and on the two Mycenaean rings from Mycenae and Tiryns (figs. 9, 11)⁵².

The crescent moon coexists with the sun on the ›Divine Couple‹ ring and the two Mycenaean rings mentioned above, while it is also attested as a full moon on the ›Divine Couple‹ ring and the Runner's Ring from Syme (fig. 14)⁵³. The heavenly body depicted on the latter is understood as a full moon, not a sun, because it lacks rays and is placed next to the Milky

lunisolar calendar, the best-known of all the calendars of the Greek cities, which started in the month following the summer solstice (H. W. Parke, *Festivals of the Athenians* [London 1977] 29–50), while a comparable pattern is proposed by Plato for his ideal state of the *Laws*, precisely because of the importance of being able to exactly fix the date through reckoning the summer solstice; *Plat. Leg.* 6, 767 c (edition and translation: Crane loc. cit. [n. 39], < <http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.01.0165%3Abook%3D6%3Apage%3D767> [15/09/2017]): ἐπειδὴν μέλλῃ νέος ἐνιαυτὸς μετὰ θερινὰς τροπὰς τῷ ἐπιόντι μηνὶ γίγνεσθαι (»the commencement of a new year of office – which commences with the month next after the summer solstice«).

⁵⁰ CMS XI no. 28.

⁵¹ CMS V no. 199.

⁵² CMS I no. 17; CMS I no. 179. Good photographs of both rings in N. Kaltsas, *To Εθνικό Αρχαιολογικό Μουσείο* (Athens 2007) 126.

⁵³ Lebessi – Muhly – Papasavvas loc. cit. (n. 24). In the publication of the ring it was assumed that the circular cavity over the head of the runner and beside the stellar symbol (interpreted as a shooting star) was in fact an accidental distortion of the surface (p. 4. 15 f. n. 63). However, the regular circular contour of the edge and the smooth surface in the interior of the circle, as shown by examination under the microscope, suggest that the cavity cannot have been created by a chance mistroke, but by the vertical pressure exercised by the circular point of the hammer-burin on the metallic surface (pls. 1. 7). Furthermore, in order to make the shallow cavity more distinct, perhaps even in order to realistically render the visible dark mottling on the face of the full moon, the engraver placed three dots in the cavity, using the edge of a thin hand-burin against its inner surface. These marks that are also visible under the microscope become clearer on the impression of the ring (pl. 1, 2), where the regular contour and the even depth of the metal sinking are also distinguishable.



fig. 14 The ›Runner's Ring‹ from Syme (detail): the full moon

Way symbol, as on the ›Divine Couple‹ ring. The parallel depiction of the two celestial symbols of the nocturnal sky in the same arrangement on both rings, moon on the left and Milky Way on the right, does indeed betray common iconographic models.

The symbol of the starry sky, interpreted as the Milky Way in the publication of the ›Sacred Conversation‹ ring, is attested more often than the sun or the moon. It has been depicted on six Minoan rings known to date: the ›Sacred Conversation‹ and the ›Divine Couple‹ rings from Poros, the rings from Isopata⁵⁴, from Sellopoulo Knossos⁵⁵, and from Kalyvia, Festos⁵⁶, and on the Runner's Ring from Syme⁵⁷. It is also present on the two rings of Minoan style and execution from Kalapodi⁵⁸ and Vapheio⁵⁹ outside Crete. As far as seals are concerned the only relevant example uncovered is that at Geneva⁶⁰.

Albeit varying in rendition owing to the individual hand of each engraver, the motif is nevertheless of the same oblong form in all cases, thicker at the centre and finer at the ends, rendered with thin incisions or dots. Its concurrence for the first time on the ›Divine Couple‹ ring with the sun and the moon suggests that it is a synoptic representation of a normal celestial phenomenon, as is the case with the two principal celestial bodies, rather than the incidental or unexpected appearance of a meteor or a comet. The Galaxy, impressive and constantly visible in the starry sky, comprises the only directly apprehensible reference, in the iconography of the rings, to the stars as part of the celestial cosmography. As expressed through the poetic language of Pindar⁶¹, this is the bright path by which the sky goddess Themis is transported from the depths of the Ocean to the top of mount Olympos to become consort of Zeus, a narrative that brings to mind the concept and image of the 'divine encounter' on the holy mountain as seen on the ring, in a cosmic space between the sea, the land and the sky. The essence of this myth, which seems to echo memories from the past, largely corresponds to the basic structure of Minoan cosmography, expressed in the setting of the ›sacred conversation‹ as derived from the representations of the rings, with the female deity uniting the three cosmic elements of sky, earth and sea by her revelatory presence⁶².

⁵⁴ CMS II 3 no. 151.

⁵⁵ M. Popham – E. A. Catling – H. W. Catling, Sellopoulo Tombs 3 and 4. Two Late Minoan Graves near Knossos, BSA 69, 1974, 217 f. fig. 14 D pl. 37 a. b.

⁵⁶ CMS II 3 no. 103.

⁵⁷ Lebessi – Muhly – Papasavvas loc. cit. (n. 24).

⁵⁸ CMS V Suppl. 3 no. 68.

⁵⁹ CMS I no. 219.

⁶⁰ CMS X no. 261.

⁶¹ Pind. fr. 30.

⁶² Dimopoulou – Rethemiotakis loc. cit. (n. 8) 15–24.

This iconographically simple picture of the Minoan uranography is rounded off with the wavy line below the celestial bodies on the ›Divine Couple‹ ring, the ring from Isopata and the Runner's Ring from Syme: this conventionally renders the horizon, the boundary between earth and sky. The wavy line under the celestial bodies and the starry sky on the rings from Mycenae and Tiryns should be interpreted in this way too.

