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Human–Nature Interaction on Minoan Golden Signet Rings: A Sensory and Material Analysis of the Kalyvia Ring.



Fig.1 Ring of Kalyvia, Heraklion Archeological Museum.

Introduction

This analysis examines golden signet rings as representations of human–nature interactions, using the golden ring from Kalyvia as a case study due to its depiction of two distinct modes of interaction between a human figure and elements of the natural world.

From the perspectives of new materialism and sensory archaeology, the gold signet ring from Kalyvia cannot be understood merely as a representational object or a marker of social status. Rather, it should be approached as an active material participant within a network of human and non-human relations. New materialist theory emphasizes that meaning does not reside solely in human intention or symbolic representation but instead emerges through dynamic and ongoing interactions among bodies, materials, environments, and practices (Herva 2006; Day 2012). Sensory archaeology further shifts attention to the embodied experiences of such objects, highlighting how the ring

would have been encountered through sight, touch, movement, and bodily proximity in lived contests.

Description.

The object (Fig. 1) is an intact gold signet ring. The bezel is oval and measures 1.3 cm in width and 1.7 cm in length, with a diameter of 1.5 cm (Heraklion Archaeological Museum, No date). The weight of the ring is not recorded. It is meticulously engraved in reverse intaglio, suggesting that it was intended for use as a seal, likely impressed into wax. Due to the limitations of the available imagery, the rear of the bezel and the shank are not visible, and signs of wear cannot therefore be assessed. However, decoration is visible on the upper part of the shank. According to Nadine Becker's typological classification (2015), the hoop decoration of the Kalyvia ring (CMS II.3, no. 114) belongs to category IIb.

The engraving illustrates two human figures interacting with natural objects. The central figure is kneeling on top of what has been identified as a baetyl, while the second figure is stretching towards a tree in what it looks like a shaking action. The tree is inside or behind a rectangular construction. On the right-side corner dots come out from the treetop and on the lower right corner an elongated object stands upright with a bird on his left side.

Context.

This golden ring has been found at the necropolis of Kalyvia and it is dated to the Neopalatial period (1500-1450 BC). (Heraklion Museum, no date).

The necropolis was excavated by Greek archaeologist Stephanos Xanthoudides and Italian archaeologist Luigi Savignoni. (Privitera, 2022, 2025). The lead on the excavation passed from Greek jurisdiction to Italian following what Santo Privitera (2022, pp.109) call 'a diplomatic crisis'; consequently, excavation records of the Kalyvia necropolis are incompletely published. In fact, a considerable amount of information has been lost, for instance, architectural records of all the tombs, human remains record of all individuals in each tomb and a complete funerary assemblage record of each tomb. (Privitera, 2022).

Kalyvia necropolis is situated in the Mesara plain on Crete and together with the cemeteries of Hagia Triada and Kamilari form the "Great Minoan triangle" (Privitera, 2025). On the other hand, Kalyvia possesses several particularities that distinguish it from the other two necropolises and point to a direct relation with the palace of Knossos. For example, the absence of *larnakes* (clay coffin) compared to possible wood coffin remains, rich burial assemblages, single shaft-grave similar to the cemeteries of Knossos and the lack of previous tombs in the area.(Privitera, 2025).

Past and current research

The golden ring found at Kalyvia belongs to a category of signet rings that depict human-nature interactions. Several other similar rings have been found in Crete and mainland Greece as seen on the picture below (Fig 2)



Fig 2 Ring of Kalyvia CMSII3, 114, the ring of Vapheio CMSI, 219 and the ring CMSI, 126 from Mycenae. Georgios Mavrofridis, 2018.

One of the earliest interpretations was proposed by Sir Arthur Evans. He understood the scenes on golden signet ring as a representation of a religious ritual in which a follower, in an altered state of conscious, invokes a nature goddess by shaking a tree. The female figure with a flounced skirt was interpreted as the goddess herself, while the tree was seen as her embodiment (Nilsson, 1940).

Evans also interpreted certain depictions as representations of a temple in which a tree is growing inside or immediately adjacent to the structure (Nilsson, 1940). John G. Younger (2009) went further by identifying a specific archaeological parallel: the Mycenaean sanctuary at Phylakopi.

Many researchers identify a strong connection between Minoan culture and the natural world. Caroline Tully (2024) emphasizes the agonistic nature of the human figure and links the subject on golden signet rings to the Cretan elite. She highlights the importance of trees in Minoan society and suggests that a particular elite group possessed a special ability that enabled them to understand the “language” of trees (Tully, 2024).

Vesa Pekka Herva (2006) and Jo Day (2012) draw on the new materialism approach seeing a diverse relation between human and the natural environment.

Previous studies have examined specific engraved elements on golden signet rings depicting human–nature interaction in order to gain a deeper understanding of their representational and symbolic meanings. Janice Crowley (2014), for example, interprets

small dots emerging from trees in combination with shaking gestures as visual indicators of beehives and practices of bee harvesting. Julia Binnberg (2022) has explored the symbolism of birds on signet rings, while Ute Günkel-Maschek (2021) has analysed human body postures, suggesting that certain gestures may convey emotions such as grief, distress, or insecurity. Katerina Giannaki (2021) has conducted a detailed study of arm and hand movements on golden signet rings, offering insights into the significance of the human body in relation to its surrounding environment.

Kyriakidis (2010) states that the engraving was an important decorative part of the rings carrying important meaning for the beholder. He studied that the signet ring and its seal exhibit different scenes, as a result two narratives are created.

