

SACRIFICIAL RELICS OR TROPHIES? ANIMAL HEADS IN BRONZE AGE CRETE*

Introduction

The discovery of animal skulls at Psychro Cave in the late nineteenth and early twentieth century helped shape the way in which animal heads have been interpreted in Bronze Age Crete. The reports of the first excavators mention a black, ashy layer which contained the bones and horns of cattle and goats, which Arthur Evans described in 1897 as a ‘sacrificial deposit’.¹ David Hogarth reported taking away “specimens of the skulls, horns, and bones found in the Upper Grot”,² which were subsequently published by William Boyd Dawkins. He noted that a modified cattle skull, which he identified as a domestic animal, “has probably been fixed to one of the sides of the shrine or to the altar, as a *Bucranium*”. Although there was no clear evidence that the skull was attached to the altar, like Evans, Boyd Dawkins was interpreting the animal remains in terms of later Greek practice. For him, the bucranium came from an animal “sacrificed in the Sanctuary of Zeus”.³ Subsequently, in his important book on Bronze Age religion, Nilsson suggested that “the bucranium, i.e. the head of the sacrificed bull, played a part in the Minoan cult as it did in the other cults and in Greek times when it was nailed to a tree in the holy grove or to the temple wall”.⁴ He also linked the co-occurrence of bull’s heads and double axes with sacrifice, although this is a topic of debate.⁵ Nevertheless, there is a longstanding association between animal heads and sacrifice in studies of Bronze Age Crete.⁶

* With thanks to the conference organisers, and connoisseurs of sacrifice, Robert Laffineur and Tom Palaima, whose hospitality we sadly were not able to enjoy in Texas.

¹ A.J. EVANS, “Further Discoveries of Cretan and Aegean Script: With Libyan and Proto-Egyptian Comparisons,” *JHS* 17 (1897) 355; F. HALBHERR and P. ORSI, “Scoperte nell’ Antro di Psychrò,” *Museo italiano di antichità classica* 2 (1888) 907.

² D. HOGARTH, “The Dictaeon Cave,” *BSA* 6 (1900) 101.

³ W. BOYD DAWKINS, “Remains of Animals Found in the Dictaeon Cave in 1901,” *Man* 2 (1902) 162. His interpretation was endorsed by A.B. COOK, *Zeus. A Study in Ancient Religion II*, 2 (1925) 926.

⁴ M.P. NILSSON, *The Minoan-Mycenaean Religion and its Survival in Greek Religion* (1950) 232. The term bull refers to the male animal, but in most discussions it is used interchangeably with cattle, which is how the term is used here.

⁵ For recent discussions with further references see M. HAYSOM, “The Double-Axe: A Contextual Approach to the Understanding of a Cretan Symbol in the Neopalatial Period,” *Oxford Journal of Archaeology* 29 (2010) 35–55; N. MARINATOS, *Minoan Kingship and the Solar Goddess* (2010) 116–120; H. WHITTAKER “Horns and Axes,” in E. ALRAM-STERN, F. BLAKOLMER, S. DEGER-JALKOTZY, R. LAFFINEUR & J. WEILHARTNER (eds), *Metaphysis. Ritual, Myth and Symbolism in the Aegean Bronze Age. Proceedings of the 15th International Aegean Conference, Vienna, Institute for Oriental and European Archaeology, Aegean and Anatolia Department, Austrian Academy of Sciences and Institute of Classical Archaeology, University of Vienna, 22-25 April 2014* (2015) 110; M. NIKOLAIDOU “Materialised Myth and Ritualised Realities: Religious Symbolism on Minoan Pottery,” in *EADEM* 100–106.

⁶ A.J. EVANS, *Scripta Minoa I* (1909) 196; Y. SAKELLARAKIS, “Das Kuppelgrab A von Archanes und das kretisch-mykenische Tieropferritual,” *Praehistorische Zeitschrift* 45 (1970) 188–192; N. MARINATOS, *Minoan Sacrificial Ritual: Cult Practice and Symbolism*, (1986), 40; P. REHAK, “The Use and Destruction of Minoan Stone Bull’s Head Rhyta”, in R. LAFFINEUR and W.-D. NIEMEIER (eds), *POLITEIA. Society and State in the Aegean Bronze Age. Proceedings of the 5th International Aegean Conference, University of Heidelberg, Archäologisches Institut, 10-13 April 1994* (1995) 453–454; S. HILLER, “Potnia/Potnios Aigon. On the religious aspects of goats in the Aegean Late Bronze Age”, in R. LAFFINEUR and R. HÄGG (eds), *POTNIA. Deities and Religion in the Aegean Bronze*

Another find from Psychro Cave, now in the Ashmolean Museum, is a haematite lentoid sealstone showing a frontal bull's head and two smaller wild goat heads either side (Figure 1a).⁷ The goat heads are clearly agrimia because of the long, curved horns. Like the goat heads, the bull's head is fleshed, rather than a skull, to which the term bucranium usually refers.⁸ Such animal heads are frequent on seals from the Protopalatial period onwards, becoming more detailed over time. These heads are sometimes regarded as having a symbolic meaning, and were also used in the Cretan Hieroglyphic script. This paper will explore this set of associations between the deposition of animal skulls, depictions of animal heads, and double axes which can be traced at Psychro and elsewhere. It will suggest that animal heads were significant things in themselves and rather than memorialising sacrifice, as Nilsson argued,⁹ were used in the commemoration of the butchery and consumption of particular animals. This shifts the focus from the act of killing, which does not leave a material trace, to the subsequent treatment of the animal body, which does.