With the exception of the Runner's Ring from Syme, the other rings mentioned above depict scenes of visualised or dramatised epiphany together with parallel events. These representations include hovering figures, deities or priestesses seated on the ground or on thrones practising cult, the primary ›divine encounter‹, and also tree-cult rituals accompanying the epiphany⁶³.

To elaborate further, the ›Sacred Conversation‹ ring depicts the divine couple with the goddess, appearing as a vision in the sky by the symbol of the Milky Way, while, also, she is shown seated at the moment of the encounter, but simultaneously still hovering between two birds in symmetrical arrangement. The ›Divine Couple‹ ring displays the divine couple, the birds and five celestial bodies within the most direct and symbolically clear iconographic context of the ›Sacred Conversation‹ and the world of the heavens. The ring from Kalyvia illustrates a female figure seated on the ground and receiving adoration below a schematically rendered galactic symbol. The Isopata ring shows the Milky Way in contextual assimilation with the hovering figure in the background of the group of dancers, thereby signifying the relevance of the event to the epiphany cycle. The second ring from Kalyvia⁶⁴ and the ring from Vapheio depict tree-cult scenes, which are interpreted by the ›Sacred Conversation‹ ring's iconography as notionally relevant to a visualised epiphany; a correlation further supported by the addition on the Kalyvia ring, as also on the Sellopoulo ring, of the flying bird, a symbol directly referring to the epiphany of the deity as deduced from the two Poros rings. In all these rings sky symbols, a wavy dotted line and the Milky Way, are represented. The ring from Kalapodi probably depicts a ceremonial event, perhaps a dramatised version of the divine epiphany, since besides the couple, two more figures are depicted following the male. The addition of a galactic symbol, again, is meant to declare the contextual correlation of the sacred ritual and the dramatised epiphany with the principal matter of the supersubstantial version of the conversation, as attested clearly and in conceptual completeness on the two Poros rings.

Similarly on the two Mycenaean rings from Mycenae and Tiryns bearing multi-figured representations of the adoration of a supreme female, there are symbols and symbolism of the sky directly pertaining to the input of Minoan theological thought. On both rings the sun and the moon coexist, so attributing calendrical signification to the ritual depicted, while the Milky Way, unrelated to the semantics of the calendar, is absent.

The uranography of the ring from Tiryns in particular is the most impressive so far attested, showing the two cardinal celestial bodies coursing through a sky fully speckled with stars and in a ›shower‹ of shooting stars (*fig. 9*). The composition of the ring is clearly Minoan in terms of its symbols and content, since the figures of the daemons, the platform bearing semi-rosettes and the ritual vessels, the jug and the chalice, find exact Minoan parallels⁶⁵. With the uranography of the ›Divine Couple‹ ring now to hand, complete and with

⁶³ Dimopoulou – Rethemiotakis loc. cit. (n. 4) *passim*.

⁶⁴ CMS II 3 no. 114.

⁶⁵ Typical for the type of the platform is the example of the fresco from Xeste 3 of Thera, where the goddess is depicted seated on one such (Doumas loc. cit. [n. 6] 158 pl. 122). The abutments of the wooden construction are biconcave in shape, a form created

by the outline of the spaces in-between semi-rosettes (A. Evans, *The Palace of Minos II 2. Town-Houses in Knossos of the New Era and Restored West Palace Section, with its State Approach* [London 1928] 607). For the ritual jugs and the chalices suffice it to mention the splendid vessels from the Zakros treasury (N. Platon, *Ζάκρος. Το νέον μινωικόν ανάκτορο*

clear conceptual connotations, we may better appreciate the cosmological meaning of this representation and securely record the existence of time-reckoning designations within the epiphany cycle and its associated fertility cult.

Aside from the celestial content, which leads logically to the Minoan cosmological and time-measuring reasoning, the manufacturer of the Tiryns ring considered it meaningful to add a symbol of the Minoan visualised epiphany of the deity, obviously so as to facilitate this logical consistency. This is the bird with the hooked beak and the long hanging tail, behind the throne of the seated figure. Both the morphological features and the backward turn of its head reflect similar details of the birds embracing the goddess on the two rings from Poros, especially on the ›Sacred Conversation‹ ring, where the birds exhibit this exact turn of the head. The bird motif, the iconographic and contextual linchpin between the two Poros rings, serves here as a link to the Minoan epiphany iconography, declaring by its presence that the female figure depicted is the very same goddess who came from the sky of the upper part of the representation to participate together with daemons in a fertility cult. This ring substantiates the fertilising properties of the epiphany par excellence, as well as the development of sophisticated ceremonial activities and accoutrements, providing us with a tangible picture of the use of similar implements uncovered in palatial temple repositories.

The analytical representations of the celestial phenomena as signifiers and significations of epiphany support the inclusion of the rings in Berlin and the Benaki Museum, which display the sun alone over the incidents of the divine encounters in this cycle. In a pars pro toto sense the solar symbol here functions as a synoptic indication of the celestial world and of the lunisolar calendar. The choice of the solar symbol is probably due to the primary importance of the sun in defining the fertility cycle that passes through the circular schema of the four seasons of the solar year.

The Runner's Ring from Syme, on the contrary, does not follow a solar-centric code in notionally designating the elements depicted, but an obviously luni-centric one, here attested on a Minoan ring for the first time. The difference lies in the representation itself, which too lacks parallels in Minoan-Mycenaean iconography: it depicts two celestial bodies, the full moon and the Milky Way symbol, without any hint of direct contextual linking with the epiphany or the ritual events accompanying it. It is thus clear in this case that the epiphany both as a concept and as an image is not implied. Rather, the scene on this ring is meant to allude to the wider conceptual context of the event, allusively declared through the use of symbols and by the iconographic associations that are frequently ascertained in the concise, vernacular idiom of the iconography of the rings. The epiphanic symbol of the Milky Way prompts initiates to comprehend this correlation.

