

DIACHRONIC CHANGES IN MINOAN CAVE CULT*

Caves in Crete were used for sacred purposes from at least the Middle Minoan period and this function continues through to the end of the Postpalatial period and beyond. This paper focuses on diachronic changes in rituals and choice of caves from the Middle Minoan period to the end of Late Minoan (from c. 2,000 to 1,000 B.C.). Although only a few of the better-dated and excavated caves are included, my conclusions are not limited to these sites. The Protopalatial and Neopalatial periods show continuity in cult activities with changes not occurring until the Final and Postpalatial periods. I will try to convey a feeling for the type of cave chosen and propose some hypotheses about the activities that took place within them. The paper will conclude with a discussion of some major changes in the choice of caves that happened in the last phase of the Bronze Age.

Hall has recently proposed that a few caves in Crete may have been used for sacred purposes during the Neolithic.¹ Hall, applying Nakou's model for mainland Greece and adjacent Aegean islands, persuasively argues for such a sacred function for Crete during the Late and Final Neolithic, a time that coincides with initial settlement of marginal land in Crete.² Both Hall and Nakou propose that large caves became sacred meeting places for the

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I have based my relative chronology on Rehak and Younger but I follow Popham's traditional destruction date for Knossos which defines the end of the final Palatial period early in LM IIIA2 (P. REHAK and J.G. YOUNGER, "Review of Aegean Prehistory VII: Neopalatial, Final Palatial, and Postpalatial Crete," *AJA* 102 (1998) 99; M.R. POPHAM, *The Destruction of the Palace of Knossos. Pottery of the Late Minoan IIIA Period* (1970) 85. Therefore, the following relative chronology is used: Protopalatial = MM IB-MM II

Neopalatial = MM III-LM IA

Final Palatial = LM II-early LM IIIA2

Postpalatial = late LM IIIA2-B-C to Subminoan

The following abbreviations are used:

GOODMAN (1990) = F.D. GOODMAN, *Where the Spirits Ride the Wind. Trance Journeys and other Ecstatic Experiences* (1990).

GORE = B. GORE, *Ecstatic Body Postures. An Alternate Reality Workbook* (1995).

HOGARTH = D.G. HOGARTH, "The Dictaeon Cave. Preliminary report," *BSA* 6 (1899-1900) 94-116.

KANTA (1980) = A. KANTA, *The Late Minoan III Period in Crete. A Survey of Sites, Pottery and their Distribution* (1980).

NAUMANN = U. NAUMANN, "Subminoische und protogeometrische Bronzeplastik auf Kreta," *AthMitt Beiheft* 6 (1976).

VERLINDEN = C. VERLINDEN, *Les statuettes anthropomorphes crétoises en bronze et en plomb du IIIe millénaire au VIIe siècle av. J.-C.* (1984).

WATROUS (1996) = L.V. WATROUS with a contribution by Y.K. WIDENOR, *The Cave Sanctuary of Zeus at Psychro. A Study of Extra-Urban Sanctuaries in Minoan and Early Iron Age Crete*, *Aegaeum* 15 (1996).

1 H.K. HALL, *Ritual in Neolithic Crete*, unpublished M. Litt thesis, Department of Classics, University College Dublin, The National University of Ireland (1999).

2 G. NAKOU, "The Cutting Edge: A New Look at Early Aegean Metallurgy," *JMedA* 8.2 (1995) 3-7, 20-22; HALL (*supra* n. 1) 144.

dispersed population, for the exchange of goods and information and for marriage partners. Although the evidence is not conclusive for Crete, the quantity of high quality Late and Final Neolithic pottery, the quality of obsidian (with some obsidian cores), and the possible occurrence of stone *phalloi* argue against both ordinary domestic use and seasonal occupation by shepherds.³

Hall concludes that caves are fixed and unchanging features at the periphery of the landscape.⁴ He suggests that they were perceived as part of the liminal world; that is, they are often considered the juncture between 'this world' and the 'other world.' Caves are a place both for humans to contact the normally inaccessible spirit world and where the dead may be buried.

It has long been known that some caves (other than those referred to above) functioned as burial places during the late Neolithic and Early Minoan.⁵ During the second phase (the Early Minoan period), neither caves nor built tombs were limited to funerary ritual but they served a broader religious function.⁶ For example, EM II tholos tombs of the Mesara were enlarged and enhanced to accommodate communal ritual, with the tomb becoming the spiritual focus for the community.⁷ Peatfield believes that such communal built tombs were replaced, during EM III/MM IA, by individual burials in larger cemeteries.⁸ He suggests a chronological correlation between the demise of communal tombs and the earliest substantial evidence (EM III/MM IA) at peak sanctuaries.⁹

An EM III/MM IA date for the beginning of peak sanctuaries, if correct, corresponds with the earliest possible Bronze Age evidence for caves, excluding any earlier association with burials. The Idaean Cave may have been the earliest, if its EM III finds belong to a ritual deposit.¹⁰ Otherwise, the Idaean Cave and three others most assuredly began by MM IB.¹¹ This is coincident with the establishment of a centralized economic system in MM IB that lasted until the end of LM I when all palaces, except Knossos, were destroyed. Many of the sacred caves have their richest remains from this time, the Protopalatial and Neopalatial periods. These two periods are here considered together because mixed stratigraphy and inadequate publication of most finds often do not allow a finer distinction.

Protopalatial and Neopalatial:

Sacred caves of this period and contemporary peak sanctuaries are visually connected to the surrounding region (Pl. IXa-b). Many are visible from the nearest palace or large settlement. The visual relationship is especially evident for Kamares cave, which appears as a black hole in

3 Fuller publication of cave excavations is needed to verify the character of the Late and Final Neolithic assemblages and to substantiate the model; nevertheless, Hall's proposal for Crete is sound and provides a welcomed new direction.