Sacrificial relics?

The ashy layer at Psychro Cave was excavated before the Minoan pottery sequence had been established but it appears to date to the Protopalatial and Neopalatial period.¹⁰ There are a number of other contexts from these periods in which skulls were deposited. At Knossos Sir Arthur Evans named a building to the south east of the palace the 'House of the Sacrificed Oxen' after a deposit of cattle skulls.¹¹ The skulls were found with clay 'offering tables' beneath a large dump of pottery which dates the deposit to Middle Minoan III. Evans and Mackenzie suggested that these were deposited on the floor of the house after it had been destroyed by an earthquake, then partially re-excavated, and before it had been filled in again. Although the pottery is most likely connected with the Middle Minoan III earthquake attested elsewhere at Knossos, it is difficult to assess the link between this dump of pottery and the floor deposit of cattle skulls.¹² Here the term sacrifice relates to the theory that the animals were killed in honour of "the Powers below" as atonement for an earthquake, linked with later Greek practice: "in bulls doth the earthshaker delight".¹³

Two more recently-excavated closed deposits show a link between animal skulls and consumption debris. A bench deposit in Room IL at Protopalatial Phaistos contained a partial agrimi skull with the two horns still attached and a large deposit of pottery.¹⁴ At Neopalatial Nopigea-Drapanias near Rethymnon an agrimi skull was deposited at the

Age. Proceedings of the 8th International Aegean Conference, Göteborg, Göteborg University, 12-15 April 2000 (2001) 294.

⁷ CMS VI 448; A.J. EVANS *The Palace of Minos at Knossos* IV (1935) 587, fig. 581.

⁸ MARINATOS (*supra* n.5) argues that fleshed heads have a different significance than bucrania.

⁹ NILSSON (*supra* n.4) 232; MARINATOS (*supra* n. 6) 40.

¹⁰ L.V. WATROUS, *The Cave Sanctuary of Zeus at Psychro. A Study of Extra-urban Sanctuaries in Minoan and Early Iron-Age Crete* (1996) 47-52.

¹¹ A.J. EVANS *The Palace of Minos at Knossos* II (1928) 301-11.

¹² A. MACGILLIVRAY, *Knossos: Pottery Groups of the Old Palace Period* (1998) 46-49; I.

MATHIOUDAKI, "The Pottery Deposit from the Houses of the Fallen Blocks and the Sacrificed Oxen at the South-Eastern Corner of the Palace of Knossos," *BSA* 113 (2018), 20-31

¹³ EVANS (*supra* n. 11), 302.

¹⁴ I. CALOI, "Memory of a feasting event in the First Palace of Phaistos: Preliminary Observations on the Bench Deposit of Room IL," *Creta Antica* 13 (2012) fig. 10; EADEM "Preserving memory in Minoan Crete: Filled-in bench and platform deposits from the First Palace of Phaistos," *Journal of Greek Archaeology* 2, 46.

bottom of a pit which was then filled with ceramics.¹⁵ In both cases the skulls appear to be related to a single event, and they are both described in these publications as examples of structured deposition.¹⁶ This shifts the focus to the way in which the consumption event has been memorialised through the deliberated deposition of the remains in a certain way. In both cases the method of killing the agrimi is unknown, but there is abundant iconographic evidence for the hunting of agrimia in this period.¹⁷ Hunting has been seen as a form of sacrifice in Bronze Age Crete,¹⁸ but this broadens the definition of sacrifice to include most animal killing, blurring the different relations between humans and domestic versus non-domestic animals.

Another deposit dating to the Neopalatial period which includes a number of animal skulls is the sanctuary at Kato Syme.¹⁹ It was the result of repeated episodes of cooking meat on open fires around the central stone structure. Here the excavators argue that “There is ample evidence from this area that the heads of the victims, complete with horns, were deposited in the remains of the fires”.²⁰ They are careful to distinguish this from the practice of burnt animal sacrifice attested in Mycenaean and later Greece, in which a portion of the carcass was deliberately burned.²¹ Instead, they suggest that the heads were remains of ritual meals consumed by worshippers at the site and only deposited in the fire at the end, since there was little sign of burning. This suggests that the animal head could have remained on display while its meat was consumed. The deposition of the head is defined by the excavators as a sacrificial offering since, they suggest, it was intended for the deity. Here the term ‘sacrifice’ refers primarily to the offering of a portion of the carcass, the rest of which is cooked and eaten.

The deposition of cattle heads continues in the Final Palace period. A cattle skull found in the wall of a side chamber at Tholos Tomb A at Archanes was interpreted by the excavators as a

¹⁵ Y. HAMILAKIS and K. HARRIS, “The social zooarchaeology of feasting: the evidence from the ‘ritual’ deposit at Nopigeia-Drapanias”, in E. KAPSOMENOS, M. ANDREADAKI-VLAZAKI and M. ANDRIANAKIS (eds), *Pepragmena tou I’ Diethnous Kritologikou Synedriou A* (2011) 199-218.

