THE AMERICAN JOURNAL OF ARCHAEOLOGY, the journal of the Archaeological Institute of America, was founded in 1885; the second series was begun in 1897. Indices have been published for volumes 1–11 (1885–1896), for the second series, volumes 1–10 (1897–1906) and volumes 11–70 (1907–1966). The journal is indexed in the Humanities Index, the ABS International Guide to Classical Studies, Current Contents, the Book Review Index, the Avery Index to Architectural Periodicals, Anthropological Literature: An Index to Periodical Articles and Essays, and the Art Index.

MANUSCRIPTS and all communications for the editors should be addressed to Professor Naomi J. Norman, Editor-in-Chief, AJA, Department of Classics, Park Hall, University of Georgia, Athens, Georgia 30602-6203, fax 706-542-8503, email nnorman@aia.bu.edu. The American Journal of Archaeology is devoted to the art and archaeology of ancient Europe and the Mediterranean world, including the Near East and Egypt, from prehistoric to late antique times. The attention of contributors is directed to “Editorial Policy, Instructions for Contributors, and Abbreviations,” AJA 104 (2000) 3–24. Guidelines for AJA authors can also be found on the World Wide Web at www.ajaonline.org. Contributors are requested to include abstracts summarizing the main points and principal conclusions of their articles. Manuscripts, including photocopies of illustrations, should be submitted in triplicate; original photographs, drawings, and plans should not be sent unless requested by the editors. In order to facilitate the peer-review process, all submissions should be prepared in such a way as to maintain anonymity of the author. As the official journal of the Archaeological Institute of America, AJA will not serve for the announcement or initial scholarly presentation of any object in a private or public collection acquired after 30 December 1973, unless its existence was documented before that date or it was legally exported from the country of origin. An exception may be made if, in the view of the Editor-in-Chief, the aim of the publication is to emphasize the loss of archaeological context. Reviews of exhibitions, catalogues, or publications that do not follow these guidelines should state that the exhibition or publication in question includes material without known archaeological findspot.

BOOKS FOR REVIEW should be sent to Professor John G. Younger, Editor, AJA Book Reviews, Classics Department, Wescoe Hall, 1445 Jayhawk Boulevard, University of Kansas, Lawrence, Kansas 66045-2139, tel. 785-864-3153, fax 785-864-5566, email jyounger@kans.edu. The following are excluded from review and should not be sent: offprints; reeditions, except those with great and significant changes; journal volumes, except the first in a new series; monographs of very small size and scope; and books dealing with the archaeology of the New World.

THE AMERICAN JOURNAL OF ARCHAEOLOGY (ISSN 0002-9114) is published four times a year in January, April, July, and October by the Archaeological Institute of America, located at Boston University, 656 Beacon Street, Boston, Massachusetts 02215-2006, tel. 617-353-9361, fax 617-353-6550, email aia@aiabu.edu. Subscriptions to the American Journal of Archaeology may be addressed to the Institute headquarters in Boston. An annual subscription is $75 (international, $95); the institutional rate is $290 (international, $290). Membership in the AIA, including a subscription to AJA, is $125 per year (C$192). Student membership is $73 (C$118.50); proof of full-time status required. International subscriptions and memberships must be paid in U.S. dollars, by a check drawn on a bank in the U.S. or by money order. Subscriptions due 30 days prior to issue date. No replacement for nonreceipt of any issue of AJA will be honored after 90 days (180 days for international subscriptions) from the date of issuance of the fascicle in question. When corresponding about memberships or subscriptions, always give your account number, as shown on the mailing label or invoice. A microfilm edition of the Journal, beginning with volume 53 (1949), is issued after the completion of each volume of the printed edition. Subscriptions to the microfilm edition, which are available only to subscribers to the printed edition of the Journal, should be sent to ProQuest Information and Learning (formerly Bell & Howell Information and Learning), 300 North Zeeb Road, Ann Arbor, Michigan 48106. Back numbers of AJA and the Index 1907–1966 may be ordered from the Archaeological Institute of America in Boston. Exchanged periodicals and correspondence relating to exchanges should be directed to the Archaeological Institute of America in Boston. Periodicals postage paid at Boston, Massachusetts, and additional mailing offices. Postmaster: send address changes to the American Journal of Archaeology, Archaeological Institute of America, located at Boston University, 656 Beacon Street, Boston, Massachusetts 02215-2006.

The opinions expressed in the articles and book reviews published in the American Journal of Archaeology are those of the authors and not of the editors or of the Archaeological Institute of America.

Copyright © 2005 by the Archaeological Institute of America

The American Journal of Archaeology is composed in ITC New Baskerville at the offices of the Archaeological Institute of America, located at Boston University.

The paper in this journal is acid-free and meets the guidelines for permanence and durability of the Committee on Production Guidelines for Book Longevity of the Council on Library Resources.
Unidentified Floating Objects on Minoan Seals

E. KYRIAKIDIS

Abstract
Extremely detailed Minoan gold signet rings are ornamented with exquisite depictions in which the artist leaves nothing to chance. A group of small motifs that appear above the iconography have not yet been satisfactorily explained. The aim of this paper is to define them as a group, describe their traits and peculiarities, and suggest a possible interpretation for their existence.*

Gold signet seal rings are exquisite pieces of Minoan jewelry, rendered with the most detailed miniature iconography. They offer valuable—though on occasions controversial—insights into aspects of Minoan society. Mysterious iconographical objects are depicted on a small number of these rings.1 These are conventionally known as “floating” objects because they do not appear to stand on the ground. Although signet rings were produced in subsequent periods in a variety of styles, the floating objects are most consistently identified with a certain number of iconographical items characteristic of the new palace (Late Minoan I) period.2 The floating objects have been interpreted in various ways by different scholars, but have been treated collectively in only four cases.3 Other studies have interpreted these motifs in isolation,4 without drawing parallels from other rings depicting the same objects and with no consideration for other objects that play a similar role in the same or other depictions.