4 HALL (*supra* n. 1) 187.

5 For references see P. FAURE, *Fonctions des cavernes crétoises* (1964) 51-80.

6 J.S. SOLES, *The Prepalatial Cemeteries at Mochlos and Gournia and the House Tombs of Bronze Age Crete*, *Hesperia* suppl. XXIV (1992) 226-242.

7 A. PEATFIELD, "Minoan Peak Sanctuaries: History and Society," *OpAth* 18 (1990) 124-125.

8 PEATFIELD (*supra* n. 7) 125.

9 PEATFIELD (*supra* n. 7) 125. The situation may be more complicated than this because SOLES ([*supra* n. 6] 238) sees a MM IA proliferation of shrines connected with tombs.

10 These include EM III sherds and sealstones, numerous enough to suggest that the cult began as early as EM III (A. VASILAKIS, "Μινωική κεραμική από το Ιδαίον Άντρον," *Πεπραγμένα του ΣΤ' Διεθνούς Κρητολογικού Συνεδρίου* [1990] 125). The few early bronze objects from Psychro probably belong to an EM burial (P. DEMARGNE, "Antiquités de Praesos et de l'autre Dictéen," *BCH* 26 [1902] 571-583; J. BOARDMAN, *The Cretan Collection in Oxford* [1961] 4; L.V. WATROUS, *Lasithi. A History of Settlement on a Highland Plain in Crete*, *Hesperia* Suppl. XVIII [1982] 11 n. 23, 61). L.V. WATROUS ("Review of Aegean Prehistory III: Crete from Earliest Prehistory through the Protopalatial Period," *AJA* 98 [1994] 729-730; WATROUS [1996] 48 n. 9) wrongly, in my opinion, redates these later (to the Protopalatial period, MM I-II) based on his recent belief that gold objects were not made in Crete as early as EM.

11 The others are Psychro, Kamares, and Eileithyia/Amnisos.

the mountainside that is visible from Phaistos palace and the entire Mesara valley.¹² Caves that are invisible from a distance, with entrances below ground level, nevertheless have adjacent terraces with vistas of the surrounding region.¹³ The Idaean Cave is unique. It is neither visible from afar nor does the terrace view extend beyond the seasonally inhabited Nidha plain. Its lofty position on Mt. Ida, however, equates it with the mountain itself, which is visible from most of central Crete and from great distances at sea.

Seen from afar, the cave entrance is the magnet and goal of the pilgrimage (Pl. IXc-Xa). The most important caves are large.¹⁴ A principal ritual area in palatial periods is usually deep within the cave. Approaching and entering these caves is normally a physical ordeal and an intense sensory experience. The descent into the cave can be both steep and rugged (Pl. Xb). The air is cool and the cave is dark. Within, there is an aura of suspense, intensified by the smell of dense, earthy moisture.

The most important area within the cave is usually stalagmitic. Stalagmites are sometimes deliberately 'marked' to signify the ritual area. At Melidoni, this may be the case for the stalagmites framing the entrance to the ritual chamber, the north recess (Pl. Xc).¹⁵ At Psychro, double axes were inserted into the stalagmites. As the double axe is the most important Minoan symbol, it seems plausible that they 'marked' the stalagmites as places for the deposition of offerings and for rituals.¹⁶ This argument is strengthened by the placement of the largest and finest double axe from Psychro in a niche within the adjacent side chamber.¹⁷

One of the most characteristic objects from Minoan caves is the bronze figurine, the so-called 'votary' figurine. They were deposited both deep inside caves and near their entrances during the Neopalatial period. Male figurines, and some females, show the familiar hand-to-head gesture, the only gesture of male figurines from caves of this period (Pl. Xd). Morris and Peatfield, in their most recent research, propose a new approach to Minoan gestures and the ecstatic quality of Minoan religion, which is conventionally labeled (and easily ignored) as 'ecstatic worship.'¹⁸

Morris and Peatfield, through an analysis of Protopalatial figurines from Atsipadhes peak sanctuary and iconography, have convincingly demonstrated that ritual action in Minoan religion has an internal, rather than, an external dimension. Conventional view interprets Minoan gestures as an external action of 'worshipping' or 'supplicating' the deity. Morris and Peatfield propose another model, suggesting that these actions represent an internal and direct means of communicating with the deity, through the use of the body.

Ethnographic parallels cited by Morris and Peatfield show that certain restrictive body postures, similar to those seen on Minoan figurines, can induce an altered state of consciousness when accompanied by rhythmic sounds such as drumming.¹⁹ A difference between other religious postures (e.g. bowing, kneeling, and praying with folded hands) and that of trance postures is that the latter tunes the nervous system for specific experiences, for participating directly in events in the alternate reality.²⁰ While bodily responses have a physiological basis, both the purpose and experience are culturally sensitive. Such outcomes as visions, journeys, or possession by spirits are widely attested both ethnographically and in

12 Kamares cave is just below the summit of the eastern twin peak of the Kamares range of Mt. Ida, the highest mountain on Crete.

13 E.g. Eileithya Amnisos, Melidoni, and Trapeza Tylissou.

14 They are Psychro, Skotino, Melidoni, and Kamares. Smaller caves can nevertheless have grand ceiling height, e.g. the Idaean Cave.

15 E. Gavrilaki, pers. comm. (with thanks).

16 I thank N. Marinatos for her comments on this matter.

17 HOGARTH 109, fig. 40.2.

18 C. MORRIS and A. PEATFIELD, "Feeling through the Body: Gesture in Cretan Bronze Age Religion," *Thinking through the Body. The First Lampeter Workshop in Archaeology, 20-22 June 1998* (forthcoming).

19 For example, two Protopalatial postures from Atsipadhes, considered possible trance postures by Morris and Peatfield, are the hands-to-center-of-chest and hands-to-stomach – the two most common postures at Atsipadhes (MORRIS and PEATFIELD [*supra* n. 18]).

