

THE USE AND DESTRUCTION OF MINOAN STONE BULL'S HEAD RHYTA *

One of the most important functions of a conference such as *Politeia* is the chance to reexamine old evidence with fresh eyes. It is now exactly a quarter century since Peter Warren published his monumental study, *Minoan Stone Vases*, in which he presented the 16 stone rhyta in the shape of bull's heads known at that time, some of them still not well known today¹. Warren chose as his primary example the spectacular head from the Little Palace at Knossos (Cat. #1: Pl. XLIXa), a piece so well known that it tends to blind us to the existence of the other bull's head rhyta, and so skillfully restored that it is easy to forget that only two thirds of it actually survives.

The number of bull's head rhyta can now be increased to a surprisingly large total of 23 (see *Catalogue*), and because examples have been found both on Crete and the mainland, they form an unusual class of vessel shared by both Mycenaeans and Minoans², and thus an

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The following abbreviations have been used in addition to those in *AJA* 95 (1991) 1-16:

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| <i>Aegean Ptg</i> | S. IMMERWAHR, <i>Aegean Painting in the Bronze Age</i> (1990); |
| <i>Ancient Crete</i> | L. VON MATT <i>et al.</i> , <i>Ancient Crete</i> (1968); |
| <i>Archanes</i> | J. and E. SAKELLARAKIS, <i>Archanes</i> (1991); |
| <i>CM</i> | S. MARINATOS and M. HIRMER, <i>Crete and Mycenae</i> (1960); |
| <i>HistMinPot</i> | P.P. BETANCOURT, <i>The History of Minoan Pottery</i> (1985); |
| <i>HM</i> | Heraklion Museum; |
| <i>KTMH</i> | S. MARINATOS and M. HIRMER, <i>Kreta, Thera und das mykenische Hellas</i> (1976); |
| <i>MSV</i> | P. WARREN, <i>Minoan Stone Vases</i> (1969); |
| <i>NMA</i> | National Archaeological Museum at Athens; |
| <i>PGC</i> | H.-G. BUCHHOLZ and V. KARAGEORGHIS, <i>Prehistoric Greece and Cyprus</i> (1973); |
| <i>Relief</i> | B. KAISER, <i>Untersuchungen zum minoischen Relief</i> (1976); |
| <i>TDA</i> | A. EVANS, <i>The 'Tomb of the Double Axes' and Associated Group, and the Pillar Rooms and Ritual Vessels of the 'Little Palace' at Knossos</i> , <i>Archaeologia</i> 45 (1914); |
| <i>Zakros</i> | N. PLATON, <i>Zakros. The Discovery of a Lost Palace of Ancient Crete</i> (1971). |

1 On Aegean stone vases, see in addition to *MSV*: J. SAKELLARAKIS, "Mycenaean Stone Vases", *SMEA* 17 (1976), 174-187; A. DICKERS, "Spätbronzezeitliche Steingefäße des griechischen Festlandes", *SMEA* 28 (1990), 125-223 (with additional bibliography); D. EVELY, *Ground Stone. Stone Vases and Other Objects* (Well Built Mycenae, fasc. 27: 1992).

2 In 1950, M.P. Nilsson found it difficult to distinguish between the two cultures: *The Minoan-Mycenaean Religion and its Survival in Greek Religion*, 2nd ed. (1950). More recent attempts have focused on the differences: R. HÄGG, "Mycenaean Religion: the Helladic and the Minoan Components", in A. MORPURGO DAVIES and Y. DUHOUX, eds, *Linear B: A 1984 Survey* (1985) 203-225; L. BAUMBACH, "The Mycenaean Contribution to the Study of Greek Religion in the Bronze Age", *SMEA*

appropriate subject for our inquiry into Aegean society. The bull's head rhyta must also be considered in the wider context of Aegean bull-imagery and bull-leaping: these issues are covered in the papers for this volume by E. and B. Hallager and by J. Younger³.

This paper is divided into two parts, starting in the first half with the known facts of which we can be relatively sure, while pointing out some of the problems that the evidence presents. In the second half, I would then like to take these problematic bulls by the horns and suggest some possible new interpretations of the evidence.

I. Stone Bull's head rhyta - factual information

As a class of vessel, stone bull's head rhyta are carved of relatively soft (Mohs scale 4) black steatite or greenish chlorite⁴. The "face" of each rhyton was carved from a single block of stone and hollowed out from the back; the wide opening at the base of the neck was closed with a flat back-plate of the same material. The edges of the back-plate are bevelled for a close join with the head, and the juncture between the two parts was doweled together with pegs and probably would have been sealed with glue (Pl. XLIXb).

The hollowing out of the heads certainly reduces their weight and does not necessarily prove that the stone bull rhyta were containers for liquids. But the presence of a hole in the top of the head, on alignment with another in the base of the chin, indicates that the heads functioned as rhyta for holding and pouring liquids.

A distinctive aspect of the manufacture of the bulls is their combination of materials which not only enhances a polychromatic appearance but also enhances their intrinsic value, a feature of neopalatial Cretan art generally⁵. On the Little Palace rhyton (#1), steatite is combined with shell inlays and painted rock crystal insets for the eyes. Fragments of another bull's head rhyton from the Tomb of the Double Axes included schist inlays to suggest the dappling of bull's hide (#4), and a fragmentary example from Zakros preserves gilded nostrils (#22: Pl. XLIXb-c). Perhaps the entire exterior of some bull's heads was gilded like the so-called Sanctuary Rhyton from Zakros; a silver bull's head rhyton with gold overlay from SG IV at Mycenae (Pl. La), which Davis considers an unequivocally Minoan creation, suggests how such vessels may have looked originally⁶.

20 (1979), 143-160; C. RENFREW, "Questions of Minoan and Mycenaean Cult", *Sanctuaries and Cults*, 27-33; B.C. DIETRICH, "Uniformity and Change in Minoan and Mycenaean Religion", *Kernos* 6 (1993), 113-122. Stone bull's head rhyta are not discussed in either of two recent books on Minoan religion by N. Marinatos: *Minoan Sacrificial Ritual. Cult Practice and Symbolism* (1986) and *Minoan Religion. Ritual, Image, and Symbol* (1993).

3 E. and B. HALLAGER, "The Knossian Bull - Political Propaganda in Neo-palatial Crete", *infra* this volume; J.G. YOUNGER, "Bronze Age Representations of Aegean Bull-Games, III", *infra* this volume.

4 On materials, see MSV, 129-130, 138-141. Warren uses the term serpentine rather than steatite, which is based on strictly geological characteristics, ignoring the visual and textural differences between the materials which seem to have been observed by the Minoans and Mycenaeans. I thank J.G. Younger for a discussion of the materials as they were used in sealstones; cf. his "Aegean Seals of the Late Bronze Age: Masters and Workshops. II, The First-Generation Minoan Masters", *Kadmos* 22 (1983), 117-119; IDEM, *Kadmos* 26 (1987), 65.

5 G. CLARKE, *Symbols of Excellence. Precious Materials as Expressions of Status* (1986). Cf. the combination of materials used in the recently discovered Palaikastro statuette: ivory, gold, rock crystal, steatite. See J. WEINGARTEN, "Measure for Measure: What the Palaikastro Kouros Can Tell us about Minoan Society", *supra* this volume.

6 NMA 384: G. KARO, *Die Schachtgräber von Mykenai* (1930-33), 93 #384, pls. CXIX-CXXI; E. DAVIS, *The Vapheio Cups and Aegean Gold and Silver Ware* (1977), 187-190 #164; CM pl. 175; KTMH, pl. 197.

The horns presumably were added separately in another material fastened with pins into sockets in the head. Evans suggested that the horns were made of gilded wood, though no evidence for either material survives on this or any example ⁷.

An unusual graffito on the backplate of the Little Palace head (**Pl. Lb**) shows a bull's head *en face* with the horns; a similar head is engraved on a bronze double axe in the Rethymnon Museum (**Pl. Lc**), while another appears as a relief appliqué on a pithos from Tyliissos ⁸. Evans thought that the sketch was intended to show the original position of the horns, although one wonders if the assemblers of the head really needed to be told where the horns go ⁹. Only the lower half of each horn is represented in the sketch, and the horns terminate in a series of deliberate horizontal scratches which might indicate that the horns are shown cut short ¹⁰. Several terracotta bull rhyta with painted nets across their backs have similar truncated (broken or sawn) horns ¹¹.

The exterior surface or skin of the animals is decorated with a combination of relief carving and incision. In this combination of plastic and graphic techniques and in materials of manufacture, the bull's head rhyta should be considered a subset of another class of Minoan stone vessel found both on Crete and the mainland: the steatite and chlorite rhyta with pictorial relief scenes catalogued and discussed by P. Warren and B. Kaiser ¹².

These stone relief vessels could have been manufactured in the same workshops as the bull's head rhyta, certainly between MM III and the end of LM IB. The production of both types of vessel apparently ceases with the widespread LM IB destructions across Crete, though some simpler stone vases continued to be carved afterward for a time at Knossos ¹³ and Mycenae ¹⁴. Mycenaean stone vases may have been intended primarily for use in funerary cult, since fragments of them were found in chamber tombs and tholoi at Mycenae, but they do not seem to have been exported elsewhere ¹⁵. The bull's head rhyta and the relief rhyta, however, seem to have been Minoan creations, even when found on the mainland ¹⁶.

7 *PM* II2, 527, 530, 529 fig. 331: diagram.

8 C. MAVRIYANNAKI, "Double Axe-Tool with an Engraved Bucranium from the District of Amari (Nome of Rethymno)", *AAA* 11 (1978), 198-208. For the Tyliissos head, see *Ancient Crete*, pl. 104.

9 *TDA*, 88 fig. 95 a; *PM* II, 527 fig. 329. The preliminary sketches of Minoan craftsmen on relief rhyta have been discussed recently by P. REHAK and J.G. YOUNGER, "Technical Considerations on the Planning of Minoan Stone Relief Vessels: The Zakros Rhyton and the Harvester Vase", *AJA* 98 (1994), 306-307 (abstract).

10 I thank J. Younger for calling my attention to this important detail during our discussions of the Little Palace head.

11 E.g., an example from Pseira: *CM*, pl. 90 (below); *KTMH*, pl. 90 (below), and an example from Akrotiri on Thera: S. MARINATOS, *Excavations at Thera III* (1970), pls. 54, 55, col. pl. A 2; C. DOUMAS, *Thera. Pompeii of the Ancient Aegean* (1983), pl. 41.

12 *MSV*, 174-181; *Relief*, 10-204.

13 P. WARREN, "A Stone Vase Maker's Workshop in the Palace at Knossos", *BSA* 62 (1967), 195-201.

14 A possible stone vase workshop is indicated by the vessels in the House of the Shields outside the citadel at Mycenae, destroyed at the end of LH IIIB:1: A.J.B. WACE, "Excavations at Mycenae 1939-53", *BSA* 49 (1954), 235-238, pl. 36 c. In such a workshop, however, we should expect to find cores, débitage, and other indications that manufacture was taking place.

15 For examples from the tholos of Clytemnestra, see A.J.B. WACE, "The Tholos Tombs", *BSA* 25 (1921-23), 357-358. E. French has noted the primarily local use of stone vases from workshops at Mycenae in conversation (Summer, 1993), but V. Aravantinos illustrated a stone vase found at Thebes during the *Politeia* conference.

16 Although this has occasionally been debated, only five of more than thirty surviving examples of relief rhyta or fragments have been found on the mainland: 1) the octopus vase from Mycenae chamber tomb 26 (NMA 2490): *MSV*, 88; *Relief*, 28-29 Mykene 1; B. KAISER, "Zur Datierung von Kammergrab 26 in Mykene", in *Die kretisch-mykenische Glyptik und ihre gegenwärtigen Probleme* (1974), 38-41, 38 figs. 4-7; 2) a fragment with architecture from Tiryns: J. SAKELLARAKIS, "Fragment of a Stone Vase from Tiryns", *AAA* 6 (1973), 174-178; 3) a fragment from the Athenian Akropolis (NMA 7249): *Relief*, 30

Stone bull's head rhyta have a fairly restricted distribution, considering the large number of Aegean sites that has now produced other types of stone vases. Of the 23 examples catalogued for this study, 15 were found on Crete and eight on the mainland. A 24th example in a private collection -- undoubtedly a modern forgery -- is said to be from Egypt (Pl. Ld) ¹⁷. Of the 15 Cretan examples, eleven are from the Knossos area, three from Zakros, and one -- represented by an ear -- comes from Palaikastro. Of the eight mainland examples, two small fragments were found at Pylos, and the remaining six larger pieces were discovered at Mycenae.

If the sites that have produced stone bull's head rhyta are arranged in descending order of number of fragments, we have Knossos (11), Mycenae (6), Zakros (3), Pylos (2), and Palaikastro (1). Simple numbers are deceptive, because the size of the surviving fragments varies greatly, but Knossos and Mycenae far outnumber the other sites, though there is an interesting 2:1 ratio between them. The presence of several examples at Zakros also underscores the unusual importance of that site. In addition, the three bull's heads from Zakros are better preserved than most of the others with the exception of the Little Palace head.

A number of new attributions to the corpus of stone bull's head rhyta is catalogued in this study. These include two fragments from the Unexplored Mansion at Knossos: a piece from a neck or throat was noted by Popham (#3), to which should be added the crystal inlay of an eye (#2) which resembles the one preserved example on the stone bull's head rhyton from the adjacent Little Palace published by Evans. The chance find at Knossos of a stone vase "lid" is probably the back plate from a bull's head rhyton (#11: Pl. Le). In addition to the bull's head from the Zakros palace catalogued by Warren (#21 PL. LIa, b, c), more recent excavations have revealed parts of two more rhyta from the site (#22-23), one with traces of gilding in the nostrils, mentioned above. And on the mainland, two fragments from Pylos (#19-20) are now recognized as belonging to a bull or bulls rather than to lion-headed rhyta ¹⁸.