¹⁶ HAMILAKIS and HARRIS (*supra* n. 15) 214; I. CALOI (*supra* n. 14, 2012) 41-42; see also V. ISAAKIDOU and P. HALSTEAD “Bones and the body politic? A diachronic analysis of structured deposition in the Neolithic–Early Iron Age Aegean,” in G. EKROTH and J. WALLENSTEN (eds), *Bones, Behaviour and Belief: The Zooarchaeological Evidence as a Source for Ritual Practice in Ancient Greece and Beyond* (2013) 90-93.

¹⁷ E. BLOEDOW, “The Significance of the Goat in Minoan Culture”, *Praehistorische Zeitschrift* 78 (2003) 1-59.

¹⁸ MARINATOS (*supra* n. 6) 42-50; for a dissenting view see E. BLOEDOW “Notes on animal sacrifices in Minoan religion,” *Journal of Prehistoric Religion* 10 (1996) 31-44.

¹⁹ A. LEBESSI and P. MUHLY, “Aspects of Minoan Cult: Sacred Enclosures. The Evidence from the Syme Sanctuary (Crete),” *Archäologischer Anzeiger* (1990) 315-336

²⁰ *ibid.* 328.

²¹ B. BERGQUIST, “The Archaeology of Sacrifice: Minoan-Mycenaean Versus Greek. A Brief Query into Two Sites with Contrary Evidence,” in R. HÄGG, N. MARINATOS and G.C. NORDQUIST (eds), *Early Greek Cult Practice. Proceedings of the Fifth International Symposium at the Swedish Institute at Athens, 26-29 June, 1986* (1988) 21-34; V. ISAAKIDOU, P. HALSTEAD, J. DAVIS and S. STOCKER, “Burnt Animal Sacrifice in Late Bronze Age Greece: New Evidence from the Mycenaean ‘Palace of Nestor’, Pylos,” *Antiquity* 76 (2002) 86-92; Y. HAMILAKIS and E. KONSOLAKI “Pigs for the Gods: Burnt Animal Sacrifices as Embodied Rituals at a Mycenaean Sanctuary,” *Oxford Journal of Archaeology* 23 (2004) 135-151; J. WEILHARTNER, “Textual Evidence for Burnt Animal Sacrifice and Other Rituals Involving the Use of Fire in Mycenaean Greece” in E. ALRAM-STERN *et al.* (*supra* n. 5) 393-403.

sacrifice.²² To support this interpretation they link it with the roughly contemporary Ayia Triada sarcophagus, which appears to show the slaughter of a bull, but it does not show a human either killing or decapitating the animal.²³ In the process of slaughter, whether ritualised or not, the animal is usually stunned, and then its throat slit in order to kill it. The next step, perhaps shown on the sarcophagus, is to drain the blood so that the meat does not spoil.²⁴ The carcass is then dismembered or butchered and the meat consumed. Many Aegean Bronze Age archaeologists would describe the entire process as sacrifice or sacrificial feasting if the killing is ritualised.²⁵ None of the depictions of bulls trussed on offering tables, a scene which also appears on a number of seals, can be dated earlier than the Final Palace Period (figure 1b).²⁶ The Archanes skull is described as sacrificial by association with this set of depictions.

Animal skulls continued to be significant at some sites in the Postpalatial period. Room B4 in Building B at Vronda contained a deposit consisting of a circle of bucrania, at least one pair of agrimi horns and boar mandibles. Although it has been suggested that they were from sacrificial victims,²⁷ the excavators focus on the treatment of the skulls. “In this Early LMIIIC context, where horns of consecration and bull imagery are so prevalent and have ritual significance, it seems likely that the cattle skulls and agrimi horn cores were deliberately altered to form objects of ritual or decorative significance”.²⁸ Although they do not exclude the possibility that the animals were sacrificed, they point out that the deposit is related to these remains being used as wall decorations rather than being associated with consumption debris.²⁹ Modified agrimi skulls, frontlets, are associated with consumption debris at Postpalatial Chania.³⁰ A cattle skull deposited in a pit at Thronos Kephala has been described in terms of structured deposition.³¹

Returning to Psychro, both cattle and agrimi frontlets were found, consisting of the horns and a portion of the skull.³² Like those found in the later deposit at Vronda they could have been modified for display. Before the perfection of taxidermy in the nineteenth century, the

²² SAKELLARAKIS (*supra* n. 6) 157-158; Y. SAKELLARAKIS and E. SAPOUNA-SAKELLARAKI, *Archanes: Minoan Crete in a New Light I* (1997) 264-265. They identify the skull as an auroch (*Bos primigenius*) but there is no clear evidence for this species on Crete despite such identifications. See J.-D. VIGNE, “The Large “True” Mediterranean Islands as a Model for the Holocene Impact on the European Vertebrate Fauna? Recent Data and New Reflections,” in N. BENECKE (ed), *The Holocene History of the European Vertebrate Fauna* (1999) 300.