20 GOODMAN (1990) 222.

antiquity.²¹ Morris and Peatfield have shown that visionary epiphanies on Neopalatial gold rings are the result of an altered state, indicated by, among other things, attenuated heads and the swaying movement of the participants. As Morris and Peatfield note, the iconography of Minoan gold rings suggests that a visionary experience was an important outcome for a Minoan ecstatic trance.²²

So far, no ethnographic parallel or experimental data have been suggested for the hand-to-head gesture, a gesture which has not been attested in the Protopalatial period but is predominate in Neopalatial on both male and female bronzes from caves.²³ Although there is no data to indicate whether or not it is a trance inducing posture, the posture is related to trances. First, this gesture occurs in scenes depicting an altered state, such as the above mentioned Neopalatial gold rings depicting epiphany/visions experienced in an altered state. Second, the figurines depict someone in an altered state, which is evident from the prominent erection on male figurines (e.g. Pl. Xe). Such bodily changes are not surprising since trances produce metabolic and neurological changes including alterations in heart rate, blood pressure, and blood flow.²⁴ Third, this physiological response to a trance has parallels, for example, in a modern-day ecstasy ritual in India (Pl. XIa).

Other female figurines, which are few in number and all but one are from Psychro, assume variant hands-to-chest gestures.²⁵ None of these exactly matches any of the numerous trance postures, either ethnographic or contemporary, that are illustrated by Goodman or Gore.²⁶

Bronze figurines are usually a votive offering by those of high social status and their appearance in Psychro, Skotino, and other caves shows that the élite played a key role. The small and confined space of some interior ritual areas supports this argument; perhaps suggesting a limit to the number of directly involved participants. This may be postulated for the small ritual chamber at Skotino, the findspot of Neopalatial bronze figurines (Pl. XIb and see Pl. Xd-e).²⁷ I also suggest this for rooms in two caves mentioned above: the small side chamber at Psychro, containing the double axe in its niche, and the north recess at Melidoni.

The juxtaposition of ritual areas next to entrances to dark areas of a cave suggests that dark rooms served a special function, perhaps indicating the most exclusive ritual area during both the Protopalatial and Neopalatial periods. These dark areas are completely (or nearly)

21 F.D. GOODMAN, "Body Posture and the Religious Altered State of Consciousness: An Experimental Investigation," *Journal of Humanistic Psychology* 26.3 (1986); GOODMAN (1990); I.M. LEWIS, *Ecstatic Religion. A Study of Shamanism and Spirit Possession* (1989); M. HARNER, *The Way of the Shaman* (1990); GORE.

22 MORRIS and PEATFIELD (*supra* n. 18).

23 This gesture is not among the trance inducing postures at Atsipadhes, where it is absent (C. Morris, pers. comm.). Nor does it appear to be present at Petsophas where only one published figurine may possibly have this gesture (see B. RUTKOWSKI, *Petsophas. A Cretan Peak Sanctuary* [1991] 55, pl. 7.4). Nor does it occur on terracotta figurines in caves, which (unlike peak sanctuaries) virtually lack terracotta anthropomorphic figurines belonging to the palatial periods.

24 GOODMAN (1990) 25-26. Scientific research on other altered states (including hypnosis and meditation) demonstrates that none of the other altered states studied show the same combination of physiological effects as those produced by a posture induced trance (GORE 11-12).

25 The one that is not from Psychro is from Tsoutsouros (VERLINDEN no. 109) and it shows the right hand placed on the chest and the left is straight at the side.

26 There may be two exceptions. One figurine (VERLINDEN no. 92) may have the 'singing shaman' posture used for healing (GOODMAN [*supra* n. 21] 92, fig. 2; GORE 272-277 with figures). Although the hands are held lower than the position used by Goodman or Gore in their experimental work this figurine may be comparable (poor casting and corrosion make it difficult to be sure) to some of their ethnographic comparanda (GOODMAN [1990] 144-145, pls 45, 47c and 215, pl. 69 left). The other (VERLINDEN no. 91), with arms raised high and placed in front of the chest without touching, has a terracotta parallel at Petsophas (RUTKOWSKI [*supra* n. 23] pls 3.3, 4.3). It may be a variant of the predominate gesture of Postpalatial bronzes from caves with the difference being that the Postpalatial gesture, demonstrably a trance posture, shows the fists clenched together. Another gesture, the 'rolling arm' gesture (VERLINDEN no. 19), is not discussed here. This gesture, with the arms seemingly revolving around each other, continues into the final Palatial period (VERLINDEN no. 123).

27 C. DAVARAS, "Trois bronzes Minoens de Skoteino," *BCH* 93 (1969) 622-624.

devoid of light, as at Kamares, Melidoni, Psychro, and Skotino.²⁸ They lack finds, except for the double axe in the niche of the chamber at Psychro. Their absence may reflect either minimal archaeological attention or a ritual activity that left few tangible remains. Given evidence for ecstatic trances (trance postures on Protopalatial figurines at peak sanctuaries, visions/epiphanies expressed through ring seals, and the physiological response shown on Neopalatial figurines with the hand-to-head gesture), it is perhaps not coincidence that most caves chosen at this time have deep and dark chambers. A tentative explanation is that these areas of caves were used for ritual trances. Trances are typically undertaken in total darkness, or at least with the eyes covered, in order to 'see' more clearly (i.e. to achieve a more profound experience).²⁹ The magnitude, moisture, and stalagmites of caves would add to the potential for repetitive sound and light effects conducive for those who are either able or selected to experience an altered state. In particular, resonance within a cave can enhance the steady, repetitive sound of a rattle or drum, a necessary sonic drive for entering an altered state.³⁰