The total number of stone bull's heads produced on Crete may be far fewer than the 23 fragments catalogued here (omitting the forged Egyptian piece), if some of the surviving pieces belonged originally to the same vessel. The *minimum* number of surviving heads may be estimated at six based on the remaining portions of the most complete examples: the Little Palace example, three from Zakros, and two of the Mycenae pieces which show portions of the same area of the forehead of the animal, and thus cannot belong to the same rhyton. We

Athen 1; SAKELLARAKIS (*supra* n. 1), 184 and n. 106, pl. XII.32; 4) a pair of joining fragments from Epidauros (Brauron Museum): *Relief*, 30 Epidauros 1, Fig. 27 a; 5) a second, small fragment from Epidauros: *Ergon* (1975), 106, fig. 102 (upside down). The Epidauros fragments have been discussed recently by L. MORGAN, *The Miniature Wall-Paintings of Thera* (1988), 151-152, pls. 193, 194.

17 C. SELTMAN, "A Minoan Bull's Head", in G. MYLONAS, ed., *Studies presented to D.M. Robinson*, I (1951), 6-14. The head is catalogued at the end as no. 24, but will not be considered further in this study. On forgeries of Minoan art, see recently K. BUTCHER and D.W.J. GILL, "The Director, the Dealer, the Goddess, and her Champions: the Acquisition of the Fitzwilliam Goddess", *AJA* 97 (1993), 383-401.

18 Some confusion has resulted from the publication of these pieces in *PN* III, 24 as "greenish lacedaemonian stone", which suggests that they are *lapis lacedaemonius*. Close inspection of the pieces confirms, however, that they are of green steatite (Summer, 1993. I thank J.G. Younger for his discussion of the pieces at the time). Although the triangular tufts of fur might suggest a lion's mane, the hair on a stone lioness head rhyton from Knossos has nearly parallel striations: *PM* II 2, 828 fig. 542 b, Suppl. pl. XXXI a; S. HOOD, *The Minoans* (1971), pl. 54; *CM*, pl. 99; *KTMH*, pl. 99. Moreover, green chlorite or black steatite is used for all the surviving bull's head rhyta, and white marble for the feline head rhyta found at Knossos and at Delphi: a lioness (*PM* II 2, 828 figs. 542 a-b) and lion (*PM* II 2, 830 fig. 544, 545) from Knossos, and a lioness (*PM* II 2, 833 fig. 549) from Delphi. Thus, both color and surface carving indicate that the Pylos Belvedere fragments belonged to a bull's head rhyton or rhyta.

are thus dealing in the case of the bull's heads with an extremely specialized production of stone vessels.

Three unusual features of the bull's head rhyta and of the larger class of relief stone vessels to which they belong have not received adequate attention, however.

A. Their findspots

Little attention has been attached to the findspots of stone bull's head rhyta¹⁹. Even in the case of the spectacular example from the Little Palace, there are important discrepancies between Evans' account published in the *Palace of Minos* in 1928 and Duncan MacKenzie's *Daybook* entry for May 1, 1908. Evans described the piece as if it was largely complete and found scattered across a stairway in a LM II destruction of the building²⁰. But the *Daybook*²¹ from 20 years earlier makes it clear that all the steatite fragments were found in cist A to the south of the stairs, and that although the excavators searched "diligently" for the missing portions, nothing more was found. The published plan of the cist, moreover, seems to indicate that it may be a hollow in the wall at the return of the stairs, rather than a built cist like those in the west wing of the main palace (the Temple Repositories²² and a cist in the South Propylon²³). The bull's head may have been deposited as wall fill, perhaps even a foundation deposit for the building²⁴. Thus there is nothing to connect the deposition of the Little Palace bull's head with the final phase of the building, and the rhyton may well have been destroyed before LM II.

On Crete, both stone bull rhyta and stone relief vessels are found almost exclusively as individual stray finds in the administrative centers or habitation sites. Of the bull rhyton fragments from the Knossos area, none was found in the palace proper. Instead, one comes from the Little Palace (#1), two fragments were from the Unexplored Mansion (#2-3), three were found on the Gypsades Hill (#7, 8, 10), and two were discovered in excavations along

19 For important discussions of archaeological context, see J. BARRETT, *Fragments from Antiquity* (1994); I. HODDER, *The Archaeology of Contextual Meanings* (1987).

20 *PM* II, 527: "Clearly derived from this upper chamber or some small repository on its border, and lying partly on the stairs and partly contained in a small stone shaft or walled pit, beside them, a series of cult objects came to light. The earlier group of these consisted of a fragment of a socketed black steatite stand, of the usual stepped form, for a sacred Double Axe... and the greater part of an exceptionally large libation vase or 'rhyton' of the same material in the form of a bull's head and magnificently inlaid". See *PM* II, fig. 318 opp. p. 517: the pits/cists lie in the masonry south of the Little Palace's West Stairs. Several participants at the *Politeia* conference alerted me to the existence of an ear from this head in the Stratigraphical Museum, Knossos.

21 Duncan MacKenzie's *Daybook*, 1908, Friday, First of May (BSA microfilm copy transcribed at Duke University by Josh Karas for John Younger; I thank the latter for bringing this to my attention): [p. 79L] "Adjoining the stairway on the S.[outh] are two rectangular walled pits a and b and in one of these - a - an important discovery was made. At about 1 meter to 1.45 from the top preserved course of the construction were found the fragments of a bull's head in steatite. The fragments showed that the work stood very - [p. 79R (Sketch)] - [p. 80L] high artistically. More than two thirds of the whole was preserved the parts lacking comprising the greater part of the left side including the left eye. The right eye with its eye-ball in crystal having the pupil painted behind was intact. The ears and horns were gone. The head was in the form of a rhyton and almost half of the size of life. The rectangular pit and adjoining spaces were diligently searched but nothing further was found".

22 *PM* I, 463-468, figs. 334-445.

23 *PM* II 2, 691 fig. 434, 699-703.

24 C. Boulotis has suggested the existence of a foundation deposit at Zakros: "Ein Gründungsdepositum im minoischen Palast von Kato Zakros. Minoisch-mykenische Bauopfer", *ArchKorrespondenzblatt* 12 (1982), 153-166.

the Royal Road (#5, 9). At Zakros, one example comes from the palace (#21), while two others were found outside it (#22, 23).

No stone bull's head rhyton has actually been found in a palatial treasury on Crete, the place we might most expect them if they are standard ritual vessels. The Zakros palace bull's head was smashed in the light well of the west wing, not stored with the dozens of other stone vessels and two faience calf's head rhyta in the "Treasury of the Shrine" ²⁵. The Knossos "Temple Repositories" ²⁶ and "Treasury" ²⁷ in the west wing of the palace produced faience vessels and stone rhyta, respectively, but no stone bull's head rhyta or stone relief vessels. And no stone bull's head rhyton has been found at all in the heavily minoanized islands of Melos, Kea, or Thera, though a terracotta bull's head (rhyton?) fragment found at Akrotiri ²⁸ seems inspired by the Cretan clay examples ²⁹.

None of the stone bull's heads or stone relief vessels has been found in a Minoan peak sanctuary, even though peak sanctuaries often included miniature terracotta bull figurines ³⁰ and though some of the relief vessels depicted settings and activities at peaks ³¹. And with one exception (some inlays from the Tomb of the Double Axes, #4) no stone bull rhyton has been found in a Cretan tomb.

On the mainland, just as on Crete, no stone bulls head has been found in a tomb, even though a completed silver bull's head rhyton of probable Minoan manufacture was discovered in SG IV at Mycenae. The Cretan origin of the silver bull's head is important, because it indicates that the early Mycenaean shaft grave princes were acquiring some Minoan palatial rhyta and including them in their tombs along with prestige objects normally found in treasuries on Crete like faience cups and stone "chalices" ³², sacral knots ³³, and imitation triton shells ³⁴. But since the stone bull's head rhyta are not found in mainland tombs, they cannot be personal markers of status in the sense that the shaft grave swords or precious metal masks were. And since no complete examples have been found, we cannot imagine them as inheritable goods (*i.e.*, heirlooms).

Only one of the six Mycenae examples was found for certain in the palace, in the fill under a closet beneath a stairway (#13). Its findspot under the stairs thus recalls the location of the Little Palace bull's head (#1). The Mycenae fragment thus may have been imported and deposited early, before the LH III palace was constructed.

The other Mycenae examples tend to be divided between the akropolis, like a fragment found by C. Tsountas (#12), and the buildings on the west slope of the citadel near the Cult

25 Zakros, 161-163; K.P. FOSTER, *Aegean Faience of the Bronze Age* (1979), 66, 68, pl. 5.

26 PM I, 463-523; M. PANAGIOTAKI, "The Temple Repositories of Knossos: New Information from the Unpublished Notes of Sir Arthur Evans", *BSA* 88 (1993), 49-91.

27 PM II 2, 820-826, 821 fig. 537.

28 S. MARINATOS, *Excavations at Thera* IV (1971), 37, pl. 85 b.

29 *E.g.*, examples from Gournia (*HistMinPot*, pl. 17 H) and Kommos (*HistMinPot*, 100 and fig. 73, pl. 12 D).

30 A. KARETSOU, "The Peak Sanctuary of Mt. Juktas", *Sanctuaries and Cults*, 137-153, esp. 150 fig. 22; cf. fig. 24 (sealing showing a frontal bucranium); B. RUTKOWSKI, *Petsophas. A Cretan Peak Sanctuary* (1991), pls. XLVIII-XLIX, LIV. Cf. the miniature bronze bulls dedicated in large numbers in the Psychro Cave on the southern edge of the Lasithi plain: *Ancient Crete*, pl. 23.

31 *E.g.*, the Zakros Sanctuary rhyton, *infra* n. 53. Another unusual aspect of the stone relief rhyta is that they depict only men, perhaps indicating that this class of vessel was used by men rather than by women.

32 Faience cups: FOSTER (*supra* n. 25), 124 pl. 32, from Circle B at Mycenae; cf. examples from the Knossos Temple Repositories, 65 figs. 5 and 6. Chalices: *Ancient Crete*, pls. 189, 191 (from Zakros); cf. 2 from Circle A at Mycenae: KARO (*supra* n. 6), nos. 600, 854.

33 FOSTER (*supra* n. 25), 138-139 pls. 45-46.

34 FOSTER (*supra* n. 25), 137 pl. 44. Cf. the faience triton found at Pyrgos: G. CADOGAN, "A Probable Shrine in the Country House at Pyrgos", *Sanctuaries and Cults*, 169-171, esp. 169. For other examples, see C. BAURAIN and P. DARCQUE, "Un triton en pierre à Malia", *BCH* 103 (1983), 3-73.

Center. Parts of two more fragmentary bull rhyta were found in 1964 in the Citadel House (#16, 17).

Two additional fragments came to light in the "Rhyton Well" (#14, 15)³⁵ associated with LH III sherds that were lost from the Nauplion Museum during World War II³⁶. Although the Rhyton Well may be contemporary with a LH IIIB refurbishment of the Cult Center nearby, no stone bull's head has been found in a Mycenaean shrine³⁷. The Rhyton Well deposit, however, included earlier material like the marble stem of a chalice that resembles two examples in the shaft graves of Circle A³⁸. Thus, some of the material in the Rhyton Well may have been conserved over a period of several centuries.

The material from the Rhyton Well can best be compared to finds from the west wing of the Zakros palace. Both locations included chalices, rare *lapis lacedaemonius* rhyta³⁹, and a fragmentary bull's head rhyton or rhyta. Some of the Zakros vessels were found in the so-called "Treasury of the Shrine", presumed to be the storeroom for the "Shrine" nearby⁴⁰, but architecturally more related to the banqueting hall in the West Wing⁴¹. The Zakros chalices and rhyta, and the bull's head found in the light well of the banqueting hall, may instead represent drinking or pouring vessels for a banquet or investiture ceremony of the type represented on the later Campstool Fresco from Knossos⁴².

Thus in general on both Crete and the mainland, bull's head rhyta are not found in assemblages of ritual vessels, and they are not found in contexts which are immediately recognizable as cultic. Perhaps they were not cultic themselves, or perhaps they may have had a function different from that of most other religious objects.

B. Their fragmentary condition

No one seems to have drawn attention to the fact that we possess no single complete stone bull's head rhyton and only one intact stone relief vase, a stone triton from Mallia with a relief scene of two *genii* standing on a platform⁴³. Of the two best preserved bull's heads from the Knossos Little Palace (#1) and the Zakros palace (#21), less than half of each survives. In the case of both the Little Palace and the Zakros palace heads, the excavators

35 A.J.B. WACE, "The Rhyton Well", *BSA* 24 (1919-21), 200-209; IDEM, *Mycenae. An Archaeological History and Guide* (1949), 68. A sealing from the deposit, CMS I, no. 19, is assigned by J. Younger to his "Group of the Tethered Bull", from a seal produced by a Knossian workshop in the second quarter of the 15th c. B.C.: "Aegean Seals of the Late Bronze Age: Stylistic Groups. IV, Almond- and Dot-Eye Groups of the Fifteenth Century B.C.", *Kadmos* 24 (1985), 34-73, esp. 57-58.

36 I thank E. French for this information.

37 Two stone vessel fragments with relief scenes were found at Epidauros (*supra* n. 16 nos. 4-5), but this is not a Minoan-style peak sanctuary: V. LAMBRINUDAKIS, "Remains of the Mycenaean Period in the Sanctuary of Apollon Maleatas", *Sanctuaries and Cults*, 59-65.