The iconographic ›bridge‹ with the ring from Elateia, as cited in the publication⁶⁶, demonstrates the contextual framework of the representation of the runner on the Syme ring.

[Athens 1974] 117–139). Characteristic for the combination of architectural form and function, as deriving from its moveable finds, is the example of the ›Central Building‹ at Kastelli, Pediada with a spacious Minoan Hall, an axially placed stone base of a platform, with a receptacle linked with a conduit, which, with the possible addition of a cylindrical vessel, served to channel libation liquids out of the hall into the ground. To this conclusion also lead the numerous ritual vessels, clay jugs, chalices and other vases from the interior of the hall, evidencing a lavish ceremony corresponding to that represented on the ring from Tiryns (G. Rethemiotakis, Το μινωικό ›κεντρικό κτήριο‹ στο Καστέλλι Πεδιάδας, *ADelt* A 47/48,

1992/1993, esp. 34 fig. 4, space 5; 41–61). For a similar case in the palatial building at Chania with elevated constructions combined with channels for draining liquids and a rich assemblage of cups, chalices and cylindrical vessels, see M. Andreadaki-Vlasaki, Cultes et divinités dans la ville minoenne de la Canée, in: I. Bradfer-Burdet – B. Detournay – R. Laffineur (eds.), *Κρής Τεχνίτης – L'artisan Crétois. Recueil d'articles en l'honneur de Jean-Claude Poursat*, *Aegaeum* 26 (Liège 2005) 20 f. For the Cretan fertility daemons depicted on the ring from Tiryns, see N. Marinatos, *Minoan Religion* (Columbia 1993) 196 f.

⁶⁶ Lebessi – Muhly – Papasavvas (n. 24) 19–21.

The presence on both rings of the priest in a leather gown and with a snake frame, of the female figure making the same gesture and of the young man in a loincloth signifies that the representations of both rings are complementary: sections perhaps of an extended iconographic programme with, as reference points, the epiphany of a male god in the case of the Elateia ring and a foot race on the ring from Syme. The figure of the athlete-runner dominating the centre of the composition on the Syme ring apparently refers to participation in a foot race, a sport possibly practised during festivals at the sanctuary of Syme. The overall religious meaning of the representation is stressed by the invocatory conversation gesture of the female figure (interpreted on the grounds of the Elateia ring as a gesture of a dialogue with the epiphanised male god, supported also by the ›Sacred Conversation‹ scenes of the two rings from Poros) and, above all, the figure of the priest holding a sceptre, the symbol of high office.

The iconographic association of the full moon with the Milky Way recalls the ›conjunction‹ of celestial bodies on the right side of the sky on the ›Divine Couple‹ ring, introducing here, together with the symbol of the starry sky with its generic cosmological and theological semantics, a more specific parameter for the time-space identification of the athletic and ritual event depicted on the ring. Here is a coordination with actual calendrical time, that of the religious lunar calendar in particular, with the full moon possibly indicating a specific date for the organisation of the event. The realistic designation of time is consistent with the interpretation proposed in the publication of the ring, namely that the latter was indeed a votive offering by the actual winner of a race,⁶⁷ who wished thereby to perpetuate not only his status as winner, but also the chronological marking of the event.

FROM SKY REPRESENTATIONS TO MYTHS AND THE REASON FOR TIME DESIGNATION

The use of the full moon to serve as an agent for reckoning time in real life to organise important, periodically repeatable athletic events is reflected in the mythical background of the most important athletic and religious festival in ancient Greece, the Olympic Games. Pindar, who hymns the winners, narrates in his third Olympian Ode⁶⁸ the bringing of the olive tree from the land of the Hyperboreans to plant the sacred grove. The legendary hero Hercules determines that the opening sacrifice should take place on the altar of Zeus on the night of the full moon. It is clear that the full moon in the myth marks the actual opening of the Olympic Games, which were held every four years and indeed began on the full moon of the eighth or ninth month after the winter solstice of the year prior to the Games⁶⁹.

It is of interest to refer here to an ›old‹ mythical tradition, cited by Pausanias, that speaks of a Cretan origin for the Olympic Games. Referring to his sources as ›Elean antiquaries‹, he mentions Idaean Hercules, one of the Idaean Daktyls, who ›as the eldest, set his brethren to run a race and crowned the victor with a branch of wild olive‹. Furthermore he claims that ›the Idaean Hercules is therefore reputed to have been the first to arrange the games and given them the name Olympic. He made the rule that they should be celebrated every four years because he and his brothers were five in number‹⁷⁰. This version of the myth, promoted by the Eleans, the organisers of the Olympic Games, assigns the roots of the games to Crete, specifically through the ›ethnic‹ origin of its reputed organisers, mythic figures

⁶⁷ Lebessi – Muhly – Papasavvas (n. 24) esp. 28 f.

⁶⁸ Pind. O. 3, 33–35.

⁶⁹ G. Thomson, *The Greek Calendar*, JHS 63, 1943, 60.

⁷⁰ Paus. 5, 7, 9 (translation: J. C. Frazer, *Pausanias, Description of Greece* [Cambridge 1898] 246).

directly related to the most sacred place in Crete, the Idaean cave, and also through the first Olympic sport, indisputably of Minoan origin, the foot race, enacted within a four-year-term setting.