Memories of earlier traditions of ecstatic visions could conceivably be echoed in two later literary references to a cave in Crete. The cave in question is the Diktaian cave that regrettably eludes discovery.³¹ One source speaks about the Kouretes who danced at the cave. They beat their drums and clashed their shields with their spears to deafen the cries of infant Zeus from Kronos' ears.³² Dancing with the accompaniment of percussion instruments is, as just mentioned, one of several methods of achieving an altered state – perhaps here alluding to an older tradition. Another source speaks about Epimenides, who reportedly had visions while he slept in the Diktaian cave.³³

Altered states of consciousness are the basis of shamanic tradition and have been used for twenty to thirty thousand years by cultures that lack our advanced level of medical technology.³⁴

- 28 At Kamares the principle MM ritual place is apparently at the bottom of the main room (areas nos. 2-3), behind a line of fallen boulders and adjacent to the entrance to recess no. A, which is pitch dark (R.M. DAWKINS and M.L.W. LAISTNER, "The Excavation of the Kamares Cave in Crete," *BSA* 19 [1912-13] 10, pl. 2). Although Dawkins and Laistner are not specific about their sherds, they do say that this spot yielded the bulk of the MM pottery. Walberg (G. WALBERG, *Provincial Middle Minoan Pottery* [1983] 97) dates the published MM pottery to MM IB-MM IIB. At Melidoni, the ritual area is the north recess, itself quite dark. This recess has a very small hole that drops down into the enormous lower level of the cave, which receives no natural light. The north recess was first used for ritual functions as early as MM IIB-MM IIIA (based on Kamares style sherds) but its phase of most intense use, judging from the greatest quantity of pottery, was MM IIB-LM IB (I. TZEDAKIS and E. GAVRILAKI, "Η ανασκαφή στο σπήλαιο Μελιδονίου," *Πεπραγμένα του Ζ' Διεθνούς Κρητολογικού Συνεδρίου* [1995] 888-891). This room was used again later, in LM III A-C. At Psychro, the interior ritual area is immediately adjacent to the dark chamber mentioned above, which contained the double axe in a niche. This double axe, as well as many of the bronze objects from the ritual area (the stalagmites around the pool of water) most probably belong to the Neopalatial period - although WATROUS ([1996] 48) believes that some of the double axes are Protopalatial based on possible parallels from an ash layer of this date at Mt. Juktas peak sanctuary (A. KARETSOU, "The Peak Sanctuary of Mt. Juktas," in *Sanctuaries and Cults* 146, 148 fig. 14). The stalagmite ritual area (around the pool of water) continued in use into the LM III period and perhaps beyond. At Skotino, the ritual area ('the room of the altar-like formation') is adjacent to the descent into the depths of the cave, which are dark, as the name of the cave implies. This room was in use during the Neopalatial period, based on pottery and three bronze figurines, and it possibly continued in use into LM III (DAVARAS [*supra* n. 27] 222; KANTA [1980] 68).
- 29 HARNER (*supra* n. 21) 22, 24. Shamans typically work at night or in a dark room. Darkness lessens the distraction of the ordinary reality on the consciousness and the experience.
- 30 Percussion instruments are one of several means (including singing) of obtaining a sonic drive, which is necessary, together with concentration, for entering an altered state (HARNER [*supra* n. 21] 22). Multiple sound frequencies apparently block the left-hemisphere and simultaneously stimulate the peripheral nervous system (GORE 10). Dancing may also be used, as attested by the Whirling Dervishes.
- 31 For a discussion of the location of the Diktaian cave see R.F. WILLETS, *Cretan Cults and Festivals* (1962) 215-216.
- 32 WILLETS (*supra* n. 31) 216. STRABO 10.3.7, 10.3.11.
- 33 See WILLETS (*supra* n. 31) 216.
- 34 Archaeological and ethnographic evidence suggests that shamanic methods are at least twenty or thirty thousand years old (P.T. FURST, *Hallucinogens and Culture* [1976] 4; HARNER [*supra* n. 21] xvii, 42; GORE 19-20).

It is a non-technological method of developing the capacities of the human mind for health and healing.³⁵ In fact, the same basic principles of shamanic power and healing have evolved in differing ecological and cultural environments.³⁶ The shamanic technique is learned through acquired knowledge and experience. This method uses the mind and body (usually without drugs) to heal, cope with adversity, and to engage in divination. Its aim, an altered state of consciousness, is essential; loss of consciousness is not necessary – contrary to our Western misconception of the word ‘trance.’³⁷ A trance can, for instance, be sustained by sonic driving (such as drumming) or dancing. When this activity ceases, the person returns to the ordinary state of consciousness.

Evidence exists from caves for the representation of special personages. Depictions of Minoan ‘priests’ do occur in Crete. They are distinguished iconographically by their long robes (with diagonal bands), their special hairstyle (short in front, longer in back), and their insignia of authority (the curved axe or stone mace).³⁸ Representations of such priests, however, are unknown in caves. On the other hand, some bronze male figurines have an unusual feature, although not unique to caves.³⁹ That is, they wear a sacred knot that protrudes prominently from their belt (Pl. XIc).⁴⁰ However, in all other aspects – their clothing, hand-to-head gesture, and find spots at entrances and in interior ritual areas – they correspond to the other male figurines and thus there is no good evidence to suggest that males wearing a sacred knot were shamans. The sacred knot distinguishes them only as special personages with indeterminable functions.

Not only the absence of light but also its presence may have been a major component of a cave experience. Upon returning from the darkness, at a certain time of day and depending upon the cave and its orientation, light entering the cave can take on a truly exceptional quality, which I call a ‘light phenomenon.’ A group of ten of us experienced such an event at Kamares cave, which may not have gone unobserved by Minoans.⁴¹ As we ascended from the depths, we were suddenly transfixed by a glow of light coming from the mouth of the cave (Pl. XIId). It highlighted the step-like ceiling of the cave, producing a radiant light with a powerful sense of visual depth.