38 KARO (*supra* n. 6), 600, 854.

39 P. WARREN, "Lapis Lacedaemonius", in *ΦΙΛΟΛΟΓΩΝ. Lakonian Studies in Honour of H. Catling* (1992), 285-296. For the Zakros example, made in two parts, see *Zakros*, 139 col. pl. (upper left); *PraktArchEt* 1963 (1966), pl. 147 β. For the Mycenae example, see WACE (*supra* n. 35).

40 *Zakros*, 133-148.

41 For plan, see *Zakros*, 102 fig. The two rooms do not communicate directly, and their functional relationship needs to be reexamined.

42 *Aegean Ptg*, 176 Kn No. 26. This painting is usually dated to LM II-III A, and thus belongs to a period of probable Mycenaean occupation of Crete.

43 *Supra* n. 34. Ayios Nikolaos Museum no. 11246.

even mounted unsuccessful searches for the missing pieces ⁴⁴, but none were recovered. By contrast, other, plain, stone vessels from the palace are largely complete.

The other stone bull's heads are much more fragmentary, comprising only portions of the forehead (sometimes including an eye- or horn-socket), an ear, or a fragment from the neck, cheek, chin, or just the backplate, if #11 has been correctly identified. Many bull's head rhyton fragments are only recognizable to us now from their carved locks of hair which can be matched against other surviving pieces.

It is probable that the fragmentary condition of these pieces was the result of deliberate human action. The only elements in the Tomb of the Double Axes (apparently undisturbed but not used for a burial) were a pair of ears and some schist inlays from the skin (#4; **Pl. LIId**) ⁴⁵. Since stone does not decay, it seems certain that only the ears and inlays were interred in the tomb; the rest of the head must have been deposited elsewhere.

When we compile a composite drawing of the extant fragments from five of the most completely preserved examples (**Pl. LIe**), we see that the upper half of the muzzle is always missing; if the areas around this spot now survive only in small to moderately large fragments, we can assume that when the rhyta were broken, this central area of the upper muzzle must have received the main blow and been smashed into unrecognizable or unrecoverable smithereens.

Extraordinarily, the fragmentary condition of the bull's heads is almost exactly paralleled by the condition of the stone relief rhyta. As noted above, only a stone triton with a relief scene from Mallia is complete ⁴⁶; but all the other relief vessels are fragmentary and most are known by only a single small pictorial fragment which has served to tantalize Aegean iconographers. Among the best preserved are the three vessels from Ayia Triadha which probably formed part of the precious contents of the villa ⁴⁷, but even these have serious lacunae. The back of the Chieftain Cup ⁴⁸ is mostly missing and has been heavily restored; the Boxer Rhyton ⁴⁹ has been pieced together from broken fragments, many now non-joining, which make up approximately a fifth of its original surface; and the bottom of the Harvester Vase ⁵⁰ has been broken, if not sawn, away; its lower half might have been made separately. The stone Octopus Vase from Mycenae ⁵¹ also consists of two parts: a

44 *Zakros*, 161. Platon attributed the dispersal of fragments to the effect of the eruption of the Thera volcano, an event which is now placed at least two generations earlier by most scholars. For the Little Palace head, see *supra* n. 20, 21.

45 *TDA*, 52 fig. 70. On the tomb generally, see 33-59.

46 The Mallia triton (*supra* n. 34) is not a rhyton as usually defined, though in addition to its main opening it has a small hole near the pointed tip, and thus could have served either as a trumpet or as a container for liquids. It carries a relief scene of *genii* and belongs to a long tradition of real, faience, and stone shells used in Minoan shrines.

47 For recent discussion, see L.V. WATROUS, "Ayia Triadha: A New Perspective on the Minoan Villa", *AJA* 88 (1984), 123-134.

48 HM 341: *MSV*, 37, 174-176, 178-180; *Relief*, 28-29 Hagia Triada 3, Fig. 25; *CM*, pls. 100-102; *Ancient Crete*, pl. 130; *KTMH*, pls. 100-102.

49 HM 342, 498, 676: *MSV*, 85, 174-176, 178-181; *Relief*, 26-28 Hagia Triada 2, Fig. 24 a; *CM*, pl. 106-107; *Ancient Crete*, pls. 132-133; *KTMH*, pls. 106-107. See also F. HALBHERR, E. STEFANI, L. BANTI, "Haghia Triada nel periodo tardo palaziale", *ASAtene* 39 (1977) [1980], 83 B 4. Six fragments were found in courtyard 11 (plan, pg. 64 fig. 29) between the pilaster and the first column on the north. Nine other fragments were found in 1904 in the "Piazzale Superiore".

50 HM 184: *MSV*, 88, 174-176, 178-181; *Relief*, 24-25 Hagia Triada 1; *CM*, pl. 103-105; *Ancient Crete*, pls. 134-136; *KTMH*, pls. 103-105. An illustration published by S. HOOD (*supra* n. 18), pl. 38, shows an irregular edge along the bottom which suggests breakage.

51 *Supra* n. 16 no. 1.

replacement bottom in a different style was added, of which half is now missing⁵². Finally, as if to test the rule, the Sanctuary Rhyton from Zakros is almost complete, but it was found smashed, its many once-gilded fragments scattered throughout four different rooms of the palace⁵³.

Evans thought that all the stone relief rhyta were gilded originally, and that some of these may have been smashed in an attempt to remove their gilding. Though one of the Zakros bulls preserves gilded nostrils, the polychromy of the Little Palace bull's head argues against its having been gilded in its entirety. While the horns may have been covered with gold foil as Evans conjectured (there is no actual evidence for this even on the Little Palace head) it would have been easy to snap off the wooden horns rather than smash the heads in order to remove small amounts of gold foil on the horns.

Surely the incompleteness of the bull rhyta and stone relief vessels cannot be attributable simply to accidents of preservation. For an instructive comparison, a glance through Warren's *Minoan Stone Vases* or a tour amongst the vitrines of the Heraklion Museum and Athens National Museum should impress us with the preserved dozens of intact and virtually complete but unfigured stone rhyta, in contrast to the tiny individual fragments of stone bull's heads and stone relief rhyta.

The bull's head rhyta and stone relief rhyta also were not all destroyed at the same time. As suggested above, the deposition of the Little Palace head (#1) may belong to the construction of the building in MM III-LM I. While the three Zakros pieces (#21-23) belong to a LM IB destruction horizon that may be connected with a Mycenaean invasion of Crete, a number of the Knossos fragments survived until LM II-III A (#2-4). One piece from the Royal Road excavations at Knossos (#5) was found with MM IIIB-LM I pottery, indicating that at least one stone bull rhyton was in fragments before the widespread destructions that signal the end of the neopalatial period.

C. Their use

A third major problem is the question of how bull's head rhyta were used. It has generally been assumed that stone bull's head rhyta functioned like Aegean conical stone and terracotta rhyta, and R. Koehl has outlined two possible scenarios for their use⁵⁴. In one, rhyta served essentially as funnels, with a liquid poured in at the top hole and allowed to drain out through the bottom hole. In another scenario, the rhyton could be immersed in a large vat or pithos of liquid and allowed to fill through the bottom hole. In the second case, after the rhyton was full, the small hole in the upper side would be plugged with a finger, and air pressure would prevent the liquid in the rhyton from draining out of the bottom hole until the finger covering the hole at the top was removed.

52 For view of the bottom, including holes in the base which suggest the vase functioned as a rhyton, see A. XENAKI-SAKELLARIOU, *Οἱ Θαλαμωτοὶ Τάφοι τῶν Μυκηνῶν. Ἀνασκαφῆς Χρ. Τσοῦντα (1887-1898)*, (1985), 91-92 no. 2490, pl. 18. Cf. the comments by J. HURWIT, "The Dendra Octopus Cup and the Problem of Style in the Fifteenth Century B.C. Aegean", *AJA* 83 (1979), 413-426.

53 HM 2764 + 2722: *MSV*, 87, 174, 175, 178-181; *Relief*, 22-23 Kato Zakro 1; *Zakros*, 161, 163-169, 165 col. fig., 168 col. fig. For views showing breaks before the full restoration of the vessel, see: *PraktArchEt* 1963 (1966), pl. 152β, 153, 154α; *Ergon* 1963 (1964), 174 pl. 187; *AR* 1963-64 (1964), 29 fig. 39; N. PLATON, *Crete* (1966), pls. 47-48. For recent discussion, see P. REHAK and J.G. YOUNGER (*supra* n. 9).

54 R. KOEHL, "The Functions of Aegean Bronze Age Rhyta", *Sanctuaries and Cults*, 179-187; *IDEM*, "The Rhyta from Akrotiri and Some Preliminary Observations on their Functions in Selected Contexts", *Thera and the Aegean World III. Proceedings of the Third International Congress, Santorini, Greece, 3-9 September 1989*, I. *Archaeology* (1990), 350-360.

But it is hard to imagine a single individual performing either scenario with a stone bull's head rhyton, given the awkward shape of the vessel and its weight, which can be estimated at ca. 3 kg. when empty and 6 kg. when full ⁵⁵. It is easier to imagine at least two individuals using each bull's head rhyton, one holding the animal head (probably not by the horns, which were anchored to the head only by short tenons which would break) and the other filling it or allowing it to drain. But the process cannot have been very easy, and one wonders if the vessels were ever meant to be carried in procession as, e.g., in the case of the conical silver rhyton carried in the Knossos west corridor procession fresco ⁵⁶.

Some additional evidence is furnished by Theban tomb paintings from the tombs of Useramen and Menkheperresonb in the first half of the 18th dynasty in Egypt (ca. 1500-1450 B.C.) ⁵⁷. These murals show the transportation of Aegean bull's head rhyta by Keftiu (Cretans?) in a different manner ⁵⁸. The rhyta are among the objects exchanged in diplomatic missions which the Egyptians labelled "tribute". A painting from the tomb of Menkheperresonb shows a procession including two Keftiu who carry on trays a bull head (Pl. LIIa) and a small bull figure, both perhaps rhyta ⁵⁹. In the tomb of Useramen, another Keftiu holds a bull rhyton in both hands, one supporting it underneath and the other stabilizing it from the back, without a tray (Pl. LIIb) ⁶⁰. In the tomb of Rekhmire, a bull's head rhyton rests atop a set of three metal ingots (Pl. LIIc) ⁶¹. In each case, the animal's eyes face heavenward, with the backplate horizontal and thus parallel to the ground. This seems a position for display rather than pouring, although the effect is that of a decapitated bull's head on a plate. Though these illustrations present the bull's head rhyta in positions best suited for display, they nonetheless give us the closest illustrations we have of their use.

The Egyptian paintings, however, represent the bull's heads as white (silver) or yellow (gold), indicating that these are not stone rhyta, though one gold head has black quatrefoil dapples recalling the schist inlays found in the Tomb of the Double Axes on Crete ⁶². The tomb paintings also exhibit a tendency toward hybridization of vessel forms; thus, a miniature version of the larger metal bull's head rhyta appears as a stopper atop a vase as it never has in the Aegean ⁶³.

The presence of bull's head rhyta among diplomatic gifts in Egypt suggests that the examples found on the mainland may have been exchanged in much the same manner. Amarna tablet 41 mentions silver rhyta exchanged as presents, and tablet 22 makes an

55 Computation by J.G. Younger based on a hypothetical spherical stone rhyton 20 cm. in diameter and approx. 2 cm. thick, and the rule of thumb that 1 m³ of stone weighs 1,000 kg. This estimate of the weight may be too low; the Mallia triton is 26.8 cm. long with a max. width of 12.5 cm., and has a weight of 1.6 kg. when empty: BAURAIN and DARCQUE (*supra* n. 34) 6.

56 PM II 2, 682-685; 704-712; *Aegean Ptg.*, 174-175 Kn No. 22. This vessel must be empty (unless it is plugged), since the cup-bearer does not cover the hole at the bottom with his finger.

57 According to traditional Aegean chronology, this period coincides with LM IB; a recent suggested revision, however, would coordinate it with the end of the pottery phase LM II and the beginning of LM IIIA:1. See various discussions of the problems in *Archaeometry* 29 (1987), 45-49; 205-213; P. WARREN and V. HANKEY, *Aegean Bronze Age Chronology* (1989).

58 M. HELTZER, "Cretans in Egypt", *Kadmos* 27 (1988), 167-169; J. and E. SAKELLARAKIS, "The Keftiu and the Minoan Thalassocracy", *Thalassocracy*, 197-203; I. STRÖM, "Aspects of Minoan Foreign Relations, LH/LM I-II", *Thalassocracy*, 191-194; S. WACHSMANN, *Aegeans in the Theban Tombs* (1987), 56-57.

59 PM II 2, 536 fig. 340 b; 746 fig. 482; SELTMAN (*supra* n. 17), 11 fig. 1 b; N. de G. DAVIES, *The Tombs of Menkheperresonb, Amenmose and Another* (1933), pl. 5; WACHSMANN (*supra* n. 58), pl. XXV B; XXVI A.

60 PM II 2, 536 fig. 340 a; SELTMAN (*supra* n. 17), 11 fig. 1 a.

61 PM II 2, 535 fig. 539; SELTMAN (*supra* n. 17), 12 fig. 2.

62 *Supra* n. 45.

63 WACHSMANN (*supra* n. 58), pl. XXXVI B.

intriguing reference to "bull-calves" as salt shakers⁶⁴. These and related objects qualify as *bibru*, or royal gifts exchanged among rulers. But perhaps we should distinguish between metal bull heads, which appear *in corpore* at Mycenae and in the Theban paintings in Egypt, and the stone heads which are restricted thus far to Crete and the mainland. It may be no coincidence that stone bull's head rhyta on the mainland are found in two of the locations that have particularly strong, direct contacts with Minoan Crete at a very early period: southwest Messenia⁶⁵ and the Argolid⁶⁶.

II. An Attempt at Interpretation

The preceeding comments should make it clear that the traditional interpretation of bull's head rhyta -- and the larger class of stone relief rhyta -- as simple Minoan libation vessels used both on Crete and the mainland is difficult to accept at face value. There are some possible avenues of approach to resolving the problems.