²³ C.R. LONG, *The Ayia Triadha Sarcophagus, A Study of Late Minoan and Mycenaean Funerary Practices and Beliefs* (1974) 61-68.

²⁴ Not all authors interpret the scene in this way. Cromarty suggests that this is a depiction of the blood-letting of a live animal: R.J. CROMARTY, *Burning Bulls, Broken Bones: Sacrificial Ritual in Context of Palace Period Minoan Religion*, 15-16.

²⁵ HAMILAKIS and KONSOLAKI (*supra* n. 21) 145; T. PALAIMA, “Sacrificial Feasting in the Linear B Documents,” *Hesperia* 73 (2004), 217-246; ISAAKIDOU and HALSTEAD (*supra* n. 16) 87-89.

²⁶ REHAK (*supra* n. 6) 452.

²⁷ A. MAZARAKIS AINIAN, *From Rulers' Dwellings to Temples: Architecture, Religion and Society in Early Iron Age Crete (1100-700 B.C.)* (1997) 295-296.

²⁸ L. PRESTON DAY, N.L. KLEIN and L.A. TURNER, *Kavousi IIA. The Late Minoan IIIC Settlement at Vronda. The Buildings on the Summit* (2009) 43.

²⁹ *ibid.* 62.

³⁰ K. HARRIS, *The Social Role of Hunting and Wild Animals in Late Bronze Age Crete: A Social Zooarchaeological Analysis* (Unpublished PhD dissertation, University of Southampton, 2014) 268-273.

³¹ ISAAKIDOU and HALSTEAD (*supra* n. 16) 91.

³² BOYD DAWKINS (*supra* n. 3) 162-163.

display of animal heads was only possible for a brief period before the head started to rot, so either they were briefly on show or they would have been displayed as skeletal parts. Such animal parts are often referred to as trophies, usually in association with hunting. Although the Psychro frontlets could have been displayed as trophies,³³ they were found in an ashy layer rather than fixed to an altar. The structured deposition of heads at Knossos and Nopigea, and a partial agrimi skull or frontlet at Phaistos, suggests short period of display followed by deposition as part of a single consumption event. Rather than interpreting such skeletal parts in terms of one of the various practices described as sacrificial described above,³⁴ their significance can be assessed by turning to depictions of heads, most of them fleshed, in Bronze Age Crete and the wider Aegean.

Rhyta

Bucrania were associated with animal head rhyta by Nilsson, but he suggested that, unlike bucrania, rhyta were not primarily religious. “They seem to have been fanciful vessels of luxury which were sometimes also dedicated to the gods or used in the cult”.³⁵ But rather than being fanciful, the finest examples appear to be simulacra of decapitated animal heads. The most well-known example of a bull’s head rhyton, found in fragments in the Little Palace at Knossos, has jasper inserts in the eye and rock crystal lenses, which Evans suggested “give an almost startling impression of fiery life”.³⁶ Furthermore, they could be animated by filling them with liquid which would spew from a hole at the muzzle. Although it has been argued that this liquid could have been blood, it is more likely that wine was used instead.³⁷ Such objects would have acted as effective substitutes for real heads, particularly when filled with metaphorical blood.³⁸ Most were smaller than lifesize but a fragment of a larger stone bull’s head, most likely a rhyton, was found at Juktas.³⁹

In his extensive discussion of animal head rhyta, Paul Rehak made the intriguing suggestion that stone rhyta were found in fragments because they had been decommissioned using a blow to the muzzle, replicating that used to stun animals.⁴⁰ While his analysis of their fragmentation is significant, cattle are usually stunned either by severing the spinal cord with a cut to the back of the neck or with a crushing blow delivered to the forehead.⁴¹ On the bull’s head rhyton from the Little Palace, a rosette, sometimes regarded as a hair swirl, occurs at the place where a stunning blow would typically be delivered. The gold rosette on the silver bull’s head rhyton from Mycenae Shaft Grave IV occurs in a similar place.⁴² This helps

³³ E. BLOEDOW (*supra* n. 18) 32.

³⁴ For a fuller discussion of the different practices regarded as sacrificial in the Bronze Age Aegean see L. RECHT, *Sacrifice in the Bronze Age Aegean and Near East. A Poststructuralist Approach* (Unpublished PhD dissertation, Trinity College Dublin, 2011) 77-147.

³⁵ NILSSON (*supra* n. 4) 146.

³⁶ EVANS (*supra* n. 11) 530; R. KOEHL, *Aegean Bronze Age Rhyta* (2006) 118.

³⁷ MARINATOS (*supra* n. 6) 31; KOEHL (*supra* n. 36) 263.

³⁸ R. LAFFINEUR, “Weitere Beiträge zur Symbolik im mykenischen Bestattungsritual,” in *Kolloquium zur ägäischen Vorgeschichte* (1987) 125-132.

³⁹ A. KARETSOU and R. KOEHL, “Cult Object–Image–Emblem: A Life-sized Bull’s Head from the Juktas Peak Sanctuary,” in R. KOEHL (ed), *Amilla: The Quest for Excellence. Studies Presented to Guenter Kopcke in Celebration of His 75th Birthday* (2013) 135-143.