The symbolic significance of such an experience for Minoans can only be hypothesized, but possibly its perception was a divine radiance and/or a transition from one state to another (from dark to light or from one world/condition to another). Light also refers to the shaman’s ability to ‘see’ in the dark, both literally (as mentioned above) and metaphorically, seeing what others can not perceive.⁴² The importance of light in caves has also been suggested for caves in other areas. Whitehouse suggests, for Neolithic caves in Italy, an emphasis on light, and perhaps even the sun, as the source of light without which we cannot live.⁴³ It is the opposite of what one would expect for caves, but pairs of opposites, such as light and dark, contrast our everyday world with that of the sacred.

35 HARNER (*supra* n. 21) xvii.

36 HARNER (*supra* n. 21) 42.

37 HARNER (*supra* n. 21) 49.

38 *Minoan Religion* 127-130, fig. 88.

39 VERLINDEN 98, 101-102, 114, 138.

40 VERLINDEN (138) recognizes a religious personage in Minoan bronze figurines depicting a mature male figure with stocky physique and fine clothes (but not a robe). One of this type, belonging to the Neopalatial period, comes from Skotino (VERLINDEN no. 27). The following is a list of figurines from caves wearing a sacred knot: Psychro (VERLINDEN nos. 25, 49, and 58); Skotino (possibly VERLINDEN no. 27); Trapeza Tylissou (probably VERLINDEN no. 42 and possibly nos. 53 and 54).

41 The group included Jennifer Moody’s study team from Chania. We experienced the event on July 17, 1999 at approximately 3:30 p.m. It occurred when we left the pitch dark ‘recess A’ and were just beginning our ascent to leave the cave. We were not far from Dawkins and Laistner’s find-spots nos. 2-3 where they found the majority of the Middle Minoan pottery. I am very grateful to Erin Lopp for the photographs that she took that day, and which I am using here, and to Jerolyn Morrison who made the drawing of the cave entrance, also included this in paper. Additionally, I thank Heinrich Hall who made the arrangements for the group to join me.

42 HARNER (*supra* n. 21) 22.

43 R.D. WHITEHOUSE, *Underground Religion. Cult and Culture in Prehistoric Italy* (1992) 137.

Evidence that sunlight played a significant role in religious and political spheres in Minoan Crete is becoming more apparent with increasing interest in the subject. For example, a specific sunrise orientation has been demonstrated for the Early Minoan tombs of the Mesara.⁴⁴ Other research suggests a spring equinox orientation for one of the structures at Petsophas peak sanctuary.⁴⁵ For a later period, individual sunrise orientations have been proposed for each of four doorways to the Throne Room at Knossos, relating each to imposing theatrical effects on special architectural spaces within.⁴⁶

Other rituals at sacred caves include pouring and/or drinking rituals, which are clearly attested during the palatial phases. During the Protopalatial period at Kamares, pouring, rather than drinking, may have been the main activity. This conclusion may be reached from both the predominance of small spouted jars and the scarcity of cups – unless cups are amongst the unpublished coarse ware, or were made of a perishable material, or were not left behind by the participants. At three caves (Psychro, Amnisos, and Skotino) drinking was clearly a significant part of the ritual. At these caves, pottery of Protopalatial and Neopalatial date consists predominately of drinking cups and vessels.⁴⁷ A water source in the deepest part of Psychro (and Kamares) may have provided one of the liquids that was poured. Wine may also have been poured and consumed in cave rituals at this early time, prior to the Mycenaean occupation of Crete. This possibility finds support in current research indicating that wine production may have reached a Bronze Age zenith during the Neopalatial period and that wine is associated with élites, at both palatial and second-order centers.⁴⁸ Possible evidence for the inclusion of wine in cave ritual consists of the presence of jars that were perhaps used for the transportation of wine to Kamares and Psychro caves.⁴⁹

Evidence for feasting is difficult to distinguish since it relies on the recovery and publication of ashes, animal bone, cooking paraphernalia, and eating utensils. Evidence does occur, however, for Melidoni, Psychro, and Kamares. The best evidence is a Neopalatial assemblage at Melidoni that consists exclusively of vessels for cooking, eating and drinking, found in association with numerous fire pits.⁵⁰ At Psychro, a thick layer of ashes and animal bones appears to belong to the Neopalatial period.⁵¹ The evidence for Kamares is less clear but small bowls, plain ware plates, and basins may indicate food preparation and ritual meals as suggested by Walberg.⁵² Feasting, in addition to pouring/drinking rituals mentioned above, took place at Melidoni and Kamares in the depths of the cave. At Skotino, drinking (mentioned above) took place in the interior ritual area. At Psychro, however, these activities occurred in the entrance to upper cave indicating that, at Psychro, these rituals were more public in nature.

44 L. GOODISON, this volume.

45 G. HENRIKSSON and M. BLOMBERG, "Evidence for Minoan Astronomical Observations from the Peak Sanctuaries on Petsophas and Traostalos," *OpAth* 21 (1996) 99-114.

46 L. GOODISON, this volume.

47 Psychro: WATROUS (1996) 31-40, 49. Amnisos: P. Betancourt, pers. comm. Skotino: FAURE (*supra* n. 5) 164.

48 Y. HAMILAKIS, "Wine, Oil and the Dialectics of Power in Bronze Age Crete: A Review of the Evidence," *OJA* 15.1 (1996) 24-25.

49 At Kamares, jars constitute the bulk of the Protopalatial coarse ware pottery. These jars are said to be comparable to an illustrated pithoid jar (DAWKINS and LAISTNER [*supra* n. 28] 18, 28, pl. 8a). If so, they are a manageable size for transportation by donkey to the cave (an observation made to me by Aleydis Van de Moortel). For jar fragments from Psychro see WATROUS (1996) 31, 34-35.