The Minoan background

Bull rhyta

All the stone bull's head rhyta have to be seen against a much longer, broader tradition on Crete of clay and stone rhyta in the shape of whole or partial bulls in which the mainland and Cyclades did not participate⁶⁷. These rhyta instead have a closer -- though apparently not direct -- connection with Anatolian zoomorphic rhyta which include lions and antelopes as well as bulls. Animal headed rhyta occur in contexts of ca. 2000-1750 B.C. from Kanish⁶⁸, and later Hittite rhyta (ca. 1600-1200 B.C.) were often manufactured of precious materials which increased their intrinsic worth⁶⁹.

64 Silver rhyta: S.A.B. MERCER, *The Tell el-Amarna Tablets* (1939), 41: 39-43; W.L. MORAN, *The Amarna Letters* (1992), 114; salt shakers: MERCER (*op. cit.*), 22 III:10; MORAN (*op. cit.*), 54. Cf. E. PELTENBURG, "Greeting Gifts and Luxury Faience: a Context for Orientalising Trends in Late Mycenaean Greece", in *Bronze Age Trade*, 162-179. I am grateful to E. Cline for calling these references to my attention. Cf. also E. CLINE, "'My Brother, My Son': Rulership and Trade between the LBA Aegean, Egypt and the Near East", in P. REHAK, ed., *The Role of the Ruler in the Prehistoric Aegean, Aegaeum* 11 (1995), 143-150.

65 The existence of an early Pylos palace based on a Minoan court-centered building has been argued by K. KILIAN, "L'architecture des résidences mycéniennes: origine et extension d'une structure du pouvoir politique pendant l'âge du bronze récent", in *Le système palatial en Orient, en Grèce et à Rome. Actes du Colloque de Strasbourg, 19-22 juin 1985* (1987), 203-217; IDEM, "The Emergence of *wanax* Ideology in the Mycenaean Palaces", *OJA* 7 (1988), 291-302; R. BARBER, "The Origins of the Mycenaean Palace", in *ΦΙΛΟΛΟΓΙΑ* (*supra* n. 39), 11-23, esp. 15. A large poros Horns of Consecration with traces of blue paint was built into the later palace: C.W. BLEGEN and M. RAWSON, *The Palace of Nestor at Pylos in Western Messenia I* (1966), 328, 329, fig. 271.9.

66 J. RUTTER and C. ZERNER, "Early Hellado-Minoan Contacts", *Thalassocracy*, 75-82; O.T.P.K. DICKINSON, "Cretan Contacts with the Mainland during the Shaft Grave Period", *Thalassocracy*, 115-118; R. HÄGG, "Degrees and Character of the Minoan Influence on the Mainland", *Thalassocracy*, 119-122.

67 A possible bovid rhyton from EC Phylakopi lacks an identifiable head: *PGC*, 99 no. 1190, pl. 1190. EH bull figurines were found at Lithares: H. TZAVELLA-EVJEN, "The Lithares Idols", *AAA* 5 (1972), 467-469. Cf. P. BLOMÉ, "Minoische Tier-Plastik und Tiergefäße", *AntPl* 30 (1987), 99-108. For a MC bull figurine from Thera, see DOUMAS (*supra* n. 11), pl. 37.

68 T. ÖZGÜÇ, *Kultepe-Kaniş II* (1986), col. pl. D3, pls. 115-116.

69 L. ROST, "Zu den hethitischen Bildbeschreibungen, I", *Mitteilungen des Instituts für Orientforschung* 8 (1961), 161-217; L. JAKOB-ROST, "Zu den hethitischen Bildbeschreibungen, II", *Mitteilungen des Instituts für Orientforschung* 9 (1963), 175-239.

Even before the palatial period began on Crete, terracotta rhyta in the shape of bulls were deposited in some of the Messara tholoi ⁷⁰. Since several of these have tiny plastic human figures clinging to their horns, Evans suggested an early genesis for bull sports -- hunting or leaping -- so abundantly attested in the neopalatial period ⁷¹.

These complete bull rhyta continue into the proto- and neopalatial periods, though the added human figures disappear. Polychrome Kamares bull-rhyta or askoi have been found in protopalatial contexts at Phaistos ⁷².

For the neopalatial period, a number of sites have produced carefully modelled bull-rhyta. The site of Pseira produced six white-painted bull-rhyta, five of them made from the same mould ⁷³. A seventh has been reported in recent excavations at the site ⁷⁴. Some of these have a net pattern painted across the back and a garland around the horns ⁷⁵, perhaps an indirect reference to bull-capture and sacrifice. Another bull-rhyton found on Thera ⁷⁶ is so similar to the Pseira examples in form, white painted surface, and net pattern, that it may have been produced from one of the moulds used for the Pseira examples and exported to Akrotiri from Crete.

There is another interesting detail. Two of these netted terracotta bulls of which illustrations have been published have only the stumps of horns, a detail which suggests that the horns may have been sawn off before a real animal was sacrificed ⁷⁷.

On the LM IIIA:1 Ayia Triadha sarcophagus (**Pl. LIId**), men in hide skirts carry small bulls which are generally thought to be bull figurines, but which might represent bull-rhyta ⁷⁸. In shape these resemble the small bulls, evidently of metal, carried in the Theban tomb paintings ⁷⁹, and one surviving solid bronze bull figurine from Crete includes a bull-leaper somersaulting over its back ⁸⁰.

Mainland and island shrines have produced late Mycenaean bull rhyta. Several examples were found in the Mycenaean sanctuary at Phylakopi on Melos ⁸¹, and two bovids with painted designs were found in the LH IIIC shrines in the *Unterbürg* at Tiryns ⁸².

70 S. XANTHOUDIDES, *The Vaulted Tombs of Mesara* (1924), pls. II, XXVIII; *CM*, pl. 14 (below); *KTMH*, pl. 14 (below); *Ancient Crete*, pl. 42.

71 *PMI*, 189-190.

72 E.g., *HistMinPot*, pl. 8E; *CM*, pl. 19; *KTMH*, pl. 19.

73 R. SEAGER, *Excavations on the Island of Pseira, Crete* (1910), 24; G. GESELL, *Town, Palace, and House Cult in Minoan Crete* (1985), 134 no. 120, pl. 93.

74 P. BETANCOURT and C. DAVARAS, "Excavations at Pseira, Crete, in 1991-1992", *AJA* 97 (1993), 302.

75 Two from Pseira have been illustrated: SEAGER (*supra* n. 73), 23 fig. 7, pl. IX. Cf. *PGC*, 101 nos. 1221, 1222, pls. 1221, 1222; *HistMinPot*, pl. 19 B, C; *CM*, pl. 90; *KTMH*, pl. 90. For an example from Pachyammos, see *PGC*, 101 no. 1220, pl. 1220.

76 DOUMAS (*supra* n. 11), pl. 41: found in Alpha 2, inv. no. 563, L. 24.6 cm. Cf. N. MARINATOS, *Art and Religion in Thera. Reconstructing a Bronze Age Society* (1984), 20 and col. fig. 11.

77 *Supra* n. 11. The bull's skull interred in tholos A at Archanes also had no horns (*infra* n. 140). There are several bull's skulls and separate horns that have been found in other locations, such as the House of the Sacrificed Oxen at Knossos.

78 C. LONG, *The Ayia Triadha Sarcophagus. A Study of Late Minoan and Mycenaean Funerary Practices and Beliefs* (1974), 46, fig. 52. Long calls the bulls "simulacra". Cf. *Ancient Crete*, col. pl. 139.

79 *Supra* n. 59.

80 LONG (*supra* n. 78), pl. 23 fig. 66.

81 C. RENFREW *et al.*, *The Archaeology of Cult. The Sanctuary at Phylakopi* (1985), 236-252 (E. FRENCH); K. DEMAPOULOU, ed., *The Mycenaean World. Five Centuries of Early Greek Culture (1600-1100 B.C.)* (1988), 155-156 no. 113, 156 col. fig.

82 K. KILIAN, "Mykenische Heiligtümer der Peloponnes", in *KOTINOS. Festschrift für Erika Simon* (1992), 10-25, esp. pl. 3.1-2.

Terracotta bull's head rhyta

The creation of bull's head rhyta in terracotta begins later than the complete bull figurines, starting with MM II polychrome examples found at Phaistos and Kommos⁸³. These early bull's head rhyta are essentially funnels, open at the base of the neck like the stone examples, with a pouring hole in the muzzle.

Few examples are datable to the LM I period, though House B at Pseira produced a large terracotta bull's head rhyton found next to a bench which suggests a cultic installation. Objects found in the building included marine style pottery and a jar (Pl. LIIId) decorated with bucrania and double axes⁸⁴. Another terracotta fragment discovered at Thera may belong to a bull's head rhyton⁸⁵. Related in shape though not in material are the hornless faience bovid-head rhyta (calves?) found in the "Treasury of the Shrine" at Zakros⁸⁶.

Terracotta bull's head rhyta persist until the LM/LH IIIB period, though there is a change in form. Some of the later examples have a back plate at the base of the neck, with filling and pouring holes at the top of the head and in the base of the chin, respectively, like an example from the Little Palace⁸⁷.

Still other terracotta bull's head rhyta are modeled on existing vase shapes like askoi, with a plastic muzzle and horns added to the vessel⁸⁸. At Palaikastro, a LM IIIA:2/B:1 piriform rhyton (Pl. LIIIA) has been transformed into a bull's head rhyton through the addition of a plastic face and horns⁸⁹. Several late examples of terracotta bull's head rhyta have been found outside of Crete on Rhodes and Karpathos⁹⁰. But apparently no terracotta example has been found on the mainland.

A clue to the function of the terracotta bull's head rhyta comes from the discovery of one example alongside marine-style pottery near a bench in a possible shrine in House B at Pseira. Another terracotta example was found in the lustral basin of the East Wing of the Phaistos palace⁹¹, together with 9 utilitarian double axes, 2 other rhyta, a marine style jug, and two small horns of consecration painted red.

Metal bull's head rhyta

Along with the stone rhyta of neopalatial date, metal examples in the shape of bull's heads may have been manufactured more frequently than we now suspect. The only surviving example of these is the silver example with gold overlay found in SG IV at Mycenae⁹², but an idea of how a gold bull's head rhyton would have looked is suggested by the Theban tomb paintings discussed above and by small gold pendants found at Ayia Triadha⁹³ and near Zakros⁹⁴.

83 *Supra* n. 29.

84 SEAGER (*supra* n. 73), 24-27; GESELL (*supra* n. 73), 132 no. 119, 133 fig. 79 (plan).

85 *Supra* n. 28.

86 *Supra* n. 25.

87 TDA, 88 fig. 95 A; *HistMinPot*, pl. 23 D. A clay bull's head from a LM III context at Kannia near Gortyn may be part of a rhyton: BCH 82 (1958), 792, 794 fig. 28.

88 E.g. example from Karpathos: PGC, 102-103 no. 1239, pl. 1239; M. MELAS, *The Islands of Karpathos, Saros and Kasos in the Neolithic and Bronze Age* (1985), 78, pls. 42, 107 no. 1268.

89 J.A. MACGILLIVRAY *et al.*, "Excavations at Palaikastro, 1991", BSA 87 (1992), 140, 141 fig. 19. The painted dappling is reminiscent of the schist inlays from the Tomb of the Double Axes.

90 For an example from Ialysos on Rhodes, see PGC, 103 no. 1242, pl. 1242.

91 GESELL (*supra* n. 73), 128-129 no. 108.

92 *Supra* n. 6.

93 PLATON (*supra* n. 53 [1966]), pl. 72.

94 Giamalakis collection: *Ancient Crete*, pls. 172, 173.

That some of the stone or metal examples survived intact or were still being made after neopalatial times is indicated by Linear B tablet K 872 from Knossos (**Pl. LIIB**)⁹⁵. Though incomplete, the tablet gives the ideograms for two bull's head rhyta along with a "Vapheio cup", indicating that all three vessels may have survived until the final destruction of the palace, now assignable to LM IIIB:1⁹⁶. The tablet does not, however, indicate the material of these rhyta, though metal, not stone, may be assumed as the common material for all these vessels depicted on the tablets.

Stone bull's head rhyta in the context of neopalatial bull imagery

An important aspect of the stone bull's head rhyta created between MM III and LM IB is that they are part of a much larger emphasis on bull imagery that characterizes the neopalatial period at Knossos and its immediate area, from which it seems to spread to other regions. A whole series of related bull images appears at about the same moment in a variety of media: stone relief rhyta and animal head rhyta, frescoes and relief frescoes, metalwork, ivory carving, faience, and glyptic. So prominent is this bull imagery that one suspects that its dissemination reflects an institutionalized source, perhaps the élite who controlled the Knossos palace.

S. Immerwahr⁹⁷ and others have also noted that figural wall-painting develops at neopalatial Knossos, from which it seems to spread to a number of other Minoan centers but not, apparently, the other major palaces. R. Hägg⁹⁸ and M. Cameron⁹⁹ have suggested that the Knossos palace had a specific program of pictorial decoration that was renewed repeatedly over time.

One of the most important pictorial themes in the decoration of the Knossos palace, along with seated women¹⁰⁰, processions¹⁰¹, supernatural animals¹⁰², and male pugilists¹⁰³, was the subject of bull sports. Bulls and bull-leaping were represented by depictions at the major entrances on the west¹⁰⁴, north¹⁰⁵, and southeast¹⁰⁶, as well as by fragments of bulls

95 *PM* II 2, 533 fig. 336; F. VANDENABEELE and J.-P. OLIVIER, *Les idéogrammes archéologiques du linéaire B* (*ÉtCrét* XXIV 1979), 268-271; J. CHADWICK *et al.*, *Corpus of Mycenaean Inscriptions from Knossos*, I (1986), K 872.