The Olympic quadrennium is half of an eight-year period: according to G. Thomson⁷¹, it corresponds, as a subdivision, to an obviously pre-existing model based on an eight-year span of time. The model of the eight-year term (ᾠOctaeteris) is in fact the most ancient recorded method of regulating time and bringing into line the lunar and solar calendars, which is necessary because the lunar year is completed in 12 months, about 354 days, thus falling approximately 11 days short of the solar year, which is completed in 365¼ days. Over eight years, the accumulative differences between the two calendars amounts to $11 \times 8 = 88$ days, approximately three lunar months. These intercalated months were periodically inserted, one every three years and one more at the eighth year totalling 99 months ($12 \times 8 = 96$ plus three intercalated). Thereby the process of aligning the two calendars was concluded and measuring started over again⁷². This alignment was essential so that the religious festivals, that were dependent mainly on the religious lunar calendar, would not diverge from the real dates and so that a real temporal alignment would therefore be retained with the fertility cycle, as defined by the four seasons of the solar year. The application of the eight-year-term model for reckoning the Olympiads is indirectly deduced from the known fact that the Olympic Games were organised every 50 and 49 months, therefore with an intermediate period of 99 months over three Olympiads, which entails the adoption of the eight-year term of the lunisolar calendar.

It is worth mentioning at this point that M. Nilsson⁷³ observes a difference in the insertion of intercalated months between the Olympic eight-year term and the eight-year-term calendar, the latter incorporating an insertion every three and two years ($3 + 3 + 2 = 8$), thereby comprising a first quadrennium of 49 months and a second of 50, rather than vice versa, as is the case with the eight-year term of the Olympic Games. This, according to the eminent scholar, marks a difference between the eight-year-term period and the eight-year-term calendar.

It is our belief that the eight-year-term period must have provided the foundation for the eight-year-term calendar. The estimation of the eight-year term was obviously based on astronomical observations, namely on the realisation that sun, moon and stars enter the same relation every eight years, signifying the completion of a specific temporal period as well as the periodicity of time regulation, which forms the beginning and the basis of reckoning in all calendars⁷⁴. The different mode of inserting intercalated months in the eight-year-term period may indicate the existence of another eight-year-term scheme, more ancient than the known Greek scheme, one that appears to have been used for the regulation of the Olympiads.

Given the above thoughts, the implied existence of a scheme of periodical time recycling on an eight-year term, which predates the first Olympiad and apparently results from empirical observations, made over a long period, of the movement of the celestial bodies, prompts us to seek its initial formulation in the second millennium B.C.

The Homeric tradition, which indirectly links the eight-year-term scheme of time recycling with the Minoan past, may be of help here.

⁷¹ Thomson loc. cit. (n. 69) 60 f.

⁷² The system of the eight-year term is described by Geminus, *Εισαγωγή εις τα Φαινόμενα* (= *Elementa astronomiae*) 8, 69; see also Samuel loc. cit. (n. 38) 11 f.; Bickerman loc. cit. (n. 38) 29; Nilsson loc. cit. (n. 36) 355–362.

⁷³ Nilsson loc. cit. (n. 36) 364 f.

⁷⁴ Thomson loc. cit. (n. 69) 64. He interprets the conclusion of the eight-year cycle as »a symbol of universal renewal and regeneration, a world cycle of birth, death and resurrection«.

The Cretan origin and the institutional establishment of this particular time-measuring model are reflected in the well-known and meaningful Homeric rhyme Μίνως ἐννέωρος βασίλευε Διὸς μεγάλου ὀαριστῆς (»Minos, who conversed with great Zeus, ruled as a king on a nine-year term.«)⁷⁵ which names as ex officio lawgivers and guarantors the authorities of the highest secular and religious powers, the legendary king Minos and his father Zeus. According to Plato and Strabo, who quotes Ephorus⁷⁶, the encounter took place at the Idaion Antron, on the highest mountain of Crete, every ninth year. I have also referred above to the myth indicating the Idaean Cave as the place of origin of the Idaean Hercules, the organiser of the Olympic games in a four-year-term period which is half of the eight-year term.

The eight-year period between encounters is a full eight-year-term cycle⁷⁷, occasionally also referred to as a ›nine-year term‹⁷⁸ (›Ennaeteris‹) as well, since its new start coincides each time with the beginning of the ninth year. Taking account of the semantics of numbers and the inherent sanctity of the number ›nine‹⁷⁹, I wonder whether the nine rays of the sun, as illustrated on the ring, is not a random number but actually encompasses the very essence of the word ›enneoros‹ i.e. the pattern of the octennial cycle, with each beam corresponding to one solar year of the cycle and the ninth signalling the beginning of a new eight-year period.

In commenting on the Homeric phrase, Plato and Strabo conclude that the visit was institutional in character, since Minos would leave the encounter having been given the laws with which he would reign according to the orders of the great god, supreme and ultimate guarantor of the legitimate governance of his territory. Perhaps, then, the symbolic, but spatially and temporally defined encounter between political and religious authority is the mythic version of the institutional governance of the Minoan polity that once existed; and the ›king-priest‹, the actual voice of the state, was a person who according to Evans had the properties of a ›Cretan Moses‹⁸⁰, namely the gift of communicating⁸¹ directly with god.

In his Homeric version therefore, Minos is presented as a guarantor by divine order of the eight-year-term cycle, namely of a Minoan system of aligning the lunar and the solar calendars. The causal relation between god and time, visible in the Homeric tradition, now finds genuine Minoan support, namely the representation of the ›Divine Couple‹ ring, where the iconographic correlation of the moon, the sun and the divine couple justify the cognitive framework of the Minoan lunisolar calendar and its guaranteeing ›seal‹ which takes the form of the meeting of the two gods. Thus is provided a concrete base, an official

⁷⁵ Hom. Od. 19, 178. 179 (edition: Crane loc. cit. [n. 39], <<http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.01.0135%3Abook%3D19%3Acard%3D178>> [15/09/2017]; translation: G. R.).

⁷⁶ Plat. Leg. 1, 624. 625; Plat. Min. 319; Strab. 10, 4, 8.

⁷⁷ The calendrical designation of the eight-year-term cycle, the pre-Hellenic origin and the semiotic correlation with the institution of kingship (King Minos and the kings of Sparta) have been underlined by Thomson loc. cit. (n. 69) 63–65. On the same issue, see Boulotis loc. cit. (n. 37) 14; G. Henriksson – M. Blomberg, Minos Enneoros. Archaeoastronomical Light on the Priestly Role of the King in Crete, in: P. Hellström – B. Alroth (eds.), Religion and Power in the Ancient Greek World, Boreas 24, 1996, 27–39.