50 This MM IIIB-LM IB assemblage was found in the north recess and includes cooking vessels (tripod cooking pots and frying pans); eating utensils (plates); drinking vessels (cups and jugs); and some jars (TZEDAKIS and GAVRILAKI [*supra* n. 28] 891).

51 F. HALBHERR and P. ORSI, "Scoperte nell'antro di Psychrò," *Museo Italiano di antichità classica* 2 (1888) 906; HOGARTH 98, 101.

52 G. WALBERG, "Early Cretan Sanctuaries: The Pottery," in *Gifts to the Gods. Proceedings of the Uppsala Symposium* 1985 (1987) 172.

As at contemporary peak sanctuaries, there is evidence that Neopalatial ceremonies in caves were formally organized. At Psychro, part of the upper cave is paved and there is an altar or stand for offerings and specialized ritual equipment such as stone libation tables.⁵³ Cult activities during the Protopalatial and Neopalatial periods represent a continuum, only the degree of organization and formality changed. Diachronic change first occurs in the Final Palatial period when Mycenaeans occupy the palace of Knossos.

Final Palatial:

At this time, when Mycenaean Greek is the administrative language on Crete, evidence for the use of the caves is poorly documented. Most of the pottery remains unpublished and the bronze objects, although numerous in the Late Minoan period as a whole, are often difficult to attribute to this phase. Since specialized cult equipment normally receives publication, its apparent lack in this period suggests a disintegration of the formal organization of the ritual. One might suspect significant involvement by Knossos in cave ritual, but this has not been proven, aside from some Knossian pottery at Psychro and some food offerings mentioned in Linear B texts.⁵⁴

Two differences may be noted in bronze anthropomorphic figurines that probably belong to the Final Palatial period. First, if one follows Naumann, their occurrence is less frequent at this time than in either the preceding Neopalatial or subsequent Postpalatial period (Table 1 below).⁵⁵ Second, there is greater variation in gesture that becomes more evident in the subsequent Postpalatial period where it will be discussed.

Cave	Neopalatial Period	Final Palatial Period	Postpalatial Period
Idaeon Cave	1		
Patsos			3
Phaneromeni			6
Psychro	18	4	26
Skotino	3		
Trap. Tylissou	7	1	
Tsoutsouros	1	2	1
TOTAL	30	7	36

Table 1. Number of bronze anthropomorphic figurines, including fragments, from Minoan sacred caves.

Postpalatial:

Major changes occur during the Postpalatial period, late LM IIIA2, B, and C. First, although many cave sanctuaries stay in use, for newly chosen caves the presence of a dark area within and stalagmites is no longer a requirement. Now, shallow open caves, speleologically termed rock shelters, share the same popularity. They also typically lack stalagmites. Patsos is an important example. The Idaeon Cave is unusual. It is a rock shelter that has a major

53 HOGARTH 98-99.

54 For Knossian pottery at Psychro see WATROUS (1996) 41, nos. 110-111. For the Fp1 tablet mentioning oil offerings to Dictaeon Zeus and the Gg705 tablet listing honey for Eileithya at Amnisos see *Docs*² 305-306, 310.

55 NAUMANN.

phase of Late Minoan use that began during LM I (earlier than at other rock shelters) and lasted through LM IIIC.⁵⁶ Its position, as the highest sacred cave, may account for its early, and sustained, importance. Second, visibility within the landscape is no longer necessary. At this time, there are sanctuaries in caves or rock shelters tucked into a ravine (Patsos), or opening high on a mountain but invisible behind rock and scrub (Phaneromeni), or hidden in an upland plain (Idaeon Cave). Cave sanctuaries are more broadly distributed than before (see Pl. IXb). However, the number of caves that have been well excavated is so small that no conclusions can be made about their distribution or what this may mean in terms of changes in relationship between cave sanctuaries and settlements. Furthermore, fuller publication of the pottery from caves, which appear to cease during a particular period, will provide a better indication of their longevity.

Bronze figurines from this period outnumber those from previous periods (see Table above).⁵⁷ For males, gestures diversify somewhat, although the hand-to-head gesture maintains its predominance. For female figurines, gestures become exclusively hands-to-chest. One of these gestures has been identified, by both ethnographic comparanda and experimentation, as a trance posture. According to Goodman and Gore, who have conducted multiple experiments on the mental and physical effects of body postures, this gesture is a trance inducing posture used to gain extra energy either for physical feats or for healing (recuperation from illness).⁵⁸ To obtain the position, the arms are raised to shoulder height in front of the chest and the hands are pressed together. Two Postpalatial bronze figurines from Psychro show this posture, one of which is illustrated here (Pl. XIe).⁵⁹ This posture is not limited to Crete, as Goodman has already recognized, but occurs on the Mycenaean mainland during LH IIIA2-IIIB.⁶⁰ A comparable posture on a Mayan wood figure of approximately 537 A.D. is believed to be a posture for gaining physical strength in preparation for a life and death ritual contest.⁶¹

Other female figurines from Psychro assume somewhat variant gestures. Generally, if the arms are at shoulder height, the hands do not touch and if the hands touch, the arms are not raised high.⁶² The first variant, with the hands not touching, occurs in caves earlier, already by the Neopalatial period.⁶³ It remains to be explored if these variations belong to the 'empowerment' posture, positioning the clenched fists at shoulder height. Whether or not the variations all belong to the same trance posture, the hands-to-chest gesture begins in caves during Neopalatial and, by Postpalatial, it replaces all other female gestures.