96 E. HALLAGER, *The Mycenaean Palace at Knossos. Evidence for the Final Destruction in the LH IIIB Period* (1977); J.-P. OLIVIER, "KN 115 = KH 115. Un même scribe à Knossos et à la Canée au MR IIIB: du soupçon à la certitude", *BCH* 117 (1993), 19-33.

97 *Aegean Ptg.*, 39. On the chronology of the Knossos frescoes, see C.F. HAWKE SMITH, "The Knossos Frescoes: A Revised Chronology", *BSA* 71 (1976), 65-76.

98 R. HÄGG, "Pictorial Programmes in Minoan Palaces and Villas", in *L'iconographie minoenne. Actes de la Table Ronde d'Athènes (21-22 avril 1983)*, *BCH* Suppl. XI (1985), 209-217.

99 M. CAMERON, "The 'Palatial' Thematic System in the Knossos Murals. Last Notes on Knossos Frescoes", in *Function Palaces*, 320-328.

100 *Aegean Ptg.*, 172-173 Kn No. 11-14. Both the Grandstand and the Sacred Grove and Dance frescoes show seated women in prominent positions: *Aegean Ptg.*, 173 Kn No. 15-16.

101 E.g., the procession fresco from the west entrance corridor, usually dated to LM II-III A: *Aegean Ptg.*, 174-175 Kn No. 22. E. Davis, however, has suggested a LM IB date for the painting: "The Cycladic Style of the Thera Frescoes", *Thera and the Aegean World III* (*supra* n. 54), 214-227, esp. 214-216.

102 E.g., griffins in the Knossos throneroom (*Aegean Ptg.*, 176 Kn No. 28) and in the Great East Hall (*Aegean Ptg.*, 171 Kn No. 8 e). On the redating of the former to LM I B, see DAVIS (*supra* n. 101). The plumed cap in the "Lily Prince" fresco is usually worn by women and sphinxes, and E. Davis has suggested that the large size of the ear associated with the cap is more appropriate for a sphinx than a human.

103 *Aegean Ptg.*, 171 Kn No. 8 a.

104 *Aegean Ptg.*, 176 Kn No. 29 (probably late renewal of existing painting).

105 *Aegean Ptg.*, 174 Kn No. 21, pls. 36, 37; *KTMH*, col. pl. XIV.

106 *PM* II, 310; HAWKE SMITH (*supra* n. 97), 68. (Not mentioned in *Aegean Ptg.*)

and bull-leapers in the Great East Hall ¹⁰⁷ located directly opposite the throneroom complex and across the central court from it. The anteroom of the throneroom included the depiction of a life-sized bull ¹⁰⁸, and a crystal plaque found within showed a netted bull and female leaper ¹⁰⁹. More female leapers were depicted in relief on the walls of the south corridor leading into the central court, if E. Davis' recent reassessment of the "Lily Prince" relief fresco fragments is correct ¹¹⁰. Still other fresco fragments from the west ¹¹¹ and east ¹¹² wings of the palace show bulls and bull-leaping, while fragments dumped outside the complex presumably once adorned its walls ¹¹³. Some of the ivory figurines found in the east wing have been reconstructed as belonging to a tableau of bull-leapers. ¹¹⁴ The famous bull-leaping panels reconstructed from fragments found in the Court of the Stone Spout are probably of LM II-III A date, and thus belong to a period of probable Mycenaean occupation, but show scenes which were probably well-established earlier ¹¹⁵. An ivory pyxis with a bull-hunting scene which incorporates elements reminiscent of bull-leaping was found in a tomb at Katsamba near Knossos (Pl. LIIIc) ¹¹⁶. And a Knossian origin has been argued for the Elgin stone plaques with bulls ¹¹⁷ used to decorate the façade of the Atreus tholos at Mycenae.

This Knossian bull imagery spreads to other sites during the neopalatial period, though the significance of this process is still debated. The many mould-made bull rhyta found at Pseira, and the singleton from Akrotiri, could have been produced almost anywhere if the moulds or craftsmen circulated, but this group of rhyta could also have been shipped from a major center like Knossos to other points for further redistribution. No fresco with bull scenes has been found, however, at any of the other Cretan palaces.

Bull imagery, however, spreads off the island of Crete. At least two representations of bull sports found at the Hyksos center of Tell el-Dab'a in the Nile Delta ¹¹⁸, dated by the excavator to ca. 1550 B.C., have been linked with a Minoan presence in Egypt, and frescoes with bulls and bull leapers were painted at the mainland sites of Mycenae ¹¹⁹, Tiryns ¹²⁰, Pylos ¹²¹, and perhaps Orchomenos ¹²².

107 *Aegean Ptg*, 171 Kn No. 8 b.

108 *Aegean Ptg*, 176 Kn No. 30.

109 *PM III*, 108-111, figs. 60-61, col. pl. XIX; *Aegean Ptg*, 179 uncatalogued #14; HOOD (*supra* n. 18), pl. 88.

110 *Aegean Ptg*, 171 Kn No. 7. Cf. E. DAVIS, "Art and Politics in the Aegean: the Missing Ruler", in REHAK ed. (*supra* n. 64), 11-20. I find it hard to accept N. Marinatos' contention that the white color of some bull-leapers in the frescoes indicates their status as protagonists rather than female flesh: "The Bull as Adversary: Some Observations on Bull-hunting and Bull-leaping", *Ariadne* 5 (1989), 23-32.

111 *Aegean Ptg*, 173 Kn No. 18b (West Magazine 13: bull's head with lock of acrobat's hair).

112 *PM IV* 2, 892 (bull's hoof with vegetation).

113 *Aegean Ptg*, 172 Kn No. 14 a; 176-177 Kn No. 31; 179 uncatalogued no. 5.

114 *PM III*, 428; *CM*, pls. 96, 97; *KTMH*, pls. 96, 97.

115 *PM III*, 209-218; *Aegean Ptg*, 175 Kn No. 23; *CM*, col. pl. XVII; *KTMH*, col. pl. XVII.

116 HOOD (*supra* n. 18), pl. 85; S. ALEXIOU, "Υστερομινωικοί Τάφοι Λιμένας Κνωσού (Κατσαμπά)" (1967), 56-57, pls. 30-33; *PGC*, 107 fig.; *PraktArchEt* 1963 (1966), pls. 156-157; *Ergon* 1963 (1964), 181 fig. 191; *Ancient Crete*, pl. 95.

117 *PM III*, 194-199, figs. 133-137; J.G. YOUNGER, "The Elgin Plaques from the Treasury of Atreus: Evidence for a New Reconstruction of the Facade", in *Kolloquium zur Ägäischen Vorgeschichte, Mannheim, 20.-22. II 1986, Schriften des Deutschen Archäologen-Verbandes IX* (1987), 138-150.

118 M. BIETAK, "Minoan Wall-Paintings Unearthed at Ancient Avaris", *Egyptian Archaeology* 2 (1992), 26-28. Cf. M. SHAW, "Bull and Maze: A Minoan Fresco from Egypt", *AJA* 98 (1994), 331 (abstract); O.T.P.K. DICKINSON, *The Aegean Bronze Age* (1994), 246-247 fig. 7.1. J. Younger points out a number of anomalies in the paintings, however, which militate against some of the more fanciful interpretations already attached to the frescoes (this volume).

119 *Aegean Ptg*, 190 My No. 1 b, col. pl. XVI.

120 *Aegean Ptg*, 202 Ti No. 1; 203 Ti No. 8.

121 *Aegean Ptg*, 196 Py No. 1, col. pl. XVII.

122 *Aegean Ptg*, 195 Or No. 2.

Vessels with painted terracotta relief appliqués showing bulls include a bucket found in a shrine at Anemospilia near Knossos¹²³, and a rhyton fragment from the Chrysolakkos cemetery at Mallia¹²⁴. One side of a painted pithos found at Akrotiri on Thera shows a dappled bull standing in a meadow¹²⁵, a pictorial composition reminiscent of the one on the Anemospilia bucket and in wall frescoes.

Stone relief vessels with scenes of bull leaping have been found not only in the Knossos area (with several important examples from the palace¹²⁶ and the Unexplored Mansion¹²⁷), but also at sites like Ayia Triadha (the Boxer Rhyton¹²⁸) and even the Athenian Akropolis¹²⁹. The debate over the Minoan or Mycenaean manufacture of the pair of gold *répoussé* cups with bull capture scenes found in the LH IIA cist burial in the Vapheio tholos¹³⁰ is likely to continue, but both vessels reflect a specifically Knossian iconography, as do many of the other objects from the tomb¹³¹. The same is true of a unique pair of gold amygdaloid seals found in Routsis tholos 2 near Pylos, which carry scenes of bull-netting scene¹³² and bull-spearing, respectively¹³³. And an ivory plaque with a bull-capture was found in the area of Tomb Rho in Grave Circle B at Mycenae¹³⁴. It may also be significant that the Vapheio tholos, Routsis tholos 2, and tomb Rho at Mycenae each contained Near Eastern imports as well¹³⁵, which they may have received by way of a Cretan (Knossian?) connection.

The use of bull's head rhyta: a new hypothesis

While the stone bull's head rhyta thus seem to be part of a much larger iconographic network, I would like to suggest that the deposition of bull-rhyton fragments -- and only fragments -- on both Crete and the mainland suggests that we have not understood an important aspect of the use of these vessels and the larger class of stone relief rhyta to which

123 *Archanes*, 148 fig. 126, 149 fig. 127. For recent discussion, see *Aegean Ptg*, 34; K.P. FOSTER, *Minoan Ceramic Relief* (1982), 88-89 and n. 50.

124 P. DEMARGNE, *Fouilles exécutées à Mallia: Exploration des nécropoles (1921-1933)* (*ÉtCrét* VII 1945), 62 #9119, pls. XXIV, LXIX.3; FOSTER (*supra* n. 123), 88-89 and n. 49.

125 *Ergon* (1980), 40-41; *AR* 28 (1982), 97 fig. 102, shows the back side with dolphins.

126 HM 258: *PM* I, 688 fig. 507; *MSV*, 90 pl. P 495; *Relief*, 10 Knossos 1, Fig. 7.

127 M. POPHAM *et al.*, *The Minoan Unexplored Mansion at Knossos* (1984), 24 H45 a-b, pls. 215.1-2, 229.9-10; 94 NP5, pls. 215.7; 229.11.

128 *Supra* n. 49.

129 *Supra* n. 16 no. 3.

130 NMA 1758 and 1758: C. TSOUNTAS, "Ἐρευναι ἐν τῇ Λακωνικῇ καὶ ὁ τάφος τοῦ Βαφειοῦ", *AE* (1889), pl. 9; DAVIS (*supra* n. 6), 1-50; 256-258 nos. 104-105; *CM*, pls. 178-185; *PGC*, 87-88 nos. 1104, 1105, pls. 1104-1105; *KTMH*, pls. 200-207. The frontal bull's heads on the two cups bear a marked resemblance to the surface treatments on the bulls head rhyta. For detail, see esp. *CM*, pl. 185; *KTMH*, pl. 207.

131 E.g., the three sealstones with long-robed "priests": P. REHAK, "The 'Priest' on *CMS* I, 223", forthcoming in *Kadmos* (1994).

132 NMA 8324: *CMS* I, no. 274; *CM*, pl. 209 (below); *KTMH*, pl. 231 (below). Both the Routsis and the Vapheio individuals have been identified as possible early Mycenaean *wanakes* on the basis of their sealstones showing robed "priests": REHAK (*supra* n. 131).

133 NMA 8330: *CMS* I, no. 283; *CM*, pl. 209 (middle); *KTMH*, pl. 231 (middle).

134 NMA 9562: G. MYLONAS, *Ὁ Ταφικός Κύκλος Β τῶν Μυκηνῶν* (1973), 23, pl. 11 a; J.-C. POURSAT, *Catalogue des ivoires mycéniens du Musée National d'Athènes* (1977), 68 no. 240, pl. XIX; K. DEMAKOPOULOU (*supra* n. 81), 200-201 no. 176, 200 col. fig. I am grateful to E. French for letting me read her unpublished paper, "Tomb Rho at Mycenae". The scene on the ivory plaque includes a "sacral knot" (a robe or net?) impaled by a sword; this combination of elements is present in a number of Minoan representations, including a gold ring from the Vapheio tholos: *CMS* I, no. 219.

135 E. CLINE, *Orientalia in the Late Bronze Age Aegean* (1991), *passim*. I thank the author for reminding me of this point.

they belong. Because the upper part of the bull's muzzle is usually missing, and because only peripheral edges of the vessel are preserved, I hypothesize, together with R. Laffineur¹³⁶, a ceremonial use for the rhyta as *simulacra* of sacrificed bulls, at the end of which the vessels were ritually smashed by a deliberate blow to the muzzle. This is the only explanation which accounts for the fact that the same area of the muzzle is always missing, and that no example from the Aegean has ever been found intact. The virtually complete bull's head rhyton "from Egypt" (#24: Pl. Ld) is the exception that proves the rule, and its intact muzzle -- along with the obscure origin of the piece -- leads me to doubt its authenticity¹³⁷.

A similar use followed by a deliberate destruction can be postulated for the stone vessels with relief scenes. The remaining fragments may then have been distributed as *symbola* among the participants in the ceremony¹³⁸.

In the case of the bull's head rhyta, a strong blow to the muzzle would have approximated the blow actually delivered to stun sacrificial bulls -- a phase not represented in Minoan art -- following which the throat would be cut. We see the final stage of this process of blood-letting on the front of the LM IIIA:1 Ayia Triadha sarcophagus¹³⁹. The contemporary burial of a high-status woman in tholos A at Archanes included the deposition of a hornless bull's head that had been severed from the body of the victim¹⁴⁰. A similar offering was made at Toumba tou Skourou in Cyprus¹⁴¹.