Many questions regarding these objects remain unanswered. Do they constitute a single collective group? If so, of which objects is this group comprised? Are they depicted as distant (in false perspective) or close?5 Which direction do they face? Were they meant to be seen primarily on the seal or the sealing?6 Perhaps the most intriguing question of all is, what do these items represent?

A close investigation of these objects and their peculiarities may reveal the answers to a number of these questions. This is the aim of the present article. We will first present the various floating objects by category and then consider their individual and collective traits, with the aim of assessing whether the various items constitute a single collective group. Finally, we will attempt to interpret the significance of these objects in a way that is consistent with all the peculiarities that we observe.

Methodological Clarifications
Before proceeding, however, we should clarify two matters regarding our approach and methodology. The first concerns the way that the images of the

---

* I must thank I. Pini for invaluable advice for the study of signet rings during and after my stay in Marburg in November 1997, and for making several comments on a previous version of this paper. I would also like to express my gratitude to N. Demopoulou for granting permission to photograph and study the newly published ring of Poros and for access to the two still unpublished LMI rings from the Lagonikou Street tomb at Poros. This article owes much to C. Broodbank for supervising my undergraduate dissertation with the same title, though my interest in archaeology before I knew it.

1 For the purposes of this article, the term “motif” and the terms “iconographical object” or “item” are all synonymous. The term “element” here is used to denote the result of individual motions of the artist, such as a single incision or a dot. Many elements are usually used in each motif or iconographical object.

2 Pini 1983; exceptions to this are the golden ring from Mycenae (Corpus der Minoische und Mykenische Siegel [CMS] I [Xenaki-Sakellariou 1964], no. 17; National Museum, no. 992) and the Tiryns ring (CMS I [Xenaki-Sakellariou 1964], no. 179; National Museum, no. 6208), both probably of a later date.

3 For a discussion of this issue, see Corsten 1987.


5 Morgan 1989, 156–9; Pini 1989.
rings and of their impressions—the sealings—are viewed. There is no conclusive evidence as to which is the “correct” way to view the depictions. For our purposes here, and for the sake of consistency, depictions are always presented as they would have been seen on the original seals, so that images of seal impressions have been reversed.7

The second clarification regards the basis on which these objects have previously been classified, given that their appearance may be somewhat varied. In this respect, we should bear in mind that stylistic differences and variation in the quality of rendering are common in all art works of all periods. Minoan rings are no exception to this rule. Indeed, due to the minute size of the floating objects on these rings, and the difficulties engraving them, such variation is expected to be more pronounced. Taking this into account, it is possible to argue for a similar interpretation of items appearing on different rings despite some variation in appearance.

An example of such variation in style and quality of engraving between two larger iconographical items is the figure leaning on baetyl, round-shaped stones that are the focus of attention in several comparable scenes. This figure appears on both the first Kalyvia ring8 and the Archanes ring (fig. 1).9 While the appearance of the figure is not absolutely identical in each example—in the former, the head and arm have almost been omitted in the engraving—the basic form and the stance are sufficiently similar and readily comprehensible for us to recognize that it is the same figure being represented. The lack of detail in the Kalyvia ring is consistent with a simpler style of engraving on the ring overall. Moreover, certain details on this ring also help us to reconstruct the exact position of the “missing” parts: a number of dots that represent hair, and several incisions comparable to parts of other clearer figures in Minoan signet ring iconography.10

In the same way, the floating female of the new Poros ring11 can be placed in the same category of object as the floating female figure on the Isopata ring,12 the Ashmolean Museum ring 1938, no. 1129, and on a sealing from Hagia Triada (fig. 2).13 The

---

7 Assuming that Minoan weapons must have always been held with the right arm, Pini (1989) tests several seal depictions and concludes that, out of 35 seals, 16 were primarily designed to be seen on the sealing, and 12 were primarily designed to be seen on the original (i.e., so that it always appears to be the right hand holding the weapon). There are also seven uncertain cases. Thus, while the convention he adopts of always presenting Minoan seal iconography as on the sealing offers consistency, which is certainly useful for the purposes of the corpus in which he is writing (CMS), the ambivalent nature of the data offers no conclusive evidence as to which viewpoint is most “correct.” Indeed Pini (1989, 188–9) recognizes that no certain rules can be argued on the basis of the material available: “Auf der Grundlage der heute bekannten Siegeldarstellungen läßt sich keine bestimmte Vorliebe oder gar Regel der minoischen und mykenischen Graveure feststellen, die ‘richtige’ Ansicht auf dem Original oder auf dem Abdruck wiedergeben.” Here, the depictions are presented as on the original seals for two reasons. First, the minute floating objects on signet rings would not have been clearly visible on the clay sealing and would have been clearer on the original. Second, the fact that the rings were crafted in particularly expensive materials by skilled craftsmen is another argument that they were themselves designed to be the artifacts of admiration rather than their mundane clay sealings.

8 Archaeological Museum of Herakleion, no. 45; CMS II.3 (Platon and Pini 1975), no. 114.
11 Archaeological Museum of Herakleion, no. 1629; Demopoulou and Rethemiotakis 2000.
12 Archaeological Museum of Herakleion, no. 424; CMS II.3 (Platon and Pini 1975), no. 51.
13 Archaeological Museum of Herakleion, no. 522; CMS II.6 (Platon et al. 1999), no. 6; see also Levi 1925–1926, 139, fig. 153.
figures are readily recognizable, sharing a common stance. Again, the fact that the head and arm have been omitted in the new Poros ring reflects its overall style of engraving, and in particular that of the upper register, in which, similar to the Kalyvia ring, details are often omitted.

It is more difficult but not impossible to argue for a similar interpretation of two iconographical objects that are not readily comprehensible and are less widely attested. The technique for comparing the motifs in such an instance is to take the ring with fewer details as the point of reference. Simpler styles tend to pare down superfluous details, depicting only those necessary for the recognition of an item. If all the elements of a motif present in a less detailed ring are comparable to those in a more detailed ring, we can consider that the two have the same basic form, and it is plausible that both objects represent the same thing.