⁷⁸ Comments on the meaning of the word ἐννέωρος in relation to time-reckoning in G. Russo – M. Fernández-Galiano – A. Heubeck, A Commentary on Homer's Odyssey III (Oxford 1992) 85.

⁷⁹ Thomson loc. cit. (n. 69) 64.

⁸⁰ A. Evans, The Palace of Knossos. Provisional Report of the Excavations for the Year 1903, BSA 9, 1902/1903, 38. Moses' meeting and the conversation with God takes place on Mount Sinai. Moses climbs up to meet the epiphanised God and receive the stone tablets of the Law. The meeting and the conversation described in the biblical text (Exodus 19, 16–18; 24, 15–18) give a vivid sense of the stunning experience of man's contact with God. The influence of the biblical prototype in shaping the relevant picture of Minos' visit to Zeus was claimed by S. P. Morris, Daidalos and the Origins of Greek Art (Princeton 1992) 178–180.

⁸¹ This is exactly the meaning of the word ὀαριστῆς according to Plat. Min. 319 e (edition: Crane loc. cit. [n. 39], <<http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.01.0179%3Atext%3DMinos%3Asection%3D319e>> [15/09/2017]): οἱ γὰρ ὅαροι λόγοι εἰσὶν, καὶ ὀαριστῆς συνουσιαστῆς ἐστὶν ἐν λόγοις.

›state‹ endorsement, for the synchronisation and coordination of all activities, religious or political, based on celestial ›phenomena‹: those which had the virtue of being visible with minor variation in the same parts of the sky, day and night, across the length and breadth of the distances covered by Minoan ships, where trading posts were located or even where the Minoan political and religious regime had been accepted or imposed.

Perhaps the expansion of trade routes towards the east Mediterranean brought the Minoans into contact with the Sumerians, who had already developed a time reckoning system based on the lunisolar calendar and even used intercalated months. Its existence is documented in the record of Hammurabi that orders the counting of one particular month twice, so as to gather all funds into the state coffers and thus be able to organise a large festival⁸². This is nothing but a direct intervention by the central authority to provide an ad hoc solution to the observed deviation of the lunisolar calendar, in order to ensure that the date of the festival corresponds to the real time of the solar year.

The Minoans may have improved on the above system due to the need to establish direct communication between the centre and the trading posts in the Aegean and the Levant, once the trade routes were expanded. This, alone, would be a good reason to invent and apply a usable, commonly accepted, time measuring system, as was also the case with other systems of measurement. The Homeric verse seems to echo the essential functional element of this model, i.e. the time-span measured on the basis of the eight-year term and its official / state character which is sealed by the title and power of King Minos, the ultimate guarantor and unrestricted official assignor, like his coequal Hammurabi, of the establishment of a calendar regulating politics, the economy and the organisation of great religious festivals throughout the Minoan domain at predefined, standardised dates.

As said, this method of time regulation has probably been embodied in the iconography of the ring in the form of the nine-rayed sun, presumably a symbolic reference to the octennial cycle, and the following lunation, with the two gods, acting for ›enneoros Minos‹, being here the supreme guarantors.

To further hypothesise along these lines, possession of this specific knowledge would be a mark of cultural, religious or even ›ethnic‹ identity, for anybody who was or claimed to be Minoan. If ›we‹ know that the convention of the great gods takes place on the day before or after the full moon of the month following the summer solstice or the vernal equinox, ›we‹ have a compelling reason, irrespective of ›our‹ whereabouts, to celebrate the event on the same date, a fact that automatically sets ›us‹ apart from the others. This is exactly the way the great festivals, such as Ramadan and Easter, operate in modern religions; in reality they are nothing but effective mechanisms for building up a common religious profile, not to say a deep-rooted political attitude against non-believers.

TIME, SKY AND GODS. THE MEANINGS OF ›PHENOMENA‹ ON THE ›DIVINE COUPLE‹ RING

In his important essay on ancient astronomy *Εισαγωγή εις τα Φαινόμενα* (›An Introduction to the Phenomena‹), Geminus records the basic preconditions for keeping a religious calendar⁸³. In order for the Greeks, he claims, to keep and maintain the traditional customs so that the sacrifices in honour of the gods are always enacted on standard dates, time must be reckoned on the grounds of the movement of the sun and the moon.

⁸² Nilsson loc. cit. (n. 36) 262–264; Bickerman loc. cit. (n. 38) 22 f.

⁸³ Geminus, *Εισαγωγή εις τα Φαινόμενα* (= *Elementa astronomiae*) 8, 6–10.

The ›Divine Couple‹ ring from Poros, emerging from the depths of the Minoan palatial period, verifies that the ›Phenomena‹ (all those that are visible in the sky) are essentially those archetypally employed in regulating time and also that the gods themselves by their miraculous appearance and effect modulate the movements of the celestial bodies, by which both infinite and measurable time are ›produced‹.

The two deities are presented here in the biblical-supersubstantial dimension of the regulators of unearthly space-time, of the birth of light from darkness achieved by the simultaneous appearance of the sun and the moon, the stars of day and night, which reckon and regulate the time of human existence. The cosmogenetic notion reflected in the expressive composition of the ring seems to satisfy the weighty theological view of Plato: »time was created together with the sky, while the celestial chaos is kept in order by the word of God that defines the movements of the sun, the moon and the five stars«⁸⁴.

Both in the Homeric version involving ›Minos enneoros‹ and in the ›Divine Couple‹ ring, time is consecrated and normed by an encounter, undetectable by the human senses and intellect, of a biblical character, and a ›Sacred Conversation‹ on the Holy Mountain – of Minos with Zeus in the first Homeric instance, and of the Minoan divine couple in the second.