The idea that the stone bull's head and relief rhyta were deliberately destroyed will be extremely disturbing to some. But it is important not to project modern art-historical and museum-collecting notions of value back to the Bronze Age. There is no reason why objects that required a great deal of skilled labor made of relatively rare materials could not have been broken as part of a ceremony of great social power¹⁴².

There are good ethnographic parallels, moreover, for the deliberate destruction of precious prestige vessels hypothesized here, though this practice has not been recognized before for the Aegean Bronze Age, perhaps because there do not seem to be clear parallels from historical Greece. More work needs to be done in this area. The smashing of precious vessels or objects can be a sign of conspicuous consumption that increases the importance of

136 R. LAFFINEUR, "Fécondité et pratiques funéraires en Egée à l'âge du Bronze", in *Archaeology and Fertility Cult in the Ancient Mediterranean. Papers Presented at the First International Conference on Archaeology of the Ancient Mediterranean, The University of Malta, 2-5 September 1985* (1986), 79-96, esp. 86-87; IDEM, "Weitere Beiträge zur Symbolik im mykenischen Bestattungsritual", in *Kolloquium zur Ägäischen Vorgeschichte* (*supra* n. 117), 125-132.

137 SELTMAN (*supra* n. 17), 7 n. 4 on the history of the rhyton. There are no details in its manufacture that could not have been gained from a study of the example from the Little Palace, discovered 12 years before the head "from Egypt" came on the market. This argument, of course, runs the risk of circularity.

138 J.G. Younger suggests to me that the sawing of the Harvester Vase and the Marine Style rhyton bottom halves may have meant that their lower portions, distributed separate from their upper portions, were intended for continued use as cups. Their manufacture in two halves, however, might be a technical detail.

139 LONG (*supra* n. 78), 35-43.

140 J. SAKELLARAKIS, "Das Kuppelgrab A von Archanes und das kretisch-mykenische Tieropferitual", *PZ* 45 (1971), 135-218; *Archanes*, 77, 75 fig. 50 (color reconstruction which, however, includes horns). The head was set within the blocking wall which separated the tholos from the side chamber containing the burial, pointing in toward the latter. An important detail of the Archanes skull is that it is missing the lower jaw and horns. The latter detail recalls the truncated horns indicated on the back plate of the Little Palace bull's head (*supra* n. 9) and some terracotta bull rhyta draped across the back with painted nets (*supra* n. 11).

141 E. VERMEULE, *Toumba tou Skourou. The Mound of Darkness* (1974), fig. 29; E. VERMEULE and F. WOLSKY, *Toumba tou Skourou. A Bronze Age Potters' Quarter on Morphou Bay in Cyprus* (1990), 390-391, 392 ill. 9.

142 I thank J. Bennet for expressing these ideas in succinct form as part of an on-going discussion of the problem. Much of the wording in this paragraph is his, and I agree completely with his points.

those rich enough to sponsor such an event. And the distribution of the resulting fragments among participants leaves them with a "token" of the event in which they have just participated. A similar process took place among the Native American inhabitants of the Pacific Northwest during *potlatch* ceremonies, when ornamented copper plaques were broken up and distributed, and in Central America some offerings were intentionally broken before they were given to the gods ¹⁴³.

If the stone bull's heads and relief rhyta were personal possessions, they may have been smashed after their owner's death, just as the pope's ring is deliberately destroyed as soon as he is pronounced dead. The object thus is rendered unusable by anyone else, and in effect "dies" with its owner. But if this were the case in prehistoric Greece, it is hard then to understand why bull-rhyta or their fragments are not found more often in tombs.

If my suggestion that the stone bull's head rhyta were ritually destroyed is correct, we might try to imagine the circumstances under which the destruction of bull's head rhyta took place. Glyptic evidence ¹⁴⁴, a painted pithos from Pseira (Pl. LIId) ¹⁴⁵, the Ayia Triadha sarcophagus (Pl. LIId) ¹⁴⁶, surviving functional double axes as decapitation tools (Pl. Lc) ¹⁴⁷, and the burial of a bull's skull in tholos A at Archanes ¹⁴⁸, underline the fact that bull sacrifice was a regular feature of Minoan society in the neo-palatial and post-palatial periods, though our most detailed representations link it with post-palatial Minoan (LM II-IIIa) élite funerary rituals ¹⁴⁹. In fact, none of the glyptic representations of trussed bulls on offering tables can be securely dated before the end of LM IB ¹⁵⁰, making the stone bull's heads one of the earliest potential indicators of the role of the bull as a sacrificial animal.

In general, however, the many representations of bull hunting, capture, and leaping can be understood as isolated vignettes from a much longer process which probably culminated in the sacrifice of the animal ¹⁵¹. The important communal function of the bull sacrifice and the

143 For a possible European parallel, see, e.g., O. SOFFER *et al.*, "Case of the Exploding Figurines", *Archaeology* 46.1 (1993), 36-39. P. Halstead identifies the possibility of deliberate destruction of prestige items in Greece: "Spondylus Shell Ornaments from late Neolithic Dimini, Greece: Specialized Manufacture or Unequal Accumulation?", *Antiquity* 67 (1993), 603-609.

144 SAKELLARAKIS (*supra* n. 139).

145 SEAGER (*supra* n. 73), 26, pl. 7; *CM*, pl. 81; *Ancient Crete*, pl. 158; *KTMH*, pl. 81. The jar shows bull's heads surmounted by double axes, alternating with double axes. The rendering of the bull's heads with ears and the added details in white on the muzzles suggests bucrania rather than skulls. The outline of the heads resembles the sketch of the bull's head on the back of the rhyton from the Little Palace (*supra* n. 9).

146 LONG (*supra* n. 78).

147 E.g., an axe in Rethymnon with an incised bull's head on it which resembles the graffito on the backplate of the Little Palace bull rhyton: C. MAVRIYANNAKI (*supra* n. 8). Cf. the axe with incised helmets on each side from ?Knossos in the Giamalakis collection: W. DEONNA, "Casque gravé sur une hache minoenne", *BCH* 78 (1958), 253-257; *PGC*, 59 no. 717 and fig. 27. Another axe (HM 2504), said to be from Vorou Monophatziou, is incised with figure-eight shields, "sacral robes" and swords (like the one on the Mycenae ivory plaque, *supra* n. 134) and ?quivers: *PGC*, 59 no. 719 and pl. 719; C. VERLINDEN, "Nouvelle interprétation du décor incisé sur une double hache en bronze supposée provenir de Voros", in *L'iconographie minoenne. Actes de la Table Ronde d'Athènes (21-22 avril 1983)*, *BCH Suppl.* XI (1985), 135-149. For axes from Ayia Triadha, see HALBHERR, STEFANI, BANTI (*supra* n. 49), 111 fig. 72. Cf. H.-G. BUCHHOLZ, *Zur Herkunft der kretischen Doppelaxt* (1959).

148 Archanes, 72-85.

149 As, e.g., on the Ayia Triadha sarcophagus: LONG (*supra* n. 78). The LM II-IIIa Tomb of the Double Axes included three double axes (one of them functional and built into the blocking wall of the *stomion*) along with the ears and inlays of a bull's head rhyton: *TDA*, 58-59 no. 2 a, 2 g.

150 This point was raised by E. and B. Hallager in their paper (this volume), and has been confirmed by J. Younger.

151 The bibliography on bull-leaping is now immense: see e.g., J.G. YOUNGER, "Bronze Age Representations of Aegean Bull-Leaping", *AJA* 80 (1976), 125-137; IDEM, "A New Look at Aegean Bull-

sharing of its flesh are processes that have been explored in a number of studies, and are remembered in later Greek myth ¹⁵².

The front of the Ayia Triadha sarcophagus in particular associates the bull sacrifice with the collection and pouring of liquids, perhaps wine or more likely the blood of the victim since a bucket under the table actually catches the dripping blood of the bull ¹⁵³. Significantly, both the Ayia Triadha sarcophagus and multiple seal impressions found at Mallia ¹⁵⁴ show arrays of cult vessels at bull sacrifices ¹⁵⁵, and the woman buried with a hornless bull's head in tholos A at Archanes also had a large set of bronzes ¹⁵⁶. Bull's head rhyta are never depicted among these assemblages of vessels, perhaps because they were not casually or frequently used, or perhaps because they were associated with extremely special circumstances that were not recorded visually. Perhaps they are not necessary when the bull itself is there.

The stone bull's head rhyta may represent a concrete reminder of the bull sacrifice, but they represent too much of an investment of labor and precious materials to have been used and destroyed on a regular basis. We should therefore imagine a rare ceremony, perhaps celebrating a sort of investiture ¹⁵⁷ or marking an exceptional rite of passage ¹⁵⁸. Interestingly, however, it is the women rather than the men on the Ayia Triadha sarcophagus who perform all the significant actions connected with the bull sacrifice: emptying the buckets of liquid, and resting their hands on the sacrificed bull and low altar with offerings. And it is a woman at Archanes whose grave receives the bull's skull, her high status indicated by an ivory footstool and a large collection of seals and gold rings which may show that she was an administrator ¹⁵⁹.

The mainland findspots of some of the stone bull rhyton fragments suggests that already at the beginning of the Mycenaean age, select mainlanders were participants in a Minoan

Leaping", *Muse* 17 (1983), 72-80. For the most recent assessment of the evidence, see the paper by J.G. YOUNGER, this volume.

152 See e.g., W. BURKERT, *Homo Necans* (1983), 1-12. WACE (*supra* n. 35 [1919-21]), 204, argued that "a bull's head rhyton so decorated and used as a ritual vessel at religious ceremonies may have been intended to recall a sacred bull so adorned, which was sacrificed and afterwards consumed at a mystic banquet at great religious festivals". For a valuable recent assessment of Greek sacrifice in historical times, see S. PEIRCE, "Death, Revelry and *Thysia*", *Classical Antiquity* 12 (1993), 219-266.

153 LONG (*supra* n. 78), 36, discusses both possibilities, but decides in favor of wine. She notes, however (62-63), the collection of animal blood, fig. 87. On blood libation and its value of regeneration in funerary ritual, see LAFFINEUR (*supra* n. 136).

154 O. PELON, *Fouilles exécutées à Mallia. Exploration des maisons et quartiers d'habitation (1963-1966)*, (*ÉtCrét* XVI 1970), 130-135 no. 265, pl. XXVI.4, 6.

155 Cf. the similar array of vessels on a sealstone found on Naxos: CMS V, no. 608. Interestingly, both glyptic scenes appear to include a sword standing upright, a bucket, and perhaps a conical rhyton (the last is indistinct on the Mallia sealing). But the correspondances suggest that some ritual vessels and equipment occurred in sets. Cf. the sets of vessels on a Knossos Linear B tablet from the Room of the Chariot Tablets: CHADWICK *et al.* (*supra* n. 95), K 93 a.

156 Archanes, 84 col. fig. 61.

157 One woman is shown on Minoan sealstones wearing a headdress which includes possible bull-horns surmounted by the double axe: Y. LINDAU and R. HÄGG, "The Minoan 'Snake-Frame' Reconsidered", *OpAth* 15 (1984), 67-77. One of the Pylos sealings (CMS I, no. 379) depicts this individual flanked by antithetic *genii* and rampant bulls. W.-D. Niemeier has associated this woman with the function of the Knossos throne room: "Zur Deutung des Thronraumes im Palast von Knossos", *AM* 101 (1986), 63-95.

158 The men represented in glyptic with animal heads (masks?) and human limbs and costumes should be reexamined from the point of view of ritual: see J. YOUNGER, *The Iconography of Late Minoan-Mycenaean Sealstones and Finger Rings* (1988), 352; N. SCHLAGER, "Minotauros in der ägäischen Glyptik?", *CMS Beiheft* 3 (1989), 225-237.

159 Archanes, 82 and fig. 59. For her gold rings, see *Ancient Crete*, pl. 99. The women on the Ayia Triadha sarcophagus who wears a headdress and carries a pair of buckets also wears a sealstone bracelet.

ceremony, the tokens of which survived in later contexts at Mycenae and Pylos. If this suggestion is correct, the stone bull's head rhyta may not ever have been transferred intact to the mainland, but rather were brought back as token fragments belonging to the Mycenaean who had actually participated in the extraordinary sacrifices on Crete posited here ¹⁶⁰. I therefore suggest that we should distinguish between the apparent diplomatic use of metal bull's head rhyta at Mycenae and in Egypt, and the social or religious use of the stone bull's heads or their fragments on Crete and at a few mainland sites.

Summary and Conclusions:

In conclusion, I would suggest the following:

1) Warren is surely correct in dating the creation of the bull's head rhyta and stone relief vessels to MM III-LM IB ¹⁶¹. Most examples may have reached the mainland not much later than the Shaft Grave era, though some fragments were not deposited until later periods.

2) Because they resemble a decapitated bull's head, stone bull's head rhyta should be connected with the act of bull sacrifice and dismemberment.

3) But because of their small numbers and precious materials of manufacture, bull rhyta must have been used in connection with special bull-sacrifices, perhaps enacted only rarely.

4) Together, stone bull's head rhyta and stone vessels with pictorial relief scenes represent an unusual class of prestige objects that were meant to be destroyed after use and their pieces perhaps distributed as souvenirs among the participants.

5) The dissemination of bull rhyton fragments to Mycenae and Pylos is an indication of a strong, probably political and/or cultic, connection between certain members of these mainland centers and an élite group at Knossos near the beginning of the Late Bronze Age. These connections might also reflect which Mycenaean from the mainland took over Crete.

6) Finally, the fragments of bull's head rhyta and relief vessels may hint at an important aspect of Late Bronze Age Aegean cult practice: that is, the ritual destruction of cult objects, which we have largely overlooked, despite the clues in the archaeological record.

¹⁶⁰ One is tempted here to recall the myth of Theseus and his journey to Crete.