As an example, we shall take the comparison between iconographical objects appearing on the new Poros ring and Isopata rings (figs. 2a, b). Both have different styles of engraving, the former being consistently engraved in much greater detail than the latter. Thus a wavy line in the less detailed new Poros ring probably represents the same thing as a comparable line with a similar shape, direction, and size, but which more closely resembles a snake on the more detailed Isopata ring. The fact that both items are located in the same register and occupy the same position in the respective rings strengthens this interpretation.14

14 Similarly, a large dot surrounded by smaller dots on the less detailed new Poros ring (fig. 2a) may represent the same thing as the unclear blob surrounded by smaller drop-like dots on the more detailed Isopata ring (fig. 2b), the only other case of such a motif in the entire Minoan signet ring iconography. Again, that both motifs are located in the same register and occupy the same position in the respective rings further supports our argument. In the latter, the blob has two minute crescent shapes at the top that led Marinatos to call it the “horned head.” This also holds for the comparison between the so-called double axe with tassels on the more detailed Vapheio ring (National Museum, no. 1801; CMS I [Platon 1969], no. 219) and a similar item on the less detailed ring from the Berlin Museum (Berlin Museum, no. 11886; CMS XI [Pini et al. 1988], no. 29). The elements of the motif on the Berlin ring are all comparable to elements of the motif on the Vapheio ring.
It is on the same basis that the classification of all floating objects on signet rings has been made. In the present study, we present the floating objects that we are able to classify with some degree of confidence, either because they are sufficiently clear in themselves or because they bear a strong resemblance to signs elsewhere in the way that we have just explained. Here follows the discussion of the floating objects according to category.

THE FLOATING OBJECTS AS ICONOGRAPHICAL ITEMS

The Spike

We shall first consider the most frequently attested object, the so-called spike or wheat, as conventionally termed by Marinatos (fig. 3, table 1). This object, despite its abstract character and varied texture, always has a stable basic form and position at the upper center of the entire depiction. The position in each depiction and the shared basic form of all attestations argue in favor of their classification as the same object. It is important to note that the spikes always face the same direction, from bottom left to top right.

The Eye

We have relative clear four attestations of this sign (fig. 4, table 1). Indeed, all four examples look very much like an eye, with a large round dot for an iris and two lines for the outline, shaping a rounder canthus at one end. Their appearance closely resembles the eye depicted together with an ear on the amygdaloid of the Giamalakis Collection. Notably, all four attestations of the eye face the same direction with the canthus on the left. The eye on the Zakros sealing has not previously been noticed.

The Small and Large Snakes

A small snake appears twice on the new Poros and Isopata rings—facing from top left to bottom right (figs. 2a, b [upper left register]). Another larger snake also appears twice—on the Isopata ring (fig. 2b [upper right register]) and the Hagia Triada sealing (fig. 5)—on both occasions having the same shape and facing from bottom left to top right. In the high-quality Isopata ring, both snake types are rendered in detail, with a relatively large head-shaped dot at one end, making their interpretation as snakes more probable.

The Rayed Object

A rayed object appears on numerous occasions, both floating, as in the case of the Archanes, Mochlos, and new Poros rings; and on the ground, as in the case of the old Poros ring (fig. 6). Although this object is usually depicted with four horizontal lines, on the new Poros ring it seems to consist of only two horizontal lines and a relatively large round shape in the lower half. This difference in detail seems to be consistent with the overall lack of clarity on this ring.

The Double Axe with Tassels

Another item, similar to the rayed object, resembles and is conventionally termed the “double

---

17 Archaeological Museum of Heraklion, Collection Giamalakis no. 3298 (equivalent to Sakellarou, Collection Giamalakis no. 426). This eye and ear combination is, incidentally, also attested on the Ashmolean Museum 1919, no. 56 ring (table 1 this article).
18 Archaeological Museum of Heraklion, no. 424; CMS II.7 (Platon et al. 1998), no. 6.
19 Cf. some of the items in Younger 1988, 290, s.v. “heaven lines, single.”
20 Archaeological Museum of Herakleion, nos. 595, 596; CMS II.6 (Platon et al. 1999), no. 4.
22 Archaeological Museum of Herakleion, no. 259, stolen; CMS II.3 (Platon and Pini 1975), no. 252.
23 Ashmolean Museum 1938, no. 1127 (Kenna CS, no. 250, provenance “Knossos”).
24 This item was classified together with the other rayed objects as they were the only objects that resembled its traits. The difference in the appearance of this object should, however, be noted.
Categories of Floating Objects | Museum Accession Number
---|---
**Spike**
*Plain*
- Minos ring | Herakleion Museum, no. 1700; recent acquisition
- Second Kalyvia\(^a\) | Herakleion Museum, no. 44
- Geneva seal (not a signet) | Geneva Museum 1962, no. 19775
*Cloud-like*
- Sellopoulo ring | Herakleion Museum, no. 1034
- New Poros ring | Herakleion Museum, no. 1629
*Wheat-like*
- Vapheio ring | National Museum, no. 1801
*Beanpod-like*
- Isopata ring | Herakleion Museum, no. 424

**Eye**
- Isopata ring | Herakleion Museum, no. 424
- Archanes ring | Herakleion Museum, no. 989
- Zakros sealing \(^b\) | Herakleion Museum, no. 1154
- Ashmolean Museum ring \(^c\) | Ashmolean Museum 1919, no. 56

**Snake**
*Small*
- New Poros ring | Herakleion Museum, no. 1629
- Isopata ring | Herakleion Museum, no. 424
*Large*
- Isopata ring | Herakleion Museum, no. 424
- Hagia Triada sealing \(^d\) | Herakleion Museum, nos. 595, 596