⁴⁰ REHAK (*supra* n. 6) 451.

⁴¹ G. ALDRETE, “Hammers, Axes, Bulls, and Blood: Some Practical Aspects of Roman Animal Sacrifice,” *Journal of Roman Studies* 104 (2014) 35-36.

⁴² KOEHL (*supra* n. 36) 115.

reinforce Rehak's argument that these animal head rhyta were connected with the slaughter and decapitation of cattle, but with the stunning blow marked rather than delivered to the rhyton. The pattern of breakage Rehak noted could instead have occurred by throwing these rhyta to the ground.

The only lion's head rhyta known from Crete, from Knossos, were carved from stone, although examples in other materials are known from the Bronze Age Aegean.⁴³ There is abundant zooarchaeological and iconographic evidence for lion hunting in Mainland Greece and so these rhyta could have acted as simulacra of trophy heads.⁴⁴ Cut marks on bones indicate skinning, almost certainly followed by consumption: skins would also have been used as trophies of lion hunts.⁴⁵ No lion skulls have yet been found in the Bronze Age Aegean, although bones consistent with both consumption and skinning have on the Mainland, but not on Crete.⁴⁶ By contrast, agrimi skulls are found in a variety of contexts on Crete, although the evidence for agrimi head rhyta is sparse. They do appear to be carried alongside bull's head rhyta by the Keftiu in Egyptian tomb paintings,⁴⁷ and gold foil agrimi horn coverings from Juktas appear to indicate their existence.⁴⁸

The origins of animal-head rhyta in Crete have been sought in imported vessels from Anatolia, because of the straight necks of the polychrome Protopalatial examples found at Phaistos and Kommos.⁴⁹ This shape could instead be the result of their initial manufacture on the wheel before shaping. The origins of the shape are important because the question of foreign influence draws attention away from the significance of animal heads in consumption activities in this period. The more typical type, with a bent neck, appears soon after the straight-necked version, at the end of the Protopalatial period at Phaistos and perhaps elsewhere.⁵⁰ Although zoomorphic rhyta are attested in the Prepalatial period, it is only in the Protopalatial period that animal head rhyta appear. The most naturalistic examples, made from carved stone, belong to the Neopalatial period, and pottery examples continue to be produced in the Final Palace period and later. These later ceramic rhyta are usually cattle, but a ram's head rhyton was found at Chania.⁵¹ They point to the continuing significance of animal heads on Crete.

⁴³ KOEHL (*supra* n. 36) 121-123.

⁴⁴ N. RHYNE, *The Aegean Animal Style: A Study of the Lion, Griffin, and Sphinx* (Unpublished PhD dissertation, University of North Carolina (1970)); N. THOMAS, "The Early Mycenaean Lion up to Date," in A.P. CHAPIN (ed) *CARIS: Essays in Honor of Sara A. Immerwahr*, 161-206; EADEM "A Lion's Eye View of the Greek Bronze Age," in G. TOUCHAIS, R. LAFFINEUR and F. ROUGEMONT (eds) *PHYSIS: L'Environnement naturel et la relation homme-milieu dans le monde Égéen protohistorique. Actes de la 14e Rencontre égéenne internationale, Paris, Institut National d'Histoire de l'Art (INHA), 11-14 décembre 2012* (2014) 375-389; E. ANDERSON, "The Poetics of the Cretan Lion: Glyptic and Oral Culture in the Bronze Age Aegean," *AJA* 124 (2020) 345-379.

⁴⁵ A.J. SHAPLAND "The Minoan Lion: Presence and Absence on Bronze Age Crete," *World Archaeology* 42 (2010) 285.

⁴⁶ THOMAS (*supra* n. 44, 2014) 378-379.

⁴⁷ S. WACHSMANN, *Aegeans in the Theban Tombs* (1987) 56-60.

⁴⁸ R. KOEHL and A. KARETSOU, "An enigmatic piece of gold-work from the Juktas peak sanctuary," in F. CARINCI, N. CUCUZZA, P. MILITELLO and O. PALIO (eds) *Κρήτης Μινωίδος. Tradizione e identità Minoica tra Produzione Artigianale, Pratiche Cerimoniali e Memoria del Passato* (2011) 207-222.

⁴⁹ E.B. MILLER, *Zoomorphic Vases in the Bronze Age Aegean* (Unpublished PhD dissertation, New York University, Institute of Fine Arts 1984), 85; REHAK (*supra* n. 6) 445-447; KOEHL (*supra* n. 36) 39-42.

⁵⁰ KOEHL (*supra* n. 36) 32.

⁵¹ B.P. HALLAGER, "The Ram in Cultic Contexts?" in LAFFINEUR and HÄGG (*supra* n. 6) 315-320.

Seals

A similar picture emerges from Cretan seals. Arthur Evans highlighted a particularly naturalistic Neopalatial seal which resembled a decapitated calf's head (figure 1c), as he put it "dressed, without the eyes, for culinary purposes." Three dots in the field, he conjectured, indicated that "it was a seal for warrants for a share of sacrificial offerings such as is usually allotted to votaries".⁵² This idea of meat-sharing has not drawn as much attention as the idea that cattle heads are associated with sacrifice. The two are not mutually exclusive, as the implicit comparison with later Greek practice shows. As with rhyta, animal heads first appear on seals in the Protopalatial period, long before depictions of cattle trussed on tables.