Thus far, I have outlined the interpretations proposed by various researchers. In the following section, I present my own reading of the Gold Ring of Kalyvia, drawing on sensorial archaeological approaches and informed by new materialist perspectives.

Analysis: Materiality and Sensory Experience.

Nadine Becker (2015) has demonstrated that, through typological analysis of multiple golden signet rings, it is possible to identify individual artisans as the makers of more than one ring. This observation raises broader questions concerning craft production and knowledge transmission. As Tim Ingold (2011) argues, artisanal skill is grounded in an intimate, embodied knowledge of materials, tools, and one's own body. Within this framework, it becomes relevant to ask whether such skills were transmitted across generations or acquired through sustained engagement within a community of practice. If so, was ring-making regarded as an important and valued profession? Furthermore, questions of patronage and economic organization arise: who commissioned and financed these artisans? Were golden signet rings produced for private individuals, or were they distributed by institutions to select members of society?

Although the identities of these artisans remain unknown, it is possible to infer that golden signet rings were considered socially significant objects. This significance is suggested by the apparent communal acceptance that certain individuals could be relieved from agricultural labour to produce objects that were not strictly necessary for the immediate subsistence of the population.

In order to understand who the purchasers of golden rings may have been, it is necessary to adopt an experiential perspective and consider why an individual would desire such an object, as well as how the act of wearing a golden ring might have shaped everyday practices and lived experience.

The Kalyvia ring's materiality is fundamental to its agency. Gold is not a neutral medium: its weight, colour, warmth against the skin, and reflective surface would have continually asserted its presence in the wearer's daily life. Worn close to the body, the ring would have moved with the hand, catching light during routine gestures and

creating moments of visual and tactile awareness. As Morris (2004) and Becker (2017) note, these sensorial properties would have marked both the object and its wearer as socially significant, not only through visual display but through embodied experience.

Jo Day (2012) notes that some golden rings recovered from mortuary context were not always worn on the fingers but were at times tied around the wrist. This observation raises the question of why a ring, specifically designed with a circular loop to fit the finger, would instead be worn in this manner. I suggest that one possible explanation is that the ring was not originally made for the wearer, or that it had been acquired earlier in life and no longer fit as the individual aged. Such practices may indicate that golden rings functioned as markers of social significance within the community and were potentially passed down within families or socially defined groups or bestowed upon individuals of particular importance at a young age.

Sensory archaeology highlights that the engraving was primarily intended for the wearer rather than external viewers. Due to the small size of the bezel, the detailed imagery would have been difficult for others to perceive (Becker, 2017). Instead, the wearer would have encountered the scene repeatedly throughout the day, during moments of movement, work, and interaction. The act of looking at the ring, prompted by its reflective surface, became a sensory practice through which relationships with the natural world were continuously reaffirmed. In this sense, the ring functioned as a mnemonic and affective device, sustaining embodied knowledge rather than transmitting a fixed narrative.

Interpretation: Human–Nature Relations.

The scene engraved on the Kalyvia ring, I argue, exemplifies the importance of the natural world to Cretan communities. As Vesa-Pekka Herva (2016, pp. 592) observes, “due to prolonged social relations, even apparently inanimate things can ultimately grow into non-human persons or person-like beings”. From this perspective, it is not essential to identify every individual subject engraved on golden signet rings; rather, what matters is recognizing that each ring consistently presents an interaction between humans and nature. This relationship is both physical and psychologically significant, as it was considered important enough to be engraved onto personal objects.

Tully describes (2024) how the motif of the speaking tree finds parallel in multiple belief system of the Levant, as well as in the Hebrew Bible and in Greek textual evidence. I suggest that golden signet ring depicting human-nature relations may have belongs to individuals that were able to perceive and exhibit a special relation with the natural world. But once again I agree with Vesa Pekka Herva (2016, pp.592) that says, “to conceptualize the interaction between human and non-human person as ‘worship’, is to misrepresent the potential complexity of relationship between them”.

Conclusion.

In summary, golden signet rings depicting human–nature relationships, such as the Kalyvia ring, appear to have been owned by individuals who maintained a special, culturally recognized relationship with natural forces. These individuals likely experienced a sense of distinction, reinforced by the reflective qualities and material value of the gold, which signified that the ring was either bestowed by an institution or inherited within a family. The engraved imagery served as a reminder of the owner's unique skills and knowledge, setting them apart from others in the community. As a signet ring, it was used to create seals that marked the individual's identity; however, as Kyriakidis' (2012) study demonstrates, not all elements of the engraved design were transferred onto the seal, suggesting that certain features of the ring may have carried meanings understood only by the owner.

Specifically, with regard to the golden ring from Kalyvia, it is possible that the connections between this cemetery and Knossos involved a socially distinct group of individuals whose roles centred on mediating relationships between humans and natural forces. Such individuals may have possessed specialised forms of knowledge developed within Knossian contexts and later carried to other regions. In this framework, the ring would have functioned as a tangible marker of specialised identity and authority, while simultaneously signalling to the wider community the bearer's recognised role and expertise.

As the relationships with the natural world depicted on golden signet rings were inherently physical and sensorial, these objects should be studied through an analysis of their full sensory interactions with people. Rings were designed to be used and seen; they were crafted by artisans who had dedicated significant time to mastering their skills, and they were worn against the skin of their owners. In this way, the rings engaged with both their owners and with others through a combination of material presence and symbolic meaning, mediating social and environmental relationships simultaneously.

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