**Ray**
- Archanes ring | Herakleion Museum, no. 989
- Mochlos ring | Herakleion Museum, no. 259; stolen
- New Poros ring | Herakleion Museum, no. 1629
- Old Poros ring (not floating) | Ashmolean Museum 1938

**Double Axe with Tassels**
- Vapheio ring | National Museum, no. 1801
- Berlin ring | Berlin Museum, no. 11886

**Horned Head**
- Master Seal impression | Chania Museum, no. 1563
- Isopata ring | Herakleion Museum, no. 424
- New Poros ring | Herakleion Museum, no. 1629

**Miscellaneous Chrysalis Objects**
*Single*
- Second Kalyvia | Herakleion Museum, no. 44
- Vapheio ring | National Museum, no. 1801
- Mochlos ring (less certain) | Herakleion Museum, no. 259; stolen

*Double*
- Nestor ring | Ashmolean Museum 1919, no. 56
- Berlin ring | Berlin Museum, no. 11886

---

\(^a\) Since the quality of engraving of the entire ring has a fading effect, the plain spike could have been perceived in a more elaborate shape. Another spike is depicted on the yet unpublished ring from Lagonikou Street tomb at Poros, predictably facing the same direction.

\(^b\) The presence of an eye on the Zakros sealing has not been observed before.

\(^c\) This ring has an eye and an ear. Interestingly, both an eye and an ear appear on the amygdaloid of the Gialmalakis Collection.

\(^d\) Another large "snake," predictably facing the same direction, is depicted on the still unpublished ring from Lagonikou Street at Poros.
axe with tassels. This is attested twice, on the Vapheio and Berlin rings (fig. 7), but more convincingly on the former, which has a higher overall quality of engraving. The form is stable, but its symmetrical shape does not convey a specific direction.

The Horned Head

The larger blob with one or more protrusions at its top on the Isopata ring is comparable to the horned head of the Master Seal impression (fig. 8). Marinatos has named this item the “bull’s head” because of this resemblance. The blob on the Isopata ring is surrounded by many small drop-like dots. A comparable blob surrounded by many smaller drop-like dots is also depicted in the same position, though in a more abstract form, on the new Poros ring (fig. 2a [upper central register]), which again is a lower quality engraving.

The Chrysalis Objects

Some less clear items are conventionally called chrysalis objects. While they all share the same abstract form, it is not certain that they represent the same item. Some may belong to the above horned head category. Of all the chrysalis objects, the double ones appearing in the Berlin and Nestor rings (figs. 7b, 9) most likely represent the same thing.

Additional Floating Objects

There are some additional floating items of which we only have a single example, although they may appear elsewhere in seal iconography as non-floating. These include the arrow on the Archanes ring (fig. 1b); the tree of the Ashmolean Museum ring 1938, no. 1129 (fig. 2c); the “sacral knot” on a sealing from Hagia Triada (fig. 5); the “headgear” of the middle figure of the Berlin ring (fig. 7b); the ear on the Ashmolean Museum ring 1919, no. 56 (fig. 10a); the double baetyl of the lost Mochlos ring (fig. 10b); and the leg and the dots of the Master Seal impression (fig. 11).

Common Properties of the Floating Objects

Having reviewed different types of floating objects, let us now try to identify what these items have in common.

First, whenever the above signs are repeated on different rings, the objects maintain the same basic form with some stylistic variation. Second, the direction of the objects is in most cases invariable.

---

27 National Museum, no. 1776; CMSI (Xenaki-Sakellariou 1964), no. 231.
28 Berlin Museum, no. 11886; CMSXI (Pini et al. 1988), no. 29.
29 Hallager 1985, passim; the Master Seal impression: Chania Museum, no. 1563; CMSV Suppl. 1A (Pini et al. 1988), no. 142.
31 Ashmolean Museum 1919, no. 56.
32 Stolen; baetys and double baetys are also rendered on
example, whenever the eye is attested, it maintains a similar form and direction: the canthus is always facing the same way (fig. 4). Third, whenever the signs are repeated in combination, they seem to have a stable position relative to one another. The best examples of this are the three items appearing in the same order on both the new Poros and Isopata rings (fig. 2a, b), again allowing for the differences in style and quality of engraving: the small snake, the spike, and the blob with drop-like dots, which we conventionally call the “horned head.”

A comparison of the Archanes ring (fig. 1b) with the new Poros and Isopata rings provides another example. We know from the Archanes ring that the rayed object is below the eye, and we know from the Isopata ring that the eye is below the spike. From this it follows that the rayed object should also appear below the spike, which indeed is the case in the new Poros ring.33

The stable position of each floating item relative to the others, which is not contradicted by any of the rings, supports their classification as one group despite their disparate character. This argument is also strengthened by the fact that all items are governed by the same rules of invariable basic form and direction. Despite the small number of floating object depictions found, the repetition of most of these objects on different rings suggests that the total number of objects comprising this group is not only finite but also quite limited.

INTRODUCING FLOATING PEOPLE

In some cases, human beings are also depicted as apparently floating in the same seal register as the other floating objects (i.e., the upper half). Scholars have tended to treat them independently for various reasons, including their frequent depiction as the sole floating object, their varied stances, their unclear real location (floating or simply standing in the distance), and the very fact that they are humans. Here, however, we shall argue that these people belong to the same group as the other floating objects.

The fact that people appear to be floating and not standing on the ground has caught the imagination of some Minoan scholars and has prompted much speculation on what they represent and what the implications are for Minoan religion. The main theory is that of Matz,34 who in his very thorough study supports the view that these figures represent the ground in several rings and sealings (see Warren 1990).

33 One further instance of stable relative position can be seen by comparing the new Poros ring and the still unpublished ring from Lagonikou Street at Poros. On both rings the spike is to the left of the large snake.