The most frequent type of animal heads on Protopalatial seals are cattle and goat, followed by dog and cat (figure 2).⁵³ Some of these are signs in hieroglyphic inscriptions, but it is not always easy to differentiate between script signs and either decoration⁵⁴ or imitations of script.⁵⁵ As a result, hieroglyphic inscriptions are not distinguished in figure 2. One way to explore the significance of the signs is to look at their use on Cretan Hieroglyphic clay tablets, where sign 152 is used as an ideogram. This appears to be a bovid head without horns, often referred to as a 'calf', although it could be a sheep⁵⁶. It shows that at least some animal heads were used to refer to real animals rather than acting as syllabograms. Animal heads continue to be used as ideograms for some animals in both Linear A and Linear B, although the major domesticates (sheep, goat, cattle) are more schematic forms which refer to horn shape.

Animal heads appear frequently on Protopalatial soft stone three-sided prisms whose designs are not generally interpreted as inscriptions (figure 1d).⁵⁷ The faces of these seals show a variety of simple forms, many of which appear to be linked to human activities, including weaving, potting, hunting and fishing.⁵⁸ These activities are sometimes shown explicitly, as with a person holding a fish, but mostly using a shorthand, such as a fish or loomweights. In this context animal heads could refer to livestock rearing and the supply of these animals for consumption events. Since goats are shown in profile it is possible that heads refer to domestic goats, and whole animals to hunted wild goats, but the important

⁵² CMS VI 421. EVANS (*supra* n. 7) 491; Morgan discusses the occurrence of three dots on other seals with cattle and identifies them as a 'sacrificial symbol', L. MORGAN, "Frontal Face and the Symbolism of Death in Aegean Glyptic," in W. MÜLLER (ed) *Sceaux minoens et mycéniens. IVe symposium international, 10-12 septembre 1992, Clermont-Ferrand*. (1995) 142.

⁵³ The sample used in Figure 2 and 3 comprises all seals published in CMS II-IV, seals from Crete published in CMS I (Athens) and CMS V (smaller Greek collections) and seals known to have been collected on Crete published in CMS VI (Ashmolean Museum), CMS VII (UK museums), CMS IX (Bibliothèque Nationale Paris) and CMS XI (Metropolitan Museum of Art).

⁵⁴ This is particularly the case for the cat head which is not accepted as a script sign in *CHIC*, J.-P. OLIVIER and L. GODART, *Corpus Hieroglyphicarum Inscriptionum Cretae* (1996) 13-14. For an opposing view see J.G. YOUNGER, "The Cretan Hieroglyphic Script: A Review Article," *Minos*, 31-32 (1999) 387; A. JASINK, *Cretan Hieroglyphic Seals: A New Classification of Symbols and Ornamental/Filling Motifs* (2009) 46-48.

⁵⁵ M. ANASTADIADOU, *The Middle Minoan Three-Sided Soft Stone Prism: A Study of Style and Iconography* (2011) 209-215, 355.

⁵⁶ There are three occurrences of ideogram 152 listed in *CHIC*, two of them on the same document (Hh (08) 01): Fig. 3.12. As with the clay bar Hh (08) 02, the ideogram is associated with the numeral 1, and both documents are from Knossos. OLIVIER and GODART (*supra* n. 54) 118-121, 423 [#065, #067].

⁵⁷ ANASTASIADOU (*supra* n. 55) 341-358.

⁵⁸ O. KRZYSZKOWSKA, *Aegean Seals: An Introduction* (2005) 92-95; ANASTASIADOU (*supra* n. 55) 349.

point is that these depictions can be linked to real world forms and activities rather than being regarded as symbols.

Animal heads continue to be depicted in the Neopalatial period, with a cattle heads continuing to be the most popular. Most of these show the head frontally, with the talismanic seals making up over half of these (figure 1e).⁵⁹ These stylised cattle heads appear to relate to the Cretan Hieroglyphic script, further emphasising the difficulty in isolating script signs.⁶⁰ There are a small number of dog and lion heads, which appear to relate to hunting. One seal from Ayia Triada shows a dog, lion, cattle head in profile and a frontal boar's head (figure 1f). These are all animals involved in hunting in this period, although the dog was a hunting companion rather than prey animal (although could have been eaten too).⁶¹ There are also a large number of different animal heads among the Zakro seals, which are not included in Figure 1 since they are part of composite forms. Notably, these include the very few bucrania shown on Cretan seals (figure 1g), since the large majority are fleshed heads. Although the Zakro seals combine different parts of animals and other entities, they show that animal skulls were significant in this period.

Animal heads continue to be depicted on Final Palatial seals, but in fewer numbers (figure 3). Some show animal heads frontally or in profile, such as the seal from Psychro Cave. Others show much smaller heads whose relation to the scenes is sometimes unclear. A seal from Kalyvia, for instance shows a lion with a goat head above its back and another between its legs (figure 1h). Morgan relates the depiction of cattle heads to sacrifice, particularly those shown frontally.⁶² One sealing she discusses does show animal heads beneath a scene of a bull trussed to a table (figure 1b). By this time, the animal heads depicted are generally cattle and goats.