¹⁶¹ *MSV*, 174-175.

Addendum: The Master Impression

The Khania Master Impression (Pl. LIIIe) includes a possible representation of a floating bucranium or bull's head rhyton to the right of the "Master" ¹⁶². The floating object consists of three dots which form the "head", surmounted by a pair of thin, wavy lines that could be horns ¹⁶³. The horizontal position of the base of the head recalls that of the bull's heads carried in procession in the Egyptian tomb paintings. The "Master" is identified by some as a god and by others as a ruler. In either case, his enormous scale in relation to the architecture on which he stands is unusual. If the floating object represents a bull's head rhyton, its depiction would further underscore the unusual nature of the design on this sealing.

162 Khania Museum no. 1563: E. HALLAGER, *The Master Impression. A Clay Sealing from the Greek-Swedish Excavations at Kastelli, Khania* (1985); CMS V Suppl. 1A, no. 142. I am grateful to E. Hallager for the opportunity to examine the sealing in the summer of 1993.

163 HALLAGER (*supra* n. 162), 25: "Although it may be tempting to think of a bucranium, the uncertainty in the impression does not permit such an interpretation to be firmly established".

CATALOGUE: STONE BULL'S HEAD RHYTA

(all dimensions are in cm.)

- 1) title/description: **Knossos**, Little Palace. right half of head, missing left half and one ear (the other has recently been located in the Stratigraphical Museum, Knossos). Autopsis, 1993.
 present location: HM 1368 + 1550.
 findspot: Little Palace: found in SW pillar crypt.
 material: steatite (serpentine).
 dimensions: H. 20 from chin to top of head; W. 13.1 ear to ear.
 date of find context: LM II-III A.
 bibliography: A. EVANS, "The Palace of Knossos and its Dependencies. Provisional Report for the Year 1905", *BSA* 11 (1904-5), 2-16 (on the excavation of the Little Palace); A. REICHEL, "Die Stierspiele in der kretisch-mykenischen Cultur", *AM* 34 (1909), 85-99, esp. 92; G. KARO, "Minoische Rhyta", *Jdl* 26 (1911), 249-270, esp. 251; *TDA*, 79-83, figs. 87-90. fig. 89; *PM* II 2, 527-530; SELTMAN (*supra* n. 17), 14 no. 2; O. REVERDIN *et al.*, *Crete and its Treasures* (1961), 101 col. pl.; *CM*, pl. 98; *MSV*, 89, P 489; HOOD (*supra* n. 18), pl. 53; *PGC*, 102 no. 1236, pl. 1236 (with additional bibliography); R. HIGGINS, *Minoan and Mycenaean Art* (rev. ed. 1981), 163 col. fig. 202; GESELL (*supra* n. 73), 94 no. 43, 194 pl. 97; *KTMH*, pl. 98; *Ancient Crete*, pl. 70.
- 2) title/description: **Knossos**: crystal lens for bull's eye like example found in Little Palace.
 present location: HM.
 findspot: Unexplored Mansion.
 material: rock crystal.
 dimensions: L. 2.7; W. 1.8; Th. .6.
 date of find context: LM II-III A.
 bibliography: POPHAM *et al.* (*supra* n. 127), 82 no. P40, 81 fig. 13 (plan with findspot marked), 239, pl. 219.17, center right.
- 3) title/description: **Knossos**: possible fragment of bull's throat or base of neck.
 present location: HM.
 findspot: Unexplored Mansion.
 material: chlorite.
 dimensions: L. 6.6; W. 5.4; Th. .7.
 date of find context: LM II-III A.
 bibliography: POPHAM *et al.* (*supra* n. 127), 93-94 no. NP 3, 234 and n. 70, pl. 216.2.
- 4) title/description: **Knossos**: 2 ears and schist quatrifoil inlays.
 present location: AM 1938.603.
 findspot: Tomb of the Double Axes.
 material: serpentine and schist.
 dimensions: unknown.
 date of find context: LM II-III A:1.
 bibliography: *TDA*, 41 fig. 53 (plan), 52 fig. 70, 53; WACE (*supra* n. 35 [1919-21]), 203 and n. 5; SELTMAN (*supra* n. 17), 14 no. 4, 15 fig. 4; *MSV*, 89.
- 5) title/description: **Knossos**: head fragment with locks and half of a horn socket.
 present location: AM 1938.799.
 findspot: Drain below S. border of Royal Road.
 material: steatite.
 dimensions: unknown.
 date of find context: MM IIIB- LM I.
 bibliography: *PM* II 2, 531, 532 fig. 335, 533; 576 n. 2; SELTMAN (*supra* n. 17), 14 no. 3, 15 fig. 3; *MSV*, 89.
- 6) title/description: **Knossos**: head fragment with locks.
 present location: HM 259.
 findspot: unknown.
 material: steatite.
 dimensions: unknown.

date of find context: unknown.
 bibliography: *MSV*, 89, pl. P 490.

- 7) title/description: **Knossos**: cheek fragment, part of an eye socket, locks of hair.
 present location: HM 2104.
 findspot: Gypsades Hill.
 material: steatite.
 dimensions: unknown.
 date of find context: unknown.
 bibliography: *MSV*, 89, pl. P 491.

- 8) title/description: **Knossos**: cheek fragment with locks, parts of 2 holes (for attaching back plate?).
 present location: HM 2790.
 findspot: Hogarth's Houses (Gypsades Hill).
 material: chlorite.
 dimensions: unknown.
 date of find context: LM IIIA:2 - ?B.
 bibliography: *MSV*, 89.

- 9) title/description: **Knossos**: fragment with corner of eye and tear duct.
 present location: KSM.
 findspot: Royal Road.
 material: chlorite-steatite.
 dimensions: unknown.
 date of find context: LM IB.
 bibliography: *MSV*, 89.

- 10) title/description: **Knossos**: fragment with mouth, throat, parts of cheeks.
 present location: KSM.
 findspot: Gypsades Hill.
 material: steatite (serpentine).
 dimensions: H. 10.2; W. 8.2; L. 9.8.
 date of find context: unknown.
 bibliography: *MSV*, 89, pl. P 492.

- 11) title/description: **Knossos**: flat plate catalogued by Warren as a lid, with relief depiction on one side of "a sacral knot apparently in a floral setting".
 present location: HM 2554.
 findspot: chance find, 1956.
 material: steatite (serpentine).
 dimensions: H. 9.5; W. 10.
 date of find context: unknown.
 bibliography: *MSV*, 71, pl. P 354; *Relief*, 21 Knossos 20, fig. 18 a.

- 12) title/description: **Mycenae**, Tsountas find: point of dewlap. Autopsis, 1993.
 present location: NMA 2706.
 findspot: akropolis, exact findspot unknown.
 material: dark green steatite (serpentine).
 dimensions: H. 9.0; W. 7.0; Th. 6.0.
 date of find context: unknown.
 bibliography: KARO, *Jdl* 26 (1911), 251-252, 251 fig. 2; WACE (*supra* n. 35 [1919-21]), 203 pl. XIII.3 a-c; WACE (*supra* n. 35 [1949]), 68, fig. 27b, rhyton D, a-c; SELTMAN (*supra* n. 17), 14 no. 5, 15 fig. 5; *MSV*, 90; DICKERS (*supra* n. 1), 167 no. 1.

- 13) title/description: **Mycenae**: piece of neck, from right side near top, with ear socket. Autopsis, 1993.
 present location: NMA 6248.
 findspot: palace closet: Found "in the fill below the closet between the Western Passage and the south corridor" (WACE [*supra* n. 35 1949] 68).
 material: dark green steatite (serpentine).

dimensions: L. 10.0; W. 7.0; Th. 2.0-2.5.

date of find context: LH IIIA-B. (LH IIIA according to Dickers). But since it was part of fill under closet, it should be pre-LH III (*i.e.*, LH I-II).

bibliography: WACE (*supra* n. 35 [1919-21]), 203-204, pl. XIII.3 d, e; WACE (*supra* n. 35 [1949]), 68, 72, fig. 27 b, rhyton C, d-e; SELTMAN (*supra* n. 17), 14 no. 6, 15 fig. 6; MSV, 90; DICKERS (*supra* n. 1), 167 no. 4.

- 14) title/description: **Mycenae**: piece of forehead with right and part of left horn socket. Autopsis, 1993.
 present location: NMA 6247.
 findspot: Rhyton Well.
 material: dark green steatite.
 dimensions: L. 13.0; H. 10.0; Th. 3.5.
 date of find context: probably LH IIIB.
 bibliography: WACE (*supra* n. 35 [1919-21]), 202-203, pl. XIII.1, C. c, d; WACE (*supra* n. 35 [1949]), 68, fig. 26 A. SELTMAN (*supra* n. 17), 14 no. 7, 15 fig. 7; MSV, 89-90; SAKELLARAKIS (*supra* n. 1), 185 pl. XII.33; DICKERS (*supra* n. 1), 167 no. 2, 3.

- 15) title/description: **Mycenae**: fragment of upper left side of face with one eye socket and horn socket, found with example above. Autopsis, 1993.
 present location: NMA 6247 (2).
 findspot: Rhyton Well.
 material: steatite.
 dimensions: H. 11.0; W. 6.0; Th. 2.0.
 date of find context: LH IIIB (probably).
 bibliography: WACE (*supra* n. 35 [1919-21]), 202-203, pl. XIII, 1 D, a,b; WACE (*supra* n. 35 [1949]), 68, fig. 27a= B; SELTMAN (*supra* n. 17), 14 no. 8, 15 fig. 8; MSV, 90; SAKELLARAKIS (*supra* n. 1), 185 and n. 113, pl. XII.33; DICKERS (*supra* n. 1), 167 no. 3.

- 16) title/description: **Mycenae**.
 present location: Nauplion Museum 64.253.
 findspot: Citadel House.
 material: chlorite.
 dimensions: unknown.
 date of find context: LH IIIB-C context.
 bibliography: MSV, 90; DICKERS (*supra* n. 1), 168 no. 5; EVELY (*supra* n. 1), 16 no. 26 and fig. 9.

- 17) title/description: **Mycenae**.
 present location: Nauplion Museum 64.128.
 findspot: Citadel House.
 material: chlorite.
 dimensions: unknown.
 date of find context: LH IIIB-C context.
 bibliography: MSV, 90; DICKERS (*supra* n. 1), 168 no. 6; EVELY (*supra* n. 1), 16 no. 27.

- 18) title/description: **Palaikastro** (ear only). Larger than Zakros palace bull's ears and thus perhaps from larger rhyton. Autopsis, 1993.
 present location: HM 995.
 findspot: Block E.
 material: chlorite.
 dimensions: 4.1 x 2.4.
 date of find context: LM IB.
 bibliography: R.M. DAWKINS, "Excavations at Palaikastro, III", *BSA* 10 (1903-4), 207; KARO, *Jdl* (1911), 252, n. 2; WACE (*supra* n. 35 [1919-21]), 203 and n. 6; SELTMAN (*supra* n. 17), 14 no. 9; MSV, 89.

- 19) title/description: **Pylos**, large fragment found on acropolis. Autopsis, 1993.
 present location: Chora Museum.
 findspot: Akropolis, Belvedere area.
 material: chlorite (probably).

- dimensions: unknown.
 date of find context: LH IIIB-C.
 bibliography: C.W. BLEGEN *et al.*, *The Palace of Nestor at Pylos in Western Messenia* III, 24, fig. 109.1; DICKERS (*supra* n. 1), 168 no. 7.
- 20) title/description: **Pylos**, small fragment found on acropolis. Autopsis, 1993.
 present location: Chora Museum.
 findspot: Akropolis, Belvedere area.
 material: chlorite (probably).
 dimensions: unknown.
 date of find context: LH IIIB-C.
 bibliography: BLEGEN *et al.* (*supra* no. 19), 24, fig. 109.2; DICKERS (*supra* n. 1), 168 no. 7.
- 21) title/description: **Zakros**: heavily restored head. Autopsis, 1993.
 present location: HM 2713.
 findspot: lightwell of palace where it had apparently fallen from an upper floor.
 material: green chlorite.
 dimensions: H. 14.8; W. 13.1 (ear to ear).
 date of find context: LM IB.
 bibliography: AR 1963-4 (1964), cover ill., 30; *PraktArchEt* (1963) [1966], pl. 152a; *Ergon* (1963) [1964], 175 pl. 188; *BCH* 88 (1964), 843 fig. 14; PLATON (*supra* n. 53 [1966]), col. pl. 71; *MSV*, 89; *Zakros*, color frontispiece (view of right side), 160 fig. (view of left side), 161-163; *Ancient Crete*, col. pl. 180.
- 22) title/description: **Zakros**: chin fragment of chlorite rhyton with gold leaf in nostrils. Drill hole through bottom of chin for drainage hole (cf. HM 2713). Autopsis, 1993.
 present location: HM 3323.
 findspot: northeast of palace 1972.
 material: chlorite.
 dimensions: unknown.
 date of find context: LM IB.
 bibliography: AR 1972-3 (1973), 32; *Ergon* (1972), 105-113.
- 23) title/description: **Zakros**: part of bull's head rhyton.
 present location: unknown.
 findspot: northeast of palace (not part of rhyton found 1972). Found with plaster Horns of Consecration.
 material: chlorite.
 dimensions: unknown.
 date of find context: LM IB.
 bibliography: AR (1973-74), 40.
 Probable forgery.
- 24) title/description: **Egypt?** (Private Collection).
 present location: private collection.
 findspot: unknown.
 material: chlorite.
 dimensions: unknown.
 date of find context: unknown; first recorded in 1926.
 bibliography: SELTMAN (*supra* n. 17), 6-15; F. SCHACHERMEYR, *Die Minoische Kultur des alten Kreta* (1964), 111 and fig. 54; *MSV*, 89 n. 1.