Condensing and uniting in one picture the supreme theological moment of the encounter of the two great gods of the Minoan pantheon with the significations and designations of the celestial phenomena, the composition of the ring, heavy with its notions, provides us with the Minoan theological perception of the world's Genesis and simultaneously offers the documentary basis for attributing the underpinning of the lunisolar calendar to the cosmology of Minoan epiphany.

The age-old roots of the religious lunisolar calendar, which left a faint impression on the Homeric cognomen of the legendary king-legislator and divine converser, ›Minos enneoros‹, are now greatly illuminated by the sun and the moons on the ›Divine Couple‹ ring from the Knossian ›harbour-town‹.

APPENDIX: WAS THERE A MINOAN ASTRAL CALENDAR?

Though absent from the iconography of the rings, there is yet a clue that the Minoans were also aware of the properties of stars and constellations as time designators. This knowledge is likely to have been expressed in the enigmatic representation on a stone mould from Palaikastro (*fig. 15 a–c*), which has never been given a convincing interpretation so far⁸⁵. It depicts in a circle a crescent moon and a large cross-like star, perhaps the morning or the evening star, actually the planet Venus⁸⁶, the brightest in the night sky, surrounded by two circles of stars, a conventional rendition of the starry sky. A peculiar shape on the upper side of the circle resembling an inverted double axe, with its two Δ-shaped blades being here formed by six circular depressions plus an additional one in the middle, all linked with the casting channels (*fig. 16 a. b*), might schematically represent the constellation of Orion, the seven brightest stars of which, equal in number with the seven depressions in the mould,

⁸⁴ Plat. Tim. 38 b. c. By ›stars‹ Plato means the five planets visible to the naked eye: Mercury, Venus, Mars, Jupiter and Saturn.

⁸⁵ S. Xanthoudides, Μήτραι αρχαίαι εκ Σητείας

Κρήτης, AEphem 1900, 26–50 pl. 3 a; M. Nilsson, Minoan-Mycenaean Religion and its Survival in Greek Religion (Lund 1950) 420.

⁸⁶ Evans loc. cit. (n. 15) 514 f.

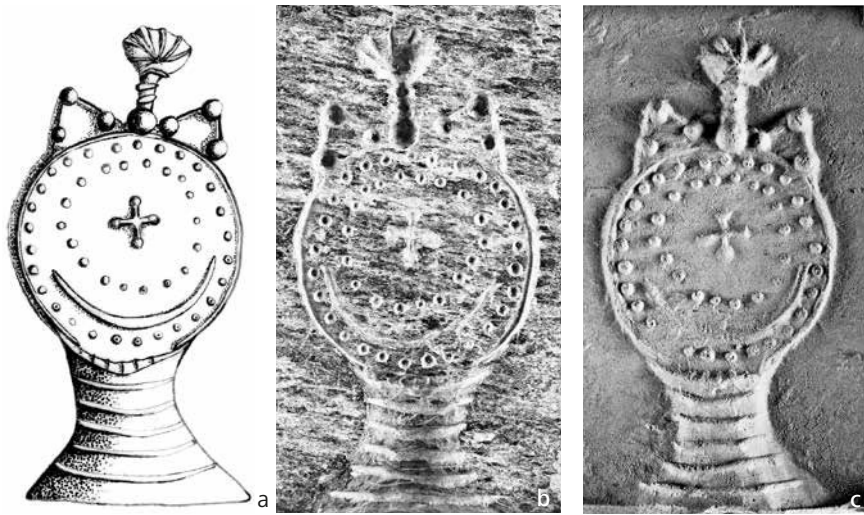


fig. 15 The first mould from Palaikastro (side A). Representation of the night sky with the moon and stars:

a. Drawing. –
b. Photograph. –
c. Impression

produce a clearly visible shape in the sky that resembles a double axe⁸⁷. If indeed this shape, as rendered in the lunistellar uranography of the mould, comprises a schematic version of the brightest and most distinguishable constellation of the sky, namely Orion, it would offer sound evidence for the existence of a Minoan stellar calendar directly linked with the fertility cycle. This association is documented in the Hesiod's ›Works and Days‹⁸⁸, where the rising of ›mighty‹ Orion marks the peak of the harvest season (threshing and winnowing), while its setting marks the period of ploughing and sowing.

In my view, this is precisely the meaning of the image on the mould. ›Orion‹ rests on the upper side of the circle surrounding the celestial bodies of the night sky, apparently the border of the firmament and line of the horizon above which, at the border of the night, just before sunrise, the constellation appears. In all likelihood, this is a graphic depiction of the heliacal rising of Orion⁸⁹ which, according to Hesiod, constitutes a heavenly message for starting harvest work.

The age-old oral tradition recorded by Hesiod finds a significant iconographic documentation in the representation of the procession of harvesters on the famous Harvesters' Vase, bearing agricultural instruments appropriate for reaping and winnowing and guided by a figure in a heavy mantle holding a staff, apparently indicating his official or priestly status. The very shape and function of the vase as a rhyton further emphasises the religious character of the scene, probably a major ceremonial event directly related to harvest.

⁸⁷ The shape is produced by the linear connection of the four brightest stars of the constellation, Betatrix, Betelgeuse, Rigel and Saiph and the three of Orion's ›belt‹. For the possibility that Orion is depicted as a double axe, see H. Schavenoch, *Die Krone der Ariadne*, AW 14, 1983, 42 fig. 7; P. Blomberg, *An Attempt to Reconstruct the Minoan Star Map*, in: T. M. Potyomkina – V. N. Obridko (eds.), *Astronomy in Ancient Societies* (Moscow 2002) 97 fig. 2.

⁸⁸ Hes. *Erga* 597–599. 615–617.