34 Matz 1958.
sent divine epiphanies from the sky. Nilsson and Marinatos follow this view.35 The assumption that these are epiphanies is based on the hypothesis that the figures are hovering, flying, or floating. For our purposes we will first argue that the figures are indeed floating, and then look at their peculiarities and traits, assessing their relationship to the other floating objects.

The first characteristic that suggests these figures are floating, and that which distinguishes them from those standing on the ground, is their feet, which, when clearly depicted, point downwards.36 It is in the nature of the human foot to dangle 25 to 30 degrees from its horizontal position toward the ground when it hangs loose. This convention has been widely used in art of different periods and places and is also used in modern day iconography. The more familiar current examples (e.g., modern comic book heroes—Superman, Spiderman, Batman—depicted as flying or falling), like their Minoan counterparts, are wingless, and the fact that they are floating is denoted by the position of their feet.37 The only other instances in which this convention appears in Minoan iconography are two other types of scenes in which people are clearly depicted in the air: the “person hanging from tree” (e.g., fig. 1a) and the “bull-leaper” scenes. The downward-pointing feet, therefore, are a strong indication that these people are indeed depicted as floating.

Since more than one figure is shown on these rings, the distinction between the different characters or roles is made by their basic form and stance and by the presence or absence of female dress (which represents gender). Following these criteria we are able to place all of the attested floating people into one of six categories:38

1. A person holding a bow and a dagger on the Ashmolean Museum ring 1919, no. 56 (fig. 10a) has no parallel elsewhere and is classified alone.39
2. A floating male holding a staff on the old Poros ring (fig. 12) is also classified separately (it is distinguished from the above figure by the fact it holds a different object).40

---

34 With the exception of the floating female’s feet on the Zakro seal (Archaeological Museum of Herakleion, no. 47/1–3; CMS II.7 [Platon et al. 1988], no. 1); see also Marinatos 1993, 175; Cain 2001, 34.
35 Motion and direction in the modern day iconography are denoted through lines, in the Minoan examples through the flying hair of the figures and their direction.
36 Wedde (1999) does not differentiate between categories 1–3 and 4–5. According to the present criteria, however, there seem to be differences in basic form and stance, in gender or in both among his categories. If the presence or absence of female dress was not a criterion, our otherwise identical categories four and five would merge, as would three and six.
4. A floating male with hands on torso on the Elateia ring and on the ring from Pylos (fig. 13) belong to the same category and, again, face the same direction.

5. The female on the signet from “Kavousi” (fig. 14) has the same pose and direction as the category 4 males but is classified separately because of her gender.

6. A floating male on the second unpublished ring from Lagonikou Street at Poros has the same stance and direction with the category 3 females, but again is classified separately because of gender.

As we saw above, when repeated, the floating people seem not only to have a stable basic form (one of the prerequisites for their classification) but also a stable direction. Moreover, when repeated in combination they have a stable relative position with the other floating objects, just as the other objects have a stable relative position to each other. Our evidence for this comes from the comparison of the Isopata ring with the recently published ring of Poros and the Archanes ring, but no other engraving negates this. The Isopata and new Poros rings depict a floating female with an extended arm (though this is less clear in the new Poros ring due to stylistic reasons—a mere shallow incision standing for the arm) occupying the same part of the seal and facing the same direction. On both occasions the female is positioned to the right of a small snake, and to the left of a spike and a large blob surrounded by small drop-like dots. Moreover, the comparison between the Archanes and the Isopata rings shows that the floating figure is above and to the left of a rayed object, which is also true on the new Poros ring.

That the floating people share the same traits as the other floating objects suggests that they should be studied together.

---

41 Levi 1925–1926, 139, fig. 153.
42 The fact that the extended arm of the figure on the new Poros ring is not depicted clearly is consistent with the overall style and quality of the engraving, which is very similar to the Kahvia ring (Archaeological Museum of Herakleion, no. 45; CMS II.3 [Platon and Pini 1975], no. 114). Both rings often omit important, but possibly taken for granted, details such as the head or arms. The almost missing arm may be due to this shorthand style. In a very similar case, the missing arm and head of a much larger figure can be reconstructed on the Kahvia ring; see Kyriakidis 2000–2001, 117–8.
43 CMSV Suppl. 2, no. 106 (Pini et al. 1975).
44 National Museum, no. 7985; CMS I (Xenaki-Sakellariou 1964), no. 292.
45 Cf. Wedde 1999, pl. 210, G11.
46 Archaeological Museum of Herakleion, no. 970; CMS II.3 (Platon and Pini 1975), no. 305.
47 The female on the Zakros sealing (Archaeological Museum of Herakleion, no. 47.1–3; CMS II.7 [Platon et al. 1998], no. 1) has a similar, but not identical, pose but does not have the same direction as the others. Interestingly, the somewhat symmetrical pose of the Zakros female allows the reconstruction of a different direction, which is, however, unlikely.
49 Thanks go to N. Demopoulou for allowing me to view and refer to the unpublished ring.
50 Archaeological Museum of Herakleion, no. 424; CMS II.3 (Platon and Pini 1975), no. 51.
51 Archaeological Museum of Herakleion, no. 1629; Demopoulou and Retemiotakis 2000.
Categorizing people and objects in the same group enables us to compare them and make the following observations:

1. Since floating humans (with downward-pointing feet) are grouped together with other floating objects, the latter can also be identified as floating.

2. This enlarged group of floating objects is remarkably varied.

3. The homogeneous size of items that would normally vary considerably (e.g., a floating eye is similar in size to a person) suggests that proportion is not relevant in floating items.

4. A distinction can be made between the interaction of floating people and objects and those depicted on the ground.\(^{52}\) In other words, there is a difference between the upper and lower registers of a signet bezel regarding action. In the lower register, humans and objects are seen as interacting or are configured together: humans seem to hang from trees, hug rocks, and hit other humans; rayed objects are seen within buildings, rocks are clasped, and trees have things or people hanging from them. In the upper register, however, this does not happen. The floating items are depicted independently, in an equidistant fashion that does not allow interaction.