Discussion

The evidence from zooarchaeology, zoomorphic rhyta and seals is complementary: animal heads were deposited and depicted from the Protopalatial period onwards. Cattle heads (and double axes) also appear on ceramics at this time.⁶³ Partly because of their use in the Cretan Hieroglyphic script they are particularly prevalent on seals in the Protopalatial period. Animal heads continue to be depicted and deposited in the Neopalatial period, when there are some increasingly naturalistic depictions on both seals and zoomorphic rhyta. The detail of the depiction establishes that they are fleshed heads, often, but not exclusively, from cattle. In the Final Palace period, animal heads continue to be depicted on seals, although often as subsidiary fillers. Animal head rhyta continue to be made in ceramic after the end of the palatial period, and the deposition of animal heads continues.

Like animal heads, double axes were depicted from the Protopalatial period onwards and votive replicas were also produced. The association between double axes, cattle heads and sacrifice, put forward by Nilsson, has been doubted because double axes and cattle heads are

⁵⁹ A. ONASSOGLU, *Die ›talismanischen‹ Siegel* (1985), 120-127.

⁶⁰ A. JASINK, "From "Hieroglyphic" to "Talismanic" Symbols," *Pasiphae* 10 (2016) 22.

⁶¹ L. Snyder and W. Klippel, "From Lerna to Kastro: Further Thoughts on Dogs as Food in Ancient Greece: Perceptions, Prejudices and Reinvestigations," in E. Kotjabopoulou, Y. Hamilakis, P. Halstead, C. Gamble and P. Elefanti (eds) *Zooarchaeology in Greece: Recent Advances*, 221-231.

⁶² MORGAN (*supra* n. 52).

⁶³ M. NIKOLAIDOU, "Materialised Myth and Ritualised Realities: Religious Symbolism on Minoan Pottery," in E. ALRAM-STERN *et al.* (*supra* n. 5) 100-106.

both depicted in the Protopalatial period, but only come together in the Neopalatial period.⁶⁴ Even then, depictions of cattle heads with double axes between their horns are comparatively rare.⁶⁵ Nevertheless, they are found at the same sites as animal skulls and, as Arthur Evans pointed out, there are associations between double axes and bull's head rhyta at Knossos in the Final Palace period. In the Tomb of the Double Axes, with its extraordinary double-axe-shaped burial shaft, thin bronze-sheet double axes were found in association with fragments from a bull's head rhyton; in the fill a more solid double axe was found.⁶⁶ These solid double axes found in palatial Crete could have been used to kill an immobilised animal with a blow to the back of the neck, but it is equally likely that a stunning blow was delivered to the front of the head and then an axe was used to divide the meat into portions for roasting.⁶⁷ The thinner double axes would not have been an effective chopping tool, and are likely votive, although it is not impossible that some of the blades could have been used ceremonially to slice meat or for skinning.⁶⁸ In the Little Palace, the bull's head rhyton was found in association with a stand of the type used for these votive double axes, apparently depicted on the Ayia Triada sarcophagus and also found at Psychro Cave.⁶⁹

As Cromarty has argued, at sites such as Psychro, there is evidence for 'commensal meat rituals' but not unambiguous evidence of sacrifice.⁷⁰ This is because the zooarchaeological remains at these sites consist of butchered animals, whose meat appears to have been cooked and eaten, but not evidence for the method (or location) of slaughter. There is iconographic evidence for the hunting of both cattle, most likely feral, and agrimia on Bronze Age Crete, so their heads or horns could be regarded as hunting trophies, as Bloedow argues.⁷¹ Whether these animals were domestic, non-domestic, or a mixture of both, and however they were killed, the term trophy can be broadened to refer to the display of animal heads. Since heads are the least meaty parts of an animal, and the horns of cattle and goats were used for industrial purposes, the presence of their heads suggests that the carcass was likely to have been divided at these sites and the head sometimes retained for commemorative purposes.⁷² Rather than memorials of either a hunt or a sacrifice, these heads were more immediately connected with the division, sharing and consumption of meat.

The depiction of animal heads in Crete begins in the palatial period. If the idea that heads were put on display as trophies during consumption events is accepted, different phases can

⁶⁴ H.G. BUCHHOLZ, *Zur herkunft der kretischen Doppelaxt. Geschichte und auswärtige Beziehungen eines minoischen Kultsymbols* (1959) 19; HAYSOM (*supra* n. 5) 37-38.

⁶⁵ On pottery: an MMIII jar from Palaikastro, R. BOSANQUET and R. DAWKINS, *The Unpublished Objects from the Palaikastro Excavations* (1923) 19-21, pl. XII; an LMI vessel from Pseira, R. SEAGER, *Excavations on the Island of Pseira, Crete* (1910) pl. VII; seals include CMS II 3 11, which could be Neopalatial and CMS XII 250, dated LMII-III A1.

⁶⁶ A.J. EVANS, "The 'Tomb of the Double Axes' and Associated Group, and the Pillar Rooms and Ritual Vessels of the 'Little Palace' at Knossos," *Archaeologia* 65 (1914) 33-59.