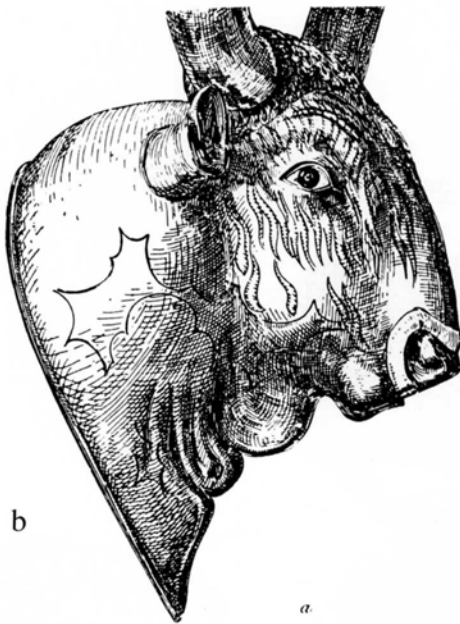
Paul REHAK

LIST OF ILLUSTRATIONS

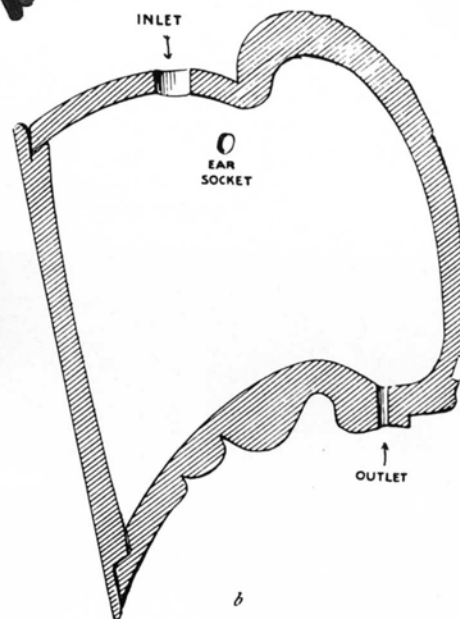
- Pl. XLIXa Little Palace bull rhyton (after *CM*, pl. 98).
 Pl. XLIXb Diagram of bull-rhyton components (after *PM* II 2, 529 fig. 332 b).
 Pl. XLIXc-d Zakros bull rhyton (photographs by J.G. Younger).
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 Pl. LIIIb Knossos tablet with bull rhyta (after CHADWICK [*supra* n. 95]).
 Pl. LIIIc Katsamba pyxis (after *PGC*, 107 fig.)
 Pl. LIIId Pseira vase (after *CM*, pl. 81).
 Pl. LIIIe Master Impression (after HALLAGER [*supra* n. 162], fig. 11).



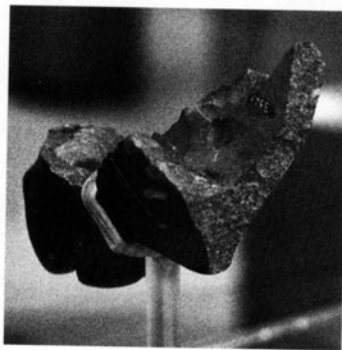
a



b



b



c

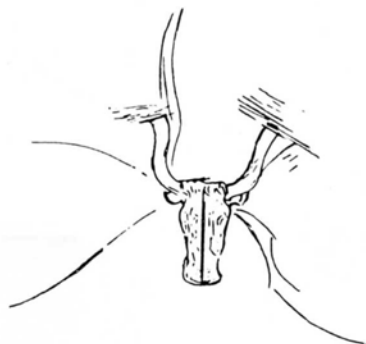


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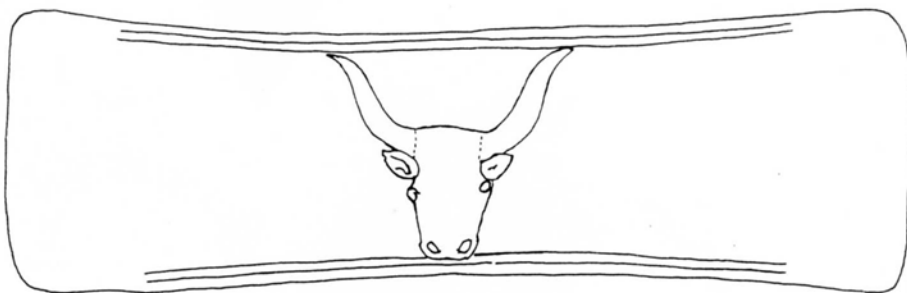
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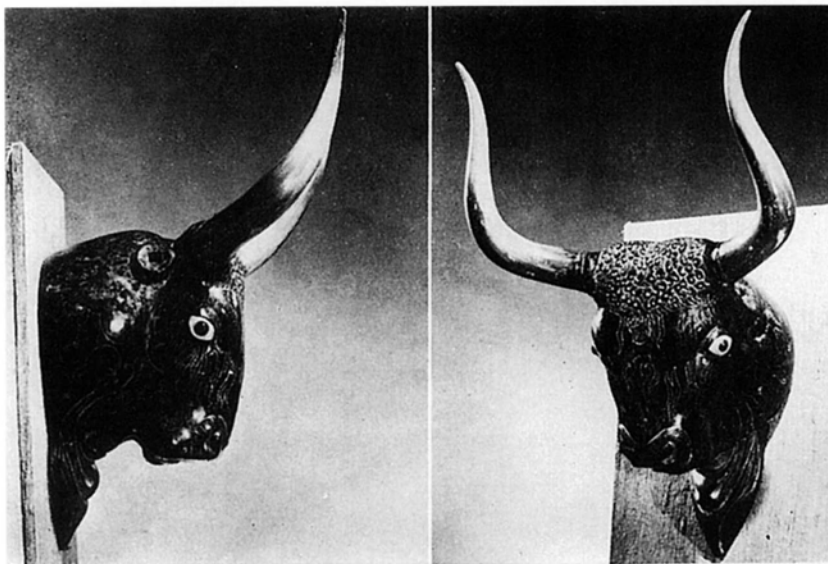
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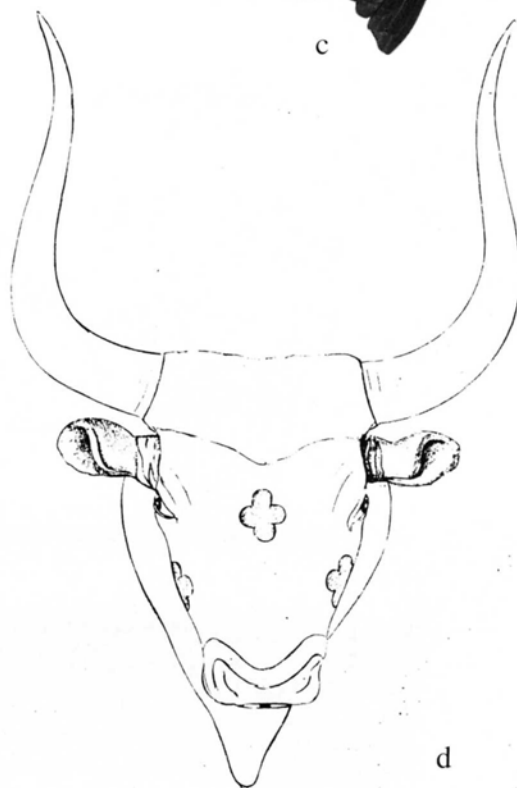
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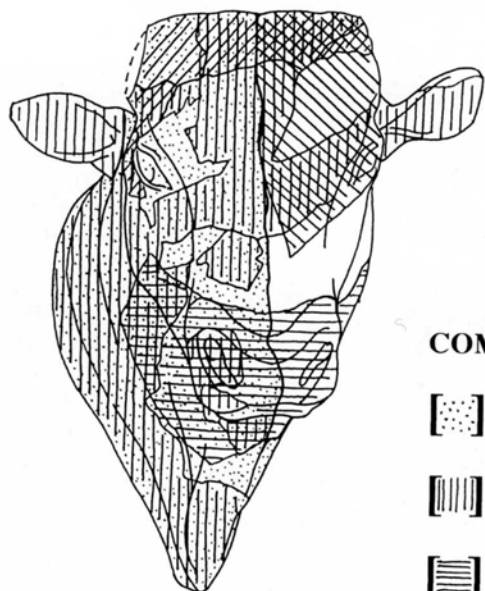
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COMPOSITE DRAWING

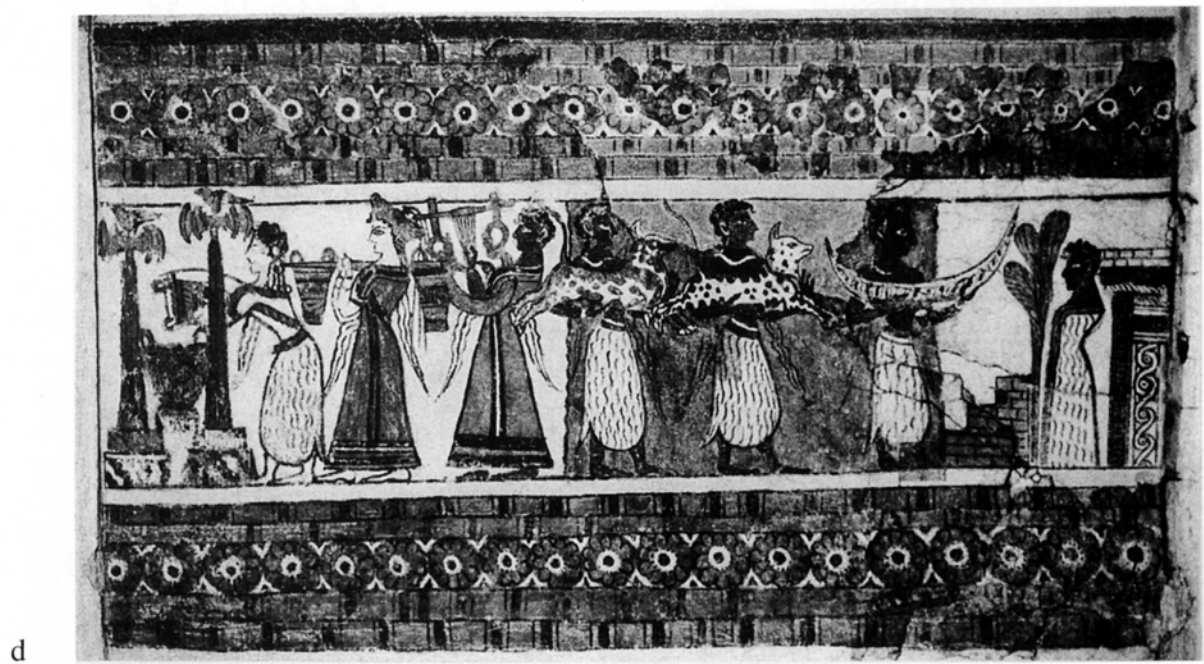
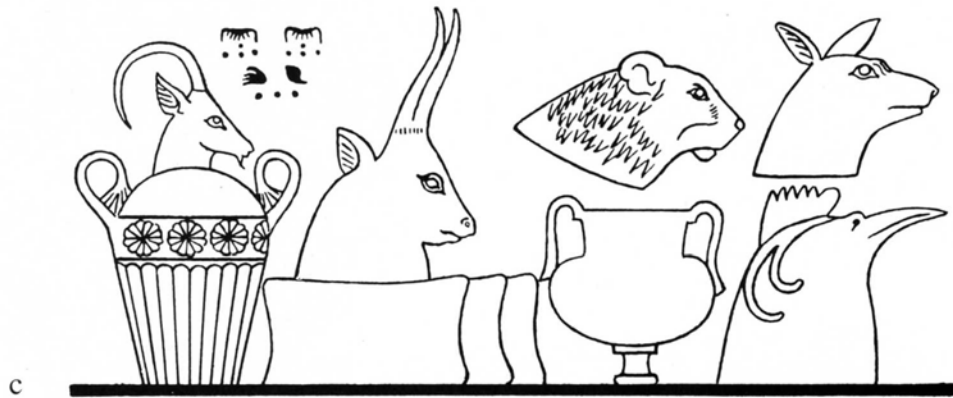
[Stippled pattern] Knossos, Little Palace (Catalogue #1)

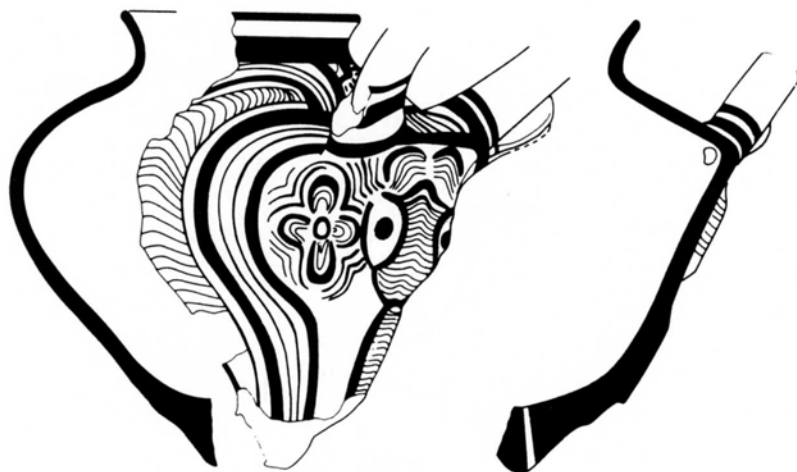
[Vertical line pattern] Zakros Palace (Catalogue #21)

[Horizontal line pattern] Zakros, NE of Palace (Catalogue #22)

[Diagonal line pattern] Mycenae, Rhyton Well 1 (Catalogue #14)

[Cross-hatched pattern] Mycenae, Rhyton Well 2 (Catalogue #15)





b



a



bull's
head?

e



d