56 I. SAKELLARAKIS, "The Idaean Cave. Minoan and Greek Worship," *Kernos* 1 (1988) 211-212; VASILAKIS (*supra* n. 10).

57 From Psychro there are twenty-four figurines, excluding two fragments (NAUMANN nos. S3, S5-S14, S20-S21, S23, S29, S31-S39). From Phaneromeni there are five figurines, excluding a fragment (NAUMANN nos. S2, S15-S18). From Patsos there are three figurines, excluding the Reshef warrior (NAUMANN no. S4 and two in N. KOUROU and A. KARETSOU, "Το τερό του Ερμού Κραναίου στην Πατσό Αμαρίου," in *Sybrita La Valle di Amari fra Bronzo e Ferro*, SMEA 96 (1994) 145, nos. 80-81). From Tsoutsouros there is one figurine (VERLINDEN no. 148).

58 GOODMAN (1990) 151-152; GORE 74-79. They call this posture the 'empowerment' posture and they report that the resulting trance produces flows of energy that give the feeling of being able to do anything.

59 They are NAUMANN nos. S37 and S38 (VERLINDEN nos. 125 and 177) – both in the Ashmolean Museum. GOODMAN ([1990] 151-152) was the first to note that the 'empowerment' posture occurs in Minoan Crete (and in Mycenae). An unspecified figurine in the Herakleion Museum was identified by Robinette Kennedy as having this posture (reported by GORE ([1995] 78).

60 GOODMAN (1990) 152. The Mycenaean figurines are the Tau figurines which have the arms, at shoulder height, placed over the breasts with the breasts rarely showing above the arms (E. FRENCH, "The Development of Mycenaean Terracotta Figurines," *BSA* 66 [1971] 124, pl. 18a-b). They range in date from LH IIIA2-IIIB with a peak period in mid LH IIIB (FRENCH [*supra*] 125).

61 GOODMAN (1990) 152, pl. 49; GORE 75.

62 Raised high but hands not touching: NAUMANN nos. S34, S36, S39 (VERLINDEN nos. 174, 175, 127). Hands touching but arms not raised to shoulder height: S33 and S35. A male figurine from Psychro, NAUMANN no. S23 (VERLINDEN no. 154), also shows the latter arm and hand position.

63 The variant of the type mentioned is VERLINDEN no. 91, which has the arms raised high but the hands are apart. Two other Psychro figurines, VERLINDEN nos. 19 and 123, dating to the Neopalatial and Final Palatial periods respectively, show another slight variation with the arms raised high but the hands are in a 'rolling' motion, as if rolling around each other.

Another change during the Postpalatial period is the occurrence of a greater number and wider variety of bronze weapons, not just an occasional Minoan dagger that was offered prior to this time. In addition to daggers there are now arrowheads, spear or lance-heads, single-edged knives, and a few razors. All those published come from Psychro, most of which belong to LM IIIB-C.⁶⁴ It is clear that at the end of the Bronze Age, in LM IIIB-C, that a variety of weapons were dedicated at Psychro.⁶⁵

Items of personal ornament are not dedicated until this period, or, rather, very few of the numerous pieces of jewelry from Psychro can be stylistically dated before LM IIIC.⁶⁶ Those of LM IIIC date include hair rings, fibulae (dress pins), straight pins, finger rings, and beads.⁶⁷ A Postpalatial date agrees with D'Agata's recent assessment that personal offerings are not characteristically dedicated at shrines in Crete until LM III.⁶⁸

Pottery from the Postpalatial period suggests continued emphasis on drinking (and/or pouring). The most commonly cited shape is the LM IIIB kylix. Its prevalence is probably due to the ease of its recognition. The following is a brief summary of the pottery types that have been reported. The very few LM IIIA-C sherds from Psychro belong mainly to drinking and transport vessels.⁶⁹ From the Idaean Cave there is a large quantity of LM III pottery consisting mainly of cups, deep skyphoi, kylikes, and stirrup jars.⁷⁰ The most commonly occurring shapes from the Liliano cave are LM IIIB deep bowls and kylikes.⁷¹ From Skotino there is a large quantity of LM III jugs and stirrup jars.⁷² Kanta identified one of these sherds as a LM IIIB decorated amphoroid krater fragment.⁷³ From the north recess at Melidoni there is a LM IIIA-B cup, a LM IIIB cup, two LM IIIB kylikes, and a LM IIIC1 cup.⁷⁴

Terracotta offerings – animal figurines (both solid and hollow wheelmade) and painted clay horns of consecration – are found only in certain caves during the Postpalatial period, LM IIIB to Subminoan. Except for Liliano, which has never been located, they occur only in rock shelters (Patsos, Idaean Cave, and Xirokambos near Ayios Nikolaos) and at Psychro.⁷⁵ At

64 Dates for these items will be fully referenced in a future publication. The bronze arrowheads are more broadly dated than the rest, with a range of LM II-Postminoan. None of the industrial tools from Psychro can be securely dated to the Postpalatial period. I thank Ioannis Lagamtzis for references and discussion.

65 There are several, unpublished, bronze dagger or knife blades and a lance point from Skotino (DAVARAS [*supra* n. 27] 622).

66 Those that may date earlier are c. thirty bronze needles, dated probably MM III-LM I by WATROUS ([1996] 50 n. 59), and six finger rings, dated LM IIIA-B by WATROUS ([1996] 53).

67 These are dated LM IIIC to early Protogeometric by BOARDMAN ([*supra* n. 10] 32-42) and LM IIIC by WATROUS ([1996] 53). There are bone pins and a crystal bead from Skotino that are unpublished (DAVARAS [*supra* n. 27] 622).