5. The floating objects do not relate to the type of action on the lower register in any obvious

---

\(^{52}\)There is also the possibility that the humans that have the same stance may be depicted as inverted when on the ground. Since there are, unfortunately, a few exceptions to this rule, we cannot claim it to be universal in all seals.
way. Once more, the comparison between the new Poros ring and the Isopata ring offers a good example (figs. 2a, b). The two rings have four floating objects in common and two completely different depictions in their lower registers. The only motif repeated in the lower register of both rings is the flower often recognized as *Pancratium* lily.54

It is worth noting that the similar type of vegetation may indicate a correspondence between certain combinations of the floating items and time, that is the blossoming period of the *Pancratium* lily.

**NATURALLY FLOATING OBJECTS**

Although the inclusion of the naturally floating objects, such as birds or insects (fig. 15), in the category of floating items studied here is not necessary for our purposes, it is notable that they share a number of traits with the latter.

First, they are not on the ground and usually appear in the same register as the other floating objects. Second, they have the same constant unnatural size as the other floating objects. For example, a dragonfly is depicted the same size as a bird, a floating human, or an eye (cf. figs. 1b and 2b). Third, they do not interact with one another or with other floating objects. Since, however, their status is complicated by the fact that they fly naturally, we will disregard them for the purposes of this article.55

The above has been an attempt to classify the floating objects and study their traits and peculiarities. Those who will wish to discard the following proposed interpretation(s) may want to keep this first part as a tool for their own use.

**INTERPRETATION**

Our next step is to consider the possible significance of the objects that we have classified above. There are two other groups of items in the Minoan repertoire that could be seen as comparable: figurines and miniature objects found in sanctuaries,56 and the characters of the Minoan hieroglyphic or pictographic script (fig. 16). Possible interpretations of the floating objects are that either they depict a group of ritual objects and symbols characterizing the ritual action (much like the peak sanctuary figurines) or they represent a kind of writing.

However, the lack of apparent correspondence between floating items in the upper register and specific depictions in the lower register of seals, as argued above, lends little support to the first possibility. The absence of specific suffixes, prefixes, or roots, on the other hand, argues against the language hypothesis. It is also unlikely that all linguistic characters would always be used in the same relative position as the floating objects seem to be. Moreover, the limited number of the known floating items excludes the possibility of either an ideographic or a syllabic language; an ideographic language would need hundreds if not thousands of characters, and a syllabic language needs 60 characters or more. Our group of floating objects has fewer than 30. The arguments against these theories do not however undermine the important fact that characters of Cretan hieroglyphic, peak sanctuaries. The butterfly and insects that appear elsewhere. They may therefore belong to the floating object category. It is, moreover, possible that the single butterfly and the double heraldic butterflies are versions of the same floating item (fig. 15). The famous Chryssolakkos jewel is comparable, since it can be seen both frontally as one large insect, and in profile as two bees.56

54 The best comparison is between the flower in the upper right of the Isopata ring with those on the new Poros.
55 The butterfly and the dragonfly of the Archanes ring (fig. 1), and the double insects on the Hagia Triada sealing (figs. 5, 15a) and the Nestor ring (fig. 9), do not seem to be flying but are merely hovering, distinguishing them from more clearly

---

Fig. 15. Examples of double and single butterflies (detail): a, Hagia Triada sealing; b, Archanes ring
tary figurines, and floating objects have something in common: they are all Minoan sign groups.

In any case, the interpretation of the floating objects would be more secure if it was drawn from the closed context of the signet rings themselves. Some iconographical items that are not usually classified as floating objects but which are also depicted in the same upper register of some gold signet rings may help us understand the objects' significance and the function of this upper register.

On the probably later Tiryns rings, and also on the contemporary second ring from the Berlin Museum (fig. 17),59 the sun, the stars, and the moon are depicted.60 Moreover, the Isopata ring. Usually, as is the case with the Elateia ring, these dividing lines are curved, forming semicircles against the edge of the bezel, and in most cases are uninterrupted, both starting and ending at the top of the seal. Even in the cases where there is more than one such line (four appear in the Elateia ring), they still end either next to each other or at the top of the seal. Thus the two snakes on the Isopata ring differ from the sky lines in three ways: they are not continuous, they do not end at the top of the seal or at another line, and each seems to have deeper dot-like impressions at one end. For the last trait, one must bear in mind that the Isopata ring is one of the most detailed and accurately made, and thus such details are not random. The snakes on the Isopata ring have parallels on the new Poros ring and the sealing from Hagia Triada, as

---

57 National Museum, no. 6208; CMS I (Xenaki-Sakellariou 1964), no. 179.
58 National Museum, no. 992; CMS I (Xenaki-Sakellariou 1964), no. 17.
60 The identification of the items in the Tiryns and Mycenaean rings as stellar objects is facilitated by the long dividing line that often has been interpreted as an indication of the sky, thus aiding interpretation of the objects within or near it. Such a line is most clearly denoting the sky on CMS II.6, no. 1 (Platon et al. 1999). It is also attested on the, possibly Minoan, Elateia ring (fig. 13a). There are some clear differences, however, between this type of wavy line and the two snakes on the
unpublished ring from the Lagonikou Street tomb at Poros, which according to Demopoulou is of Late Minoan I date, seems to depict the phases of the moon together with at least two other floating objects (a spike and a large snake). It is conceivable, therefore, that the floating items may also represent other stellar bodies (i.e., constellations). The proposal that constellations may have been depicted as iconographical items and not just as a collection of stars, is not new and has been recently put forward by McGillivray. The author neither supports or refutes his claims here, however, as they deal with other iconographical objects.