⁶⁷ One example is inscribed with a bull's head: C. Mavryiannaki, "Double Axe-Tool with an Engraved Bucranium from the District of Amari (Nome of Rethymno)," *Athens Annals of Archaeology* 11 (1978) 198-208.

⁶⁸ The bronze objects sometimes described as 'cutters' are the same form as each half of the 'votive' double axes. J. BOARDMAN, *The Cretan Collection in Oxford: The Dictaeon Cave and Iron Age Crete* (1961) 23, 42-45. A sturdier version from Psychro is in the Metropolitan Museum (26.31.474).

Compare the Inuit ulu or Tibetan kartika, both curved flaying knives. Knives were also abundant at Psychro which could have been used for filleting.

⁶⁹ EVANS (*supra* n. 66) 72.

⁷⁰ CROMARTY (*supra* n. 24) 107.

⁷¹ BLOEDOW (*supra* n. 18) 34-35.

⁷² CROMARTY (*supra* n. 24) 82-3.

be sketched out which parallel the development of feasting in prehistoric Crete.⁷³ The first phase, beginning in the Protopalatial period is closely connected with diacritical feasting in which the provision and sharing of meat was a means of establishing and maintaining social groups. The prevalence of animal heads on seals would then be linked with the provision of animals for such events. The second, Neopalatial, phase, is marked by the creation of increasingly realistic simulacra of animal heads, first in clay and then stone (and likely metal), mirrored in detailed seal depictions of animal heads. Animal head rhyta were used to distinguish palatial consumption events from others, in which finely crafted heads were used as well as or instead of real heads. At this time, the use of heads as hunting trophies also appears to have developed, with lion heads as both rhyta and on seals (alongside deer, boar and hunting dogs); although hunting and sacrifice are different ways of killing animals, both domestic and non-domestic animal bodies were consumed at the same events. In the third phase, animal heads, and the butchery tools associated with these consumption events, double axes, became symbols,⁷⁴ derived from the rituals of palatial consumption. As a result, large double axes on stands and smaller votives became part of cult equipment. The depiction of cattle on tables in the Final Palace period perhaps marks the increasing significance of ritualised slaughter, *i.e.* sacrifice, at this time, which can be linked to Mainland practices.⁷⁵

Following the end of the palatial period, heads continued to be deposited as part of consumption events, as at Chania, and put on display, as at Vronda. Indeed, as the excavators of Syme argue, the offering of heads continued on Crete into later periods.⁷⁶ By tracing the history of the deposition and depiction of animal heads on Crete, it becomes possible to disentangle them from the theories of burnt animal sacrifice with which they were invested by the first excavators, or the other types of sacrifice they have been subsequently associated with. It is likely that the killing of domestic animals was ritualised in prehistoric Crete, but the zooarchaeological and iconographic evidence points to the greater significance of the consumption of both domestic and non-domestic animals. Rather than sacrificial relics, heads were used actively as trophies, displayed as a memento of the provision and division of animal carcasses whose meat was a critical part of the consumption events that shaped and defined palatial Crete.

Andrew SHAPLAND

⁷³ Y. HAMILAKIS, "Too Many Chiefs?: Factional Competition in Neopalatial Crete," in J. DRIESSEN, I. SCHOEP and R. LAFFINEUR (eds), *Monuments of Minos: Rethinking the Minoan Palaces*, 194-197; E. BORGNA, "Aegean Feasting: A Minoan Perspective," *Hesperia* 73 247-279; D. HAGGIS, "Stylistic Diversity and Diacritical Feasting at Protopalatial Petras: A Preliminary Analysis of the Lakkos Deposit," *AJA* 111, 755-770; L. GIRELLA, "Feasts in 'transition'? An overview of feasting", in L.A. Hitchcock, R. Laffineur and J. Crowley (eds), *DAIS. The Aegean Feast*. Proceedings of the 12th International Aegean Conference, University of Melbourne, Centre for Classics and Archaeology, 25-29 March 2008 (2008) 411-426.

⁷⁴ HAYSOM (*supra* n. 5) 51-52.

⁷⁵ ISAAKIDOU et al. (*supra* n. 21); PALAIMA (*supra* n. 25); ISAAKIDOU and P. HALSTEAD (*supra* n. 16).

⁷⁶ LEBESSI and P. MUHLY (*supra* n. 19) 328

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Figure 1: Drawings of seal impressions: a) LB II-LB IIIA₁ seal from Psychro Cave (CMS VI 448); b) LB IIIA seal from Knossos (II 3 338); c) LMI seal from Mirabello area (CMS VI 421); d) face a of MMII three-sided prism from Mallia Sealcutter's Workshop (CMS II 2 170a); e) LMI seal from Psychro Cave? (CMS II 3 289); f) LMIB sealing from Ayia Triada (CMS II 6 92); LMIB sealing from Kato Zakros (CMS II 7 155); g) LMIIIA seal from Kalyvia (II 3 104).

Figure 2: Bar chart showing the number of animal heads depicted on a sample of seals from Crete.

Figure 3: Bar chart showing proportion of animal heads compared to complete animals in a sample of seals from Crete.