⁸⁹ According to M. L. West, *Hesiod, Works and Days* (Oxford 1978) 381 and Bickerman loc. cit. (n. 38) 144 the heliacal rising of Orion would occur on June 20 around 800 B.C. and June 29 in 500 B.C. This fluctuation occurs according to the pattern of star-rising changes over time, owing to the astronomical phenomenon of the precession of equinoxes. Hence P. Blomberg, *On the Origins of the Modern Star Map*, *Mediterranean Archaeology and Archaeometry* 6, 2006, 195 criticising A. MacGillivray's interpretation of the Palaikastro Kouros as a personification of Orion, concludes that in the first half of the 2nd millennium B.C., when the Minoan religious conscience was taking form, the heliacal rising of Orion would occur almost one month before the summer solstice, which in turns means that it actually heralded the harvest season from its very beginning.

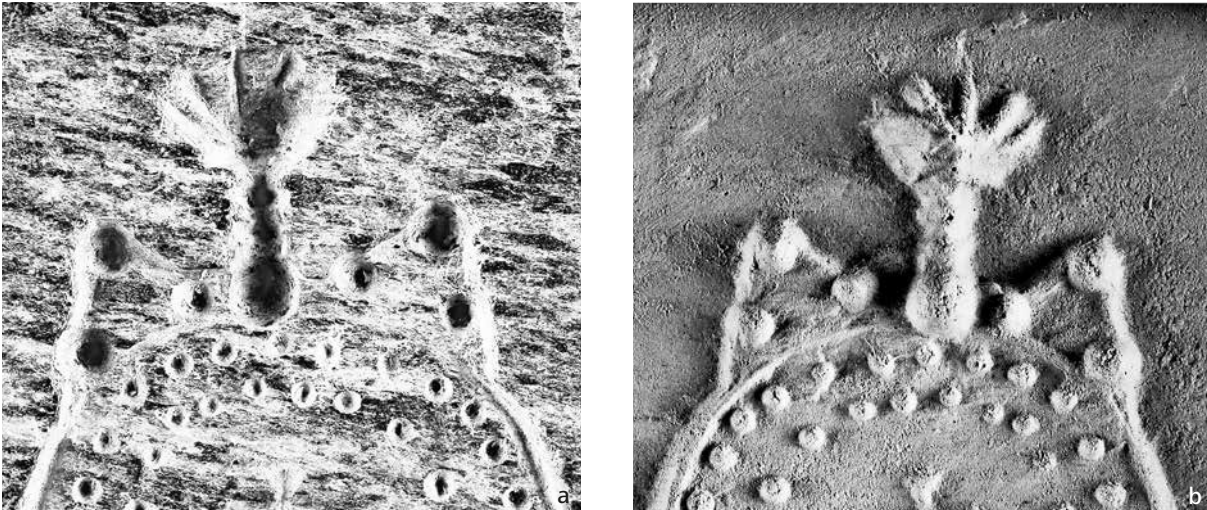


fig. 16 The first mould from Palaikastro (side A). The double deltoid shape, probably the constellation Orion:
a. Photograph. – b. Impression

The interpretation of the enigmatic depiction on the mould as pertinent to the vegetation cycle is arguably heightened by the consideration of the central most protuberant feature between the two triangles. Its upper end, in the form of a plume, clearly shows that it is a vegetal stem of a plant or a tree with stalks or branches, two on each side of a central one. The left part has flaked off resulting in the deformation of the original surface and blurring the design. This element adds substantially to the clarification of the meaning, as it graphically imparts the message of germination and the prospect for fruitfulness. The fertility aspect seems to have been revealingly envisioned on the same mould with the addition, alongside the lunistellar uranography, of the figure of a fertility goddess (*fig. 17 a*) bearing the symbols of her identity, flowers in her hands and a plant sprouting from her head⁹⁰, which though simpler in form is similar in shape to that of the previous ›figure‹ (*figs. 15 a–c; 16 a, b*).

The uranography, placed in the lower half of the pictorial composition, suggests that the shape created by the symmetrical triangles is actually a celestial body and the principal element in this composite image, while what is included in the interior of the circle, actually a concise ›map‹ of the nocturnal sky, puts it in context so as to make it more readily understood. For the same reason, to underline its significance, the upper part is more deeply cut, so as to direct attention to the most prominent part of the ›figure‹.

Two strands of evidence seem to be working here towards the interpretation of the double axe as a figurative reference to the shape of Orion. On one side of the second mould from Palaikastro, another goddess is shown holding double axes in both hands, while two more highly ornate examples of the same religious symbol are engraved on the other side (*figs. 17 b; 18*). The fertility aspect is also present in this case: from the middle and waisted section of the two axes sprout four blob-like outgrowths, more apparent in the larger specimen, in symmetrical pairs close to the vertical axis of the shaft. In all likelihood they represent flowers similar in shape to those held up high by the goddess on the first mould (*fig. 17 a*).

⁹⁰ For a recent discussion on this issue with updated bibliography see: E. Papadopoulou, *Gifts to the Goddess. A Gold Ring from Mylopotamos, Rethymnon*, AM 126, 2011, 12.