The interpretation of the floating objects as constellations would be consistent with all the characteristics that we have noted. First, constellations can be seen as a disparate yet limited group of objects that appear to float in the air. The groups of stars that form the constellations divide the more or less abstract sky into small, recognizable units that have a stable form, direction, and relative position to one another, as do the floating items. Moreover, their size is not in proportion to what they represent. For example, the modern day Delphinus (dolphin) constellation is much smaller than Bootes (man), again, like the floating items. The fact that the floating objects seem to be depicted independently of one another, unlike the objects in the lower register of the signets, is compatible with the constellations theory, as is the fact that they bear no obvious relation with the depictions on the lower register.

The appearance of constellations also depends on the time of year. This corresponds well to the depiction of a certain type of flower together with the same group of floating objects on both the Isopata and the new Poros rings. Finally, the observation that the spike can vary in texture to look like clouds, wheat, bean-pods, or other forms is compatible with the constellation hypothesis. The representation of the vague form of a constellation may easily lead to differing depictions of that type, which maintain the basic form and direction but alter the details.

But did the Minoans classify their stars into constellations? The evidence is very limited. We would rather formulate the question in a different way. Did the Minoans need to know the stars? The answer to that question is surely yes. Any seafaring and trading nation needs to be able to read the stars. Minoan Crete, one of the main regional sea powers of its time, would have classified the stars into constellations to act as mnemonic devices.

---

61 For earlier depictions of stellar bodies, see Younger 1993, 119, s.v. “stars.”
Ancient writers, from Homer (e.g., *Iliad* 18, 486–9; 22, 29–31) to Virgil (e.g., *Georgics* 1, 204–57), and from Hesiod (e.g., *Works and Days*, 597–623) to Aratus (*Phaenomena*, passim), have stressed the importance of constellations for agriculture, bee-keeping, calendrical purposes, and even weather forecasting and divination. The work of Kapetanios has shown that the constellations are also useful regionally for the transportation of flocks in the summer, which often takes place at night.\(^\text{64}\) This is something that would have been particularly relevant to Minoan Crete.

Finally, we know that in the Near East of the second millennium B.C., maps of the sky were attested in written form,\(^\text{65}\) and constellations were depicted in iconography. Palace-period Minoan Crete had close contact with that part of the world and would likely have been familiar with the concept of constellations.

**Constellations**

The constellation theory is thus compatible with and indeed would explain all of the traits and peculiarities of the floating items that we have noted. While this alone might be considered sufficient for it to stand as a theory, it would be interesting to explore whether any of the Minoan constellations corresponds to any modern day ones. Such correspondences would of course also serve to lend further credence to such a theory.

In embarking on such a perilous task we must first bear in mind that people in antiquity could have grouped the stars in different constellations from those of today. However, a comparative study of stellar perceptions across different areas and ages would suggest that at least some clusters of stars are in fact usually classified together. This is particularly the case with groups of stars that stand out in obvious shapes due to the contrast of their brightness against their surroundings. These will be the easiest to identify. There will be many more, however, which will be very difficult to recognize. Here, we shall look only at the more certain of all the identifications.

We must also consider the fact that the constellations have in our case been iconically depicted, not giving any direct clues as to the position of the individual stars in relation to the depiction. This has been frequently the case with the depiction of constellations through the ages until the early 20th century. The study of ancient constellation charts suggests that there are several inconsistencies regarding the relationship of the depicted constellations to the real stars. The relative size of the constellations may be rendered with not always convincing accuracy, their shape is often adjusted by imagination, and a number of them are often omitted in each depiction. These factors, together with the differences in style and quality of engraving, are sufficient to explain the discrepancies in the rendering of these constellations as objects in Minoan signet ring iconography.

Bearing the above in mind, the following factors have been taken into account to determine the correlation of a floating object with a certain group of stars or with a constellation: the physical resemblance, the direction, and the relative position.\(^\text{66}\) The resulting correspondences between the floating objects and constellations are as follows.

**The (Category 1) Floating Person as Orion**. The most certain example of all is the correlation of the constellation of Orion\(^\text{67}\) with the floating human of the Ashmolean Museum ring 1919, no. 56 (figs. 18, 19). The complicated unnatural pose of the floating figure, our category 1, corresponds exactly to the stance of the constellation. Even the long locks of hair on the floating figure correspond well with the stars in Orion. It is notable that versions of this constellation have appeared across different areas and cultures (as Mauri, Sampson, Orion, etc.).\(^\text{68}\)

---

\(^{64}\) A. Kapetanios, pers. comm. 1999.

\(^{65}\) Weidner 1927, 73–85.

\(^{66}\) When a floating object is repeated on two rings, the relative positions of all floating items on both signets can be deduced.

\(^{67}\) For the pictures of the sky, the computer program Skymap 3.1 has been used, as was recommended by the UCL Observatory in 1997 and by the Cambridge Observatory in 2000. This program has been commonly used by Stanford archaeologists for their reconstruction of the Mayan constellations and calendar (James Fox and Timothy King). Skymap 3.1 has the ability to show the shape of the constellations as seen at a specific time from a specific place. The program shows that there is only a minor difference between 2000 B.C. and the present day in terms of the relative position and shape of the stars in each constellation. For reasons of consistency, however, the year 1650 B.C. is used for each constellation. Although location affects which constellations can be seen, the latitude differences between Cretan locations or even between locations within modern southern Greece (Peloponnese, Cyclades, Dodecanese, Crete) are too small to have a perceptible effect. Again, for reasons of consistency, the coordinates of Minoan Knossos were given, since it is generally agreed that these rings are of Minoan craftsmanship due to both the centrality and the importance of Minoan Knossos. Thus the images show the constellations from various times of the year during night in Crete.