68 A.L. D'AGATA, this volume.

69 WATROUS (1996) 41.

70 VASILAKIS (*supra* n. 10) 134.

71 KANTA (1980) 72.

72 FAURE (*supra* n. 5) 164.

73 KANTA (1980) 68.

74 TZEDAKIS and GAVRILAKI (*supra* n. 28) 889-890.

75 Only Patsos and Idaean Cave have both animal figurines and horns of consecration. For the Patsos terracotta animal figurines and horns of consecration see KOUROU and KARETSOU ([*supra* n. 57] 125-142). For the Idaean Cave horn of consecration, and a mention of large figurines, see SAKELLARAKIS ([*supra* n. 56] 209, 213, fig. 7). Liliano, a cave (or rock shelter) of unknown location, has LM IIIB terracotta finds, including a bull head fragment, in the Herakleion Museum (KANTA [1980] 72). The cave is presumed to be in the Pediada district south of Kastelli near the village of Liliano. The author tried to locate the cave in the early 1970's (TYREE [*supra* n. *] 24). Xirokambos, though described as a cave by Davaras, is a rock shelter from which there are unpublished LM III painted terracotta animal figurines (C. DAVARAS, "Αρχαιότητες και Μνημεία Ανατολικής Κρήτης," *AD* 28 (1973) [1977] B2, 592). The terracotta assemblage from the upper cave at Psychro is not rich as it includes only a few animal figurines and no horns of consecration. For the six, or possibly seven, LM IIIB-C animal figurines from Psychro see WATROUS ([1996] 41-42, nos. 117 [two fragments from either the same or two figurines] 120-122, and 124, pls. 25d and 26d). This is in addition to an earlier animal figurine (HOGARTH 104, fig. 33), which is dated LM IIIA2 by N. KOUROU and A. KARETSOU ("Terracotta wheelmade bull figurines from central Crete," in *TEXNH. Craftsmen, Craftswomen and Craftsmanship in the Aegean Bronze Age, Proceedings of the 6th International Aegean Conference, Philadelphia, Temple University, 18-21 April 1996*, *Aegaeum* 16 [1997] I, 114).

Psychro, they do not occur in the depths of the (lower) cave but only in the upper cave which, like the three other caves, is a rock shelter. Rock shelters are essentially open-air sanctuaries, which may explain the close similarities between these assemblages and those of open-air sanctuaries, such as that at Ayia Triada (Piazzale dei Sacceli).⁷⁶ These dedications occur at both rock shelters and open-air sanctuaries during the same phases and in the same frequency – with some occurring in LM IIIB but with greatest frequency occurring in LM IIIC, continuing into Subminoan.⁷⁷

The open-air sanctuary assemblage of caves/rock shelters and open-air sanctuaries differs from that of bench shrines that emerge at this time (LM IIIB-IIIC).⁷⁸ Characteristic of these bench shrines is the presence of an image of the goddess with upraised arms. Caves did not have cult images earlier, and they do not occur in this period, suggesting a difference in rituals between caves and bench shrines.⁷⁹

Another difference between caves/rock shelters and bench shrines is that there is no sign, at caves/rock shelters, of formal organization or architectural features during the Postpalatial period. Bench sanctuaries, on the other hand, have architecture including at least a single room with a bench for the display of cult objects and images of the goddess with upraised arms.⁸⁰ Bench sanctuaries sometimes also have a storeroom for offerings and even an anteroom.⁸¹

In conclusion, observed changes exist between the Minoan palatial and Postpalatial periods, such as the degree of formality of the ritual and the later choice of more open caves and rock shelters. These more open caves and rock shelters show a new cult and cult assemblage. Large caves do continue and the use of their dark interiors, the occurrence of human figurines with possible trance postures, and a notable lack of a cult image suggest, in my opinion, that a direct method of communicating with the deity, was maintained in caves on Crete throughout the Middle to Late Bronze Age. This underlying continuity would suggest changes due to developments in religious practice or thought rather than a distinct break in the cultural tradition.

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76 A. KANTA ("The Post-palatial Period in the Area of Amari. Trade and Communication between the north and south coasts of Crete," in *Sybrita La Valle di Amari fra Bronzo e Ferro* [1994] 72-73) notes a particularly close similarity between the assemblages of two of the rock shelters (Patsos and Idaean Cave) and that of the open-air sanctuary at Ayia Triada (Piazzale dei Sacceli), which has links with the Amari valley.

77 KOUROU and KARETSOU ([*supra* n. 75] 107) point out that terracotta wheelmade figurines are the most frequent dedication in open-air sanctuaries (including Patsos rock shelter) during LM IIIC and Subminoan and that these shrines are concentrated in central Crete. Similarly, painted clay horns of consecration fit a comparable pattern. According to A.L. D'AGATA ("Late Minoan Crete and Horns of Consecration: A Symbol in Action," in *EIKON* 253-255), they were produced in quantity during LM IIIC, and, they too constituted a popular votive offering in open-air and cave sanctuaries within a limited geographical area (central Crete), with dedications continuing into Subminoan. A.L. D'AGATA ("The Shrines on the Piazzale dei Sacelli at Ayia Triadha. The LM IIIC and SM material: A Summary," in *Crète Mycénienne* 98) also notes that the terracotta assemblage at the Ayia Triada open-air shrine is characterized by three types of wheelmade terracottas: bulls, horns of consecration, and fantastic animals.

78 The major ritual objects of the bench shrine at Kavousi consists of statues of the goddess with up-raised hands, snake tubes, plaques, and kalathoi (G.C. GESELL, "Ritual Kalathoi in the Shrine at Kavousi," in *MELETEMATA* I, 283). Generally most, if not all, of these objects typify other bench shrines (for example, Gazi, Gournia, Kannia, Karphi, Knossos (Shrine of the Double Axe), and Prinias, which are all catalogued and discussed by G.C. GESELL (*Town, Palace and House Cult in Minoan Crete* [1985])).

79 The only object found in a cave, which is typical of a 'bench sanctuary assemblage,' is a fragment of a snake tube with multiple handles found in the 'Eileithyia' cave at Tsoutsouros (KANTA [1980] 85).

80 GESELL (*supra* n. 78 [1985]) 47.

81 GESELL (*supra* n. 78 [1985]) 47.

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