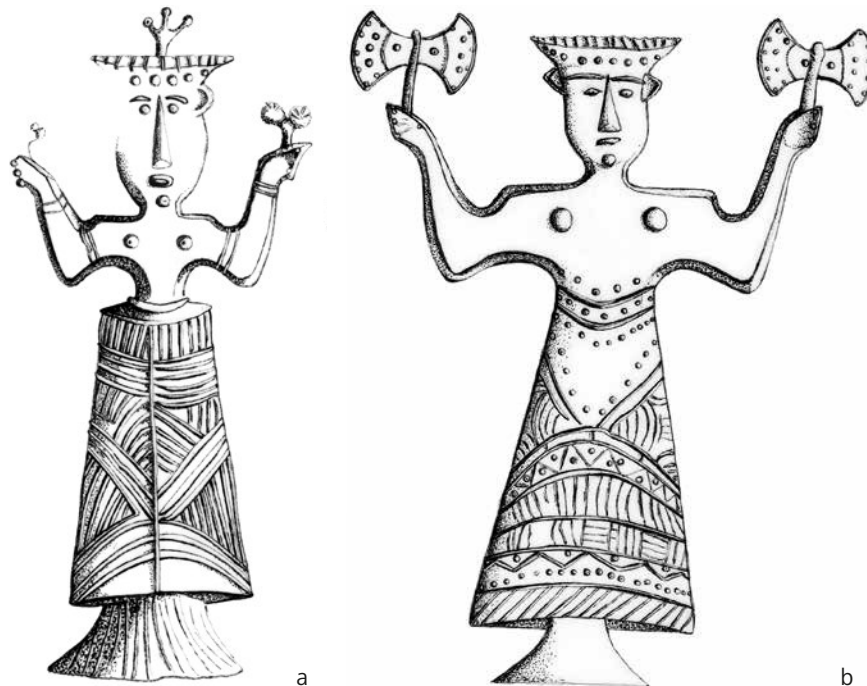


fig. 17 Moulds from Palai-kastro (side A). Drawings of representations of divine female figures:

- a. On the first mould. –
b. On the second mould

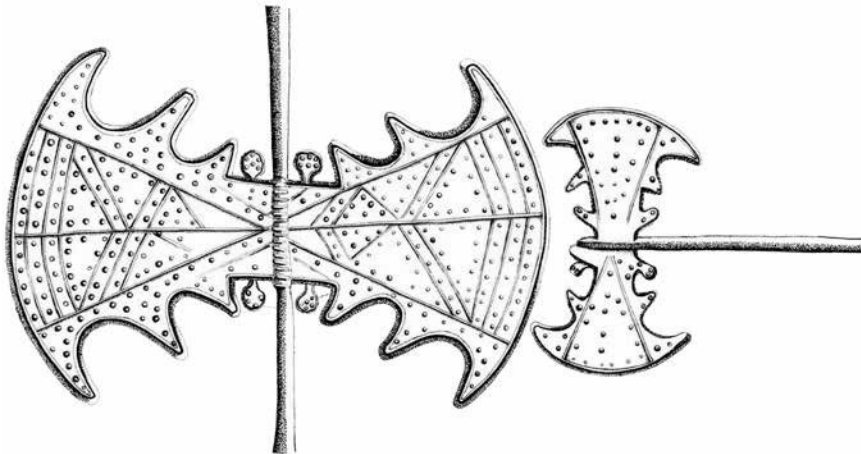


fig. 18 Second mould from Palaikastro (side B). Drawing of representations of double axes

To sum up, it is possible that, in the eyes of the Minoans, the stars composing our Orion represented a kind of ›starification‹ (›καταστερισμός‹) of their most emblematic religious symbol, the double axe. It is even more possible, however, that the very shape of this most significant religious emblem constitutes an iconographic adaptation of the double deltoid form of Orion, an eternal prominent figure in the nocturnal firmament. In any case the frequent iconographic combination of the double axe with vegetal elements, paired with the similar blending of the shape of Orion and the plant / tree motif in the composite image on the Palaikastro mould, adds yet further to the proposed pictorial and conceptual association of the constellation and the sacred symbol⁹¹.

⁹¹ N. Marinatos interprets the double axe as a version of the solar disc and points out its frequent combination with vegetal and floral elements (Marinatos loc. cit. [n. 31] 120–122. 129). A structural analysis of the symbol in the light of its possible relation to the

shape and symbolism of Orion may consequently open the way to new thoughts. The use of the double axe as a sacrificial instrument in the ritual of the bull and ibex sacrifice is beyond doubt (Nilsson loc. cit. [n. 85] 227–235. See also comments in G. Rethem-

Over the course of time this impressive celestial configuration would have deeply permeated the communal conscience of agrarian populations, as a momentous and customary sign in the fertility cycle: it was therefore considered a divine message, a symbol or even the embodiment of the deity itself.

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miotakis – P. M. Warren, Knossos: a Middle Minoan III Building in Bougadha Metochi, *BSA Studies* 23 [London 2014] 42–45) emerging from iconographic evidence in cases where the axe is added over or onto the bull's head and beside the ibex head. However the enrichment of the composition by the addition of floral motifs to the double axe (Nilsson loc. cit. [n. 85] 202–208) is certainly something different and obviously has other conceptual associations. I think therefore that it is reasonable and justifiable to consider it the result of amalgamation of two distinct thematic entities. The double axe, emblem and instrument of ritual killing in the form of the heavy, utilitarian two-edged axe, may finally assume the value of a symbol of vegetation and regeneration of Nature by way of

its formal resemblance to the cosmic shape of Orion, the perpetual symbol of fruitfulness and abundance.

Sources of illustrations: *figs. 1. 3–7*: photographs I. Iliades. – *figs. 2. 8*: drawings K. Astrinaki. – *fig. 9*: CMS I no. 179. – *fig. 10*: CMS VI 2 no. 280. – *fig. 11*: CMS I no. 17. – *fig. 12*: J. Boardman, *The Cretan Collection* in Oxford. *The Dictaeon Cave and Iron Age Crete* (Oxford 1961) 47 fig. 21. – *fig. 13*: N. Platon, *On the Dating and Character of the ›Zakros Pits Deposit‹*, in: O. Krzyszkowska (ed.), *Cretan Offerings. Studies in Honour of Peter Warren*, *BSA Studies* 18 (London 2010) 253 fig. 24.14–16. – *figs. 14. 15 b. c*; 16: photographs Y. Papadakis. – *figs. 15 a*; 17. 18: drawings M. Chatzaki.