\(^{68}\) Shu 1982, 3–9.
The Large Snake as Hydra. The correlation of the large snake with the constellation of Hydra is also strong (figs. 18, 20) because of the very accurate physical correspondence of the constellation to the floating object, as depicted on the excellent quality Isopata ring,69 and because the constellation of Hydra is to the left of Orion as is the case between the Ashmolean Museum 1919, no. 56, male and the large snake.70

The Bull’s Head as Taurus and the Drop-Like Dots as Hyades. The constellation of Taurus can be correlated with the bull’s head (figs. 18, 21). The (albeit slight) resemblance of the bull’s head to the constellation, and the latter’s position relative to Orion, assist our interpretation. The presence of the associated group of drop-like dots, attested both on the Isopata ring and the new Poros ring, which can be directly related to the famous group of drop-like stars called Hyades (watery) that surround the constellation of Taurus, also strengthens this correlation. The Hyades were observed in classical antiquity as indicators of rain.

The universality of the above three constellations is demonstrated by their appearance across different civilizations. It has been claimed by Shu that myths of various civilizations record the relationship between Orion, Taurus, and the Hyades.71 For example, the biblical reference to Sampson, who killed the Philistines with the jaw of a donkey and who later drank water from a puddle, is said to be a reference to these three constellations. In Polynesia, there is a similar myth in which Mauri tries to catch the sunbird with nets (Hyades), and then attempts to hit it with the jaw of his grandmother (Taurus).72

The Leg and the Four Dots as Ursa Major. It is also possible to correlate the constellation of Ursa Major with the floating leg attested on the Master Seal impression (figs. 18, 22). The representation of Ursa Major as a leg is also attested in Egypt. The Minoans,

---

69 The outline of both the object on the Isopata ring and the constellation, including the head, which is represented as a small blob in the flying object, have a remarkably similar shape.
70 The floating figure is to the right of the eye on the Ashmolean Museum ring 1919, no. 56. We know that the eye is to the right of the large snake on the Isopata ring. Therefore, the floating figure should be to the right of the large snake, as is the case with the corresponding Orion and Hydra constellations.
71 Shu 1982, 3-9.
72 Shu 1982, 3-9.
Unlike the Egyptians, also observed an additional four stars that also belong to the constellation.73

The Floating Person (Category 3) as Bootes and Its Hair as Corona Borealis. There is one further floating object that we might correlate to two present day constellations due to both its relative position and shape. This is the floating person, our category 3, which is found in the Hagia Triada sealing, the Isopata and new Poros rings, and the Ashmolean Museum ring 1938, no. 1129. On the Isopata and the unpublished Lagonikou Street rings, this female is positioned above and to the left of the snake that we have identified as Hydra. In the same location in the sky are two constellations that resemble closely the floating figure. They are the present Bootes together with Corona Borealis. The latter would account for the hair of the floating female on the Isopata ring (figs. 18, 23).74 Indeed, the relative position of these iconographical items accurately correspond to the position of the constellations.

This means that there are good correspondences—on the basis of both physical resemblance and relative position—for six constellations: Corona Borealis, Bootes, Hydra, Orion, Taurus, and Hyades. The appearance of five of them on the Isopata ring is also noteworthy, since during the 17th century B.C., these constellations would normally appear between September and December.75

If the flower at the very bottom of that ring is indeed the Pancratium lily, which blossoms between August and October, there is also a very good time correspondence that reinforces our constellation theory.

73 The stars represented would be, from top left to bottom right: Muscida or 1 Ursae Majoris, with 14, 23, and 29 Ursae Majoris (Flamsteed numbers).
74 The six dots of the hair would correspond from right to left to the stars: 4 Coronae Borealis, 3 Coronae Borealis or Nusakan, 5 Coronae Borealis or Alphecca, 8 and 13 Coronae Borealis, the six brightest stars of the constellation. Interestingly, the floating male of the second unpublished ring of Lagonikou Street at Poros, which has the same stance and direction as the category 3 floating females, also has six dots for hair, which would again correspond perfectly with Corona Borealis.
75 According to the computer program, Skymap 3.1.

Many more correspondences between floating objects and constellations could be made. But since these are not as strong as the above, the case will not be made here.

Conclusions

The constellation theory is able to explain all traits and peculiarities of the floating objects. Moreover, there is both a good physical resemblance between the items and modern day constellations and a good correspondence in position between the items in their relative positions on various rings and seals and in the sky. Finally, there is a time
correspondence as mentioned above. All of these strengthen our interpretation of the floating objects as constellations.

This interpretation suggests that the Minoans had a system of constellations that they depicted at times in relation to ritual or other scenes. It also offers a glimpse into the way the fantasy of the Minoans worked, and the way they perceived the abstract sky. It is in this respect that the other comparable Minoan symbolic groups, such as the Minoan pictographic script and the “peak sanctuary” figurines, may be particularly useful. It is very illuminating that when the Minoans devised a writing system, they used similar symbols (pictographic script) to the ones with which they divided the sky (our floating objects) and to those they used in their peak sanctuary rituals (figurines).

Moreover, the constellations may offer an indication of the way the Minoans divided time and their calendar. They may convey the period of the year in which each iconographical situation took place. The depictions of constellations may also suggest that the depicted activities, often taken to be rituals, took place at night. This fits well with the presence of a significant number of portable and large lamps in peak or other sanctuaries. 

Last but not least, the interpretation of the floating people as constellations requires the theory that floating humans are epiphanies of gods to be reassessed (although the two are not mutually exclusive, as the case of Near Eastern seal iconography may show).

Thus a new material that needs sober and meticulous research has been offered here that may affect our overall understanding of Minoan society and especially its belief systems and iconography. More studies will certainly be needed, however, to assess the value of this evidence and further ascertain the claims here.

UNIVERSITY OF CALIFORNIA, LOS ANGELES
COTSEN INSTITUTE OF ARCHAEOLOGY
BOX 951510, A210 FOWLER
LOS ANGELES, CALIFORNIA 90095-1510
EVANGELO@UCLA.EDU

Works Cited


Olivier, J.P. 1996. Corpus Hieroglyphicarum Inscriptionum

discussed in this article in their positions relative to each other and in comparison with fig. 18, go to http://www.ajaonline.org/archive/109.2/1_figure_kyriakidis.html.